PhD thesis
Søren Fryd Birkeland

An integrative case series and validation study on paranoid personality disorder

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PhD thesis

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Søren Fryd Birkeland
"You have testified that these symptoms exist in Queeg's behaviour: Rigidity of personality, feelings of persecution, and a neurotic certainty he is always right [...] what would you call a personality with all these symptoms? [psychiatrist:] A paranoid personality....."

From court scene, "The Caine Mutiny", 1954

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PREFACE

I carried out the studies of this research project at Psychiatric Hospital Svendborg while I completed the dissertation within the framework of Psychiatric Research Unit Region Zealand under Copenhagen University.

Ever since beginning my work with psychiatry at different psychiatric departments, incl. Middelfart, Risskov, and Svendborg hospitals, initially as a nurse substitute, and later as a physician, the subject of simple paranoid disorders fascinated me. I therefore wrote a couple of small review articles about the subject and, together with Professor Josef Parnas, made the first preparations on a research protocol at University of Copenhagen. It appeared quite difficult to get funding and thus to make the project a reality. However, I could not skip my interest in the subject and, given the lack of economic resources, ended with setting up a modified project in general psychiatric hospital. Focus was narrowed down to clinical paranoid personality disorder (PPD) and its validity in particular. Recruiting patients with pronounced paranoid symptomatology for research (or, for that sake, anything else confronting symptoms) can be very difficult (almost ‘the art of the possible’). I therefore carried out the study as a retrospective case-series study in a clinical sample (hospitalized patients). In line with the few existing studies, when systematically screening a five-figure number of first-admissions to the psychiatric hospital, a small but reasonably robust sample of patients were identified. The case studies are conducted on this sample in addition to two single case descriptions bordering on PPD. Study findings have been reported in 3 original papers about the socio-demographic, psychopathological, and course characteristics of clinical PPD together with 2 case report papers on organic- respectively schizophreniform variants. The original research papers were supplemented by a literature review about PPD. All papers have been published in standard APA-indexed journals and are attached at the end of the dissertation.

After completing the articles, I got in touch with Professor Erik Simonsen. Following critical discussions about the topic of PPD, he encouraged me to write this dissertation thereby integrating my studies into state-of-the-art knowledge on the subject with particular focus on PPD’s validity as seen from a classical diagnosis validity perspective. From thence, Erik has been the main force supporting this work. His insight into the psychopathology of personality disorders and his encouraging and constructive comments throughout the completion of the dissertation have been crucial to me. For this, I owe him my thanks.

Regarding the initial preparation of a protocol at Hvidovre Hospital, I would like to thank Professor Josef Parnas for his dedicated and valuable inputs about paranoid disorders and retrospective methods to analyze them. I also would like to thank Chief Consultant Gunnar Jessen, Svendborg Psychiatric Hospital, for allowing me to conduct my studies at the hospital.

Finally, I want to give my warmest thanks to my wife (and ‘personal psychologist’) Lykke and three daughters Anna Klara, Josefine, and Karoline for their support and for continuously making clear what essentially matters in life.

Søren Birkeland
October 2017
Objectives
The aim of this thesis is to validate paranoid personality disorder as a psychiatric diagnosis through systematic integration of own case-series studies and pre-existing literature.

Guide to reading the thesis
Following a brief introduction to the study's background, the methods of the author's case studies and of the validation process are described. In the ensuing five sections, case study findings and state-of-the-art research findings are gone through. Subsequently some core issues in establishing diagnosis validity are discussed together with more specific problems with studying paranoid disorders, the inadequacies of existing research and, not least, the limitations of the author's studies. Topics finally are contextualized with particular emphasis on clinical implications, the current diagnostic systems, and recommendations for future research.

List of Papers
1. Introduction

“[..] to cast aside the loose earth and sand so as to come upon rock or clay”

(Descartes, Discourse 3, AT 6:28–29)

Rational terminologies and accord on their coherent usage are reasonable points of departure in most problem solving situations. In mental health science as in many other sciences, this implies elaboration of robust nomenclatures to describe real phenomena in a consistent and unambiguous way. Passionate statements on non-existent issues or woolly announcements on otherwise well-established matters should expect dismissive or transient consideration at the most. Similarly, in clinical practice, flighty use of dubious diagnostic labels is problematic whilst conscientious use of valid diagnoses is desirable.

It is an established observation that disorders of mental health\(^1\) tend to fall into collections of clinical findings or “syndromes with relatively stable patterns of signs and symptoms” (Sursí, 2016). Syndromes are labelled with ‘diagnoses’ and, under contemporary diagnostic practices, some symptoms are ‘promoted’ to diagnostic criteria.\(^2\) Correspondingly, to put it technically, validity of such diagnoses refers to whether a coherent ‘syndrome’, consistent with underlying assumptions, is measured.\(^3\) From this perspective, some syndromes are typified by manifestations of mood malady, some by delusions or thoughts disorder, and then in others, the clinical picture seems described in terms of continuing deviations of personality.\(^4\) All rely on the assumption that they represent a distinguishing pattern, an assumption that, however, intermittently is under debate (see, e.g., Jansson and Parnas, 2007).

As indicated, some patients present with – sometimes extreme – variants of personality without necessarily influencing intellectual capacity or being accompanied by signs of insanity in terms of, e.g., hallucinations or delusion formation (see e.g., Schneider 1923). Among these variants,\(^5\)

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\(^1\) Turning to Merriam-Webster’s medical definition of ‘Disorder’ it refers to disturbance of “regular or normal functions” while ‘illness’ denotes “an unhealthy condition of body or mind”. Correspondingly, ‘disease’ signifies “a condition of the living animal or plant body or of one of its parts that impairs normal functioning and is typically manifested by distinguishing signs and symptoms” (Available online: https://www.merriam-webster.com/dictionary/disease (accessed on 19 May 2017)). Symptoms are defined in terms of “subjective evidence of disease or physical disturbance” and a ‘sign’ is defined as “an objective evidence of plant or animal disease” or more broadly “something indicating the presence or existence of something else”. By way of comparison, ‘traits’ can be defined as “a distinguishing quality (as of personal character)”. Specifically, in the American Psychiatric Association’s ‘Diagnostic and Statistical Manual of Mental Disorders’ (DSM-III; DSM-III-R; DSM-IV-TR), ‘mental disorder’ refers to “A clinically significant behavioral or psychological syndrome or pattern that occurs in an individual and that is associated with present distress (e.g., a painful symptom) or disability (i.e., impairment in one or more important areas of functioning) or with a significantly increased risk of suffering death, pain, disability, or an important loss of freedom. In addition, this syndrome or pattern must not be merely an expectable and culturally sanctioned response to a particular event, for example, the death of a loved one”. If referring to Karterud, Wilberg, and Urnes (2010), ‘traits’ are described in terms of the consistent patterns of thoughts, feelings, motives, and behaviors that a person exhibits across situations while it is also widely recognized that traits are dimensional phenomena which are present in various amounts in different individuals.

\(^2\) Greek ‘diagnosis’ consisting of both ‘diá’, “differentiation and ‘gnosis’ “insight.

\(^3\) Reliability on the other hand refers to whether the same diagnosis is reached under different conditions. As indicated above, establishing a valid diagnosis as well as reliability is crucial to mental health science (Guze 1978; Sursí, 2016; Rosenberg, 2016). It is necessary for the conduct of research, it makes possible communication among researchers and clinicians, it is necessary for targeting disorders and applying appropriate treatment, it informs about prognosis, and it is basic in education. Likewise, it is crucial to communicating meaningfully about occurrence of a disorder, addressing public health issues with it, and maintaining community confidence and respect for the mental health services.

\(^4\) In this regard, according to Merriam-Webster’ medical definition of ‘Personality’ it can be defined in terms of “the complex of characteristics that distinguishes an individual or […] especially: the totality of an individual’s behavioral and emotional characteristics […] a set of distinctive traits and characteristics”.

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psychiatrists early suggested the existence of a distinct pattern particularly typified by symptoms like hypersensitivity, self-reference, rigidity, and mistrust. The pattern soon was included in the catalogues of psychiatric disorders and from that time remained under the label ‘Paranoid personality disorder’ (PPD; please see below, 3.1.2).

Nonetheless, even if clinicians seem to have agreed on the concept of PPD, as they agreed on ‘schizophrenia’ and ‘depression’, they might be wrong: people in ancient times talked about diseases as ‘dyscrasias’ caused by imbalance of the basic ‘four humors’ in the body and psychological stress for decades was considered most important in the development of peptic ulcers.\(^5\) The present investigation seeks to get a little closer to an answer to the question of PPD as a valid diagnostic entity,\(^6\) or, put even more simply, the question on whether PPD exists as a psychiatric disease as what is commonly understood by the term. As discussed later in the dissertation, various approaches could be applicable.\(^7\) The author has chosen the stepwise approach proposed by Robins and Guze in their seminal paper from 1970 about “Establishment of diagnostic validity in psychiatric illness”.\(^8\) The validation involves studies conducted by the author on clinical cases as well as research findings generally reported in the mental health literature.

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\(^5\) See about history of psychiatry, e.g., Rosenberg (2016).

\(^6\) Cp. ‘real entity’ (Andreasen, 1995).

\(^7\) In principle, one (not necessarily very wise) approach might imply a referendum among participating psychiatrists at a psychiatric association world congress.

2. Material and methods

The stepwise validation both involves case-series studies conducted by the author and an overview of literature concerning PPD.

2.1 Case-series study

The author carried out a retrospective review of medical records addressing the question what are the socio-demographic, psychopathological, and course characteristics of patients with PPD in a general psychiatric hospital.\(^9\)

2.1.1 Material and overall procedure

Svendborg Hospital is located on the Island of Fyn in the central part of Denmark. The catchment area of the psychiatric ward comprises 120,000 inhabitants including 27,500 in the town of Svendborg (Statistics Denmark, 2000).

Prior to the commencement of the study, the author obtained approval from the Danish Data Protection Agency. Furthermore, the Danish National Board of Health has been notified. The study sample consisted of patients first admitted to the psychiatric unit for inpatient or outpatient treatment between January 1\(^{st}\) 1975 and December 31\(^{st}\) 1999 (the inclusion period) who had a paranoid personality disorder (see below). The records of patients were followed-up until “death or December 31\(^{st}\) 2003” as the non-electronic records archives were updated until this date.

The entire psychiatric records archives were screened and patients included as follows\(^{10}\). First, the decision on whether to be further considered was based upon the discharge summary statement of a ‘Paranoid personality disorder’ and/or ‘Sensitive character’ diagnosis. The latter category was included because ‘exquisite sensitivity’ has been considered a paranoid personality hallmark ever since the first ‘Diagnostic and statistical manual of mental disorders’ (APA, 1952). Second, cases were excluded if they had a primary organic disorder, or chronic alcohol- or drug abuse. Also, patients with schizophreniform development according to ICD-10 F20 (WHO, 1994) or prominent signs of ambivalence, formal thought disorder, autism, or affect modulation deficits within 3 months of the first admission were left out. Finally, in order to conform to ICD-10 criteria for paranoid personality disorder (WHO, 1994), at least three contextually based and literally denominated traits had to be present.\(^{11,12}\) Records of included patients were reviewed

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\(^9\) Regarding sample size considerations, prior estimates of PPD occurrence in psychiatric hospital vary (compare table 2). However, based upon the rates reported in a previous Danish hospital study (Mors & Sørensen, 1994) and year 2000 data on admissions to Svendborg hospital [Det psykiatriske centralregister, Afdeling for psykiatrisk demografi; http://tnu.dk/fileadmin/CPG/CentReg/Aarstabeller/T0002.HTM], the number of new patient cases during a 25-year period would amount to roughly 25 years * 129 new admissions/year * 0.025 (proportion of new admissions deemed PPD) ~ 80.

\(^{10}\) Medical records in the archives were screened one by one beginning with the front page displaying patient identification and discharge diagnosis information.

\(^{11}\) In Danish psychiatric departments, the International Classification of Diseases (ICD) has been conventionally implemented. Therefore, the ICD-10 diagnostic criteria (WHO 1994) were chosen as the basis of the investigation.

\(^{12}\) Hence, owing to the rigid claim for traits to be literally denominated, the original ICD-10 research criteria demand for four traits was moderated yet the general criteria for a personality disorder (F60) still had to be met. The methods applied thus are largely influenced by the operationalist approach to psychopathology, a fact that will be discussed later in more detail (compare Parnas and Bovet, 2015, and below, section 4.3.2).
and data schedules filled in concerning sociodemographic, psychopathological, and course characteristics (see appendix).

2.1.2 Procedure in sub-studies

The study presented in Paper 1 (Birkeland, 2011) mostly aims to elucidate what are the sociodemographic characteristics in subjects with clinical PPD (patients admitted to psychiatric hospital) in terms of occurrence, gender, age, marital status, educational background, admission characteristics, affiliation with labor market, family background etc. Information was extracted from records information through use of the data schedules. Additionally regional population data from the Svendborg area were obtained for comparison.\textsuperscript{13} In the statistical analysis, binomial distribution and multinomial distribution simulation were used.\textsuperscript{14} A probability level of 0.05 was regarded as statistically significant.

Paper 2 (Birkeland, 2014)\textsuperscript{15}. This study aimed at further analyzing what are the psychopathological characteristics in patients with PPD. Records were examined of patients included. As previously mentioned, patients with an initial schizophreniform disorder, chronic alcohol abuse or organic mental disease, or too limited information on PPD traits to confirm the diagnosis were excluded. Resultantly, agreement for diagnosis of PPD was reflected in a Kappa coefficient of $\kappa = 0.4$ (see section 2.1.1 about case exclusion details).

Some medical records information was directly utilized, like discharge diagnoses and trait description from clinical interviews noted in the records. Additionally, instruments were used for further evaluation of psychopathological features. The retrospective case-study design put some substantial limits on what 'laboratory measures' could be used. However, checklists have been developed and formerly used in retrospective evaluation of schizophrenia spectrum disorders, and therefore were the natural choice in the present investigation. The Syndrome Check List (SCL) was used to classify symptoms (Wing et al. 1974). The latter includes a glossary of definitions of psychiatric signs and a standardized line of enquiry. Syndromes are formed out of the 140 symptoms in the SCL and their presence can be directly rated from case-notes concerning the entire clinical history (Wing et al. 1974).\textsuperscript{16} An algorithm is used to summate symptoms, whereby syndromes (or collection of symptoms) can be generated\textsuperscript{17}. This procedure allows for assigning patients to diagnostic classes although applying the program for drawing definite diagnostic conclusions must be done with carefulness (Wing et al. 1974). The described approach intends to address the individual variations associated with bringing own clinical dispositions and expertise to the diagnostic process (Bhugra, 1999). All things being equal, based on observations of a clinical and hereditary relationship with paranoid states (see 3.3.2.3

\textsuperscript{13} Population data were obtained from the Statistics Denmark database (entry: www.dst.dk).

\textsuperscript{14} For comparisons made with population data null-hypothesizing, e.g., that patients with PPD do not differ from the general figures regarding marital status. The multinomial distribution is an extension of the binomial distribution and models the probability of counts for rolling an $x$-sided dice $n$ times. Various methods may be used to simulate the distribution. One way is to use a random number generator.

\textsuperscript{15} Methods and materials are described in further detail above, section 2.1.1.

\textsuperscript{16} The necessity for rating conservatively when rating from case-records is explicitly emphasized in the SCL manual (Wing et al. 1974). Furthermore, the manual maintains the requirement for writing down an example when a positive rating is performed.

\textsuperscript{17} From SCL data or from the corresponding Present State Evaluation, PSE.
and 3.5.2), one might expect individuals with PPD to be allocated to the paranoid psychoses (P) diagnostic class rather than e.g. nuclear schizophrenia (S) mania/mixed affective states (M), or depressive psychosis (D).  

*Papers 3 and 4* (Birkeland, 2013a & 2013b). During the process of case identification, patients were put aside if they had a supposed primary organic disorder. Likewise, patients with initial schizophreniform development were excluded. One case suspected of schizophreniform disease was chosen for further study. In this regard information from the patient’s medical record was reviewed and extracted particularly regarding psychopathological features. In the same way, a case suspected of an underlying organic illness was selected for further study.

*Papers 5* (Birkeland, 2013c). This study aimed at analyzing the treatment and course characteristics in the sample. Information about various treatment interventions was extracted from the records. Specifically regarding the follow-up analysis, Clinical Global Impressions (CGI) (Guy, 1976) were rated at first admission, CGI-S (severity), and last psychiatric contact, CGI-I (improvement), together with the course of psychopharmacological treatment and additional interventions. The reasons for discontinuation were recorded. An open-label cohort study was carried out: if obtainable, a CGI-I rating was applied at the first 6-week psychiatric observation period either with or without antipsychotic medication. The 6-week juncture was chosen because antipsychotics should be manifestly effective in most patients within this frame of time. Patients were considered to have continued taking a medication if they were in hospital or maintained their visits to the clinic and discontinuation was not suspected. Finally, adverse effects and other treatment modalities were noted. Ordinal variables were analyzed using the Mann–Whitney U-test. The level of statistical significance was set at a P value less than 0.05, two-tailed.

*Paper 6* (Birkeland, 2016) was conducted in terms of a brief (‘narrative’) review. The literature was surveyed up to the cutoff date (end March 2016). Electronic searches were performed in PsycINFO and PubMed/Medline using the base term “paranoid personality disorder”. Additional search terms were added to the base term for each area of issue assessed (‘History’; ‘Etiology’; ‘Classification’; ‘Socio-demography’; ‘Epidemiology’; ‘Psychopathology’; ‘Symptoms’; ‘Diagnosis’; ‘Course’; ‘Treatment’). Electronic searches were complemented with material identified through informal searches and reference lists from the retrieved literature.

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18 Furthermore, charts were screened with respect to descriptive personality characteristics. For this purpose, an ‘Adjective Check List’ (ACL) was used (Mednick et al. 1987; Ekstrøm et al. 2006). This instrument contains 106 adjectives classified into 12 categories (Intelligence, Concentration, Extroversion, Anxiety, Maturity, Friendliness, Mood, Self-consciousness, Sensitivity, Cooperation, Aggression, and Emotional Instability). From the outset, based on the typical clinical description (see later, section 3.1) one might expect individuals with a clinical PPD to rate on categories like anxiety (incl. e.g. ‘distrustful’), extroversion (reversed, incl. e.g. ‘reserved’), concentration (e.g. ‘alert’), and, of course, sensitivity.

19 Glenthøj (2000).
2.2. Systematics of integration of literature in validation process

2.2.1 Stepwise validation
The validation of PPD as a psychiatric diagnosis is conducted through means of integrating own studies on various validity aspects of the disorder with state-of the art scientific literature in the area. Validity is systematically examined in terms of the phases proposed by Robins and Guze (1970), covering the following themes a) Clinical Description (3.1), b) Laboratory Studies (3.2), c) Delimitation from other disorders (3.3), d) Follow-Up Study (3.4), and f) Family Study (3.5). 20

2.2.2 Literature overview
The literature used for the validation process predominantly had been identified in connection with Paper 6 (please see above; Birkeland, 2016) and, basically, the same search strategy was repeated in order to ensure an up-to-date basis (August 2017). Furthermore, the search was complemented by a comprehensive hand search in textbooks (e.g. Karterud, Wilberg, & Urnes, 2010; Parnas and Bovet, 2015; Rosenberg, 2016; Simonsen and Mathiesen, 2017).

20 As it will be described in chapter 4, the validation process is “one of continuing self-rectification and increasing refinement leading to more homogenous diagnostic grouping” (Robins and Guze, 1970) indicating establishment of a reasonable degree of consensus on defining characteristics of an assumed disorder as an overriding goal.
3. Results of case-series study and integrative validation

“The argument for a prototype-based approach is fundamentally linked to the fact that perception is (nearly) always apperceptively (conceptually) informed: perceiving something is to perceive it as a something, as a token or instance of a certain type [...] This process, called typification, is intrinsic to all cognition and hence to the diagnostic process as well [...]”

(Parnas and Bovet, 2015)

3.1 Clinical Description

In their paper about establishing “diagnostic validity in psychiatric illness”, Robins and Guze (1970) described five phases: clinical description, laboratory study, exclusion of other disorders, follow-up study, and family study. The first phase aimed “to describe the clinical picture of the disorder” in terms of “a single striking clinical feature or a combination of clinical features thought to be associated with one another. Race, sex, age at onset, precipitating factors, and other items may be used to define the clinical picture more precisely. The clinical picture thus does not include only symptoms”. PPD perhaps is among the personality disorders with roots reaching furthest back in the history of psychiatry with rather thorough descriptions widely available on the symptoms considered central to the disorder. Below are outlined some extracts from the classical portrayal. First, however, the findings from the author’s investigation of the clinical presentation and sociodemographic characteristics of patients admitted to hospital with PPD are presented.

3.1.1 Own study findings: ‘Clinical description’

During the archives review, the medical records belonging to roughly 23,500 patients were screened. Out of those, approximately 10,400 records concerned patients first admitted during the inclusion period; fifteen patients fulfilled the study criteria on a paranoid personality disorder. Among 31 patients who had an original record’s ‘Paranoid personality disorder’ diagnosis, 10 patients were included. Twenty-one patients were left out comprising seven who suffered from primary alcoholism, four who were differently suspected of organic mental disorder, three found to have a primary schizophreniform illness, and seven patients who had too little information on PPD traits to confirm the diagnosis. Many more patients had an original case record’s “Sensitive character” diagnosis; though among 560 such patients only 5 patients fulfilled study criteria and were included in the sample. Hence, agreement on the PPD diagnosis reached a kappa of 0.4. First ever admission incidence rate of patients with PPD during a one year period thus could be estimated as roughly 0.5/100,000 in the total population. Likewise, the percentage of PPD patients among first admissions was calculated to 0.14%.

The mean follow-up time from first admission until last psychiatric contact was 8 years and the mean follow-up time until “death or December 31st 2003” was 22 years. Gender and ages are shown in table 1.

22 Twelve patients had been originally diagnosed during the first third, 1 patient in the middle third, and 2 patients in the last third of the inclusion period (p<0.01, multinomial distribution simulation).
Table 1. Gender and ages of patients with PPD in psychiatric hospital

<table>
<thead>
<tr>
<th></th>
<th>Paranoid personality disorder</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of patients</td>
<td>15</td>
</tr>
<tr>
<td>Gender (female/male)</td>
<td>4/11 *</td>
</tr>
<tr>
<td>Mean age at first psychiatric admission</td>
<td>44 years (range: 25-62 years)</td>
</tr>
<tr>
<td>* p=0.12, Binomial distribution, two-tailed</td>
<td></td>
</tr>
</tbody>
</table>

Marital status at last psychiatric contact and population statistics are compared in table 2. At last psychiatric contact, the median age was 50 years and the majority of individuals (n=8) were aged 50-59 years (Birkeland, 2013c). Comparisons therefore were made with Svendborg population statistics of those aged 50-59 (Statistics Denmark, 2000). Among the female patients, two were comparatively young and two were relatively high aged (including one who was widowed).

Table 2. Marital status at last psychiatric contact*

<table>
<thead>
<tr>
<th>Gender</th>
<th>Married**</th>
<th>Others***</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male (p=0.3****)</td>
<td>1(72%)</td>
<td>1(28%)</td>
</tr>
<tr>
<td>Female (p=0.01****)</td>
<td>0(71%)</td>
<td>4(29%)</td>
</tr>
</tbody>
</table>

*) Proportions in brackets are percentages aged 50-59 in Svendborg municipality (Statistics Denmark, 2000)
**) Married: married incl. separated (2 separated in the sample)
***) Others: unmarried partnership, divorced, single and widowed
****) Multinomial distribution simulation

Table 3 illustrates the distribution of educational levels at last psychiatric contact compared to general educational figures in Svendborg. The original 9 categories according to Statistics Denmark information (basic school; common upper-secondary education; occupational secondary education; vocational training; short-cycle higher education; medium-cycle higher education; bachelor; long-cycle higher education, and not stated) were collapsed into 4 main categories.

Table 3. Highest level of education in sample and the Svendborg municipality population (Statistics Denmark, 2000; age 50-59)

<table>
<thead>
<tr>
<th>Level at last psychiatric contact</th>
<th>Sample</th>
<th>Svendborg</th>
</tr>
</thead>
<tbody>
<tr>
<td>Basic school (8.-10 class), and upper-secondary education</td>
<td>(7)47%</td>
<td>32%</td>
</tr>
<tr>
<td>Vocational education and training</td>
<td>(3)20%</td>
<td>42%</td>
</tr>
<tr>
<td>Higher education (incl. short-cycle, medium-cycle, bachelor, long-cycle)</td>
<td>(5)33%</td>
<td>25%</td>
</tr>
<tr>
<td>Not stated</td>
<td>(0) -</td>
<td>1%</td>
</tr>
</tbody>
</table>

p= 0.3, Multinomial distribution simulation
Socioeconomic position of patients with PPD admitted to hospital was described in terms of the following: executive manager/academic (0), middle manager/further education (5), other white-collar worker (1), skilled blue-collar worker (3), and semi-skilled or unskilled blue-collar worker (6)\textsuperscript{23}. In 2000, the proportion of early retirement (disability) pensioners was roughly one seventh of those in Svendborg municipality aged 50-59 (Statistics Denmark, 2000). A significant proportion of the sample (8/15, \( p<0.01 \), binomial distribution, two-tailed) had been given a disability pension at last psychiatric contact.

Eight out of the 15 patients were living in a town (sized > 500 inhabitants) and all patients were Danish natives. The distribution of patients according to admission characteristics is shown in Table 4.

Table 4. Characteristics of admissions of patients with Paranoid Personality Disorder

<table>
<thead>
<tr>
<th>Paranoid Personality Disorder</th>
<th>Patients admitted for inpatient treatment</th>
<th>13/15</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patient total number of inpatient admissions</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>8</td>
</tr>
<tr>
<td></td>
<td>2-6</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>7</td>
<td>1</td>
</tr>
<tr>
<td>Total length of inpatient admissions</td>
<td>- 6 days</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>7-21 days</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>More than 21 days</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>Range (days)</td>
<td>0-300</td>
</tr>
<tr>
<td></td>
<td>Mean total length of inpatient admissions (days)</td>
<td>48</td>
</tr>
<tr>
<td></td>
<td>Median length of inpatient admissions (days)</td>
<td>14</td>
</tr>
<tr>
<td>Patient total number of outpatient admission sessions</td>
<td>0</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>1-5</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>6-20</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>20-</td>
<td>5</td>
</tr>
</tbody>
</table>

Patients chiefly had shorter length hospital stays, with typically three weeks at the most. Regarding number of admissions, two-thirds of patients had one or no inpatient admissions. Besides, the series proves to be quite heterogeneous.

Other patient information

During the review of patients’ medical records, it appeared that five patients had had treatment in psychiatric specialist practice in the private sector. Six patients had psychiatric specialist statements drawn up for occupational medicine reasons. On the contrary, at the last time of psychiatric contact there was no information that any patient had had clinical psychologist treatment in the private sector. One female patient had been confined according to the Danish Act on Psychiatric Coercive Measures. Two male patients had criminal law detentions: one

\textsuperscript{23} About socioeconomic position scores in categories please see, e.g., Christensen, Schmidt, Hougaard, Kriegbaum, & Holstein, (2006) and Rugulies, Aust, Burr, & Bultmann, 2008.
supposedly because of offence against property and another because of ‘domestic disturbances’. Five subjects had other (non-criminal) disputes with the authorities.

The births of patients were scattered throughout the year with no clear seasonal grouping: four patients were born during the fall (September, October, and November); five patients were born during the winter (December, January, and February); three patients were born during the spring (March, April, and May); and three patients were born during the summer months (June, July, and August).

‘Childhood disharmony’ (parental ‘aloofness’, ‘exceedingly strict’, or ‘moralistic’ upbringings) was noted in seven patients. Two out of 4 female patients reported that they had been victims of sexual abuse during childhood. The mother of one patient died in childbirth, one patient had grown up in orphanage, and divorce of parents was cited in one patient. One patient suffered from impaired hearing. There was no information on any primary cannabis or psychotropic drug experimentation.

Clinical descriptions: symptoms according to ICD-10 research criteria

When patients were rated on the basis of the entire clinical history (literally denominated traits within entire medical records information), 10 patients exhibited 3 traits, 4 patients exhibited 4 traits, and one patient exhibited 6 traits. The distribution of traits in the series is shown in table 5.

Table 5. Denominated paranoid personality disorder traits (ICD-10)

<table>
<thead>
<tr>
<th>PPD trait</th>
<th>n.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Excessive sensitivity</td>
<td>15 (4 F/11 M)</td>
</tr>
<tr>
<td>Self-reference</td>
<td>12 (3 F/9 M)</td>
</tr>
<tr>
<td>Suspiciousness/mistrust</td>
<td>7 (3 F/4 M)</td>
</tr>
<tr>
<td>Jealousy</td>
<td>7 (0 F/7 M)</td>
</tr>
<tr>
<td>Combativeness</td>
<td>5 (2 F/3 M)</td>
</tr>
<tr>
<td>Bearing grudge</td>
<td>3 (1 F/2 M)</td>
</tr>
<tr>
<td>Conspiratorial explanations</td>
<td>3 (1 F/2 M)</td>
</tr>
</tbody>
</table>

F: female  
M: Male

If allowed for interpretation of chart descriptions and signs of criteria that were not literally denominated though, one patient seemed to display three traits, nine patients displayed four traits, four patients displayed five traits, and one patient displayed all seven traits. The interpretation concerned five patients who had signs of bearing grudge, eight patients who were combative, and one patient who was intensely concerned with conspiratorial explanations.

Syndrome Check List Measurements

When patients’ record information was reviewed and analyzed using the Syndrome Check List all patients had positive ratings of ‘Simple depression’ (syndrome 6; e.g. symptoms ‘23: Depressed mood’ or ‘121: Depression on examination’; Birkeland, 2014). Two individuals had
symptom ‘9: Hypochondriasis’ and 13 had syndrome ‘32: Social unease’ ratings (i.e. symptoms ‘28: Social withdrawal’ and ‘30: Lack of self-confidence’). Three individuals had displayed symptom ‘25: Suicidal plans or acts’ (failed suicide attempt). According to SCL profiles, ten patients belonged to the Catego class P (‘paranoid psychosis’; nine belonged to ‘P?’ and one belonged to ‘P+’). Two individuals belonged to the ‘N+’ class (‘neurotic depression’) and another two belonged to the ‘M?’ (‘manic’) class. The last individual could not be classified into one of the Catego classes A, D, M, N, O, P, R, or S.  

3.1.2 Clinical description according to the literature
3.1.2.1 Historical literature

"[...] The overall problem is one of inferiority feelings, - arising from an unfavorable childhood and aggravated by some adult experiences [...]"

Court scene, "The Caine Mutiny", 1954

The description of PPD and neighboring conditions has a long-standing tradition in the mental health literature. Among the contributions, a number of landmarks deserve special mention. As early as 1798, Immanuel Kant, under the heading of ‘Madness’, described a “disturbance of the mind in which everything that the madman says is indeed consistent with the formal laws of thinking, as is necessary for the possibility of an experience, but in which the subjective impressions of a falsely inventive imagination are taken for actual perceptions. Of this class are those who believe that they have enemies everywhere; who regard all the expressions, remarks, or other indifferent actions of other persons, as intended for them and as traps set for them. Often they are, in their unfortunate madness, so ingenious in analyzing that which others unwittingly do, in order to explain it to their own satisfaction, that, if their data were only accurate, one would have to pay every tribute to their intelligence [...] it is a peculiar capacity to rave with intelligence [...] Nevertheless these individuals are not to be classed with the insane in asylums" (Kant, 1798). Kant’s description nicely caught the groundwork of PPD and the evolution of paranoia; the way of perceiving outer world is substantially distorted but with little influence (if any) on the formal structures of perception.

Hundred years later, in his work about paranoia developments, Danish psychiatrist August Wimmer emphasized the significance of the ‘paranoigenic temperament’ and the so-called ‘autophilic constitutional anomaly’ that implied a striking propensity to construe events and acts as pertaining to the individual him- or herself (Wimmer, 1902). The evolution of paranoia was explained as ‘crystallizations’ from the constitution. Contemporarily, in the description of a paranoic type constitution by Meyer (1903), focus was on the characteristic tendency to

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24 Regarding Adjective Check List assessment, the most commonly denominated adjectives encountered in the chart descriptions were: ‘Sensitivity’ in all individuals, followed by ‘Vulnerable’ (tender-minded, n=12), ‘Persevering’ (n=8), ‘Distrust’ (n=7), ‘Withdrawn’ (n=7), and ‘Worried’ (n=6). A number of adjectives, which were not explicitly included in the ACL, were remarkably often found among denominated behavioral characteristics: ‘Bitter’ (n=8), ‘Egocentric’ (n=7), ‘Introverted’ (n=7), and ‘Brooding’ (n=6). Generally, although there was no psychometric data available, case-note information on individuals’ intellect indicated intelligence to be average or slightly above.
isolement, hypersensitivity to other’s evaluations, and suspiciousness. In 1918, Kretschmer provided a detailed description of the pre-psychotic asthenic, and self-referentially predisposed sensitive character (‘Sensitive delusion of reference’, Kretschmer, 1918). According to Kretschmer’s description, subjects were complex, very intelligent, and worthy. They also were thin-skinned, ‘spiritually differentiated’, excessively scrupulous, and introverted people who suffered from persistent but hidden emotional tensions (‘retention’) and tended towards religious sublimation. Habitually, subjects created “their own environment, which in its turn (reacted) upon them”. Reality judgment fluctuated and ‘reactive’ depressions frequently supervened.

Kraepelin subsequently described the so-called ‘Paranoid personalities’ characterized by “distrust towards the surroundings”, impatience, fault-finding, and obstinacy (“difficult to get on with”; Kraepelin, 1921). Kraepelin considered the paranoid personality to be “essentially a combination of uncertainty with excessive valuation of self”. Individuals were called paranoid “in as so far as they appeared (...) to exhibit essential preliminary conditions for the development of paranoia; some of them even displayed the rudiments of it, yet without an actual delusional system attaining to development”. According to Kraepelin, these patients habitually had ideas of persecution; on every occasion they felt unjustly treated yet they had no understanding for the insufficiencies of their own personality. In general, self-consciousness was heightened; the blame for failures solely was laid on external hindrances. Subjects were often occupied with “perpetual motion, and hoped by their future successes to gain money and honor on a considerable scale (...) They thought of themselves as having a mission which they had to fulfill, although they were not able to meet the most commonplace claims of life”. According to Kraepelin, subjects typically were intelligent and “What distinguished the delusions of these patients from those of pronounced paranoia was their vagueness and the absence of systematic working up”. From thence, the depiction of a paranoid personality was on firm ground although some additional elements appeared in for example Genil-Perrin’s ensuing work. As per Genil-Perrin, a variety of ‘tendances paranoaiques’ were particularly significant, including ‘l’orgueil, la surestimation du moi’ (a haughty overvaluation of self-worth) ‘la mefiance hostile’ (mistrust, antagonism, and hostility towards the environment), ‘la faussete du jugement’ (a propensity for erroneous jumping to conclusions), and, as a consequence hereof, ‘l’inadaptilite’ (severe impairments of social adjustment) (Genil-Perrin, 1926).

Psychoanalytic approaches introduced some notable perspectives on etiology. In the context of complex theories on homosexual intra-psychic urges and conflicts, failed repression, projective mechanisms, and evolvement of hate, the mechanisms in paranoia were hypothesized to serve a restitution function (Freud, 1911). Emphasis was given to psychosexual development, the role of anal libidinal organization, harsh parental norms with demands for premature cleanliness, ambivalence between desire for the naughty vs. being ‘good’, over-ambitiousness, progression of megalomaniac kinds of self-reliance, etc. (see e.g. Abraham, 1923; Brown & Menninger, 1940). It was theorized that, by means of a continuous stream of projections to the environment, intolerable feelings, aggressions, and thoughts were objectified in the outer unsafe world. Hence, inner mental life could be inhibited from maturation because only positive images were retained and were constantly split from their negative, aggressive, and ‘dangerous’
counterparts. Concurrently, individuals were provided with a ‘restrictive’ emotional attitude and artificial sense of perspective and ‘objectivity’.

As individuals with personality disorder frequently have relatives with psychopathology, it has been suggested that the disorder could perhaps partly result from negative parenting practices. By way of example, Cameron suggested that paranoid persons may not have been “adequately protected from excessive tension and anxiety (...) in many cases the paranoid person has received sadistic treatment during early infancy” (Cameron, 1963) and this may fundamentally cause the child to lack basic trust and to perceive the world as an insecure and unpleasant place. According to Cameron the perception of the outer world can evolve into a pseudo-community which “organizes the observed and the inferred behavior of real and imagined people into a conspiracy, with the patient in focus”. As a result, the individual is increasingly absorbed in inner fantasies where the subject’s importance is amplified. Also, researchers have claimed that “paranoia can be understood in part as a response to narcissistic injuries; hence, it is not uncommonly bound up with diminished self-esteem (depression), self-fragmentation (psychosis), grandiosity, narcissistic mortification (shame, humiliation), and narcissistic rage, all of which can serve as responses to injuries to one’s self. In this context, paranoia serves a reparative function” (Aronson, 1989).

Under the heading of object inconstancy, Blum (1981) proposed that the “lack of internalization of the comforting, constant mother is associated with lack of ego integration. Poor frustration tolerance and impulse control, fragile self-esteem, and un-neutralized aggression leave the patient predisposed to severe sadomasochistic dispositions and rage reactions”. Consequently, ambivalence, separation-anxiety, and fear of loss ensue, whilst, e.g., future loved objects seem “to be both persecutory and needed”. While the individual displays an outer rational and unemotional attitude, he or she experiences the world as composed of distorted people and processes. From the individual’s perception, situations tend to lose their objective attributes and afterwards they are interpreted according to subjective expectations and feelings (Millon & Davis, 1996). Likewise, individuals with PPD may have been “subjected to capricious vacillations in parental emotion and interest. Thus, their parents may have been affectionate one moment and irrationally hostile the next (...) Future paranoids may have felt especially vulnerable to error, knowing that they had to keep within approved boundaries, yet being unsure of exactly what these boundaries were (...) Once beyond the protective home setting, they (tend to run) hard against objective reality” (Millon & Davis, 1996).

Turkat and colleagues proposed a cognitive-behavioral stage model beginning with exaggerated parental focus upon child uniqueness and carefulness (see Thompson-Pope & Turkat, 1993). They hypothesized that the individual’s parents may have stressed two themes of major importance to their child: “You must be careful about making mistakes” and “You are different from others”. Correspondingly, PPD patients often report that they have been labeled by others as, e.g., “much brighter than (their) peers (...) closer to God than (their) (nonreligious) friends” and similarly that “the presence of a distinguishing attribute (has been) identified and exaggerated in its importance (whereby) The child is taught that he or she is unique”.

Furthermore, along with the need for family closeness, the child gets the expectation that others will be jealous. Being guarded, anxious, and feeling different from others, the child actually acts differently and is prone to be teased and rejected. This simultaneously reinforces the child’s anticipations and diminishes the development of social skills. Unavoidably, withdrawal occurs and the resulting isolation verifies the central fears and suspicions.

Cognitive information processing models provide an alternative focal point with cognitive schemas (e.g. the conviction that others are not trustworthy) being considered central to the psychopathology of PPD (Beck, Freeman, & Associates, 1990). Proponents argue that the central cognitive schemas in PPD relate to feelings of inadequacy and vulnerability. In combination with defective social skills and the external attribution of blame as a means of reducing anxiety feelings account for the distinct characteristics of PPD (Beck, Freeman, & Associates, 1990). Other people are potentially malicious and, based upon the assumption that the paranoid can protect him or herself if always on alert, the behavioral strategies are those of hyper-vigilance and mistrust.

Trauma during upbringing has attracted attention in many models of the development of personality disorders (Karterud, Wilberg, & Urnes, 2010) and furthermore the coupling of paranoid disease with trauma has received some support from quantitative research focusing on the PTSD-like behavior of some paranoid subjects. For example, study findings have hinted towards PPD being common among victims of physical abuse or assaults (Ramklint, von Knorring, von Knorring & Ekselius, 2003; Bierer et al., 2003).

### 3.1.2.2 Clinical descriptions of Paranoid Personality Disorder according to diagnostic classifications

**DSM**

The Diagnostic and Statistical Manual of Mental Disorders (DSM) generally stresses that a personality disorder is an “enduring and inflexible pattern of long duration that leads to significant distress or impairment” (APA, 2013). Specifically, PPD already was included as a diagnostic entity in its first version (American Psychiatric Association, APA, 1952). According to DSM the ‘Paranoid personality’ (000-x44) was “characterized by many traits of the schizoid personality, coupled with an exquisite sensitivity in interpersonal relations, and with a conspicuous tendency to utilize a projection mechanism, expressed by suspiciousness, envy, extreme jealousy and stubbornness”. DSM-II (301.0; APA, 1968) presented a revised “paranoid

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26 The development of paranoid disorder has been repeatedly linked to psychosocial trauma of childhood (Golier et al., 2003; Dunn et al., 2004; Karterud, Wilberg, & Urnes, 2010; Triebwasser, Chemerinski, Roussos, & Siever, 2012).

27 Below, section 3.3.2.3, studies of co-morbidity of PTSD and PPD are described.

28 The Psychodynamic Diagnostic Manual, which has been just revised (see PDM-2, 2017), provides yet another diagnostic methodology (McWilliams, 2011; Lingiardi & McWilliams, 2015). See about previous DSM and ICD versions also, e.g., Rosenberg, (2016).

29 In DSM, the importance in personality disorders of maladaptive patterns is recurrently maintained as they tend to catch the individual in a proclivity for persisting unreasonable behavior, causing a decreased capacity to successfully adapt to various circumstances as compared to others (Karterud, Wilberg, & Urnes, 2010).
personality’ type “characterized by hypersensitivity, rigidity, unwarranted suspicion, jealousy, envy, excessive self-importance, and a tendency to blame others and ascribe evil motives to them. These characteristics often interfere with the patient’s ability to maintain satisfactory interpersonal relations. Of course, the presence of suspicion of itself does not justify this diagnosis, since the suspicion may be warranted in some instances”. DSM-III (301.00; APA, 1980) introduced a multi-axial system, detailed diagnostic criteria, and intended a descriptive, theory- and etiologically ‘neutral’ but empirically based diagnostic approach. Three major criteria for the diagnosis of a ‘Paranoid Personality Disorder’ were specified, counting “A. Pervasive, unwarranted suspiciousness and mistrust of people as indicated by at least three of the following: expectation of trickery or harm; hyper-vigilance manifested by continual scanning of the environment for signs of threat, or taking unneeded precautions; guardedness or secretiveness; avoidance of accepting blame when warranted; questioning the loyalty of others; intense, narrowly focused searching for confirmation of bias, with loss of appreciation of total context; over-concern with hidden motives and special meanings; pathological jealousy. B. Hypersensitivity as indicated by at least two of the following: tendency to be easily slighted and quick to take offence; exaggeration of difficulties, e.g. “making mountains out of molehills”; readiness to counter-attack when any threat is perceived; inability to relax. C. Restricted affectivity as indicated by at least two of the following: appearance of being ‘cold’ and unemotional; pride taken in always being objective, rational, and unemotional; lack of a true sense of humor; absences of passive, soft, tender, and sentimental feelings”. Furthermore it was stressed that it might not be “due to another mental disorder such as schizophrenia or a paranoid disorder” (D). In DSM-III-R (APA, 1987), ‘C.’- criteria for restricted affectivity were excluded while, in the DSM-IV and DSM-IV-TR versions, criteria were rephrased and reorganized (Axis II, 301.0; APA, 1994; APA, 2000). Among seven possible criteria, four had to be present; the ‘bearing grudges’ criterion was included, but the explicit hypersensitivity, inability to relax, avoidance of accepting blame, and exaggeration of difficulties criteria were removed. Continually, the distribution of criteria satisfied can display a quite heterogeneous pattern (Falkum, Pedersen, & Karterud, 2009).

While it was increasingly recognized that the categorical model of personality disorder classification has many limitations (see, e.g., Clark, Livesley, & Morey, 1997; Oldham & Skodol, 2000), a natural alternative would be directing research efforts towards exploring the possibilities of developing an integrative dimensional model (Widiger & Simonsen, 2005; Widiger, Simonsen, Krueger et al., 2005). This approach afterwards has received increasing support and some research correspondingly has pointed to considering manifestations indicative of PPD in a dimensional context (see e.g. Arntz et al., 2009; Edens, Marcus, & Morey, 2009). Preceding the DSM-5, task force guidelines emanated that suggested a new, dimensional approach as well as elimination of PPD from the manual (please also see the perspectives section, 5). However, the American Psychiatric Association Board of Trustees ultimately decided to maintain the categorical approach and to not approve the amendment. Instead it was placed
in Section III “Emerging Measures and Models” as an alternative system for further research. As a result, criteria were virtually unaltered in DSM-5 (APA, 2013).

Studies in PPD for the most part have taken the DSM version as a point of departure, a fact that must be taken into consideration to the extent that DSM PPD is claimed chiefly to be defined by distrust (and suspiciousness) and that DSM now “simply lists some of the ways suspiciousness may be enacted” (Parnas, Licht, & Bovet, 2005). Quite similarly it was stressed by the PDM Task Force (2006) that PPD “is described in somewhat one-dimensional ways in the DSM” while Useda found criteria to be “highly inter-related” and over-representing “the cognitive aspects of the primary trait of mistrust (e.g., ‘suspects, without sufficient basis’, ‘is preoccupied with unjustified doubts’, ‘perceives attacks’”). Useda (2001) maintained that criteria fail to assess “the prototypical behavioral, affective, and interpersonal expressions of paranoid personality traits” and that “use of the DSM-IV criteria themselves as a screening measure of paranoid personality trait pathology would have the effect of over-representing the trait of mistrust, while under-representing other aspects of the disorder important to the construct (e.g., excessive anger and autonomy).” By way of an alternative, the following six traits were proposed: ‘mistrust/suspiciousness’, ‘antagonism/aggressiveness’, ‘introversion/excessive autonomy’, ‘hypersensitivity’, ‘hyper-vigilance’, and ‘rigidity’ (cf. Useda, 2001; Bernstein & Useda, 2007).

ICD

In general, the International Statistical Classification of Diseases, Injuries and Causes of Death (ICD) defines personality disorders as “conditions and behaviour patterns of clinical significance which tend to be persistent and appear to be the expression of the individual's characteristic lifestyle and mode of relating to himself or herself and others. Some of these conditions and patterns of behaviour emerge early in the course of individual development, as a result of both constitutional factors and social experience, while others are acquired later in life”.

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30 The following domains and facets are listed: Negative Affectivity (vs. emotional stability) domain with facets emotional lability; anxiety; separation insecurity; submissiveness; hostility; perseveration; depressivity; suspiciousness; and restricted affectivity. Detachment (vs. extraversion) domain with facets withdrawal; intimacy avoidance; anhedonia; depressivity; restricted affectivity; suspiciousness. Antagonism (vs. agreeableness) domain with facets manipulativeness; deceitfulness; grandiosity; attention seeking; callousness; and hostility. Disinhibition (vs. conscientiousness) domain with facets irresponsibility; impulsivity; distractibility; risk taking; and (lack of) rigid perfectionism. Psychoticism (vs. lucidity) domain with facets unusual beliefs and experiences; eccentricity; and cognitive & perceptual dysregulation (APA, 2013). In the alternative DSM-5 model, “personality disorders are characterized by impairments in personality functioning and pathological personality traits”. The specific personality disorder diagnoses, which can be derived from the alternative model, include antisocial, avoidant, borderline, narcissistic, obsessive-compulsive, and schizotypal personality disorders. The model also includes a diagnosis of ‘personality disorder—trait specified’ (PD-TS) that can be made when a personality disorder is considered present but the criteria for a specific disorder are not met. Personality disorder assessment begins with criterion A, ‘Level of Personality Function’, using a five-point rating scale for two domains of personality functioning—Self (subdivisions of identity and self-direction) and Interpersonal (empathy and intimacy). Criterion A predicts whether and to what degree any patient has a personality dysfunction. From general personality dysfunction assessment in criterion A, criterion B moves to the potential presence of one of the six disorders. Instead of mentioning criteria for each personality disorder, another structure is used in which pathological personality traits are assessed under the five broad personality trait domains (see above). The 4-point ‘Personality Trait Rating Form’ can be used to score patients on the 25 trait facets, and the particular personality disorder is defined in terms of particular ‘trait clusters’.

31 Falkum, Pedersen, & Karterud (2009) suggested the DSM-IV PPD construct to imply dimensions of suspiciousness and hostility.

32 In ICD-10 (1994) specific personality disorders are described as follows: “A specific personality disorder is a severe disturbance in the characterological constitution and behavioural tendencies of the individual, usually involving several areas of the personality, and nearly always associated with considerable personal and social disruption. Personality disorder tends to appear in the late childhood or adolescence and continues to be manifest into adulthood. It is therefore unlikely that the diagnosis of personality disorder will be appropriate before the age of 16 or 17 years [...]."
Specifically regarding PPD, ICD version 6, and again in version 7, ‘paranoid personality’ (320.1) was taken in under the ‘pathological personality’ category (World Health Organization, 1948, 1955). In ICD-8 (World Health Organization, 1965) it was denominated ‘Personality disorder, Paranoid’ (301.0) and after all, in ICD-9 (World Health Organization, 1975), it was retitled ‘Paranoid personality disorder’ (301.0). In ICD-10, PPD was contained under F60.0 (World Health Organization, 1992) which also enumerated 7 criteria and a demand for three (research version: four) criteria to be present. Currently, PPD is defined in terms of a “Personality disorder characterized by excessive sensitivity to setbacks, unforgiveness of insults; suspiciousness and a tendency to distort experience by misconstruing the neutral or friendly actions of others as hostile or contemptuous; recurrent suspicions, without justification, regarding the sexual fidelity of the spouse or sexual partner; and a combative and tenacious sense of personal rights. There may be excessive self-importance, and there is often excessive self-reference. Personality (disorder): expansive paranoid; fanatic; querulant; paranoid; sensitive paranoid. Excl.: paranoia (F22.0); paranoia querulans (F22.8); paranoid: psychosis (F22.0); schizophrenia (F20.0); state (F22.0)”.

It appears that the seventh characteristic (proclivity for preoccupation with unsubstantiated ‘conspiratorial’ explanations) presently is omitted from the criteria.

Karterud and colleagues commented that ICD-10 criteria for PPD have a more narcissist coloring (incl. the grandiosity) than do DSM criteria though fail to cover the aggressive reactions (compare narcissist rage, see below) to perceived affronts covered in DSM (Karterud, Wilberg, & Urnes, 2010). Compared with DSM, ICD put slightly less emphasis on the various aspects of suspiciousness and mistrust. Similarly, as it was the case with former DSM versions (APA, 1952; 1968; 1980; 1987), the feature of excessive sensitivity is explicitly mentioned together with self-reference. Therefore, ICD-10 criteria by some academics have been claimed to be “somewhat broader in scope” (Hopwood & Thomas, 2012). Previous measures have, however, suggested good agreement between the two categorical diagnoses (DSM-IV and ICD-10; Cohen’s κ = 0.74) and likewise the dimensional correlation was suggested to be good (Pearson’s r = 0.88) indicative of similar underlying trait-concepts (Ottoson, Ekselius, Grann, & Kullgren, 2002). In table 6, trait descriptions according to ICD and DSM versions are listed.

Reliability
Regarding reliability, inter-rater agreement studies on a categorical PPD diagnosis following clinical interview among psychiatrists have shown kappa estimates that diverge from 0.35 (clinical diagnosis according to DSM-III among psychiatrists; Mellsop, Varghese, Joshua & Hicks, 1982) to 0.87 (DSM-III; Drake & Vaillant, 1985). Regarding studies using structured clinical interviews, test-retest reliability on a categorical diagnosis was found to be 0.39 (DSM-IV; Zanarini et al., 2000). Both inter-rater and test-retest reliabilities of dimensional PPD constructs have been shown to be higher (DSM-IV, kappa estimates 0.86 respectively 0.71; Zanarini et al., 2000).

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Table 6. PPD clinical characteristics in ICD and DSM

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>ICD (WHO, 1992)</th>
<th>DSM (APA, 2013)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hypersensitivity</td>
<td>Excessive sensitivity to setbacks</td>
<td>Persistent grudge bearing</td>
</tr>
<tr>
<td>...</td>
<td>Unforgiveness of insults</td>
<td></td>
</tr>
<tr>
<td>Suspiciousness and a tendency to distort experience by misconstruing the neutral or friendly actions of others as hostile or contemptuous</td>
<td></td>
<td>Pervasive distrust and suspiciousness (incl. of harm, disloyalty, malicious use of confidence, demeaning remarks and events, etc.)</td>
</tr>
<tr>
<td>Recurrent suspicions, without justification, regarding the sexual fidelity of the spouse or sexual partner</td>
<td>Recurrent suspicions, without justification, regarding the fidelity of spouse or sexual partner</td>
<td></td>
</tr>
<tr>
<td>Combative and tenacious sense of personal rights</td>
<td>Increased perception of attacks and proclivity for counterattacks</td>
<td></td>
</tr>
<tr>
<td>Excessive self-importance and self-reference</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Preoccupation with unsubstantiated ‘conspiratorial’ explanations of events both immediate to the patient and in the world at large</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Comments</td>
<td>“[...] emerge early in the course of individual development [...] or later in life”</td>
<td>“[...] tends to appear in the late childhood or adolescence [...]”</td>
</tr>
</tbody>
</table>

3.1.2.3 Clinical descriptions of PPD: diagnostic criteria and clinical features depicted in the literature

Paranoid (from Greek ‘out of mind’, ‘to think beside oneself’, ‘defective judgment’) disorder refers to the occurrence of delusions and ‘delusion’ typically has been defined in terms of a private, false, and uncorrectable conviction, or “a fixed belief that persists even though social reality contradicts it” (Cameron, 1963). Strictly speaking, regardless of the term ‘paranoid’ personality disorder, individuals should not be regarded as truly ‘paranoid’ until reaching the point where genuine delusions are present (Lunn, 1953). Despite phraseology, assessment is complicated by the circumstance that paranoid (delusional) psychosis may have an insidious onset, based on the special character style associated with PPD (Shapiro, 1965), revealing a “gradual mobilization of cognitive potentials in the service of madness” (Hansen, 1976). Therefore, the decision about whether PPD or, e.g., a genuine paranoid psychosis is present sometimes can be quantitative rather than qualitative in nature (Cameron, 1974; Boschen & Warner, 2009) and various (e.g. social) variables can modify its appearance. Below, the characteristics emphasized according to diagnostic criteria are explained with reference to descriptions from the research literature.
Excessive sensitivity

Almost archetypally, and consistent with both ICD (see, e.g., World Health Organization, 1992; Akhtar, 1990) and DSM (particularly up to DSM-III, incl.; see, e.g., APA, 1952), PPD has been described in terms of excessive sensitivity to setbacks and rebuffs in interpersonal relationships (Bernstein & Useda, 2007). This means that even the smallest sign of rejection or ‘something possibly disharmonic’ (e.g., the tone of voice in a colleague’s quick remark, the neighbor who fails to gesture, or some acquaintance who is episodically perceived ‘inaccessible’ and deeply engaged in other matters) is picked up and recognized as ‘unfriendly’. The individual quickly detects any conflict matter in social interaction though, too often, the matter has petty substance until ‘discovered’. Unfortunately, reaching recovery demands substantial efforts and especially when there is just little essence in the matter perceived, a battle is commenced. Consequently, as depicted below, individuals with PPD are relentlessly vulnerable to the strains of life (Kaser-Boyd, 2006).

The individual with PPD typically has a ‘guarded’ or ‘hyper-vigilant’ appearance (Millon, 2011). He or she gives the impression of over-alertness, namely to the surprising unexpected no matter how trivial it seems from the point of view of others. As pointed out by Shapiro, the paranoid style implies disorders of both thought content as well as thoughts mode (Shapiro, 1965); the exaggerated attention towards skirmish, mess, or dangers is premeditated and inflexible. Only those clues in support for the prejudiced conceptions are consented. As a result, the intentions and actions of others are too often misinterpreted (Livesley & Schroeder, 1990). The existence of given alternative facts are not necessarily fully neglected yet the individual entirely disagrees about their significance (“[…] intellectual capacity, keenness, and acuteness of attention become not guarantees of realistic judgment, but, on the contrary, instruments of bias […]”; Shapiro, 1965). This gives rise to exaggeration of troubles and constructions all out of proportions (‘making mountains out of molehills’, APA, 1980). Simultaneously, because of a relative incapacity of taking the role of others and viewing things from different perspectives, other people appear to be unpredictable and untrustworthy (Cameron, 1974). Continuously expecting to be exploited, such individuals tend to appear hostile and critical, detecting “our contradictory traces clearly and consciously, even when we are totally unaware of them ourselves (...) (he or she) experiences our negative inclinations as though they were conscious, dominant, and completely intentional in our thinking and feeling. Because of a hypersensitivity to slight, resentment, or rejection, the paranoid greatly magnifies what he or she picks up from our attitude. Half-truths or quarter-truths are made the whole truth” (Cameron, 1963). As described by Diderichsen (1987), individuals sometimes may even foresee “things before they happen” as their ability to ‘anticipate’ is developed to such a pitch that they actually elicit in others the behavior they expect and fear.

Carrying of grudges

As it appears, the reasoning is ‘exaggeratedly psychological’ although it is often based upon supposed intentionality and a pigeonholed view on cause and effects rather than descriptive thinking and reasonable deduction. Individuals with PPD tend to disregard that thoughts are different from actions – a phenomenon assumed to result from childhood parental criticism and
humiliation for attitudes rather than behavior (PDM Task Force, 2006). Anyway, it implies that controversies readily expand because of brooding over the activities and remarks of others, carrying of grudges (Bernstein & Useda, 2007; Millon, 2011), gradual concoction of imaginary ‘tormentors’, and a concurrent boost of rancor, bitterness, exasperation, and vindictiveness. The ‘malignant spiral’ has begun (cf. Carroll, 2009). By way of example, transitory irritation in our manner tends to become “a seething, total animosity and hatred” (Cameron, 1963). Successively, from the individual’s point of view, feelings of injustice, affront, and oppression both warrant ample slander and comprehensive, drastically escalated, quite primitive, and emotionally charged ‘counter-attacks’ or ‘get backs’ (Livesley & Schroeder, 1990) without consideration for the prime problem or anyone around (cf. ‘the persecuted persecutor’). The carrying of grudges and un-forgiveness of insults, injuries, or slights (APA, 2000; World Health Organization, 1992) implies that even minor discrepancies are born in mind; in this regard cautious questioning about the contents of conflicts may expose lots of defensive logics, complex explanation models, and causality constructions which sometimes disclose a full-blown paranoid content. As Millon & Davis (1996) put it, individuals “have ample time to cogitate and form idiosyncratic suppositions and hypotheses; these then are “confirmed” as valid because it is the paranoid alone who is qualified to judge them”. Notwithstanding, from their perspective, hypotheses look entirely rational and convincing.

Suspiciousness

Individuals with PPD typically are inclined to suspiciousness and will tend to distort experience by misconstruing even neutral or friendly actions of others as hostile, contemptuous, derogative, or deceptive (cf. WHO, 1992; Akhtar, 1990; Bernstein & Useda, 2007; Millon, 2011; Triebwasser, Chemerinski, Roussos, & Siever, 2012). As formulated by Millon & Davis (1996), PPD is an extreme variant of the independent coping style, “founded on the strategy of turning to oneself, rather than others, as the primary source of protection and gratification”. Distrust, skepticism, and cynicism both tend to concern the individual’s closest relationships and strangers. Any neighbor’s suggestion about sharing a newspaper subscription, someone lending a hand or a colleague’s sociable gesture is nothing but genuine sneakiness. Especially, when there is ‘a history of prior disloyalty’. Individuals with PPD may explore every nook and cranny to locate ‘irrefutable proof’ and when events fail to confirm the preformed suspicions, it only proves how deceitful and clever others actually can be (Millon & Davis, 1996). Even the most cheery point is interpreted as malevolently intended. In the same way, anger easily follows from peers’ stating of simple (but ‘inconvenient’) facts or implications of the paranoid-colored perspective. Definitely, neutral or friendly statements are subject to the skewed processing; likewise, the next of kin who presents an ‘adjusted’ viewpoint or gives some well-intentioned sparring soon will realize that a ‘fight’ has been induced (‘dissent is enmity’). If not, the punch line probably is lost and only those few elements fitting into the adamant, prejudiced

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34 “At this point, such a person can no longer be described as feeling vulnerable or as defensively sensitive; now, he is sharp-eyed and alert, actively identifying the enemy, anticipating and interpreting his moves, and constructing an image from clues noted according to his defensive interest” (Shapiro, 1965).

35 Note that ‘suspiciousness’, ‘mistrust’, and ‘distrust’ are often synonymously used.
perspective remain as the foundation of reinforced ‘paranoigenic’ expansions. The conviction that others can’t be trusted consequently causes individuals with PPD to seek to be ‘makers of own fate’ and to stay free of relationships in which power of self-determination and autonomy may be lost (see Millon & Davis, 1996); even though such individuals may have a strong longing for interpersonal contact, they are hardly capable of engaging in it. \[36\]

Quarrelsomeness
PPD seems to expose a relational disturbance. As indicated above, individuals with the disorder tend towards an antagonistic and quarrelsome attitude towards the surroundings (Akhtar, 1990; Bernstein & Useda, 2007). All the more so research has suggested an association between paranoid personality types and aggressive behavior (Stone, 2007; Pulay et al., 2008). Time and over the PPD approach in social interaction is argumentative, combative, with an extraordinarily tenacious sense of rights and privileges which is wholly out of keeping with the actual situation (WHO, 1992). Individuals with PPD are not infrequently involved in legal disputes with municipalities, governmental authorities, and courts that can lead to never-ending legal proceedings. Diverse lawyers and experts are involved, or the limitless documentation is gathered by the individual him- or herself.

In any case, PPD implies an inclination towards conflict logics. There is a relative inability to compromise (Livesley & Schroeder, 1990), opposition to adapt to external realities (Millon & Davis, 1996), and lack of capability to realize when to renounce. This implies that, in a vastly non-dynamic way, adversities and bitter experiences escalate. Only occasionally, due to episodes of sheer exhaustion, expansion briefly ceases. Recurrently the behavioral style seems to imply that otherwise good preconditions somehow switch, divergence arise, and then are prone to degenerate. There is a low threshold for anger when judgment is questioned, when real or unreal criticisms are perceived, or positive regard is not forthcoming (Livesley & Schroeder, 1990). As individuals consider any alternative viewpoint or any little attempt at resistance a betrayal or an ‘invitation for mudslinging’, they may even dismiss family and acquaintances (see e.g. Disney, Weinstein, & Oltmanns, 2012). Alternatively, processes can be externalized and involve, e.g., the household. If so, those around absorb the disordered frame of reference (cf. ‘folie a deux’, shared delusional disorder) thereby becoming heavily influenced with mistrust, tremendous anger towards particular people, wish for retaliation, conspiratorial ideas, biting resentment, etc.

It has been widely advocated that defense mechanisms of a projective nature are central to PPD (see, e.g., APA, 1952; Cramer, 1991; Akhtar, 1990). Projection implies that those around are consistently blamed for difficulties and problems (APA, 1952; Cramer, 1991). Every adversity is imputed to others. Remarkably little personal responsibility is accepted, self-insight is lacking, and the individual is last to admit that he or she misjudged any situation. The capacity for reproachful fault-finding is outstanding. As described by Millon & Davis (1996), individuals with PPD tend to “impose their self-created standards on others (...) Setting impossible regulations for

\[36\] Compare ‘The alternative DSM-5 model for personality disorders’ (APA, 2013), ‘separation insecurity’ facet (negative affectivity domain).
others allows paranoids to vent hostilities and condemn failures (...) They can despise and hate others for their weaknesses, their deceits, and their hypocrisy – precisely those feelings that the paranoids previously had experienced within themselves, had once sought to repress, and still try to conceal by condemning them in others”. Social and job-related problems seem through various means to be consequences of the opinionated attitude, mistrust, watchfulness for signs of offence, everything or nothing thinking, and unwillingness to let bygones be bygones. The surroundings must agree with the preconceived conceptions or be prepared for a break-up. In this way, the sequence of events repetitively leading to deadlock in, e.g., work relations appears paradoxically predictable and stereotyped. Alongside, by reference to various abstract and perhaps ‘philanthropic’ ideas, individuals with PPD may argue in favor of keeping on a lifelong fight in frustrating positions.

Jealousy and resentment

Indeed, the paranoid personality disordered is self-centered. His or her ego is in the center of the picture. The individual will hardly be able to avoid somehow promoting his or her ‘excellence’. Yet as described by Millon & Davis (1996) in contrast to, e.g., narcissists, “who achieve a modicum of success with their optimistic veneer and exploitive behaviors, fanatic paranoids run hard against reality”. Hence, contrary to narcissists, they do not evince the overt signs of social ease and comfort and the “cool sense of superiority (...) capacity to deal their life in a manner that is quite successful and competent, often eliciting admiring responses from others”. Even so, the trace of narcissism is often noticeable, as is the grandiosity, envious, empathic deficiency, and lurking indignation and rage. Resentment, jealousy, and bad temper lie in wait, not least when e.g. authority figures are ‘obstructive’ (Livesley & Schroeder, 1990). Manifestations of jealousy may be numerous but Cameron (1963), among others, observed that patients particularly often feel inferior in their sexual development. In the same way, the notion of jealousy often refers to deviances in the individual’s approach to love and sexual relationships (cf. ‘suspicions, without justification, regarding sexual fidelity of spouse or sexual partner’; World Health Organization, 1992). On the other hand, in spite of their apparent aloof facade, individuals with PPD are much more sexually concerned than would be typically expected in schizophrenia spectrum illness though it often takes an unlucky turn (morbid jealousy, distant infatuation, the ‘impossible love story’, etc.). Every so often jealousy is farther reaching. It typically encompasses matters where the individual experiences his or her performance put more or less directly to the test (cf. Millon & Davis, 1996). Simultaneously, the feelings of vulnerability and inferiority turn up. Among typical topics are other’s enjoyment of pleasure, privileges, and material things. Additional issues concern social functioning, intellectual skills, body performance, and community position. The success of a colleague easily bears the seeds of envy and growing anger (Bernstein & Useda,

37 The trait of jealousy according to current diagnostic classifications has been repeatedly questioned (see, e.g., Torgersen, 1995). Falkum, Pedersen, & Karterud demonstrated the reliability of PPD according to DSM-IV to increase if omitting the jealousy (‘accusations of infidelity’) criterion. In their study, the criterion was only present in few respondents though, after all, among the personality disorders, it was most strongly associated with PPD (Falkum, Pedersen, & Karterud, 2009).
To individuals with PPD, most others have attained their wealth and esteem unjustly (Millon, 1981). Both subtly and directly individuals with PPD “point out and exaggerate, with great pleasure, the minor defects they uncover among those they despise” (Millon & Davis, 1996). Millon & Davis (1996) provided the explanation that “faced with persistent derogation and threat, paranoids will seek vigorously to redeem themselves and reestablish their sense of autonomy and power (...) Left to ruminate alone, they may construct proofs of their eminence through intricate self-deceptions (...) They can now rise above petty jealousies, ‘understanding all too clearly’ why others seek to undermine their stature and virtue”.

Self-reference and grandiosity
In particular, earlier literature emphasized the importance of self-reference in PPD (Mullen, 1997; Akhtar, 1990). Self-reference implies an intensified awareness of the individual itself and a distressing alertness about the surroundings. Unfortunately, the interpretation of incidences is somewhat skewed and habitually has a negative (often hurtful or persecutory) coloring: private meanings are put into even the most trivial, extraneous event (‘seeing ghosts behind every tree’). As stated by Mullen (1997), the meaning attached to occurrences is not necessarily ‘impossible nor even (...) improbable, people could be laughing at them, passing remarks, intentionally obstructive etc.’ What distinguishes the self-reference is its all-encompassing impact on the individual’s perception of nearly every little happening of the world and reluctance to truly realize that interpretations can very well be wrong. As it appears, self-reference closely relates to hypersensitivity (see also APA, 1952).

Individuals with PPD often live ambitious lives, occupied in zealous and steadfast (perhaps somewhat awkward and ‘desperate’) attempts to make a mark (cp. Bernstein & Useda, 2007). Some individuals really may carry out mammoth projects and great undertakings or perhaps they may “propose grandiose schemes for ‘saving the world,’ for solving unsurmountable scientific problems, for creating new societies, and so on. These schemes may be worked out in minute detail and are formulated often with sufficient logic to draw at least momentary attention and recognition from others” (Millon & Davis, 1996). Approach to life too often is that of ‘the all-sacrificing believer with cruelly neglected relations’. The small joys and sorrows of everyday life look of petty importance and the tenderness of those around may receive minimal notice yet life seems dedicated to the endless crusades, broodings, and obsessional construction of ‘monuments’ - apparently no matter the price. Individuals may carry out even arduous and exacting duties though capacities sharply contrast with their awkward idea of how to familiarize with other people and deficient social skills. Owing to the strange unaccommodating attitude, the individual is often isolated in work life as well as family life. Often interests are, in many

38 In parenthesis, it could be added that Millon suggested five more or less distinct paranoid personality types: ‘paranoid-narcissistic’ (resulting from upbringing characterized by over-evaluation/indulgence), ‘paranoid-antisocial aggressive’ (caused by upbringings characterized by aggressions/harassment), ‘paranoid-compulsive’ (due to upbringing characterized by overcontrolling/perfectionism), ‘paranoid-passive-aggressive’ (children upbringings were characterized by inconsistency/contradiction), and an unspecified ‘decompensated’ type (Millon, 1981). Later, ‘querulous’ respectively, ‘Insular’, ‘fanatic’, and ‘malignant’ types were proposed (Millon, 2011).
39 Compared to schizotypal personality disorder, Millon & Davis (1996) stressed that while patients with schizotypal disorder turn away both from others and from themselves being neither socially attached nor possessing a valued sense of self; fantasies in PPD create an enhanced self-image even as the individual withdraws from interaction.
respects, admirable and perhaps even undisputed sympathetic and almost heroic in essence, but the overall picture is lacking. One reason may be the one given by Cameron that “From a dynamic standpoint, it seems highly likely that preoccupation with inventive, scientific, or mathematical logic or pseudologic may defend many a paranoid person from ego disintegration” (Cameron, 1963). At least, it seems as if a grave sense of emptiness would alternatively be waiting.

Elaboration of conspiratorial theories
As it was previously mentioned in ICD-10, individuals with PPD may have particular preoccupations with conspiratorial explanations concerning place of work, municipalities, neighborhood etc. (“of events around the subject or in the world at large”; World Health Organization, 1992; Bernstein & Useda, 2007). Simultaneously, there is a proclivity for withdrawal, alienation, and isolation from surroundings. The rejecting attachment style and detachment disrupt the opportunity for social feedback and challenges to the individual’s worldview as, at least, “it is difficult to learn from experience that people can be trusted if interpersonal experiences simply never occur” (Rosenstein & Horowitz, 1996; Carroll, 2009). The individual with PPD does not always abstain from social engagement. Unfortunately, though, any thorough social commitment must imply being in charge, the one to be dependent upon, the one judging the situation, or the one who is otherwise admired (‘pseudo-altruistic egocentrism’). Equality in social relationships hardly exists, the gift for placing oneself of secondary importance is almost non-existing, and concern in others often bears the impress thereof.

Individuals with a PPD rarely feel life comfortable. Correspondingly, in a Norwegian interview study, PPD traits were found to be among the most important negative predictors of perceived quality of life (Cramer, Torgersen, & Kringlen, 2007); particularly, traits were strongly related to negative contact with family and an overall poor self-realization (see also South, 2014). The rather narrow, individualistic focus in life activities and sharp concentration on own visions, prospects, and ambitions will, no matter how ‘noble’ they are, tend to undermine everyday life and being together and demolish any close bond with those around. Individuals continuously direct awareness away from inner mental life obstructions and towards the monotonous stream of outer circumstances and offences. Simultaneously every step towards intimacy or personal connection is unachievable due to fear of hurt, embarrassment, and humiliation (cp. Livesley & Schroeder, 1990).

3.1.2.4 Socio-demographical characteristics according to the literature

Occurrence in the community. Former studies pointed towards a rather small prevalence of PPD in the community. For example, no subjects with DSM-III PPD were identified within an American community sample (Samuels, Nestadt, Romanoski, Folstein, & McHugh, 1994) and in another study applying DSM-IV as well as ICD-10 criteria, PPD subjects comprised no more than 0.7% respectively 0.8% of the sample (Samuels, Eaton, Bienvenu III, Brown, Costa Jr, & Nestadt, 2001).

Please also see Birkeland (2016).
2002). Research carried out with Nordic community samples, however, suggested prevalence rates to be higher; a Norwegian interview study showed the prevalence of PPD according to DSM-III-R to be 2.4% (Torgersen, Kringle, & Cramer, 2001) while a Swedish questionnaire study identified 5.9% satisfying ICD 10 criteria and 5.6% fulfilling DSM-IV criteria for PPD (Ekselius, Tillfors, Furmark, & Fredrikson, 2001). In the latter mentioned study, those with a personality disorder generally were younger, students and unemployed. Afterwards, an American interview study estimated the prevalence of PPD to be 4.4% (DSM-IV; Grant et al., 2004). A population-based Norwegian interview study among young adult twins only found 0.5% to meet DSM-IV criteria for PPD (Kendler et al., 2006). The authors proposed that previously published prevalence rates perhaps were higher because they had taken place in urban areas where rates for psychiatric disorders are possibly higher. Correspondingly, in a community-based sample of adults aged 55–64, Iacovino, Jackson, & Oltmanns (2014) found 0.7% to fulfil DSM-IV criteria for PPD; Blacks endorsed significantly elevated PPD symptoms compared with Whites and the authors suggested elevated levels to be associated with particular socioeconomic factors. By way of comparison, DSM-5 estimates the population prevalence of Borderline Personality Disorder to be 1.6% (APA, 2013).^{41}

**Occurrence in psychiatric hospital.** Although patient composition in psychiatric hospital of course can be very varying, according to DSM-5, the prevalence of Borderline Personality Disorder among inpatient psychiatric patients is about 20% (APA, 2013). The manual reports no estimate for PPD. Table 7 presents previous study findings regarding PPD in psychiatric settings.

**Table 7. Occurrence of PPD in psychiatric hospital**

<table>
<thead>
<tr>
<th>Study</th>
<th>Criteria</th>
<th>Proportion</th>
<th>Population</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kass, Spitzer, &amp; Williams, 1983</td>
<td>DSM-III</td>
<td>1.7%</td>
<td>Patients in diverse psychiatric services incl. outpatient facilities (n=2,712) (incidence rate)</td>
</tr>
<tr>
<td>Koenigsberg, Kaplan, Gilmore, &amp; Cooper, 1985</td>
<td>DSM-III</td>
<td>0.45%</td>
<td>Patients in diverse psychiatric services incl. outpatient facilities (n=2,462) (incidence rate)</td>
</tr>
<tr>
<td>Dahl, 1986</td>
<td>DSM-III-R</td>
<td>0.43%</td>
<td>Consecutively admitted psychiatric hospital patients (n=231) (incidence rate)</td>
</tr>
<tr>
<td>Fulton &amp; Winokur, 1993</td>
<td>DSM-III-R</td>
<td>0.094%</td>
<td>Psychiatric hospital patients in database (n=18,016) (incidence rate)</td>
</tr>
<tr>
<td>Mors &amp; Sørensen, 1994</td>
<td>DSM-III-R</td>
<td>2.5%</td>
<td>First-admitted psychiatric hospital patients (n=157) (incidence rate)</td>
</tr>
<tr>
<td>Keown, Holloway, &amp; Kuipers, 2002</td>
<td>ICD-10</td>
<td>13%</td>
<td>Psychiatric facilities outside psychiatric hospital (n=166) (prevalence rate)</td>
</tr>
<tr>
<td>Zimmerman et al, 2005</td>
<td>DSM-IV</td>
<td>4.2%</td>
<td>Psychiatric outpatients (n=859) (prevalence rate)</td>
</tr>
<tr>
<td>Lenzenweger et al, 2007</td>
<td>DSM-IV</td>
<td>2.3%</td>
<td>In probability clinical sub-sample (n=214) (prevalence rate)</td>
</tr>
<tr>
<td>Pedersen &amp; Simonsen, 2014</td>
<td>ICD-10</td>
<td>1.0%</td>
<td>Prevalence of PPD among adults in Danish psychiatric departments (incidence rate 1.2%) (n= 38,848; Registry data from 2006)</td>
</tr>
</tbody>
</table>

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41 Bebbington and colleagues (2013) proposed that different types of paranoid ideation appear in up to 30% of the general population. In their investigation, respondents belonged to a paranoia spectrum and either of four classes. The latter included a ‘quasi-normal’ class (with infrequent endorsement of interpersonal sensitivity, mistrust and ideas of reference, and no ideas of persecution), two intermediate classes (characterised respectively by high levels of mistrust and ideas of reference), and a severe (but rare) persecutory class (with high levels of both interpersonal sensitivity, mistrust, ideas of reference and of being persecuted).
It has been suggest that subjects with PPD are disinclined to seek psychiatric treatment (Tyrer, Mitchard, Methuen, & Ranger, 2003) and PPD individuals may tend to ‘fall through the cracks’ of the mental health system (Bernstein & Useda, 2007; Triebwasser, Chemerinski, Roussos, & Siever, 2012). PPD therefore may be more frequent in the community with only few individuals diagnosed in psychiatric hospital. According to the findings by Mors and Sørensen (1994) the first ever admission incidence rate of patients with PPD during a one year period was 1.8/100,000 among those aged 18-49.

Gender, age, etc.
A number of clinical studies support the notion of a male dominance among PPD patients (Kass, Spitzer, & Williams, 1983; Fulton & Winokur, 1993; Fossati et al., 2003). Likewise, a male preponderance later was demonstrated in a Danish register-based study (Pedersen & Simonsen, 2014). Contrarily, one community study found PPD to be most frequent among women (Grant et al., 2004). In the study by Fulton and Winokur (1993), the mean age at first psychiatric contact was 41 years while Keown, Holloway, & Kuipers (2002) found the mean age of patients diagnosed with PPD to be 40 years. The study findings by Fulton & Winokur (1993) suggested a high marital rate in PPD yet community studies have pointed in the opposite direction (Grant, Hasin, Stinson, Dawson, Chou, Ruan, & Pickering, 2004; Torgersen, Kringle & Cramer, 2001). Regarding patient dwellings, community studies suggested that individuals with PPD tend to live in cities (Torgersen, Kringle, & Cramer, 2001) and PPD has been also proposed to be associated with immigration or refugee status (Grant et al., 2004).

Community-based studies showed that PPD subjects often are of a lower socioeconomic class, only having a high-school education or less (Torgersen, Kringle, & Cramer, 2001). In Fulton and Winokurs retrospective chart study (1993), the mean education of PPD subjects was 11.1. Research has indicated that individuals with PPD (and schizotypal personality disorder) may have impaired vocational functioning (McGurk et al., 2013).

### 3.1.3 Preliminary inference

When keeping in mind the first phase in the validation process proposed by Robins and Guze (1970) which aimed “to describe the clinical picture of the disorder” in terms of “a single striking clinical feature or a combination of clinical features thought to be associated with one another. Race, sex, age at onset, precipitating factors, and other items may be used to define the clinical picture more precisely. The clinical picture thus does not include only symptoms”, there appears to be a relatively strong foundation of PPD in terms of comprehensiveness and coherence of clinical descriptions continuing through the history of mental health literature. Criteria seem substantiated by a considerable amount of theory through various eras of psychiatry and with associated qualitatively similar behavior and stereotyped social complications.

Findings about precipitating factors in terms of namely the role of trauma seem to be concurrent. Existing criteria according to diagnostic classifications largely are in line with traditional clinical

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DSM and ICD differ in a number of aspects though chiefly seem to cover the same disorder. The selection and weighing of criteria according to current classifications, however, perhaps merit reconsideration and refinement (e.g. the role and formulation of suspiciousness respectively jealousy). In agreement with fundamental concepts of the dysfunctionality of personality disorders stressed in diagnostic classifications, studies have suggested signs of PPD be among the most important negative predictors of perceived quality of life. The quantity of individuals complying with criteria deemed central to PPD seem to comprise a fairly similar proportion in various populations. In the clinics, PPD seems to be more often among male patients. The clinical description suggests considerable hurdles in behavior and interpersonal relations reflected also in difficulties with staying in the labor market. Regarding occurrence of PPD in psychiatric hospital, retrospective chart studies point to a rather low rate. When individuals turn up in hospital with PPD they typically are in their forties and hypersensitivity respectively self-reference appear to be among the most prominent clinical traits.

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43 Thus agreeing with concepts of the dysfunctionality of personality disorders expressed in, e.g., DSM (2013) research suggests PPD be associated with substantially diminished quality of life. See, e.g., APA (2013): "enduring and inflexible pattern of long duration that leads to significant distress or impairment".

44 In a way, the description of PPD could be argued to imply some social constructivist elements as to the significance of behavioral patterns chosen by ‘the majority’ to be abnormal (cp., e.g., Rosenberg, 2016; p. 139).
3.2 Laboratory studies

The concept of ‘laboratory studies’ according to Robins and Guze (1970) was described in terms of “[...] chemical, physiological, radiological, and anatomical (biopsy and autopsy) findings.” Robins and Guze, however, argued that “Certain psychological tests, when shown to be reliable and reproducible, may also be considered laboratory studies in this context.” They furthermore judged laboratory findings generally to be “more reliable, precise, and reproducible than are clinical descriptions. When consistent with a defined clinical picture they permit a more refined classification”. Anyway, it was acknowledged that “Without such a defined clinical picture, their value may be considerably reduced.”

3.2.1 Own study findings: ‘laboratory studies’

The retrospective study-approach allowed for no other ‘laboratory studies’ than the assessment conducted through use of psychometric instruments like the Syndrome Check List as described above under 3.1.1 (findings reported in paper Birkeland, 2014).

3.2.2 State-of-the-art laboratory study findings

3.2.2.1 Neurobiology: Structural and Neurochemical Findings

 Neurobiological studies in the field rarely are about PPD per se but more often relate to paranoid phenomena in schizotypal disorder and schizophreniform psychoses (see, e.g. Siever & Weinstein, 2009; Garety et al., 2013; Rosell et al., 2014). Some investigations, however, may be relevant to PPD. Raine and colleagues (2002) concluded that schizotypal/paranoid personality disorder be characterized by structural and functional prefrontal deficits with a 12 percent reduction in the volume of prefrontal gray matter compared to the comparison group, and a 13 percent reduction compared to psychiatric controls (see figures 1 and 2 for CNS locations). However, the

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45 Besides, mostly based on heritability studies, PPD has been connected to a so-called ‘schizophrenia spectrum’. Kendler, Gruenberg, and Kinney (1994) previously noted that application of DSM-III criteria provided strong support for the hypothesis of a genetic ‘schizophrenia spectrum’ predominantly among schizophrenia, schizoaffective disorder, and schizotypal personality disorder, but less clear with PPD. Correspondingly, a number of studies have pointed towards a heritability of PPD itself as well as a genetic link with schizophrenia and, perhaps more undoubtedly, with delusional disorder (please see below under 3.5.2).

46 Schizotypal disorder seems associated with a cognitive impairment profile and structural brain abnormalities (particularly in the temporal cortex and possibly specific to the left hemisphere) similar to that seen in patients with schizophrenia though with greater prefrontal cortex reserves resulting in less impaired executive function. Among the few existing studies dedicated PPD, a remarkable recent study deserves mention. An Iranian research team succeeded to recruit 340 PPD patients together with 634 schizophrenia patients and 428 non-psychiatric subjects for a study concerning ‘the role of mitochondrial complex I and cell bioenergetic pathways in the etiology and characteristics of SCZ and PPD’. They concluded complex I be deregulated as a part of the etiology of schizophrenia and PPD affecting both brain activity as well as disorder characteristics (Haghighatfard et al., 2017). Previously, over-activity of mitochondrial complex I (playing a role in respiration in many aerobic organisms) was suggested to be associated with positive and negative psychiatric symptoms in schizophrenia.

47 Likewise, there is lack of knowledge as to the relationship between genetic and neurobiological factors in PPD. However, it is possible that mechanisms are comparable to those suggested for borderline personality disorder. By way of an example, studies in borderline personality disorder have suggested that 5-HTTLPR genotype polymorphisms may be connected to self-and interpersonal regulation problems which again may be exacerbated by environmental risk factors (Hankin et al., 2011). Additionally, it is thinkable that epigenetic mechanisms can influence gene expression (Winsper et al., 2016).
It should be also mentioned that Takahashi and colleagues (2009) in their study of envy and ‘Schadenfreude’ using functional magnetic resonance imaging found particular associations with anterior cingulate cortex and ventral striatum activations. Subsequently, functional imaging and EEG topography data mostly have pointed towards an association between left hemisphere over-activity and neurocognitive manifestations in terms of e.g. self-referencing, excessive inferencing, and jumping to conclusions (Braun and Suffren, 2011). Like it is widely supposed that antipsychotics used for paranoid symptoms exert their biological effects through interference with dopamine functions, research findings have suggested an association between delusions and dopamine release dysfunctions and signaling disturbances in the ventral striatum and in brain areas connected to executive behavioral control such as the prefrontal cortex (Pankow, Knobel, Voss, & Heinz, 2012). Later study findings by Wolf et al. (2013) using structural magnetic resonance imaging and voxel-based morphometry suggested structural changes in prefrontal, temporal, insular, cingulate and striatal brain regions be associated with delusional infestation, supporting a neurobiological model of disrupted prefrontal control over somato-sensory representations. A later voxel-based morphometry and functional MR imaging study demonstrated an association between paranoid disorder and brain abnormalities in the medial frontal/anterior cingulate cortex and insula (Vicens et al., 2015).

The significance of findings from the perspective of PPD is far from being clarified. Regarding neurobiological findings in patients with signs of PPD a little more specifically, a MRI study

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48 It is noted in the paper that the schizotypal/paranoid personality disorder group consisted of 10 individuals with schizotypal personality disorder only, 4 individuals with PPD only, and 2 individuals with both schizotypal and PPD, 27 comparisons, and 26 psychiatric controls.
49 Schadenfreude (cp. gloat) is a feeling that may occur when envied persons ‘fall from grace’.
showed atrophy of frontal and temporal lobes bilaterally (though left more prominent than right) which confirmed the diagnosis of frontotemporal dementia in a patient who first presented with severe paranoid personality traits and frank persecutory delusions (Iroka et al., 2015).

Figure 2. Brain medial view.

Literature concerning the neurobiology of PPD still is unsatisfactorily scant and findings seem varying. Research in the area however suggests that neurobiological manifestations in PPD perhaps are multiple and psychopathological mechanisms possibly imply changes in various areas of the brain. However, existing findings in a way may correspond with discoveries from studies in other personality disorders; that is, results about the importance of the prefrontal cortex and other areas like insula (e.g. anxious/evasive and borderline personality disorders), temporal (e.g. schizotypal and borderline personality disorders), and cingulate (borderline personality disorder) brain regions (Mathiesen and Thomsen, 2017). The apparent quite various palette of neurobiological findings perhaps could reflect the extensiveness and severity of PPD and related disorders. Findings as such seem to roughly agree with existing knowledge about the functional anatomy of involved brain areas. Thus, the prefrontal cortex seems implicated in executive function, planning complex cognitive behavior, the manifestation of personality, making of choices, and social behavior. The basic activity of this brain region is deemed to be ‘orchestration’ of thoughts and actions in accordance with internal goals. The executive function implies functions relating to differentiating among good and bad, same or different, consequence of actions, outcome predictions, and abilities to suppress unacceptable urges. It appears to support rule learning at higher levels of abstraction and underlie our internal representations of the ‘rules of the game’ (see, e.g., Brodal, 1990; Miller et al., 2002). Striatum is known to coordinate various aspects of cognition, including motor- and action-planning, motivation, reinforcement, and reward perception (Brodal, 1990; Glenn and Yang, 2012). Furthermore, while the temporal lobes both relate to lower-level perceptions, comprehension,
and memory, insula, cingulate, and amygdala seem to play important roles in the experience of a number of basic emotions, like anger, fear, and sadness (Brodal, 1990; Phan et al., 2002).

3.2.2.2 Psychological 'laboratory' tests

Central in the assessment of the individual suspected of PPD is the clinical interview. However, the interview can be supplemented by various assessment measures. Both the 'Paranoia Scale' (Fenigstein & Vanable, 1992) and PSQ questionnaire (Rawlings & Freeman, 1996) are designed for paranoid symptomatology. Specifically regarding PPD, the PPDFQ (Paranoid Personality Disorder Features Questionnaire) has been developed (Useda 2001). The PPDFQ is a 19-item questionnaire designed to assess central prototypical aspects of PPD relating to both its behavioral, affective, and interpersonal expressions (e.g. excessive anger and autonomy, see above). The latter mentioned expressions were considered equally important as the different signs of mistrust which was deemed strongly over-represented according to, e.g., DSM-IV criteria. PPDFQ is a dimensional measure based on six traits considered central to PPD (including mistrust/suspiciousness, antagonism, introversion, hypervigilance, and rigidity) and aims to measure traits in a balanced way. Items are rated on a five-point Likert scale (from strongly disagree to strongly agree) and target, e.g., individuals’ assessment of their interpretation of the behavior of others (for example “I think most other people are hostile”). Reliability and construct validity in a normative college student sample (n=106) showed good test-retest agreement as well as satisfactory correspondence with the five-factor personality model, FFM (the Structured Interview for the Five-Factor Model of Personality assessments), and Livesley’s model of personality pathology according to Dimensional Assessment of Personality Pathology - Basic Questionnaire assessments (Useda 2001). However, the PPDFQ still merits further validation in clinical settings.

3.2.3 Preliminary inference

The observation that “Unfortunately, consistent and reliable laboratory findings have not yet been demonstrated in the more common psychiatric disorders” still tends to hold true (cp. Robins and Guze, 1970; Andreasen, 1995). Regrettably, the ‘laboratory studies’-phase of the validation procedure may turn out to be the weakest for PPD as well. Some research has suggested that associations may exist between some central characteristics of the disorder and particular neurobiological findings though the literature suggest a possible role of multiple regions of the brain. A more weighty support might be available from psychological tests. Most
psychological tests generally relate to paranoid symptomatology though one validated instrument exists which specifically targets PPD although it needs further testing in clinical settings.
3.3 Delimitation from other disorders

“A natural unfolding of a comprehensive diagnostic assessment very much involves reflective and critical questioning of typifications, which become supported, modified, or discarded by explicitly elicited diagnostic information, progressively limiting the number of possible diagnostic options [...]” (Parnas and Bovet, 2015)

It has been long noticed that similar clinical features can be seen in patients suffering from different disorders. Thus, regarding the task of delimitating disorders from one another, Robins and Guze put forward the necessity “[...] to specify exclusion criteria so that patients with other illnesses are not included in the group to be studied”. In this regard, “[...] criteria should also permit exclusion of borderline cases and doubtful cases (an undiagnosed group) so that the index group may be as homogenous as possible”. Exclusion criteria are presently set forth according to the DSM as well as the ICD version of PPD (please see below, 3.3.2.1).

When distinguishing disorders from one another it sometimes gives rise to terminological difficulties and the distinction between differential diagnosis and comorbidity is not always well defined. However, if a psychiatric condition with some signs of PPD is better accounted for by another disorder (differential diagnosis) will rule out PPD. On the other hand, if symptoms are sufficiently and equally present from PPD and the other disorder, both may coexist thus being ‘comorbid’. Apart from a few exceptions, both classifications allow for comorbid mental disorders.

3.3.1 Own study findings: ‘Delimitation from other disorders’
As it was previously mentioned (please see section 3.1.1), among thirty-one patients who had an original “Paranoid personality disorder” diagnosis, ten patients were included. Twenty-one patients were left out, comprising seven patients who suffered from primary alcoholism, four patients who were suspected of organic mental disorder, three patients who had a primary schizophreniform disorder, and seven patients, for whom too little information on paranoid personality disorder traits was available to confirm the diagnosis.

An analysis of patients originally diagnosed with PPD who nonetheless were excluded from the study: delimitation from organic disorders: a case report study (Birkeland, 2013a)
A 46-year-old male blue-collar worker was first-admitted to the psychiatric hospital after attempted suicide. In his teenage years, he had been hospitalized for a severe head trauma with brain concussion after a traffic accident. Also, he had long-standing alcohol abuse. After alcohol detoxification, he was described as vulnerable, self-insecure, self-referent, very sensitive, touchy, suspicious, and mistrustful. The most prominent trait, however, was jealousy, especially regarding his wife’s fidelity. Repeatedly, she was accused of miscellaneous matters and ‘interrogated’ about diverse idiosyncratic issues. Alcohol intake consistently resulted in a marked accentuation of the paranoid pattern. During 3 inpatient admissions and 22 outpatient
sessions, recurrent depressive symptoms were observed. However, no episode of clear-cut delusion formation was ever registered. No further cognitive impairments could be established, and so no brain imaging was performed. The patient had taken a variety of antidepressants, antipsychotics, and disulfiram, although, at last discharge, diagnosed with ‘paranoid personality disorder’ and ‘episodic alcoholism,’ there was no major clinical change.

An analysis of excluded patients: delimitation from schizophreniform disorders a case report study (Birkeland, 2013b)
A patient was admitted to psychiatric hospital in her thirties. According to a referral from her family doctor, admission was under the diagnosis of ‘intermittently paranoid’. Before admission, she had been assessed and declared motivated for treatment in the out-patient clinic. A few years previously, she had been to another psychiatric hospital. At that occasion, she was ‘guarded’, ‘shy’, ‘tense’, and anxious, with deficient emotional contact. Additionally, she had proclaimed to ‘experience everything in sharp colors’ and revealed ‘unrealistic thoughts’. Intermittently, she was suspected of having hallucinations. She was attached to that hospital’s day clinic for a couple of months and was subsequently discharged with fluphenazine under the diagnoses of ‘reactive psychosis’ and ‘paranoid personality disorder’ (ICD 8). Purportedly, in childhood, she used to be a joyful and extroverted person. Her mother was described as having had ‘bad nerves’. In her early teens, her parents divorced. From about that point in time, she was increasingly withdrawn and had a growing sense of being ‘splitted’, chaos of thinking and feeling of self-insecurity. She had an early sexual debut and reported to have been victim of sexual assaults (by a non-family member) during adolescence. In her twenties, after a few years of marriage, she had a child. Unfortunately, her husband was ailing and finally deceased. Afterwards, from time to time, she had a boyfriend.
For the most part, social problems caused the present admission. Her entire situation concerning a problematic relationship with an alcoholic partner, difficulties in caring for her child and problems in working life had gradually worsened. As were her mental troubles. Besides, she had developed a slight alcohol abuse and occasionally took cannabis.
From admission onwards, she was described as exceedingly distrustful, suspicious and intermittently supposedly clear-cut paranoid. Her distrust and suspiciousness were continuously defined in broad terms—as an attitude towards the surroundings which was never further explicated. Allegedly, she had no experiences of, e.g. persecution; rather, she claimed to express a “sound skepticism”. Once she admitted that ‘she did not completely trust’ her colleagues, yet the psychiatrists did not succeed to delve more thoroughly into the matter. Her behavior always appeared tense and guarded. Intellectually, she was categorized low in average area. Emotional contact was slightly poor-modulated and sometimes vastly defective. Recurrently, she appeared anxious, and a few times, she had brief episodes suspected of auditory and visual hallucinations. Likewise, there was a slight trend towards subtle formal thought disorders with vague thoughts, jumping of thoughts and faint ambivalence. For instance, during one admission, she pensively announced to aim at “progression to a degree that she would know what fashion she preferred her hair cut”.

42
Once it was speculated that she could possibly suffer from a borderline personality disorder with ‘micro-psychotic breakthroughs’, and on another occasion, it was suggested that there was “more in the disease picture than just a disordered personality structure”. Still, the distrustful, suspicious, tense, and guarded attitude was considered predominant. On the top of it, instable affects played a shifting role.

The patient attended wide-ranging social psychiatric care in connection with attachment to psychiatric specialists, nurses, and social workers and joined extensive group therapeutic sessions. In this regard, her psychosocial background, work-related worries chiefly with collaborating with others, the problematic motherhood with difficulties in communication and her fear of losing the child appeared to be the leading (almost stereotyped) themes. For a period of time, depressed mood supervened with inability to concentrate, a tendency towards insomnia, and suicidal ideation. As a consequence, citalopram was administered (20 mg per day) which during a 3-week period proved to relieve depressive symptoms.

Successively, a minor hypomania was suspected. During 10 years, she had three fairly similar courses of outpatient treatment and one inpatient admission. Fluphenazine (2mg per day) was administered for years; it was perceived subjectively beneficial although treatment was discontinued because of presumed developing tardive dyskinesias. Subsequently, she had long-term risperidone (2mg per day) that was considered of some effect also. She intermittently had antabuse and likewise, for periods, received chlorprothixene and different tranquilizers. Discharge diagnoses were PPD, reactive psychosis and ‘mixed anxiety’ (ICD 8 and 10). Until the psychiatric admission, she had moved nine times, yet afterwards, she settled down. She succeeded to finish a short cycle higher education and was in employment for a few years but was finally fired because of difficulties in cooperation with colleagues. Then, an application was produced for premature retirement.

The delimitation issues arising in the two cases are discussed in further detail in the discussion chapter (chapter 5).

Further delimitation issues in PPD sample: co-morbid psychiatric illness (Birkeland, 2014)

In the case-series considered to have a PPD (included in sample), accompanying discharge diagnoses were recorded, together with information about any supervening psychosis and its impact on course. Hence, based upon the assumption that psychotic illness may substantially affect illness trajectories (in terms of, e.g., need of psychiatric intervention), the length of time from first psychiatric admission until last psychiatric contact was logged. The Mann-Whitney test was used for statistic testing. The level of significance was set at P<0.05 (non-directional).

Among the 15 cases included in the case series as having a PPD accompanying discharge diagnoses had been widely registered: ‘Depressive/Dysphoric Neurosis’ (6); ‘Perfectionistic Neurosis’ (6); ‘Paranoid Psychosis’ (3); ‘Hysteric Neurosis’ (3); ‘Affect-Reaction’ (3); ‘Anxiety Neurosis’ (2); and ‘Depression’ (2). ‘Narcissistic-’, ‘Erethic-’, ‘Evasive-’, and ‘neurasthenic’ neuroses and ‘Pseudo-neurotic Borderline State’ had all been registered once.

As indicated, three patients had an additional discharge summary diagnosis of ‘paranoid psychosis’; all of these had episodes of frank delusions registered in their medical records. When screened for development of frank delusions, 4 patients had no such information, 4 patients
were intermittently suspected of developing delusions even though the presence had not been fully clarified, and the remainder 7 patients according to record information undoubtedly displayed frank delusional psychosis for periods of time (2 with persecutory type, 2 with jealousy type, 2 with unspecified delusions coloured by distant infatuations, 1 with mixed persecutory/jealousy). Generally, during the psychotic episodes, the patients appeared to exhibit exaggerations of the pre-psychotic psychopathological patterns. The distribution and significance of delusions are shown in table 8.

Table 8. Episodes of delusional psychosis in paranoid personality disorder

<table>
<thead>
<tr>
<th>Delusional psychosis (a)</th>
<th>No (8)</th>
<th>Yes (7)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender (b)</td>
<td>1 F/7M</td>
<td>3 F/4 M</td>
</tr>
<tr>
<td>Mean age at first psychiatric contact (c)</td>
<td>47.5</td>
<td>39</td>
</tr>
<tr>
<td>Traits</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Excessive sensitivity</td>
<td>8</td>
<td>7</td>
</tr>
<tr>
<td>Bearing grudge</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Suspiciousness</td>
<td>0</td>
<td>7</td>
</tr>
<tr>
<td>Combativeness</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>Jealousy</td>
<td>5</td>
<td>2</td>
</tr>
<tr>
<td>Self-reference</td>
<td>7</td>
<td>5</td>
</tr>
<tr>
<td>Conspiratorial explanations</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Psychiatric course duration (d)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean, months (e)</td>
<td>38.3</td>
<td>152</td>
</tr>
</tbody>
</table>

a Episodes of delusional psychosis definitely present (see text)
b F female, M male
c Mann-Whitney non-directional: p=0.22
d From first psychiatric admission until last psychiatric contact
e Mann-Whitney non-directional: p<0.05

Individuals with delusional episodes had a significantly prolonged psychiatric course (average duration of almost 13 years). In the case series, the clinical observation of ‘suspiciousness’ only was noted in the charts of those who at some point of time or other had episodes of full-blown delusional psychosis.

3.3.2 Delimitation from other disorders according to clinical and research literature

3.3.2.1 Exclusion criteria according to current diagnostic classifications
According to the DSM-5, there are two primary diagnostic criteria for PPD of which criterion A has a number of sub features (described above under 3.1.2, table 6). Criterion B stipulates that symptoms of PPD do “not occur exclusively during the course of schizophrenia, a bipolar disorder or depressive disorder with psychotic features, or another psychotic disorder” and that they are “not attributable to the physiological effects of another medical condition”. Furthermore, DSM-5 maintains that if the diagnostic criteria for PPD were met prior to the onset of Schizophrenia, PPD should be denoted as “premorbid” (APA, 2013).

In the current version of ICD 10, F60 (Specific personality disorders), the diagnosis of PPD (F60.0) excludes the following diseases: paranoia (F22.0), paranoia querulans (F22.8), paranoid
psychosis (F22.0), paranoid schizophrenia (F20.0), paranoid state (F22.0). According to criteria for ‘organic personality disorder’ (F07.0), co-morbid specific personality disorder (including PPD in F60.0) is precluded.

3.3.2.2 General considerations regarding clinical recognition of PPD

Even if literature on PPD usually highlights the hallmark traits of mistrust and suspiciousness individuals with PPD may be aware to display only little suspiciousness, if any. Millon & Davis (1996) put forward that individuals with PPD are usually “overly sensitive about appearing ‘strange or bizarre’” (Millon & Davis, 1996) and are very reluctant to any self-disclosure (see Shapiro, 1965; Thompson-Pope & Turkat, 1988; Turkat, Keane, & Thompson-Pope, 1990). They do not complain about being, e.g., ‘suspicious’ and are disinclined to show off convictions which they think are considered anomalous by the surroundings (Bernstein & Useda, 2007). Therefore, underlying pathological thought contents are often hard to identify. Difficulties in detecting PPD highlights the necessity for clinical precision, preferably with diagnostic evaluation at various points in time and use of different informants (cf. Spitzer, 1983). Diagnostic assessment of PPD demands thorough clinical interviews and meticulous use of diagnostic criteria. Formulation of the particular patient case may provide a valuable contribution by relating the individual’s complaints to one another, offering possible explanations for the development of particular difficulties, and presenting predictions regarding behavior in upcoming circumstances (see Turkat, 2014).

As specified in the diagnostic classifications, presence of organic mental disorders should be ruled out when diagnosing PPD. In the empirical literature, symptoms of PPD have been suggested to emerge following, e.g., traumatic brain injury (Hibbard et al., 2000; Koponen et al., 2002) and cocaine abuse (Hopwood, Baker, & Morey, 2008). Information from the individual’s surroundings should be obtained if possible. Likewise direct observations from the interaction with, e.g., relatives provide much relevant information. The clinical interview can be complemented by use of projective testing (see e.g. Kaser-Boyd, 2006 about Rorschach testing in PPD) though, as mentioned by Millon & Davis (1996) more can be often learned about individuals with PPD from their extra-test behaviors and critical comments, than from actual response styles and content.

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53 See http://apps.who.int/classifications/apps/icd/icd10online2003/fr-icd.htm?gf60.htm+. In this regard, ICD sets forth the following criteria for paranoia (F22.0, Delusional disorder): “A disorder characterized by the development either of a single delusion or of a set of related delusions that are usually persistent and sometimes lifelong. The content of the delusion or delusions is very variable. Clear and persistent auditory hallucinations (voices), schizophrenic symptoms such as delusions of control and marked blunting of affect, and definite evidence of brain disease are all incompatible with this diagnosis. However, the presence of occasional or transitory auditory hallucinations, particularly in elderly patients, does not rule out this diagnosis, provided that they are not typically schizophrenic and form only a small part of the overall clinical picture”.

54 Please also see Birkeland (2016).

55 At the same time, as stressed by among others Carroll (2009), normal maturity entails learning that not everything that seems reliable really is trustworthy. Correspondingly it must be acknowledged that one individual’s ‘paranoia’ may be another’s ‘due caution’ while one person’s trust can be another’s naïveté. In certain environments suspiciousness is adaptive (compare some minority groups) and establishing when trust is appropriate or mistrust is pathological can sometimes be difficult.

56 The quality of, e.g., ‘paranoid’ elements, suspiciousness, and distrust should be given consideration as to whether they actually are components of the PPD pattern or something else; the hermeneutic principle applies that the PPD diagnosis should be recognized from its constituent symptoms whilst symptoms must be comprehended from the diagnostic pattern.

57 As far as formal responses are concerned the authors stressed that paranoic individuals “often do what is not expected of them […] one might find them responding in strange, if not random ways to the inventory” Millon & Davis (1996).
Diagnosis and relationship with other psychiatric illness

**Personality disorder**

It has been repeatedly observed that signs of two or more personality disorders sometimes are simultaneous present (see, e.g., Morey, 1988; O’Brien, Trestman, & Siever, 1993) and by way of example *borderline personality disorder* has been suggested to co-occur with at least 1 other axis II disorder in more than half of patients (Barrachina et al., 2011; Tomko, Trull, Wood, & Sher, 2014). Correspondingly with PPD. Individuals with PPD frequently share some of the characteristics of narcissistic, borderline, avoidant, and passive-aggressive personality disorders (see, e.g., tabulation in Bernstein, Useda, & Siever; 1995; see also Bernstein, Useda, & Siever, 1996, Karterud, Wilberg, & Urnes, 2010, Barrachina et al., 2011; Simonsen & Mathiesen, 2017).

Regarding patients with clinical personality disorder, Nurnberg et al. (1991) among 110 outpatients found 14 patients to fulfill DSM-III-TR criteria for PPD and 22 patients with borderline personality disorder. Among the latter category, 41% also fulfilled PPD criteria. Oldham et al. (1992) subsequently demonstrated that PPD significantly co-occurred with schizotypal, borderline, and avoidant personality disorders in a series of 100 in-patients with severe personality psychopathology. Among 1116 participants in a mixed sample of psychiatric patients and relatives Stuart and colleagues (1998) identified 155 individuals to fulfill DSM-III-TR criteria for PPD. PPD was found to be highly correlated with most other personality disorders and particularly schizotypal personality disorder. Interestingly, while two-thirds of individuals with schizotypal personality disorder fulfilled criteria for PPD, only 14 percent of those with PPD also fulfilled criteria for schizotypal personality disorder. Correlation between PPD and schizoid personality disorder was not that high. Zanarini et al. (1998) among 379 inpatients with borderline personality disorder found 115 (30%) to fulfill DSM-III TR criteria for PPD. Remarkably the co-occurrence seemed most pronounced for male patients with borderline personality disorder. A series of newer findings about the co-occurrence of PPD with other personality disorders are presented in table 9:

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58 Studies have been suggested to validate the cluster A association of schizotypal personality disorder with paranoid PD and schizoid PD (McGlashan et al., 2000; please also see table 9).
Table 9. Co-occurrence of PPD in other personality disorders in studies after year 2000

<table>
<thead>
<tr>
<th>Study</th>
<th>Sample</th>
<th>Measure</th>
<th>Finding</th>
</tr>
</thead>
<tbody>
<tr>
<td>McGlashan et al. 2000</td>
<td>668 patients enrolled in the Collaborative Longitudinal Personality Disorders Study</td>
<td>Diagnostic interviews for DSM-IV Axis I and II disorders</td>
<td>14.2 % (n=81) fulfilled criteria for PPD. Among other findings, significant co-occurrence emerged for schizotypal / paranoid and schizoid personality disorders</td>
</tr>
<tr>
<td>Golier et al., 2003</td>
<td>180 outpatients with a personality disorder diagnosis according to DSM-III-R.</td>
<td>The Trauma History Questionnaire &amp; the PTSD module of the Structured Clinical Interview for DSM-III-R</td>
<td>35 % (n=63) met criteria for PPD. Subjects with PPD were more likely to meet the criteria for schizotypal (49.2% versus 20.5%, p=0.0005), narcissistic (33.3% versus 15.4%, p=0.005), histrionic (23.5% versus 10.3%, p=0.02), and antisocial (12.7% versus 4.3%, p=0.03) personality disorder.</td>
</tr>
<tr>
<td>Johnson et al., 2003</td>
<td>240 Participants from Collaborative Longitudinal Personality Disorders Study</td>
<td>Diagnostic interviews for DSM-IV Axis I and II disorders</td>
<td>18% (n=43) of patients diagnosed with borderline personality disorder fulfilled criteria for PPD.</td>
</tr>
<tr>
<td>Dunn et al., 2004</td>
<td>115 male combat veterans with PTSD and depressive disorder</td>
<td>Structured Clinical Interview for DSM-IV &amp; the Clinician-Administered PTSD Scale</td>
<td>Co-occurrence of personality disorders was common. 16.5% of patients with personality disorder had two or more.</td>
</tr>
<tr>
<td>Falkum, Pedersen, &amp; Karterud, 2009</td>
<td>Patients with personality disorders (n = 930) from the Norwegian network of psychotherapeutic day hospitals, of which 114 had PPD</td>
<td>DSM-IV, interviews using SCID-II and Mini International Neuropsychiatric Interview</td>
<td>Between 14% and 42% of the patients with other personality disorders also had PPD. The co-occurrence with obsessive-compulsive was statistically significant.</td>
</tr>
</tbody>
</table>

**Anxiety disorders, PTSD, and mood disorders**

Research has suggested a co-occurrence of PPD and panic anxiety in particular (Reich & Braginsky, 1994). Paranoid traits were interpreted to be secondary to chronic anxiety and this hypothesis has received some support from studies of depression in childhood (Kasen et al., 2001). Correspondingly, associations have been proposed between PPD and major depressive illness respectively social anxiety disorder and OCD (Reichborn-Kjennerud et al., 2010; O’Toole, Arendt, Fentz, Hougaard, & Rosenberg, 2014; Müller et al., 2001; Bejerot et al., 2001). Findings about the co-occurrence of PPD in PTSD are presented in table 10:
Table 10. Co-occurrence of PPD in PTSD

<table>
<thead>
<tr>
<th>Study</th>
<th>Sample</th>
<th>Measure</th>
<th>Finding</th>
</tr>
</thead>
<tbody>
<tr>
<td>Southwick et al., 1993</td>
<td>34 patients with PTSD; 18 of the subjects were inpatients and 16 were outpatients</td>
<td>Personality Disorder Examination, a standardized diagnostic interview for DSM-III-R axis II disorders, to assess DSM-III-R personality disorders</td>
<td>38% (n=13) individuals fulfilled DSM-III-TR criteria for PPD</td>
</tr>
<tr>
<td>Bollinger et al., 2000</td>
<td>107 veterans with PTSD in a specialized, inpatient unit</td>
<td>Structured Clinical Interview for DSM-III-R Personality Disorders</td>
<td>79.4% of the participants were diagnosed with at least one personality disorder: 29.9% received only one diagnosis, 21.5% had two, 15.9% had three, and 12.1% had four or more. The most frequent single diagnoses were avoidant (47.2%), paranoid (46.2%), obsessive-compulsive (28.3%), and antisocial (15.1%) personality disorders</td>
</tr>
<tr>
<td>Golier et al., 2003</td>
<td>180 outpatients with DSM-III-R personality disorder diagnosis.</td>
<td>The Trauma History Questionnaire; the PTSD module of the Structured Clinical Interview for DSM-III-R</td>
<td>Please also see table 9. PTSD most common in subjects with paranoid (29%) and borderline (25%) personality disorder. PPD subjects had elevated rates of physical abuse and assault in childhood/adolescence and adulthood.</td>
</tr>
<tr>
<td>Dunn et al., 2004</td>
<td>115 male combat veterans with PTSD and depressive disorder</td>
<td>Structured Clinical Interview for DSM-IV and the Clinician-Administered PTSD Scale</td>
<td>Please also see table 9. 45.2% (52) had one or more personality disorders—most commonly paranoid (17.4%), obsessive-compulsive (16.5%), avoidant (12.2%), and borderline (8.7%).</td>
</tr>
<tr>
<td>Gómez-Beneyto et al., 2006</td>
<td>111 patients who “had experienced at least one traumatic event in their lives”</td>
<td>Structured Clinical Interview for DSM-IV personality disorders, (SCID-II); SCAN Schedules for clinical assessment in neuropsychiatry; Composite International Diagnostic Interview</td>
<td>Significant association in sample between PTSD and PPD (n=8)</td>
</tr>
</tbody>
</table>

Similarly, previous research findings showed that patients with mood-, anxiety-, and psychotic disorders have more PPD traits than patients without these disorders (Oldham et al., 1995) and, although no statistical significance was reached, these disorders often co-occurred in patients diagnosed with PPD. One study suggested that suicide attempters had increased paranoid personality traits (Overholser et al., 2002) and another study suggested that female adolescents with increased levels of paranoid personality symptoms had more high-risk sexual behavior (Lavan & Johnson, 2002).

A meta-analysis of comorbidity of personality disorders in mood disorders recently found PPD to be among the personality disorders most often occurring in bipolar disorder but an association also was found with major depressive disorder and dysthymic disorders (Friborg et al., 2014). In the latter mentioned meta-analysis the authors with reference to a broad palette of research
literature argued that co-occurrence of a personality disorder in mood disorders generally contributes strongly to the increased disease burden and time lost due to disability. It was reasoned that personality disorder comorbidity impairs prognosis in several ways as it obliterates treatment adherence (and thereby treatment response), but also implies more psychopathology, decreased effect of anti-depressives, obstructed psychosocial and occupational functioning, and increased risk of developing, e.g., anxiety disorders. Furthermore, the authors noted that mood disorder patients with comorbid personality disorders are more costly to the health care system.

**Substance abuse**
Morgenstern et al. (1997) previously demonstrated roughly 20% of patients in alcohol treatment programs complying with lifetime alcohol dependence criteria to suffer from a PPD. PPD was the very most common cluster A personality disorder among the patients and only was exceeded by borderline and antisocial personality disorders. The authors found that the presence of PPD was linked to more severe symptomatology of alcohol abuse, other drug use problems, and related clinical problems and addictions. In a consecutively admitted cohort of 148 patients with heroin abuse admitted to enhanced buprenorphine maintenance treatment, Öhlin et al. (2015) found 31 (20.9%) fulfilling DSM-IV-TR criteria for PPD according to SCID II.

**Psychotic disorders**
As mentioned above, Wimmer (1902) described the evolution of paranoid psychoses from the paranoigenic constitutional anomaly and similarly, among others, Lacan (1932) maintained the close relationship between an ‘anomalie specifique de la personnalite’ and the psychogenic paranoid psychosis. Schneider (1923) on the other hand emphasized the distinction between clinical psychopathological symptoms and the ‘fanatic’ personality whilst Millon & Davis (1996) simply considered delusions as “a natural outgrowth of the paranoid personality pattern”. The latter mentioned authors suggested that under conditions of stress, transient psychotic-like symptoms may be present (‘short-lived breaks from “reality”’) (compare Bernstein & Useda, 2007). However, even if paranoigenic individuals “may begin to impose their inner world of meanings on the outer world reality” (Millon & Davis, 1996), it was maintained that beliefs mostly are not of psychotic proportions (compare Miller, Useda, Trull, Burr, & Minks-Brown, 2001; Bernstein & Useda, 2007). While it remains to be fully clarified if some manifestations of PPD could be alternatively considered a ‘mild’ delusional disorder, the above descriptions of a clinical connection have received some support from empirical findings.

Opjordsmoen and Retterstol (1991) in a sample of 72 first-admitted patients with delusional disorder found premorbid paranoid personality traits (DSM-III) in 43% of the patients. Ekselius and colleagues subsequently demonstrated that some patients with psychotic illness could be co-diagnosed with PPD (Ekselius et al., 1994) and in de Portugal et al.’s (2008) descriptive case-register study of 370 patients who fulfilled DSM-IV criteria for DD the authors reported that "42% had a comorbid axis II diagnosis (mostly paranoid personality disorder)" without further

59 In terms of, e.g., ‘combative’ respectively ‘eccentric’ types (Schneider, 1923).
explication. Simonsen et al. (2008) found PPD to be among the most frequent comorbid personality disorders when using the Structured Clinical Interview for DSM-IV Personality Disorders (SCID-II; 28%; only schizoid PD and avoidant personality disorders were more frequent with 38 respectively 34 percent). However, when using the self-report instrument Millon Clinical Multiaxial Inventory-II (MCMI), the prevalence of PPD was only 3 %. The authors provided the explanation that patients are more reluctant to report long-lasting mistrust in self-report but frequently displayed a suspicious attitude in the interview. In de Portugal et al.’s (2013) later study of 106 patients with delusional disorder, more than one third were judged to have had premorbid PPD.

3.3.3 Preliminary inference
In accordance with previous findings by Fulton and Winokur (1993), it appears from the author’s study that, through rather strict use of exclusion criteria, a fraction of individuals with PPD remain. However it appeared that a large group of ‘others’ thereby were left out, either because of, e.g., organic disorder or schizophrenia or too little information complying with inclusion criteria for PPD. That said, the literature generally suggest that co-morbid psychiatric illness frequently seem to appear in PPD with, e.g., mood-, anxiety-, PTSD-, delusional-, and alcohol (substance) abuse disorders being common. Correspondingly, while individuals may only rarely be referred with PPD per se, they might more often present in the clinical setting with their co-morbid psychiatric illness. Offhand, exclusion criteria according to the DSM and ICD versions of PPD both seem relevant and rather useful. Obstacles may appear in those patients reaching beyond the PPD prototype and when the significance of other symptoms is to be considered. Some mostly suspicious and distrustful eccentrics are probably more appropriately classified otherwise within the schizophrenia spectrum, not least when the PPD pattern is otherwise relatively incomplete or absent and there are accompanying signs of, e.g., formal thoughts disorder, affect modulation deficits, or hallucinatory experiences. Furthermore, when diagnosing PPD, presence of organic mental disorders should be looked for.

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60 Simonsen & Mathiesen (2017) propose that, to distinguish PPD from paranoid psychoses in the schizophrenia spectrum, “the clinician should focus on the patient’s ability to reality testing. That is, whether the patient actually is able to reconsider the basis of their suspiciousness”.

61 Studies concerning simple paranoid psychoses mostly have pointed towards a rather chronic course of illness though with a sub-group of individuals over time developing paranoid schizophrenia (Birkeland, 2007, Mews & Quante, 2013).
3.4 Follow-up study

When assessing symptoms and establishing a diagnosis, it must be born in mind that manifestations to some extent will represent a ‘glimpse’ taken out of the entire clinical picture of a person. The glimpse could appear dissimilar after some time, and new information even could indicate that the initial impression did rather represent a fragment of something entirely different. A symptom pattern can be a sign or precursor of something else. Correspondingly, it is crucial to rule out if the manifestations presumed to belong to PPD could be better ascribed to for example early (or vague) signs of paranoid schizophrenia or an affective disorder or, if manifestations actually tend to have disappeared when followed up after a period of time. This issue is acknowledged also in the validation process proposed by Robins and Guze (1970). Hence, as a fourth phase the significance of follow-up information is maintained as it is explained that “The purpose of the follow-up study is to determine whether or not the original patients are suffering from some other defined disorder that could account for the original clinical picture. If they are suffering from another such illness, this finding suggests that the original patients did not comprise a homogenous group and that it is necessary to modify the diagnostic criteria. In the absence of known etiology or pathogenesis, which is true of the more common psychiatric disorders, marked differences in outcome, such as between complete recovery and chronic illness, suggest that the group is not homogenous. This latter point is not as compelling in suggesting diagnostic heterogeneity as is the finding of a change in diagnosis. The same illness may have a variable prognosis, but until we know more about the fundamental nature of the common psychiatric illnesses marked differences in outcome should be regarded as a challenge to the validity of the original diagnosis”. Below the author’s study findings are viewed together with state-of-the-art in follow-up studies.

3.4.1 Own study findings: ‘follow-up study’

The medical records of the included case series were reviewed and information extracted regarding course of illness and modes of treatment (Birkeland, 2013c). At first psychiatric admission, three patients were ‘moderately ill’ (CGI-S 4), nine were ‘markedly ill’ (CGI-S 5), and three were ‘severely ill’ (CGI-S 6); the median patient age was 42 years. At last psychiatric contact, the median age was 50 years: three patients were ‘much’ improved (CGI-I 2), eight showed only minor changes (CGI-I 3–5), and four were ‘much’ or ‘very much’ worsened (CGI-I 6 and 7). One patient developed alcohol abuse. One patient was suspected of developing schizophrenia and died at the age of 39 (see below). Two patients died in their 60s, and one died aged older than 70 years. Among the patients alive, one was older than 80 years of age.

In total, seven patients had been administered antipsychotic drugs (most frequently flupentixol). The median duration of treatment was 15 weeks (range 4 days–328 weeks). Three patients reported sedation, resulting in discontinuation in one. One reported restlessness and one who received bromperidol additionally reported rigidity, ‘feelings of indifference’, and ‘diminished initiative’ and therefore discontinued. Psychiatric hospital admission was unavoidable in five patients receiving antipsychotics. Five patients were lost to 6-week observations (CGI-S, range
4–5, median 5, mean 4.8), whereas data were obtainable from ten. Four had received antipsychotics (three men, one woman; median CGI-S 5.5, range 5–6, mean 5.5; bromperidol 2 mg/day, promazine 50 mg/day, and flupentixol 2 and 3 mg/day; no suspicion of noncompliance) and the rest (four men and two women; median CGI-S 5, range 4–6, mean 4.8) had not. In terms of therapeutic effects, all patients in the antipsychotics group had improved much or very much (CGI-I, range 1–2, median 2, mean 1.8) compared with improvement in two patients and unchanged or worsened status in the remaining four patients in the group without antipsychotics (CGI-I, range 2–5, median 4.5, mean 4.0; P<0.05, Mann–Whitney U-test, two-tailed). At last psychiatric contact, one patient in the antipsychotics group was much improved, two were minimally improved, and one had much worsened. Beyond the 6-week follow-up, anti-depressives had been administered in seven patients; a beneficial effect (decrease in depression symptoms) was recorded in three and typically following 1 month of treatment. Seven patients received a more or less well-defined psychosocial intervention (mostly group and milieu therapy) that was considered somewhat beneficial in five. One patient received meprobamate and seven patients occasionally used benzodiazepines; there was no information on effects but at least one patient developed abuse. At end of follow-up (December 2003) two individuals who belonged to the group that had episodes of delusional psychosis had deceased (age at death 39 years respectively 66 years) and likewise, in the group that had no such episodes, two individuals had deceased (age at death 76 years respectively 62 years). The one who had deceased aged 39 was remarkable in so far as the individual was known to have had later admissions to other psychiatric hospitals with signs of development into schizophrenia.

3.4.2 Previous findings concerning course and treatment
3.4.2.1 Findings from previous follow-up studies
Traditionally, the course of illness in PPD has been thought of as chronic, of varying intensity, but rarely fully remitting or substantially worsening (Akhtar, 1990). Viewed from an archetypical perspective, the ageing individual with PPD will be the one in a more or less broken up existence, surrounded by a few trusting devotees, still waiting for renown and redress finally to come. However, empirical data are limited (Karterud, Wilberg, & Urnes, 2010) although existing studies mostly suggest a relatively stable course. In the past, Fulton & Winokur compared a clinical sample of patients with PPD respectively schizoid personality disorder according to DSM-III-R criteria and found patients with PPD to have had less psychiatric intervention and less worsening at follow-up (Fulton & Winokur, 1993). Nonetheless, after approximately seven months, follow-up information by letter or personal interview could be collected in only seven out of 19 patients: in those, no evident clinical change could be found. Seivewright, Tyrer, and Johnson (2002) later found that paranoid traits tended to increase after 12 years follow-up in 178 patients with ‘neurotic disorders’.

Some additional follow-up information is available from broader personality disorder studies and community samples. In a study (N=529) among individuals with various personality disorders, the 2-year temporal stability of PPD categorical scores, according to the Dimensional Interview for DSM–IV Personality Disorders (DIPD-IV), showed a κ=0.47 (mean κ of all
personality disorders was 0.37) (Samuel et al., 2011). In the 10-year study of diagnostic stability from the same sample (N=266), the correlation was found to be r=0.39, or slightly above the mean and that of BPD (Hopwood et al., 2013). Most recently, community study findings (N=2282) using the Structured Interview for DSM-IV Personality suggested cluster A personality disorders to be highly stable over a 10-year period (Kendler et al., 2015; Reichborn-Kjennerud et al., 2015). Criteria count stability for PPD demonstrated a correlation coefficient of 0.34, which was somewhat less than for BPD yet, comparable to BPD, two-thirds of the stability derived from genetic factors.

3.4.2.2 Characteristic response patterns and resistance to interventions
Temporal stability of a disorder to some degree implies resistance to the various factors in the surroundings (including treatment approaches) that might tend to modify it. Knowledge about the common reaction to typical intervention approaches thus is an important constituent of ‘follow-up information’.62 In this regard, PPD seems rather special. Not least due to projective processes and difficulties in perceiving ‘the abnormal track’, surroundings are easily interwoven in the unfortunate pattern. By way of example, as described by Cameron (1963), “To a normal listener, who does not know which things have been actually observed and which only inferred, the chains of logic may sound irrefutable. This is why an intelligent and earnest paranoid person sometimes convinces relatives and friends, and occasionally even juries and the public, that his or her delusional convictions are social fact”. In the pursuit of helpers and allies, health care workers, too, may be convinced about what the individual with PPD declares and initiate treatment modalities based on the paranoigenic beliefs.63 During aggressive out-bursts manipulation is especially intensified, rendering it almost impossible to keep any foothold. Cooperation in a wider sense with such individuals therefore tends to be an expert task. Only few studies are available which specifically concern the management of PPD. Most often individuals with the disorder “refuse to submit to weakness and indolence” and “will struggle to ‘pull themselves up by their own bootstraps’” (Millon & Davis, 1996; Millon, 2011). Therefore they rarely seek help themselves or are likely to be brought to treatment by others or for other reasons (cp. Carroll, 2009). If, by way of an exception, they turn up for treatment, they or mental health workers may keep from partaking in research (Turkat & Banks, 1987; Thompson-Pope & Turkat, 1989; Thompson-Pope & Turkat, 1993; Kaser-Boyd, 2006; Triebwasser, Chemerinski, Roussos, & Siever, 2012).64 This is probably among the major reasons why clinical investigations are few, mostly retrospective in nature, and sample populations are small. Due to the unwillingness in PPD to face any flaw in personality or behavior, mental health care workers meet almost insurmountable challenges (cf., e.g., The Quality Assurance Project, 1990; Carroll, 2009; Millon, 2011). Individuals are likely to engender strong countertransference

63 By way of example alleged somatic disorder or psychiatric disorders in others (cp., e.g. Hansen, 1976; Rosenberg, 2016).
64 As maintained by Parnas and colleagues, “Somewhat surprisingly, there appears to be relatively little interest in studying SPD (Schizotypal personality disorder) from a basic research perspective, i.e. to understand the disorder in and of itself. There is even less interest in SdPD (Schizoid personality disorder) and PPD [...]” (Parnas, Licht, & Bovet, 2005).
feelings of defensiveness and even aggression in the therapist (Carroll, 2009) and, because of the intimidating, arrogant, disrespectful, and choleric patient behavior, many therapists therefore fall into the trap of disliking them (Millon & Davis, 1996). It has been put forward that some individuals with PPD can be treated successfully though Turkat stressed that “To assess a case successfully, one should be suspicious of what the suspicious person is presenting” (Turkat, 1990; Bernstein & Useda 2007). On the other hand, acting in a suspicious manner would only increase the patient’s defensiveness. Criticism and negative behavior often results from deficits in interpersonal abilities, self-absorption, and deficient abilities to tune in the thoughts and emotions of others. This inattentiveness may be overcome by communication-skills training and role-playing with the possibility of immediate helpful feedback. Cognitive techniques are among the most prominent psychotherapeutic modes of treatment; the patient’s sense of self-efficacy is developed and skills of reality testing are taught through verification experimenting and assessment of evidence. In order to train the ability of logic analysis, attention is called to alternative explanations and counter-examples in situations where absolutistic thinking dominates (Beck, Freeman, & Associates, 1990; Alford & Beck, 1994; Carroll, 2009).

Millon and Davis (1996) noted that during therapy, when defenses ease up, feelings of vulnerability and inferiority may predominate and depression result which need to be dealt with too (compare also Kretchmer, 1918). Anyway, despite “the risks involved and the therapeutic modifications required in working with these personalities” Millon and Davis concluded that it is possible to put patients with PPD “on the road to recovery, providing them with a glimpse of a positive, healthy way of relating that might ultimately draw them further into the process of therapy”.

3.4.3 Preliminary inference

It appears from state-of-the-art research that PPD tends to display a relatively stable course. There is not much speaking in favor of considering PPD a precursor of, e.g. schizophrenia or another personality disorder and results from the author’s studies mostly support previous findings on the stability of PPD. Part of the temporal stability of PPD seems to derive from its resistance to initiatives to intervene. Due to inherent dysfunctional relational capabilities, PPD poses particular challenges to mental health care provision. PPD seems to display a quite distinct pattern with a relative disinclination to seek psychiatric help and ensuing proclivity for e.g. directing focus towards more general life event circumstances. The mental healthcare worker faces certain difficulties with helping individuals with PPD realize the mechanisms leading to repeated troubles, and likewise encounters particular difficulties with engaging individuals with PPD in any kind of treatment targeting the PPD.

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65 It has been advocated that attention should be drawn to the patient’s family history and recognition of family patterns; many individuals with PPD appear to be unwilling to discuss their family (Benjamin, 1993) but the risk of reproduction through generations and need to, e.g., promote a more empathic attitude may very well demand patterns to be addressed.
3.5 Family Study

By the very end of the previous section, reference was made to the observation that when treating patients with PPD, attention should be drawn to their family history and recognition of family patterns. Correspondingly, Robins and Guze more generally commented that “Most psychiatric illnesses have been shown to run in families, whether the investigations were designed to study hereditary or environmental causes. Independent of the question of etiology, therefore, the finding of an increased prevalence of the same disorder among the close relatives of the original patients strongly indicates that one is dealing with a valid entity” (1970). In harmony with observations of a potential familial element in PPD, this has received a deal of scientific attention.

3.5.1 Own findings: ‘family study’

The records of included patients were reviewed and data schedules filled in concerning family history information. Regarding first-degree relative histories of mental disorder, there were three relatives with “depression”, two relatives with “anxiety” disorder, two relatives with “alcohol abuse”, two relatives with “resembling” personality, and one relative with “schizophrenia”. There were two second-degree relatives designated as “odd”, two with “depression”, one with a “schizophreniform borderline state”, and another relative with multiple undetermined psychiatric admissions who finally committed suicide.

3.5.2 Previous family studies

It has been long observed that the families of paranoid patients are often characterized by mistrust, irrational, and inflexible patterns of attitude or pent-up feelings of hatred (Kaplan & Sadock, 1971). Correspondingly, research focus has been given to hereditary components of PPD and the possible genetic connection between PPD and various mental illnesses. A former small chart study in psychiatric settings vaguely hinted towards paranoid traits and resembling personalities among the relatives of patients with PPD (Fulton & Winokur, 1993). In Torgersen et al.’s study (2000), 92 monozygotic (MZ) and 129 dizygotic (DZ) twin pairs were interviewed with the Structured Clinical Interview for DSM-III-R Personality Disorders (SCID-II). Data were combined with prevalence rates from a normal population study and statistics were used for structural equation modeling. The best-fitting models had a heritability of .60 for PDs generally, though somewhat less for PPD (0.28). In Coolidge and colleagues’ study (2001), the heritability of personality disorder features was investigated in 112 child twin pairs aged 4-15 years. The Coolidge Personality and Neuropsychological Inventory for Children was used for assessment, measuring personality disorders according to the criteria in DSM-IV. Structural equation model-fitting methods indicated that the heritability coefficient for Paranoid

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66 Please note the lack of a control group.
67 Heritability Index (HI) or coefficients ranging from 0 to 1 are commonly used estimates of heritability and thus refer to the ratio of genetic variance to total. If HI=0, it points to no role of genetic factors in the trait variability seen among individuals whilst HI=1 suggests genetic factors determine all trait variability. By way of an example, heritability for schizophrenia is around 0.8 and for depressive disorder roughly 0.4 (Rosenberg, 2016).
Personality Disorder scales was 0.50, suggesting PPD in childhood to have a genetic component similar to heritability estimates of personality disorder traits in adults. Subsequent studies have suggested that genetic factors account for about one fifth of the total variance in liability to the dimensional representations of PPD according to DSM-IV (Kendler et al., 2006) though a newer study found the liability to PPD to be relatively heritable with an estimated heritability of 0.66 (Kendler, Myers, Torgersen, Neale, & Reichborn-Kjennerud, 2007).

Regarding the relationship with other mental disorder, schizophrenia and delusional disorder (paranoia) have attracted attention in particular (table 9).

Table 9. Genetic studies: PPD, schizophrenia, and delusional disorder, DD

<table>
<thead>
<tr>
<th>Study</th>
<th>Diagnostic Criteria</th>
<th>Population</th>
<th>Major study finding</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kendler &amp; Gruenberg (1982)</td>
<td>DSM-III</td>
<td>Relatives of 34 schizophrenic and 34 control probands.</td>
<td>PPD more common among schizophrenic and delusional disorder relatives.</td>
</tr>
<tr>
<td>Baron et al. (1985)</td>
<td>DSM-III</td>
<td>750 first-degree relatives of chronic schizophrenic and normal control probands. DD not included.</td>
<td>PPD more frequent in relatives of schizophrenic probands than in relatives of normal control probands (7.3% versus 2.3%).</td>
</tr>
<tr>
<td>Kendler, Masterson, &amp; Davis (1985)</td>
<td>DSM-III</td>
<td>Schizophrenia probands (n=303), controls (n=150), and first degree relatives.</td>
<td>Association only found between PPD and delusional disorder.</td>
</tr>
<tr>
<td>Winokur (1985)</td>
<td>DSM-III</td>
<td>Relatives of 41 patients with delusional disorder and relatives of 46 control patients.</td>
<td>Eleven patients in the group of patients with delusional disorder had relatives with paranoid personality traits compared with one patient in the control group.</td>
</tr>
<tr>
<td>Frangos et al. (1985)</td>
<td>DSM-III</td>
<td>Relatives of 116 schizophrenic probands compared with those of an equal number of normal subjects. DD not included.</td>
<td>Significantly higher rate of PPD among the relatives of schizophrenic probands than among those of controls (8 compared to 1).</td>
</tr>
<tr>
<td>Coryell &amp; Zimmerman (1989)</td>
<td>DSM-III</td>
<td>Relatives of 32 schizophrenic probands compared with those of 36 with no DSM-III disorder, those of 108 with major depression. DD not included.</td>
<td>No statistical significant association found (one compared to 1 respectively 5).</td>
</tr>
<tr>
<td>Kendler, McGuire, Gruenberg, O’Hare, Spellman, &amp; Walsh (1993)</td>
<td>DSM-III-R</td>
<td>534 psychiatric probands (incl. schizophrenia and major affective disorder) and 2043 relatives. DD not included.</td>
<td>Compared with relatives of unscreened controls, schizophrenia relatives both had increased prevalence of PPD and schizotypal, schizoid, and avoidant personality disorders.</td>
</tr>
<tr>
<td>Varma &amp; Sharma (1993)</td>
<td>DSM-III</td>
<td>First-degree relatives of 162 schizophrenic and 106 control probands. DD not included.</td>
<td>Risk for PPD significantly higher in the first-degree relatives of schizophrenic patients than in those of controls.69</td>
</tr>
<tr>
<td>Dorfman, Shields, &amp; DeLisi (1993)</td>
<td>DSM-III-R</td>
<td>Parents of 58 patients with a first admission for a schizophrenia-like psychosis compared with control group of 65 families. DD not included.</td>
<td>PPD was equally distributed among control parents and parents of patients first-admitted with a schizophrenia-like paranoid psychosis.70</td>
</tr>
</tbody>
</table>

68 Heritability estimates of 0.28 respectively 0.50 are rather comparable to the heritability of normal personality traits and dimensions (Torgersen et al., 2000; Coolidge, Thede, & Jang, 2001; Torgersen, 2009).
69 10 in FDR group compared to 0 in control group.
70 Ten individuals with PPD both in group with parents of patients and in control group.
Table 9 (cont’d)

<table>
<thead>
<tr>
<th>Study</th>
<th>DSM Version</th>
<th>Details</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maier &amp; colleagues (1994)</td>
<td>DSM-III-R</td>
<td>Schizophrenia probands (n=101), schizoaffective disorders (n=69), unipolar major depression (n=160), control families (n=109); at least one living first-degree relative. DD not included.</td>
<td>Non-significant trend of higher occurrence of PPD in families of schizophrenia probands compared with control families. Significantly greater risk of PPD in relatives of probands with nonpsychotic depressive disorder vs. relatives of controls.</td>
</tr>
<tr>
<td>Asarnow et al. (2001)</td>
<td>DSM-III-R</td>
<td>148 relatives of childhood-onset schizophrenia probands compared with 368 relatives of attention-deficit/hyperactivity disorder (ADHD) and 206 community control probands. DD not included.</td>
<td>Risk of PPD in the first-degree relatives of children with schizophrenia was not significantly increased.</td>
</tr>
<tr>
<td>Chang et al. (2002)</td>
<td>DSM-III-R or DSM-IV</td>
<td>234 first degree relatives of 94 schizophrenia probands. DD not included.</td>
<td>Depending on the stringency of diagnosis, lifetime prevalence was 3.4 percent to 8.6 percent for paranoid personality disorder which is significantly higher than the corresponding figures in the general population.</td>
</tr>
<tr>
<td>Nicolson et al. (2003)</td>
<td>DSM-III-R or DSM-IV criteria</td>
<td>95 parents of patients with childhood-onset schizophrenia, 86 parents of patients with adult-onset schizophrenia, and 123 community comparison parents. DD not included.</td>
<td>Significantly increased morbid risk of PPD in parents of patients with schizophrenia compared to community controls.</td>
</tr>
<tr>
<td>Tienari et al. (2003)</td>
<td>DSM-III-R</td>
<td>190 genetic high risk adoptees who had biological mothers with schizophrenia spectrum disorders compared with 192 low-risk adoptees (either a non-schizophrenia-spectrum diagnosis or no lifetime psychiatric diagnosis). DD not included.</td>
<td>Not differentiated by the prevalence of PPD when adoptees at a broadly defined genetic high risk were compared with low-risk adoptees.</td>
</tr>
<tr>
<td>Hans et al. (2004)</td>
<td>DSM-III-R</td>
<td>116 children and adolescents: 41 had a parent with schizophrenia, 39 had a parent with a non-schizophrenic mental disorder, and 36 had parents with no mental illness. DD not included.</td>
<td>No increased risk of PPD in offspring of parents with schizophrenia.</td>
</tr>
</tbody>
</table>

71 The number of probands with schizotypal respectively paranoid personality disorder (PD) was low: 7 had PPD and 6 had schizotypal PD. PPD occurrence appeared substantially but not statistically significantly increased in parents of patients with schizophrenia compared to community controls. Figures indicate distribution of schizotypal personality disorder to differ little from that of PPD though occurrence of schizotypal personality disorder reached statistical significance. Thus, there was an increased lifetime morbid risk for schizophrenia (4.95% ± 2.16%) and schizotypal personality disorder (4.20% ± 2.06%) in the parents of childhood-onset schizophrenia probands compared with parents of ADHD (0.45% ± 0.45%, 0.91% ± 0.63%) and community control (0%) probands.

72 In total, the sample included two individuals with delusional disorder and two with PPD. One individual with PPD in all offspring of mothers with schizophrenia spectrum disorders (N=190) compared to one individual with PPD in offspring of mothers with non-schizophrenia-spectrum disorders or no diagnosis (N=192).

73 No significance reached though 5 individuals with PPD in group with schizophrenic parents compared to 3 in group with parents with other mental disorder and one in group with parents without mental disorder.
3.5.3 Preliminary inference
There seems to be a relative substantive amount of literature suggesting a heritability of PPD itself. PPD also tends to occur more frequently in families with other psychiatric illness; there seems to be a possible link to schizophrenia (significant findings in 7/14 studies) and perhaps particularly delusional disorder (paranoia; concurrent findings, that is, in 3/3 of included studies). Hence, existing research mostly support the potential role of a genetic vulnerability as well as social and psychological factors at the root of PPD.

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74 While PPD together with other cluster A personality disorders frequently are ascribed to the so-called “schizophrenia-spectrum” disorders (see, e.g., Asarnow et al., 2001; Tienari et al., 2003), a paranoia spectrum may prove to be more scientifically founded (Magaro, 1981; Triebwasser, Chemerinski, Roussos, & Siever, 2012; Bebbington et al., 2013).
4. Methodological considerations and discussion

In this thesis, PPD is validated through use of criteria suggested by Robins and Guze (1970). The latter themselves completed their presentation of the validation process by stressing that the “...five phases interact with one another so that new findings in any one of the phases may lead to modifications in one or more of the other phases. The entire process is therefore one of continuing self-rectification and increasing refinement leading to more homogenous diagnostic grouping. Such homogenous diagnostic grouping provides the soundest base for studies of etiology, pathogenesis, and treatment. The roles of heredity, family interactions, intelligence, education, and sociological factors are most simply, directly, and reliably studied when the group studied is as homogenous as possible”. Below a brief discussion is provided about Robins and Guze criteria validating psychiatric diagnoses. Subsequently the particular challenges of studying PPD and the limitations of the author’s case series studies are debated.

4.1 The Robins and Guze approach and the study of psychiatric diagnosis validity

The Robins and Guze approach can be traced back to 17th century works by Sydenham and later contributions of Koch, Pasteur, & Virchow (Kendler, Muñoz, & Murphy, 2010; Surís et al., 2016). Three major contributions of the approach thus can be identified, including the systematic and operationalized application of diagnostic criteria, the rooting in empirical data, and the emphasis on defining features like course and outcome (Kendler, Muñoz, & Murphy, 2010; compare Kraepelin’s distinction of dementia praecox from manic-depressive illness based on different characteristic courses). Robins and Guze criteria formed the basis of the later ‘Feighner’ criteria demonstrating validity of diagnostic criteria for a number of specific adult psychiatric disorders (primary affective disorders, secondary affective disorder, schizophrenia, anxiety neurosis, obsessive-compulsive neurosis, phobic neurosis, hysteria, antisocial personality disorder, alcoholism, drug dependence, mental retardation, and anorexia nervosa; Feighner et al., 1972). The suggested systematics are widely considered a ‘Gold Standard’ for establishing diagnostic validity and, by way of an example, decisions on nosologic validity during the development of DSM-IV were largely based hereon (Andreasen, 1995; Surís et al., 2016). Furthermore, without explicitly referring to Robins and Guze criteria (or for that sake Feighner...
4.2 Issues with studying paranoid disorders
Paranoid subjects are disinclined to seek help and likewise probably mostly will tend to resist being participants in any psychological research (Thompson-Pope & Turkat, 1993; Tyrer, Mitchard, Methuen, & Ranger, 2003). Hence, as it has been previously mentioned, PPD individuals may be ‘falling through the cracks’ of the mental health system (Bernstein & Useda, 2007) with only few individuals diagnosed in psychiatric hospital. As one of its consequences, most clinical studies of PPD are retrospective and sample sizes usually are small (see above 4.4.2.2). Moreover as hypothesized by Skodol et al. (2011), “It may be that researchers have not examined PPD because of an underlying skepticism about the psychometric properties of the diagnosis itself, particularly its discriminant validity: paranoia is a key feature of several different disorders, including, most obviously, the psychotic disorders. In particular, delusional disorder, which—like PPD—can encompass nonbizarre paranoia and need not be accompanied by a catastrophic global decline in functioning, may capture much of the symptomatology that might otherwise be ascribed to PPD.” Studies carried out in non-clinical populations are more numerous, though there is little knowledge as to the generalizability of such studies to clinical settings (Pardini et al., 2010; Handley, 2014).80 One way in which the challenge of harvesting clinical research data on PPD can be tackled is by doing retrospective investigations.

4.3 The retrospective study approach and limitations of own studies
4.3.1 General comments - retrospective research methodology
Retrospective investigations often use data which were originally collected for non-research purposes including, e.g., medical doctor and nursing notes, ambulatory reports, admission and discharge records, laboratory and diagnostic tests, and clinical or other information. Systematic utilization of existing health records is not rare in epidemiological investigations and has often guided subsequent clinical research. In psychiatric research, its use is limited.81 Among the advantages of retrospective studies are the “relatively inexpensive ability to research, the rich readily accessible existing data, easier access to conditions where there is a long latency between exposure and disease, allowing the study of rare occurrences, and most importantly, the generation of hypotheses that then would be tested prospectively” (Gearing et al., 2006). Regarding paranoid conditions in particular, one might be tempted to add the advantage that prospective research often is not possible, while register-based approaches would not provide sufficiently detailed clinical information. With respect to limitations, Gearing et al. (2006)

79 Hence, the authors do not mention the PPDFQ instrument (Useda, 2001) particularly addressing PPD. Likewise, the authors seem unaware of the findings by Samuel et al., 2011 concerning criteria count stability in PPD. It should be also noted that, following Triebwasser et al.’s paper, a number of significant research findings have emerged as to, e.g., follow-up data (see, e.g., Hopwood et al., 2013; Kendler et al., 2015; Reichborn-Kjennerud et al., 2015).

80 By way of comparison, social anxiety disorder seems equally represented in men and women in clinical studies, whereas it is more prevalent in women in epidemiological studies. This difference in clinical versus epidemiological studies has been suggested to indicate that more men than women seek treatment for the disorder (Schutters, 2011).

81 Gearing and colleagues underscore that retrospective research is ‘undervalued’ and ‘underutilized’ in psychiatry (2006).
maintain the problems with incomplete documentation, information that is unrecoverable or unrecorded, and the challenges with interpreting and verifying document information. In addition, there often is variance in the quality of information recorded by medical professionals and might be difficulties in establishing cause and effect. In order to enhance the applicability of retrospective methods, Gearing et al. (2006) proposed a methodology for systematically conducting retrospective chart review research in psychiatry by data extraction from historical records. The steps proposed are as follows: (a) Conception including research formulation and a clinical scan, (b) Literature Review, (c) Development of research proposal, (d) Development of a uniform data abstraction instrument, (e) Developing protocol for data extraction, (f) Data abstraction, (g) Sample size consideration, (h) Ethics considerations, and (i) Use of pilot studies. In the following, the author’s case series studies are discussed in the context of the abovementioned nine-step methodology. Please note that specific limitations of sub-studies are later discussed in further details.

(a) Conception
According to Gearing et al. (2006), the “conception stage is comprised of two components: research formulation and a clinical scan. Research formulation involves the process of articulating the research questions followed by the generation of clear hypotheses. Outlining a research question and hypothesis enables investigators to determine feasibility of retrospective chart review, instead of considering an alternative methodology. Early linking of research methodology to the study’s proposed hypothesis facilitates an informed approach that assists decisions throughout the subsequent research stages. The second conceptual component is conducting a clinical scan of the research question and hypothesis. Seeking out clinical expertise in this stage uncovers unanticipated benefits while identifying potential methodological barriers [...].” In the studies conducted by the author of this dissertation, the conception element points to the research question formulation and sparring with clinical expertise. The overriding research question was quite broadly defined in terms of investigating what are the socio-demographic, psychopathological, and course characteristics in a general psychiatric hospital sample of patients with PPD. However, sub-questions were formulated regarding, for example, the association if any between PPD and social status (e.g. clarifying the impact of PPD on working life), the possible occurrence of full-blown psychosis (including the question if any association exists between occurrence of psychosis in PPD and course of illness), and the comparison of course of illness according to case notes between patients subject to psychopharmacological treatment and those having no drugs.

(b) Literature review
Gearing et al. (2006) emphasized that “This stage involves a systematic review of the literature pertinent to the study’s area of focus, diagnoses, conditions, demographics, criteria, and populations. A review of the literature is a standard requirement for any research initiative, including retrospective chart reviews [...] an effective literature review requires searching several databases such as MEDLINE, PsychInfo, CINAHL, and EMBASE [...] Librarians and information technologists in hospital and university libraries are valuable resources and should be consulted
by investigators unfamiliar with conducting literature reviews [...]). In this regard, objections could be raised as to the systematics, comprehensiveness, and contemporaneity of the review preceding the project.82

(c) Proposal development
This stage83 comprising development of the research proposal and operationalization of variables, was performed in an interplay with pilot studying a small number of case records at the psychiatric department, at which the author himself had been formerly appointed as a clinician. In this regard, variables available for further analysis were identified and categorized. Apart from standard variables like gender, age, and presence of descriptive symptoms, variables often were not very well defined in the research literature though some variables had been described in other contexts (e.g. affiliation with labor market, highest level of education, and 6-week therapeutic effect84). The study was conducted without any budget. All expenses relating to the project had been defrayed by the author.

(d) Development of a uniform data abstraction instrument
It is emphasized by Gearing et al. (2006) that data collection in the abstraction instrument should be organized in a logical order and, whenever possible, it should parallel the information-flow in the health record. Regarding the author’s case series study, unambiguousness of variables and reproducibility were improved through sequential pilot testing and modification in three steps of the abstraction instrument (‘data schedule’).

(e) Manualization of data extraction
Gearing et al. (2006) emphasize the importance for clear guidelines to instruct the abstraction of data. Guidelines can be more or less comprehensive and regarding the case-series study they

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82 Birkeland (2003). By way of an example, the review only systematically searched PUBMED/Medline.

83 According to Gearing et al. (2006) the stage “[...] comprises writing the research proposal and operationalization of the variables. Common to all research proposals, the construction of a research proposal must include an executive summary or abstract, introduction, literature review, research question and hypotheses, methodology (design, sample, instruments, and procedure), significance of the study, limitations, budget, references, and appropriate appendices. It is also important that retrospective chart review proposals be written with some consideration for future prospective studies [...]. Operationalization of the study variables in a review consists of two interconnected and iterative components. First, the study variables need to be defined; these variables are generally determined by the nature and focus of the investigation. Second, study variables are then reviewed in the literature to determine how other researchers have operationalized them in similar or related investigations. It is helpful to develop an appendix comprised of concise definitions and supported with citations of studies that have similarly used each variable. Understanding the design of existing health records and how the data is recorded is of great importance. The following strategies will assist in this process. First, it has been recommended that researchers examine the flow of information, specifically from patient to health record [...] in order to identify established charting protocols, accepted processes of documentation, and the nature of standard documentation (e.g., emergency notes, diagnostic information, consultations, and discharge reports). Second, carefully inspect a few charts; three to five charts are recommended [...]. This will provide critical information on how the patient chart/health record is constructed and documented. Third, consult with site-specific clinicians to ascertain how patient information is recorded and documented in multi-site studies. A clear definition of the study variables and understanding of health records provide the essential base for researchers to development a standardized chart review data abstraction instrument”.

84 CGI therapeutic effect rating (Guy, 1976) was applied at the first 6 week observation period available (i.e., representative chart information from repeated individualized assessments made by a psychiatrist of the patient’s mental state) either with or without antipsychotic medication. Antipsychotics should be manifestly effective in most patients within this time frame (Glenthøj, 2000) and the 6 week juncture might also partially sort out apparent but only temporary or ‘optimistic’ changes.
mostly were directly build into the abstraction instrument (the data schedule) to ensure direct accessibility while collection furthermore was guided by principles set forth in the research protocol (incl. the crucial claim for literally denominated symptoms, see below).

(f) Data abstraction step
Regarding the author’s case-series study, this may constitute the very most critical point. It is recommended by Gearing et al. (2006) that data abstractors remain blind to the study hypothesis to decrease reviewer bias. Likewise, they recommend at least two abstractors to ensure inter-rater reliability. In the case-series study, data abstraction was conducted by one abstractor only and this abstractor was not blind to study hypotheses. These important limitations were dealt with by posing strict criteria for explicitly, literally denominated features to be present (e.g. denominated ICD-10 traits) to minimize the role of personal biases arising from interpretation and ambiguity. This however raise new challenges including loss of information (see below under limitations of separate studies). The evaluation of clinical status necessarily will involve aspects of interpretation though validity and reproducibility to some degree was ensured by, as far possible, still requiring explicit chart notations and specific notations be in keeping with contextual information. As data abstraction was conducted by one researcher, ‘Inter-rater’ agreement only was determined between original diagnoses and study diagnoses (on PPD).

(g) Sample size consideration
It is maintained by Gearing and colleagues (2006) that “Every retrospective chart review requires a statistical power analysis to determine the appropriate sample size. Calculating the appropriate sample size is a necessary component in all research proposals [...]”. Although this conception could represent a quite stereotyped perspective on quantitative methodology, it must be admitted that power analyses have become an almost mandatory constituent of research proposals and fund applications (Olsen, 2008). Referring to the literature, it is subsequently put forward by Gearing and associates (2006) that a generally accepted “rule for quickly determining sample size is 10 cases (charts) per variable, in order to obtain results that are likely to be both true and clinically useful” although others have suggested that “it is acceptable to have a minimum of seven or five events per predictor”. Usually, however, sample size consideration are based on computerized calculations and/or nomograms (cf. e.g. Altman, 1991). In the case-series of this thesis the sampling method used was so-called ‘convenience sampling’, where ‘suitable cases’ were selected over a specific time frame. One major reason for choosing this approach over, e.g., ‘in quota sampling’ (using a predetermined number of cases)

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85 Of course, it can be objected that blinding to study hypotheses not necessarily always will be effective. By way of an example, unless a doubled blinding is performed, two ‘blinded’ and independent data abstractors may very well tend to rate patients subject to interventions to have changed to a relatively greater extent than a control group.

86 Olsen (2008) argues that “Many important findings are curbed by such power calculations. Much of our knowledge presumably arise from investigations which had been never conducted if requesting power calculations. Such calculations are relevant in that little subgroup of studies where evidence is required for introducing a new treatment and where a decision must be made on only one study. Research aiming at providing new knowledge should be conducted if based on sound data and design; it then will provide the inspiration for new studies if presenting interesting results” [author’s translation].
or so-called ‘systematic sampling’ is the fact that initial reviews by the author of reported PPD figures suggested all patient charts during a long time span would be required to obtain a study sample of a substantial size. It was indicated above that 10 individuals roughly would suffice if investigating only one predictor though in the sub-study of course and treatment outcome in PPD, tentative power calculations suggested power to only reach (almost) 0.5 with 10 patients to detect even major group differences (standardized difference ~1.2; the level of statistical significance set at a P value less than 0.05, two-tailed). Generally, missing values were managed by the deletion of the case in sub-studies (e.g., 6-week therapeutic effect) while imputing of missing values was never used. This of course tends to reduce the sample size and may also introduce bias.

(h) Ethics considerations
In Denmark no institutional review board approval system was available at the time of conducting the study, though right of access to use the Psychiatric Department’s records archives was given by the head of the psychiatric department (chief consultant Gunnar Jessen MD). According to Danish legislation, the case-study should be reported to the Danish Data Protection Agency (Act on Personal Data, Paras 10, 48 and 50; documents 2007-41-1632 respectively 2013-41-2539). Additionally, the Danish National Board of Health [Sundhedsstyrelsen] was informed for the purpose of coming up to law requirements (Health Care Act Para 46).

(i) The use of pilot studies
The pilot study itself essentially is “a small version of the proposed research” (Gearing et al., 2006). Please see above about the role of pilot-study testing in the case-series study. As proposed by Gearing et al. (2006) pilot testing was used in the initial phases of the case-series study “to assess the feasibility of the planned investigation, determine the adequacy of the instrumentation, and evaluate any potential methodological pitfalls, such as data collection strategies”. As mentioned above as well, inter-rater reliability only could be calculated between the author and original assessments, and likewise, even though ratings made by the author were ‘checked’ at different times (by the same author) no intra-rater reliability measure was calculated. Agreement on the PPD diagnosis only reached a kappa of 0.4 (~ ‘acceptable’) which mostly resulted from the exclusion of patients suspected of organic mental disorder or primary schizophreniform illness (see above).

As stressed by Gearing et al. (2006), "While there remain many notable limitations to retrospective chart review research, including incomplete or missing documentation, poorly recorded, and absent information, as a methodology it continues to offer numerous advantages." Below the specific limitations of sub-studies are discussed in further details.

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87 Where, for example, every third case is selected from the target population.
88 For example in the study of treatment outcomes, only 10 patients had the information required for inclusion in the 6-week analysis. Those patients included generally may have had more intensive psychiatric care due to more severe illness. This may have introduced a biased subsample for studying antipsychotic effects in PPD. Furthermore, as mentioned below, a particular bias may have been introduced in the comparison of the group receiving antipsychotics with the ‘control’ group (confounding by indication).
4.3.2 Specific comments on limitations

Comments regarding study 1 (Birkeland, 2011)

As previously mentioned, the methodology applied represents one way of facing the challenges of retrospectively establishing a PPD sample. The case record information on personality characteristics had been originally gathered in ‘naturalistic settings’ and during the study, in order to minimize biased diagnoses and the pitfalls of excessive interpretational processes, the aim was to accept only denominated ICD-10 traits. Certainly, this may cause cases be erroneously rejected. For that reason, patients with three denominated traits (rather than research criteria’s claim for four traits) were included (see above, section 2.1.1). An alternative way to establish the diagnosis would imply, e.g., expert panel consensus diagnoses, though thereby to a substantially greater extent allowing for interpretational activities. It could of course be argued that patients without a downright original PPD diagnosis (those with a ‘sensitive’ personality disorder) should have been omitted from the study, or at least separated during the further analysis. The decision on including also these individuals, as mentioned, was based on traditional views on the close connection between PPD and disordered personality of a sensitive type (compare also, e.g. Meyer, 1903; Kretschmer, 1918; APA, 1952; Bhugra, 1999; Bebbington et al., 2013).

The diagnostic approach can be criticized from a more fundamental perspective though. The polythetic-operational diagnostic approach in many aspects could be considered inferior as compared to, e.g., a prototypical one. In this regard, reference can be made to the objections raised by, e.g., Parnas (2015); the latter advocates that polythetic-operational methods “contrary to a widespread belief, [are] not “operational” in any epistemological or scientific sense. They are just briefly described in an ordinary non-technical lay language at “the lowest order of inference”. Thereby psychopathological descriptions are simplified to "brief, lay language statements" which "converts the symptoms and signs into phenomenological primitives or homogeneous elementals. There is only one kind of delusion (i.e., it is assumed that all delusions share the same phenomenological structure), one kind of anxiety, one kind of auditory verbal hallucination, etc. Consequently the syndromes, solely constituted by aggregates of such elementals, lose their characteristic salience, and their boundaries become blurred." As it was emphasized by Parnas (2015), a prototype "is a central example of a given category [...] with a graded dilution of typicality towards its borders, where it eventually overlaps with neighboring prototypes. Thus, the prototypical categories exhibit an intrinsic dimensionality [...]"

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89 See also, e.g., Parnas and Bovet (2015). The authors sum up that diagnosis previously was “based on textbook narrative prototype-descriptions and a process of matching the individual patient’s clinical picture to such prototypes”. According to the a-theoretical, operationalist approach, etiology are unsuited for classificatory purposes unless fully known, diagnoses are based on selected criteria favoring ‘directly or easily observable features’, and description of criteria are made in ‘simple, nontechnical language’ assumed to assure unambiguity. The psychopathology thus becomes ‘heavily behaviorist’.

90 Parnas (2015) provides a very illustrative example: a young clinician in an open outpatient facility, trained with the DSM/ICD manuals as her exclusive source of psychopathological knowledge encountering “a self-referred male in his early 20-ies, sitting on the floor of the waiting room in a lotus position, mumbling, and occasionally laughing to himself in a silly manner.” Unfamiliar with the prototypical structure of psychopathology, such a clinician will find herself “exposed to a myriad of chaotic, unconnected data, where each individual feature is equally worthy of attention and may therefore become a pivot of a potential diagnostic class”. Thus, “the patient’s initial behavior (suggestive of schizophrenia) may easily fail to display a relevant clinical salience and hence fail to enter into the diagnostic considerations” whilst he may be rather “diagnosed with major depression if he answers affirmatively to five or six criteria of this diagnosis”.

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However, a prototype is not just an example (exemplar), but contains condensed information on its internal configuration of properties and its relations to neighboring prototypes […] The concept of prototype/gestalt is fit for description of single symptoms and signs as well as larger entities such as diagnostic categories. One can use the concept of prototype-gestalt in a narrow or a wide sense, neither one limited to perception but also involving complex cognitive-affective operations".\(^9\) It could be mentioned, as a reply to these objections, that the very majority of patients in the sample (n=12) had been first admitted and clinically diagnosed according to a more classical, prototypical approach (before implementation of ICD-10 'operationalized' diagnostic procedures).

It comes naturally that generalization from a small psychiatric hospital case series (dispersed across a 25-year period in the past) should be made with caution both with regard to present-day psychiatric settings and to outside mental health care facilities. Specifically, limitations potentially arise from biased patient inclusion (selection) and information. As mentioned above, data might be incomplete (i.e., relevant information might not have been recorded in the original charts) or information may, for some reason or another, be inaccurate. As already mentioned, to a certain degree, shortcomings have been tackled by the systematic procedures applied (by, e.g., only accepting explicitly denominated characteristics to minimize biased interpretational activities).

Comments regarding study 2 (Birkeland, 2014)

As it has been indicated above (section 2.1.2), the retrospective nature of collection of psychopathological data raises a number of particular problems because only few standardized measurement instruments are appropriate for research use. Inevitably, the choice fell on the SCL and ACL instruments which were formerly used for schizophrenia spectrum research involving case records (Jørgensen et al. 1987; Mednick et al. 1987; Ekstrøm et al. 2006). There has been performed no reliability statistics for the SCL and ACL measures in this study yet their properties have been previously examined (Jørgensen et al., 1987; Mednick et al., 1987; Ekstrøm et al., 2006). Both allow for psychometric assessment on the basis of a specifically defined number of characteristics. Hypothetically, data could for some reason or another be inaccurate or incomplete (i.e., if relevant information have not been recorded in the original charts) yet it is taken for granted that medical records provide sound information on psychiatric patients’ behavioral and psychopathological features. Likewise, regarding identification of delusional psychosis, it can be argued that full-blown delusions sometimes are difficult to verify and that a continuum exists between non-psychotic and psychotic experiences (Gladis et al. 1994). On the other hand, clinical statements originally were produced without a research purpose. They had been made in day-by-day clinics in collaboration between qualified mental health care workers on the basis of their expertise in psychiatric assessment.

\(^9\) Please also see Rosenberg (2016; p.225) for a discussion about phenomenological psychopathology and Kendler (2015) and Parnas & Bovet (2015) for a detailed discussion concerning ‘operationalism’ and some of its consequences.
Comments regarding study 3 (Birkeland, 2013c)
The study presupposes that useful information on the dynamics of patients’ status can be read from charts. However, in addition to the small sample size, resulting in a statistical power of just below 0.5 to detect even major group differences, the assessment of antipsychotic effects lacks a randomized, blinded, assignment. As indicated above, outcomes therefore can be biased by, for example, confounding by indication because of baseline and time-dependent factors that are not accounted for. Baseline CGI-S ratings indicate that the group that received antipsychotics may have had (slightly) more severe illness than those who received no antipsychotics. It remains, however, unclear to what extent any such difference and, for example, naturally occurring fluctuations in severity of illness can explain the comparatively large dissimilarity in CGI-I ratings.\(^92\)

Comments regarding studies 4 and 5 (Birkeland, 2013a and 2013b)
In both studies, no psychological testing or brain imaging had been performed. Please see above about limitations in considering causality issues in retrospective studies (section 4.3.1).

4.4 Discussion regarding own study findings in the context of state-of-the-art research
4.4.1 Clinical description
In brief, the study of socio-demographic characteristics in hospital settings suggests that patients with a documented PPD are rare among first admissions to general psychiatric hospital and possibly the occurrence has decreased. When exceptionally established, the PPD patient was most often a male admitted to psychiatric hospital in his middle age and a significant proportion of patients had been given early retirement pension at last follow-up (Birkeland, 2011). Besides, the education figure resembled that of the general population and patients equally lived in town and rural area.

The case series study must be viewed in the context of a remarkably limited research on the sociodemographic characteristics of patients with PPD. As it was previously mentioned, paranoid subjects are disinclined to seek help and if they do, they may present with an atypical picture or actively resist being participants in any research (Thompson-Pope & Turkat, 1993). There inevitably are limitations in this kind of research and generalizing from findings in one psychiatric department can only be tentative. Moreover, as it is described in more details under limitations, the approach implies the possibility of, e.g., biased family histories and data incompleteness. Discharge diagnoses and case-registers have been used before as screening tools in a retrospective study concerning PPD (Fulton & Winokur, 1993). McConville & Walker (2000) later demonstrated that case register diagnoses are reliable enough to act as screening instruments for personality disorders following which chart reviews can confirm or refute the diagnoses. Correspondingly, in the present investigation two-thirds of those with an original

\(^92\) Moreover, it must be remembered that the clinical status of patients after last psychiatric contact is unknown.
case record “Paranoid personality disorder” diagnosis had organic mental disorder, schizophreniform disorder, or insufficient information on recognizable PPD traits.

The findings regarding sociodemographic characteristics seem to agree with the results of the study by Fulton & Winokur (1993): within a computerized database of 18,016 charts from 1953-1986, 351 inpatients had a discharge diagnosis including the term “schizoid personality” or “paranoid personality”. Out of those, only 17 PPD patients could be drawn having “unequivocal evidence in the chart of a lifelong pattern of suspicion and/or jealousy of others in a broad context”; cases with hallucinations, delusions, organic brain syndrome, inappropriate affect or disorganized speech, and age less than 16 had been primarily excluded. Similarly, Dahl (1986) identified no more than one PPD patient who fulfilled DSM-III criteria among 231 patients consecutively admitted to two psychiatric hospitals in Oslo during one year. Although in agreement with Fulton & Winokur (1993) and Dahl (1986), the findings of the present retrospective case-series study appear remarkable: according to DSM-IV-TR (APA, 2000), the prevalence of PPD was estimated to 10-30% among psychiatric inpatients.

First ever admission incidence rate of patients with PPD during a one year period was roughly 0.5/100,000 in the total population (Birkeland, 2011); patients chiefly had shorter length hospital stays, with typically three weeks at the most. By way of comparison, Mors and Sørensen (1994) found it to be 1.8/100,000 among those aged 18-49. On the other hand, the reason why most patients were diagnosed in the first third of the inclusion period is not clear (Birkeland, 2011). However, Pedersen & Simonsen (2014) afterwards demonstrated rates of personality disorders generally as well as specifically in regard to PPD to be decreasing in Danish psychiatric departments (with incidence rates decreasing from 2.6% in 1995 to 1.2% in 2006).93 PPD may have become even rarer in general psychiatric hospital but the finding may also reflect, e.g., a trend towards a wider use of other diagnoses.

In harmony with Fulton & Winokur (1993) and Kass et al. (1983), the case-series study hints at the possibility of a male preponderance among patients with PPD (Birkeland, 2011). Again, in accordance with Fulton & Winokur (1993), 10 out of 11 male patients were married at last psychiatric contact. Patients lived equally in the country and in urban area. By comparison, the community-based studies by Torgersen et al. (2001) and Grant et al. (2004) suggested that subjects are often single and living within cities. The findings of the study do not hint at any impact of immigration or refugee status as proposed by Grant et al. (2004). Regarding highest level of education, the results of the case-series study (Birkeland, 2011) might be seen in the context of the conclusions made by Torgersen et al. (2001) and Grant et al. (2004) that subjects typically are of a lower socioeconomic class who only have a high-school education or less. Anyhow, a majority had obtained early retirement (disability) pension at last psychiatric contact (Birkeland, 2011). Similarly, later research has indicated that individuals with PPD (and schizotypal personality disorder) may have impaired vocational functioning (McGurk et al., 2013). Thus, PPD may have a substantial effect on working life.

93 Likewise, by way of comparison, a parallel decline has been demonstrated with regard to first admitted patients to Danish psychiatric hospitals with a diagnosis of schizophrenia (Munk-Jørgensen & Mortensen, 1993).
As mentioned in chapter 3, the role of childhood adversity in mental illnesses has attracted a deal of attention in the research literature and likewise a link has been suggested between PPD and traumatic experiences during childhood in particular (e.g. Bierer et al., 2003). In this regard, one may be tempted to point out the frequent statement of childhood disharmonies in the case-series. Unfortunately, however, substantial limitations arise from the lack of a control group. Both DSM-IV-TR and many traditional introductions on PPD particularly highlight the proclivity for suspicious behavior. However, even if subjects with PPD frequently resort to an introverted and brooding attitude, they may perhaps usually manage to conceal their suspicious behavior. In this regard, the observed co-occurrence of ‘suspiciousness’ in patients having episodes of frank delusional psychosis is remarkable. Additionally, although studies including control groups are warranted to draw any further conclusions, the inclination to ‘persevering’ and ‘brooding’ may add support to the notion that essential cognitive shortcomings are present in subjects with PPD (cf. ‘belief perseverance’ and rigidity in PPD). By way of comparison, Salvatore and colleagues (2005) previously hypothesized the PPD way of internal experience organization be characterized by, e.g., repetitive thought themes and emotions; hence, the inner and interpersonal dialogues by which the paranoid characters relate to others become very stereotyped, always having the same outcome. Likewise, the finding agrees with some classical concepts of ‘rumination’ in PPD (see, e.g., Meyer, 1903 and Kretschmer, 1966).

Otherwise, the case-series study findings (Birkeland, 2011; Birkeland, 2014) seem to support the prototypical case descriptions found in the literature at the same time also pointing to a broader pattern of signs than simply emerge from the ICD and DSM diagnostic manuals (cp. Kendler et al., 2009, about ‘criterion independent psychological correlates’). As mentioned above, the trait of suspiciousness and distrust may not be as noticeable as one might expect while the exquisite sensitivity, tender-mindedness, and self-reference sometimes are more pronounced. Equally with the general social unease, perseverance, and inclination towards a depressive attitude that seem more conspicuous than do the signs of jealousy and conspiratorial explanations. That is not to say that a patient’s mistrust will not emerge through a meticulous clinical examination. Generally, in line with the descriptions by Kretschmer (1966), it appears as if the intellect of patients with PPD is regarded average, at the least.

According to ICD-10 research criteria, transient quasi-psychotic episodes intermittently might occur in schizotypal disorder while it is not mentioned I connection with PPD (WHO 1994). However, it has been previously suggested that subjects with PPD have a “tendency to experience transient psychotic symptoms during episodes of extreme stress” (Thompson-Pope and Turkat 1993). Likewise, Millon & Davis (1996) portrayed the intermittent development of paranoid psychotic symptoms in PPD almost as a matter of course. Any way, to the author’s

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95 As once proposed by Millon & Davis (1996), individuals with PPD habitually tend to transform events to suit their self-image and aspirations. Therefore delusions “may be seen as an extreme form of this more general process of reality reconstruction” (Millon & Davis, 1996). The authors further described how “A flood of hostile energies may erupt, letting loose a violent and uncontrollable torrent of vituperation and aggression. These psychotic outbursts are usually brief. As the surge of fear and hostility is discharged, these patients typically regain their composure and seek to rationalize their actions, reconstruct their defenses, and bind their aggression. But this subsiding of bizarre emotions does not lead to normality; rather, the patient merely returns to the former paranoid personality pattern” (Millon, 1981; Millon & Davis, 1996). From time to time, however, the isolation and fantasy ruminations may become “deeply entrenched, leading to more permanent psychotic habits and attitudes” (Millon & Davis, 1996).
knowledge, there is no previous empirical research on the occurrence of frank delusions in patients with PPD (Birkeland, 2014); in a large proportion of patients in the case-series, conversion occasionally seemed to occur from the constitutional syndrome into a simple delusional psychosis. What is more, this conversion was not only trivial but was associated with a prolonged psychiatric contact.

4.4.2 Laboratory findings
Regarding the Syndrome Check List, as it was mentioned above, one might expect individuals with PPD predominantly be assigned to the paranoid psychoses (P) diagnostic class rather than, e.g., nuclear schizophrenia (S). Findings from the author’s case-series study mostly confirm a priori hypotheses and, above all, most individuals with PPD could be categorized into the P class (Birkeland, 2014). SCL findings suggest a prominent role of depressive symptoms in PPD yet only some patients had accompanying ‘Depressive/Dysphoric Neurosis’ or ‘Depression’ discharge diagnoses. Likewise, Handest and Parnas (2005) previously identified depression as a remarkably frequent pre-admission symptom and antidepressant medication as a most common treatment in first-admitted patients with ICD-10 schizotypal disorder. As suggested by the authors, ‘clinicians (might) become quickly impressed by the affective complaints of their patients’. On the other hand, the findings agree with Kretschmer’s concept of ‘sensitive Beziehungswahn’ in which sense of reality was unstable and ‘reactive’ depressions frequently supervened (1966).

4.4.3 Delimitation from other disorders
Regarding the limitation from other disorders, findings from the case-series study very much parallel those of Fulton and Winokur (DSM-III-TR; 1993): When reviewing a large medical records material, a relatively little sample of patients emerged coming up to PPD criteria when strictly delimiting from patients with signs of schizophrenia (e.g., hallucinations or affect modulation disorders) or organic disorder. The downright application of diagnostic manual criteria as well as exclusion criteria, however, decreased the number of cases eligible substantially. The diagnostic manuals (DSM and ICD) both maintain the delimitation of PPD from organic brain disorder. And there may be a good reason for that. In the case study regarding organic disorder and PPD, the possibility of an association between organic cerebral factors and developing extensive features of PPD was discussed (Birkeland, 2013a). It is plausible that the alcohol abuse

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Paranoid psychosis may break out in relation to a traumatic incident, really harming the person, entailing a seemingly reactive (psychogenic) psychosis. However, the intense, persevering occupation with the psychic stressor demonstrates the aspects of PPD rather more than the root of the trouble. The characteristic tendency to call concentration to every little ‘piece of evidence’ is aggravated and contradictory signs consistently overlooked. The intermittent co-occurrence of PPD and frank delusional psychosis also might be seen in the context of the hypothesis suggested by Magaro (1981) in terms of a paranoid spectrum of varying degrees of pathology, independent of the non-paranoid schizophrenias, ranging from a so-called paranoid personality (with traits of e.g. suspiciousness), PPD, simple delusional disorder, paranoia, acute paranoid disorder to paranoid schizophrenia. In this regard it is remarkable that 10 patients in the case-series belonged to the ‘paranoid psychosis’ class according to the SCL analysis (Birkeland, 2014).

Likewise, regarding Adjective Check List ratings, from the outset, one might expect individuals with a clinical PPD to rate on categories like anxiety (incl. e.g. ‘distrustful’), extroversion (incl. e.g. ‘reserved’), and, of course, sensitivity.

In the study by Fulton & Winokur (1993), no more than 48 patients with either PPD or schizoid PD remained after applying criteria to 351 records with discharge diagnoses including the term ‘paranoid personality or ‘schizoid personality’ (drawn from a total of 18,016 records).
and perhaps the brain trauma might have contributed to the presentation of PPD. However, any causal mechanisms can not be clarified from the case report. On the other hand, it nicely illustrates some considerations that could be wisely made when encountering some manifestations of PPD symptoms. That said the available literature has been ambiguous with regard to the connection between organic brain factors and simple paranoid disorders in terms of pathophysiologic mechanisms and manifestations. Thus, for instance, Fils and Stewart (2011) demonstrated left-hemisphere injury in a case of Capgras syndrome (‘delusion of doubles’), whereas a previously published study rather pointed toward right frontal brain injury in a patient with delusional jealousy, depression, and attempted suicide (Luauté et al., 2008). Clinically, however, the possibility of extreme personality traits after alcohol abuse is acknowledged in the literature, (Drake and Vaillant, 1985) and traumatic brain injury is known to sometimes cause depression, suicidality, and personality changes with, for example, aggressive proclivities (Riggio and Wong, 2009). In the study about the limitation of PPD from other schizophrenia spectrum illnesses, a case is presented in which dominant signs indicative of PPD occurred together with a variety of (‘co-morbid’) features that are not usually thought representative of PPD but rather belong to other illness mainly within the schizophrenia spectrum (Birkeland, 2013b). In the past, Oldham et al. (1995) demonstrated that patients with mood, anxiety and psychotic disorders have significantly more PPD traits than patients without these disorders. Anyhow, only a few patients were diagnosed with PPD; similarly, in those patients, mood, anxiety and psychotic disorders often co-occurred, although this finding was not statistically significant.

Lack of participants with a clinically established diagnosis of PPD is a common setback in the research literature. PPD may be only rarely encountered in psychiatric hospitals and moreover, as maintained by Skodol et al. (2011), controversies sometimes arise when diagnosing PPD according to current categorical criteria. Distrust and concomitant behaviors are present among various disorders, and some studies based upon SCID-II (Structured Clinical Interview for DSM-IV Axis II Personality Disorders) respectively MCMI-III (Millon Clinical Multiaxial Inventory-III) have added support in favor of considering PPD within a dimensional context (Arntz et al., 2009; Rossi, Elklit, & Simonsen, 2010) rather than as merely one diagnostic category. In the case presented about the limitation of PPD from other schizophrenia spectrum illnesses (Birkeland, 2013b), the distrust and suspiciousness could be claimed to mirror a downright schizophrenic process (cf. Simonsen et al., 2008). In this regard, it remains uncertain from the chart notes whether development into, e.g. schizophrenia, was ever suspected, yet every one of accompanying symptoms was unceasingly concluded marginal and inconsequential per se. During the entire psychiatric course, the signs of distrust and suspiciousness were judged by the psychiatric specialists to constitute the most marked and invariant elements of the disease picture together with the tense and guarded attitude and struggles in social life. Even so, a number of ‘classical’ PPD traits were not present. Neither was any exquisite sensitivity

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98 In connection with the proposals for the DSM-V, Skodol et al. (2011) took it further and, although they maintain that PPD “is one of the most common PDs in the community”, even abandoned the personality disorder nomenclature being represented by any specific paranoid personality dimension. Emphasis rather is put on the (difficult) task to assess personality disturbance severity, yet room seems only left for PPD to be ‘accommodated’ into, e.g., the patchwork of a new version of ‘antisocial’ disorder. See above, section 3.1.2.2.
mentioned in the chart notes, nor was self-reference, bearing grudge, concern about conspiracies or pathological jealousy. From the point of view of personality disorder syndromes, the signs of distrust and suspiciousness were left alone, so to speak; there happened to be remarkably little ‘matter’ behind. When confronting the distrustful attitude, there were no long-winded explanations, no far-out excuses, no opinionated accusations, no brooding anger and nothing but a diffuse antagonism and anxiety. In PPD, we might expect the patient’s distrustful attitude to constitute an all-encompassing trait tightly connected to mighty bastions of the latter mentioned indicators of a distinctly disordered personality: confronting the mental health-care worker with either harsh rejection or recruitment as ‘the solitary allied’ (Birkeland, 2013b).

4.4.4 Follow-up and course

In the case-series study of course and treatment in PPD (Birkeland, 2013c), the presentation of PPD tended to be chronic while 6 weeks of antipsychotic treatment seemed to relieve symptoms with no major adverse effects. Generally, the course of illness in patients with PPD has received only scant attention in the literature. In the past, the longitudinal course was investigated retrospectively in 19 patients by Fulton and Winokur (1993). They succeeded in obtaining follow-up information by letter or personal interview in only seven patients: in these patients, no evident clinical change could be found. The present results seem to be in agreement with these earlier findings. In terms of the usefulness of psychopharmacological treatment in personality disorders, empirical research has been increasing. Previously, on the

99 Peter Handest commented on the case report (Handest, 2013) and referred to the presence of traits consistent with a schizotypal disorder. Handest specifically noted that “The case description easily fits into a prototypical description of a schizophrenia spectrum illness [...] During a diagnostic evaluation, one’s assumptions on diagnosis are guided by ‘pattern recognition’ or prototypes of disorder [...] These assumptions should constantly be evaluated against the diagnostic criteria of the assumed prototype disorder. Ideally, the psychiatrist shifts between assumptions that are being refuted and new assumptions that in the end are verified by the fulfillment of the required diagnostic criteria. Rather than trying to squeeze-in psychopathology not belonging to the first assumption of diagnosis, you should be flexible and willing to change your diagnostic assumptions. That is, if the patient, as in this case, fulfills the criteria of schizotypal criteria and with ease fits into a prototypical description of a schizophrenia spectrum disorder, then diagnosis should be changed to, in this case, either schizotypal (personality) disorder with brief psychotic episodes or schizophrenia. The diagnosis of schizophrenia depends on the length (not stated) of the psychotic episodes where the patient suffered from delusions of persecution and auditory and visual hallucinations. If duration is more than 1 month, the patients fulfill at least two criteria of schizophrenia, namely hallucinations with delusions and negative symptoms [...] These symptoms [growing sense of being ‘split’, chaos of thinking and feeling self-insecure] could be equivalents of self-disorders, i.e. I-split, pressured thinking and diminished sense of basic self. Also the patient ‘pensively announced to aim at “progression to a degree that she would know what fashion she preferred her hair cut”’. This resembles loss of common sense [...] These symptoms substantiate the diagnosis of a schizophrenia spectrum disorder. One should bear in mind the exclusion criterion regarding the general criteria of personality disorder stated in both ICD and DSM: The enduring pattern is not better accounted for as a manifestation or consequence of another mental disorder. In conclusion, during the process of classification, careful data collection and flexibility of diagnostic framework is crucial”. Furthermore, Larry Siever commented on the case vignette (Siever, 2013). He emphasized that “suspicions or paranoid ideation that is not specifically crystallized into paranoid delusions is the hallmark of this patient’s presentation as ‘exceedingly distrustful, suspicious and intermittently... paranoid’. However, she had no specific delusions. This kind of suspiciousness, although part of paranoid personality disorder, is also characteristic in conjunction with psychotic-like symptoms and blunted affect of SPD [...] Most individuals with SPD present with suspiciousness, and often, it is their most prominent symptom on presentation. It is only with more careful examination that the other schizotypal symptoms are revealed. Paranoid personality disorder is a more monothetic-based disorder in that it is centred around one trait or characteristic and would be considered a trait-specified disorder centering around this trait in DSM-5. Unusual or disorganized thought is characteristic of SPD although it differs in degree from the extreme thought disorder of the psychoses. There does not seem to be data sufficient to diagnose paranoid schizophrenia from the description here [...] The case does speak to the importance of a thorough evaluation going beyond presenting symptoms and establishing the structure of personality disorder, which in this case even with available information appears to be SPD”. The statement that PPD “is a more monothetic-based disorder in that it is centred around one trait etc” is not further elaborated by Siever, though it does not necessarily agree with current diagnostic criteria or existing prototypical descriptions.
basis of the charts of 10 patients, olanzapine was concluded to be beneficial in cluster B personality disorders (Zullino et al., 2002) and afterwards, in a small 8-week open-label trial, quetiapine induced significant improvements in borderline personality disorder (Adityanjee et al., 2008). Later, naltrexone showed promising effects in the management of borderline personality disorder in a small randomized controlled trial, although statistical significance was not reached (Schmahl et al., 2012). Continuously though, there has been a lack of research on psychopharmacologic use in PPD.

When viewed from this background, the findings seem convincing and apparently are in accordance with the advice by Siever and Kendler (1985) that such patients sometimes benefit from neuroleptic medication. However, the findings suggest that the impact of antipsychotic treatment was not definite. Within the ‘naturalistic open-label’ settings, only a minority of patients received a durable medication, readmissions were not very effectively prevented, and last contact improvement ratings did not credibly show that antipsychotics affected the long-term prognosis. Moreover, the study confirms that other treatment modalities may come into play as well. Although the findings should be interpreted with caution, they support the notion that PPD tends to follow a chronic course, whereas, in the short run, antipsychotic treatment may perhaps be safe and effective. In any case, appropriately controlled studies are required to ascertain the role of pharmacological and nonpharmacological interventions for patients with PPD.

4.4.5 Family studies
Formerly PPD patients have been suggested to be more common among relatives of schizophrenia spectrum patients than in those of controls and particularly a link with delusional disorder seems to exist (please see above, chapter 3.5). Similarly, a heritability of PPD per se has been demonstrated in twin studies. In this connection, it is remarkable that in the case-series study, among the PPD first-degree relatives, a broad spectrum of mood and anxiety disordered, ‘resembling’ personalities, alcohol abusers, and one schizophrenia patient came up. By way of comparison, based upon chart information on relatives’ mental disorders as well, the investigation by Fulton & Winokur (1993) pointed towards “paranoid traits” among PPD patients’ relatives whereas no schizophrenia or schizoid traits were found at all (Birkeland, 2011).

4.5. Preliminary inference
Investigating clinical paranoid conditions and PPD gives rise to particular problems with e.g. recruitment for research participation. Applying retrospective research methodology constitutes one way to make investigations possible. Retrospective approaches, however, implies some

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100 A previous study proposed that a small group of patients with paranoid symptomatology obtained significant improvement after receiving pimozide during 3 months with only mild side-effects, but the specific effect in those two participants with a ‘Paranoic personality’ was not reported (Amery et al., 1972). A later study suggested a day treatment program for DSM-III-R respectively DSM-IV personality disorders with both therapeutic and psychopharmacological approaches to result in significant improvements at 1-year follow-up though results were significantly poorer for PPD than for BPD (Karterud et al., 2003). Likewise other clinical investigations, although scarce, have indicated a beneficial effect of psychological interventions in PPD (see, e.g., Williams, 1988 and Kellett and Hardy, 2014).
limitations (regarding data completeness, study of causality, application of psychometric measures, etc.). These limitations also are actualized in connection with the author’s retrospective case series studies together with shortcomings arising from, e.g., only obtaining data from one single hospital and only using one data-extractor. Efforts have been made to counteract limitations (referring to standard procedure principles outlined for conducting retrospective studies in psychiatry).

Regarding the clinical description of PPD, findings from the author’s studies as well as other literature suggest a substantial consistency though also problematize the great emphasis put in current diagnostic manuals namely on the trait ‘suspiciousness’. Findings regarding socio-demographical characteristics in clinical PPD mostly agree. Associations seem to exist between some central characteristics of the disorder and particular regional changes of the brain. Laboratory study measures have been developed which particularly address PPD though measures need further validation and presently are not commonly used in the diagnostic process. As regards differentiation from other disorders, the author’s study findings in line with other research suggest that co-occurring mental disorder often is present and that challenges may arise when delimitating PPD from, e.g. organic and schizophreniform illness. Studies into the family patterns of patients with PPD seem to support that PPD is partially heritable though there also seems to be links particularly with delusional disorder as well as with schizophrenia and mood disorders. The author’s case study findings regarding antipsychotic drug treatment in PPD pretty much stand alone though follow-up study findings like other research suggest PPD to be relatively stable and moreover the reaction patterns in PPD to interventions seem pretty distinguishing from other disorders.

\footnote{An emphasis that also seems to increasingly color current opinions about ‘what is’ PPD (cf. Triebwasser et al., 2012).}
5. Perspectives

“The differential diagnostic process is not (only) a matter of a digitalized decision tree, but involves context dependencies and complex pattern recognitions” (Parnas, 2015)

The identification and labelling of diagnostic patterns and syndromes is of considerable necessity. Prognoses are supposed to be similar among clinical pictures with the same mode of presentation. Treatment found beneficial in some patients with a diagnosis, may work with other patients with the diagnosis and likewise the choice of treatment for the right diagnosis improves treatment outcomes. Affective disorders may require other treatment than schizophrenia and various personality disorder may require different treatment approaches. And, for the sake of future patients, established diagnostic entities allows for directing efforts at identifying and addressing underlying causes by discovering commonalities in the histories of different patients with the same clinic (Surís, 2016).

Nonetheless, it is a prerequisite of optimization of diagnostic procedures that disease entities are open to questioning and debate (cf. Silveira et al. 2012; Maj, 2012). From this point of view, it is not surprising that the validity of existing diagnoses are scrutinized and that it has been intermittently discussed whether, e.g., PPD really constitutes a distinct nosological entity (cf. e.g. Hopwood & Thomas, 2012).

5.1 Perspectives on current debates concerning the status of PPD

PPD as a diagnostic entity, DSM-5, and ICD-11

Partly based on a relative paucity of clinical research concerning PPD, some psychometric properties according to DSM-IV criteria for PPD, and the overriding conception that PPD is about “pervasive mistrust or suspiciousness and concomitant behaviors” (Skodol, Bender, Morey, Clark, Oldham, Alarcon, Krueger, Verheul, Bell, & Siever, 2011), trends have been towards breaking up the PPD diagnosis. And remarkably in some instances a somewhat ‘reversed burden of proof’ seems imposed. For example, Hopwood & Thomas (2012) after a thorough review of large amounts of research literature which sustain the PPD diagnosis or more less takes its existence as a given conclude that “[...] there is good reason to abandon PPD in the DSM-5 until research justifies its inclusion in future editions (or not) [...]”. Similarly, in proposals for the DSM-5, the

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102 For example, mentalization-based psychotherapy has been demonstrated to particularly be an efficient treatment for borderline personality disorder (Jørgensen et al., 2013; Kvarstein et al., 2015).

103 By way of an example, references were made to PPDs delimitation from other mental disorder (Skodol, Bender, Morey, Clark, Oldham, Alarcon, Krueger, Verheul, Bell, & Siever, 2011).

104 Without further explanation, Hopwood & Thomas remarkably suggest that “Eliminating paranoid (and schizoid) as unique personality disorders in the DSM-5 would be consistent with existing evidence and the availability of multiple viable alternatives to syndromal hypotheses about paranoid and schizoid behavior”. Hopwood & Thomas claim that “Overall, PPD holds some potential as a valid diagnosis, but currently there are not enough data to answer the question of whether PPD should be in DSM-5. Its long history of theoretical importance and empirical data do suggest the clinical importance of paranoid personality features. However, if the DSM-5 authors choose to focus on those disorders with solid validity evidence, retaining PPD would be questionable at this point” (2012). Likewise, the authors speculate that “available evidence suggests that PPD and SPD (schizoid personality disorder) are highly
personality disorder nomenclature in DSM was not explicitly represented by PPD anymore (Skodol, Bender, Morey, Clark, Oldham, Alarcon, Krueger, Verheul, Bell, & Siever, 2011). If so patients displaying the set of current criteria rather would be labeled with e.g. a “Personality Disorder Trait Specified”.

After a long and intense discussion, it was decided to continue the categorical model and the criteria for the 10 personality disorders which were already included in the DSM-IV-TR but with introduction of a new trait specific assessment in a separate section to support further studies. Hence, despite intense preparations in a transition to the dimensional system (as proposed by the DSM-5 Work Group on Personality Disorders headed by Skodol), the Board of Trustees was not convinced that it should be introduced. According to DSM-5 the purpose of preserving ‘continuity with current clinical practice’ was explicitly stated. Several issues, however, may have been crucial, including difficulties with accommodating DSM with ICD, too weak argumentation for preserving 6 and discarding 4 of the existing categories, legal as well as clinical difficulties with decision-making, and the complexity of using the proposed dimensional model for describing psychopathology, and lacking validation of trait descriptions.

During the early preparatory works on the 11th revision of the International Classification of Diseases, proposals were brought forward to discard the diagnosis (Tyrer et al., 2011). Triebwasser and colleagues suggested that “the trait-paranoia from which many psychiatric patients suffer has seemed better explained by other .. disorders” (Triebwasser, Chemerinski, Roussos, & Siever, 2012) although the content of their ‘trait-paranoia’ concept in itself remained rather unexplained. The authors concluded that “Given the scant empirical evidence on PPD, it seems reasonable to remove it as an independent diagnosis ... and instead to encourage clinicians to code trait-paranoia using a dimensional approach” yet no empirical evidence was presented in support for this encouragement and for the particular fondness of also introducing a ‘trait-paranoia’ concept. In the newly proposed ICD-11 system, the model for personality disorders has been substantially simplified with all known categories of personality disorders being abolished due to ‘insufficient scientific validity’. The model merely involves determining, whether or not, a personality disorder is present though various thresholds can be used to specify whether a personality disorder should be considered mild, moderate, or severe.

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105 Challenges would, however, remain when differentiating from the explicitly stated elements of ‘suspiciousness’ and ‘eccentricity’ associated with ‘Schizotypal Personality Disorder’ as exemplified in the author’s case report about the delimitation of PPD from other schizophrenia spectrum illness (Birkeland, 2013b) and comments by Handest (2013) and Siever (2013).

106 From a critical point of view, it could perhaps be questioned whether the decision on eliminating PPD from DSM-5 agrees with the DSM-5 Personality and Personality Disorders Workgroup’s own ‘Guidelines for Making Changes to DSM-V’ (see Kendler, Kupfer, Narrow, Phillips, & Fawcett, 2009). Prima facie, in spite of any limitations in the existing literature, there is not much compelling evidence that the validity and clinical utility of PPD is substantially less (and to a degree that warrants an elimination) than that of some other personality disorders included in the DSM-5. Similarly, it would be hard to argue that the principle that “the empirical evidence for any change introduced in DSM-V should be proportional to the magnitude of the change” and “Substantial and especially major changes should generally have broad support from several validator classes and particularly from at least one high priority validator” (e.g. familial aggregation and/or co-aggregation - i.e., family, twin or adoption studies) have been applied when it comes to PPD. Finally, it is difficult to identify to what extent “the magnitude of adverse effects on our patients that would arise from the deletion of the syndrome” would have been really accounted for in connection with removing PPD from DSM-5.

107 Even though the contents of their ‘trait-paranoia’ concept remains unclear, again with Triebwasser and colleagues (2012), a quite one-dimensional perspective on PPD seems indicated.
Furthermore, in line with ICD diagnostic traditions, there is an option to specify a Z diagnosis for subclinical personality disabilities that may occur in a broader population. Like DSM-5, the proposed ICD-11 model allows for characterizing the diagnosed personality disorder using five unique features (Negative Affectivity, Detachment, Dissociality, Disinhibition, and Anankastia) which mainly overlap domains included in the alternative DSM-5 model for personality disorders (Negative Affectivity, Detachment, Antagonism, Disinhibition, Psychoticism) (Bach et al., 2017). ICD-11 intends to constitute a more user-friendly, global ‘language’ in everyday clinics (Tyrer et al., 2011).

5.2 Sum-up of preliminary inferences

It has been repeatedly maintained that PPD has attracted limited research attention at least when compared to, for example, borderline PD (Boschen & Warner, 2009). If anything, as it has been mentioned above, this might be both because of the nature of PPD and due to circumstances for which researchers are accountable. Nonetheless, it does not necessarily imply that a scientific consensus on its abrogation is procured (cf. Parnas, Licht, & Bovet, 2005). The challenges with establishing clinical samples of patients with PPD can make the use of retrospective research methods particularly attractive although this implies some limitations. Limitations are actualized among others in connection with the author’s studies even if efforts have been made to tackle weaknesses. As the present thesis demonstrates the common notion that PPD is only scarcely investigated is only partially fact; actually, although research participant recruitment is very challenging, the present validation reveals that a considerable amount of (also recent) empirical literature exists more or less directly concerning PPD. From a broad array of angles, the very most part of this research has either supported the diagnostic construct of PPD or taken it for granted.

Regarding the clinical description of PPD, a substantial coherence and consensus exist about the clinical prototypical description of PPD and associated features (that is about ‘what is PPD’; compare ‘criteria independent psychological correlates’; see also specific case descriptions by, e.g., Shapiro, 1965; Turkat, 1985; Beck, Freeman, & Associates, 1990, Bernstein & Useda, 2007; Millon, 2011).110 Socio-demographical investigations among patients with PPD mostly seem to agree (concurrent findings including the author’s study results about typical gender and age of clinical cases as well as about work-life characteristics and trauma as a precipitating factor).

108 Though ‘personality disorder’ as a diagnosis may perhaps lose some of its value to clinicians in terms of providing guidance to thoroughly pinpoint patient typologies, inform about prognosis, and make recommendations about reasonable modes of treatment (see introductory comments above).
109 It remains unclear to what extent the alternative DSM-5 model, if fully included in the future in an updated 5.1 version, can sufficiently provide clinicians with the necessary tools to thoroughly and unambiguously describe a patient. Single-case studies have offered some support for the utility for clinical purposes particularly in co-morbid narcissistic, respectively borderline, schizotypal, antisocial, avoidant, and obsessive-compulsive personality disorder cases (see Bach, Markon, Simonsen, & Krueger, 2015). According to case descriptions, some of them also met DSM-IV criteria for PPD.

110 The prototypical description of PPD reaches far beyond diagnostic criteria. In this regard, as a parenthetical remark, it is noteworthy that the psychiatrist in ‘The Caine Mutiny’ assigns the symptoms in captain Queeg (rigidity of personality, feelings of persecution, and a neurotic certainty he is always right) to a ‘paranoid personality’ while the diagnostic and mental manual at the time (APA, 1952) highlighted exquisite sensitivity suspiciousness, envy, jealousy, and stubbornness be among the hallmark symptoms of PPD. Note that ‘Rigidity’ was put into DSM in its second version (APA, 1968).
111 See about a critic of the polythetic-operational diagnostic approach vs. prototypical diagnosis in the limitations section (and, e.g., Parnas, 2015).
Likewise, as maintained by Hopwood and Thomas, PPD seems to have demonstrated its theoretical as well as clinical importance (Hopwood & Thomas, 2012). Rather than reflecting a diagnostic fashion phenomenon, the content of the prototype has proven to survive through the eras of mental health science though the selection and weighing of diagnostic criteria perhaps might merit reconsideration and refinement. As concerns laboratory studies, research has suggested that associations may exist between some central characteristics of the disorder and altered operation in particular regions of the brain. Likewise, validated specific as well as more generalized psychological test measures exist addressing PPD. However, as with many other mental disorders, difficulties arise when it comes to providing a means of ‘litmus test’ of the diagnosis. Co-occurring mental disorders are often present ( concurrent findings largely agreeing with the author’s case study results about other personality disorders, anxiety-, PTSD-, depressive-, delusional-, and substance abuse disorders being frequent co-morbidities), and differentiation from other disorders sometimes may cause challenges. Current diagnostic criteria, however, provide important guidance, which also prove crucial when applying to the individual case (presence of formal though disorder and hallucinations for example points to a schizophreniform illness rather than to PPD). Regarding follow-up studies, available research (including the author’s findings) seem concurrent about PPD being relatively stable and furthermore point to an array of distinctive reaction patterns in PPD to involvement from the surroundings respectively treatment interventions. Family studies concurrently have pointed to an element of heritability of PPD itself as well as a genetic link to delusional disorder in particular, as well as to schizophrenia and mood disorders.

So far, PPD as a psychiatric diagnosis seem to perform reasonably according to Robins and Guze validation criteria. In a manner of speaking, to propose that an individual has a ‘paranoid personality disorder’ implies that something substantial, distinguishing, and rather predictable is added to the depiction of the individual. It signifies a rather specific pattern of psycho-social dysfunction and a distinctive, deviant, manner of dealing with reality which both causes rather idiosyncratic disturbances to the family system, characteristic obstacles in work-life and other relations, and quite exceptional difficulties for the mental health worker (‘what is what in the individual’s narrative’ and how to provide the right and specialized means of help). Hence, it is almost natural to conclude with Millon and Davis (1996) that “The paranoid personality is a well-established and clinically familiar syndrome”. In this dissertation, a substantial number of studies have been presented relating to antecedent (e.g. sociodemography, familial aggregation and other risk factors), concurrent (clinical, ‘laboratory’ findings, and co-morbidity), and predictive validators (course) of PPD (cf. Kendler, Kupfer, Narrow, Phillips, & Fawcett, 2009). From this perspective, absence of the PPD diagnosis could be a ‘step backwards’. Single-case studies have suggested the alternative DSM-5 model for personality disorders (without PPD being represented) be useful for some cases with mixed personality disorder psychopathology.

112 Correspondingly, in their meta-analytic review, Friborg et al. (2014) recently demonstrated comorbid PPD to be specifically associated with longer duration in major depressive disorder.
including PPD traits according to DSM-IV assessments. The clinical utility, however, is unknown, as to, e.g., cases predominantly complying with the PPD prototype.113

5.3 Clinical implications
Regarding the existence of a PPD diagnosis, ‘to be or not to be’ presumably is not without impact on patients, their surroundings, or mental health workers. Awareness about the pattern, its typical presentation as well as about ways to reasonable handle it requires a commonly understandable language to identify and delineate it. Agreeing on the existence of the PPD entity probably put mental health workers to be attentive of the diagnosis in the clinics, but also commands researchers to investigate more systematically into the disorder incl. measures to valid and reliable identification and approaches to managing it. As maintained by Torgersen (2009), “Personality disorders are in fact dysfunctional, painful, and, not least, irritating for the surroundings” and ‘The costs of PPD’ in particular comprise widespread relationship problems including disruptive behavior in the family, the workplace and other places, unnecessary litigation, and increased psychiatric comorbidities (Bernstein & Useda, 2007). PPD is seen in a variety of clinical populations, and individuals tend to pose special treatment difficulties though, if appropriate treatment is provided, some individuals probably can reach good therapeutic effect. Therefore, there is good reason to give the disorder some attention both in the clinics and from a research perspective.

5.4 Implications for future research and conclusion
The empirical literature seems to suggest that the demarcation of PPD as a ‘typology’ with respect to socio-demography, psychopathology, and course is reasonable. However, even if the PPD typology looks meaningful, current constructs are not undisputable. PPD is not a given fact of nature. As is the case with personality disorders in general, there is a continuous need for studies concerning both PPD in the general population and clinically established PPD and beyond the diagnostic traditions to provide an adequate theory-based measure of PPD (Falkum, Pedersen, & Karterud, 2009). Then adequate research potentially will warrant the abrogation, redefinition, or maintenance of the disorder. In this regard, additional empirical knowledge is needed both on PPD’s diagnostic validity and the clinical usefulness of (e.g.) dimensional alternatives,114 possible psychological and biological mechanisms lying behind, the relationship

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113 Just to mention one point here, the proclivity for brooding and bearing grudge pretty characteristic for PPD, as well as pronounced self-reference seen in most individuals with PPD seems rather overlooked in the listing of 25 personality trait facets in the DSM-5 ‘Alternative Model of Personality Disorders’ (Criterion B). The same is the case with the quite typical proclivity for exaggerating difficulties, bitterness, use of defensive logics, and productiveness in terms of concocting idiosyncratic explanations. Thus, Mr. X reluctantly referred to the psychiatric clinic with ‘depression’ due to harsh familial conflicts, highly aware of not presenting ‘paranoid’ signs (as he was previously ‘accused of’), though displaying a marked bitterness towards the surroundings (and their lacking appreciation of his outstanding role in a slightly nerdy national interest group), brooding over a written down list of former remarks of family members, neighbors, and employers, offering a ‘bullet-proof’ explanation concerning his innocence in repeated failures at job and in family relations, despite his proclamation of ‘well-developed skill in judging of characters’, displaying an awkward inter-personal approach, and guarded and opinionated attitude, could seem even more like a fish out of water when it comes to the DSM-5 ‘Alternative Model’, as compared to current diagnostic manuals. Referring to ICD-11, a ‘personality disorder’ diagnosis perhaps might be established with high loadings on e.g. ‘negative affectivity’ respectively ‘dissociality’.

114 By way of example, as mentioned under ‘Clinical description’ the traits ‘mistrust/suspiciousness’, ‘antagonism/aggressiveness’, ‘introversion/excessive autonomy’, ‘hypersensitivity’, ‘hyper-vigilance’, and ‘rigidity’ have been proposed as an alternative to the
with affective disorders, chronic paranoid psychoses, and the schizophrenia spectrum, as well as about course and how to manage the disorder (cf. Triebwasser, Chemerinski, Roussos, & Siever, 2012). With this in mind, it is acknowledged that, as is the case for the patient, family members, friends, colleagues, psychologists, and psychiatrists, approaching paranoid personality disorder from a scientific angle is not easy, either.
6. Dansk resume


I overensstemmelse med de få eksisterende tilsvarende undersøgelser, kunne et forholdsvis robust sample på 15 cases indkredses, når man systematisk screenede ~ 10.000 psykiatriske første-gangs hospitalsindlæggelser. Journal-analyser blev udført på disse, tillige med på to

En gennemgang af Robins og Guze’s fem faser med integration af forfatterens undersøgelsesresultater og øvrig forskningslitteratur viste at:

• Hvad angår den *kliniske beskrivelse* af PPD, eksisterer der en betydelig sammenhæng og konsensus om hvilke manifestationer indgår og hvorledes de indgår i den prototypiske beskrivelse af PPD (‘hvad PPD er’). Prototyper har desforuden vist sig, snarere end at afspejle et ‘diagnostisk modefænomen’, at være overlevelsesdygtig over tid endskønt prioritering og udformning af kriterier muligvis kunne profitere af at genovervejes. Socio-demografiske undersøgelser blandt kliniske patientpopulationer med PPD synes endvidere overvejende enige med generel samstemmighed (inkl. forfatterens studier) ang. køn og alder for kliniske cases lige såvel som mht. betydningen af PPD i arbejdslivet og traumers mulige rolle i udviklingen af PPD.
• Hvad angår ’*laboratorieundersøgelser’*, har neurobiologisk forskning peget på sammenhænge mellem væsentlige kliniske karakteristika ved PPD og manifestationer i bestemte områder i
hjernen. Der er endvidere udviklet psykometriske instrumenter som særligt vedrører PPD, selv om der, som det også er tilfældet ved mange andre psykiske lidelser, opstår vanskeligheder med hensyn til at tilvejebringe et simpelt middel til ‘lakmusprøve’ af diagnosen. Mere generelle psykometriske værktyger synes dertil at påpege karakteristiske responses ved PPD.

- Som med andre personlighedsforstyrrelser, er samtidigt forekommende anden psykisk lidelse af og til tilstede (navnlig andre personlighedsforstyrrelser, angst-, PTSD-, depressive-, paranoidt psykotiske-, og misbrugs lidelser), lige som differentiering fra andre lidelser nogle gange kan give udfordringer. De nuværende diagnostiske kriterier giver imidlertid vigtig vejledning i forhold til den enkelte case. Organisk hjernepåvirkning hhv. formelle tankeforstyrrelser og hallucinationer m.v. antyder f.eks. sekundær eller skizofreniform sindslidelse snarere end PPD.

- Med hensyn til follow-up undersøgelser påpeger den gennemgåede forskning samstemmende, at PPD er forholdsvis stabil. Dertil synes PPD at være kendetegnet ved en række særlige reaktionsmønstre på involvering fra omgivelserne, herunder behandlingsinterventioner.

7. Summary

It is probably not far from being a rather common notion in the public that some people habitually display a particularly ‘paranoid’ approach to the surroundings, without accompanying signs of insanity (e.g. hallucinations or advanced ideas of persecution). The notion probably will refer to various amounts of hypersensitivity, suspiciousness, quarrelsomeness, and jealousy. Similarly, in the mental health literature, such symptoms have been described and grouped into an entity almost ever since the inception of clinical practice. Very early, this class of personality extremes (soon designated as paranoid personality disorder, PPD) were acknowledged in the diagnostic classifications. The scientific rationality hereof, however, is not given. Common conceptions and diagnostic classifications could be more or less wrong. For example, symptoms believed to belong to PPD might be better interpreted in the context of other illness. Or, to be more concrete, what is believed to be PPD could imaginably be better described in terms of a variant of e.g. borderline personality disorder or a ‘mild’ schizophrenia. This is the focus of the present dissertation which aims to investigate whether PPD should be considered a valid diagnostic entity applying traditional psychiatric diagnosis validation criteria. A systematic validation of PPD is performed in which the author’s own empirical investigations are placed in the context of the state-of-the-art literature. The evaluation quite rigidly follows the phases set forth by Robins and Guze in their seminal paper from 1970 about "Establishment of diagnostic validity in psychiatric illness" (Robins and Guze, 1970). Phases include a) clinical description, b) laboratory studies, c) delimitation from other disorders, d) follow up studies, and e) family studies. Phases are gone over through study findings from an investigation carried out by the author in a general psychiatric hospital and reviewing of other research. As it has repeatedly been observed that recruiting patients with pronounced paranoid symptomatology for research (or, for that sake, anything confronting their symptoms) can be very difficult (almost ‘the art of the possible’), the investigation was carried out as a retrospective case-series study in a clinical sample. The sample consisted of patients first-admitted to a Danish general psychiatric hospital between 1975 and 2000 with a) an original paranoid (and/or sensitive type) personality disorder, b) no primary organic or schizophreniform disorder, and c) at least three denominated traits in keeping with ICD-10 criteria for paranoid personality disorder. Patients were followed up until ‘death or December 31st 2003’. In line with the few existing studies, a reasonably robust sample of 15 cases could be found when systematically screening ~10,000 psychiatric hospital
first-admissions. Case-studies were performed on this sample in addition to two cases with suspected organic respectively schizophreniform disorder. Specifically the author’s studies revealed a majority of patients being male with a mean age at first psychiatric admission of 44 years. Patient educational profiles mostly mirrored that of the general population and patients equally lived in towns and rural areas. At last psychiatric contact, ten male patients were married though eight patients had been given a disability pension. With respect to ICD-10 research criteria, ‘excessive sensitivity’ and ‘self-reference’ were most consistently present. Conversely, ‘suspiciousness’ and ‘jealousy’ were only recorded in half of the individuals. Seven individuals had episodes of delusional psychosis and four others during periods of time were suspected of delusion development. Occurrence of delusions was associated with a prolonged psychiatric course. All individuals had positive depression ratings. During psychiatric admissions, three patients improved markedly, eight showed only minor changes, and four worsened. In total, seven patients had been administered any antipsychotic medication. The median duration of treatment was 15 weeks (range 4 days–328 weeks). No major adverse effects were recorded. Among patients with six-week observations available, four had received antipsychotics; they appeared to improve considerably compared with six patients who had not received antipsychotics. Furthermore, the two single-case studies pointed to the challenges associated with classifying some largely suspicious and distrustful eccentrics and the necessity to consider the possibility of an underlying substance abuse and organic brain injury in patients presenting with signs of PPD.

When going through the five phases proposed by Robins and Guze while integrating the author’s study findings with state-of-the-art research it was noted that:

- **Regarding the clinical description of PPD**, a substantial coherence and consensus exist about the clinical prototypical description of PPD (‘what is PPD’). Likewise, rather than reflecting a diagnostic fashion phenomenon, the content of the prototype has proven to survive through the eras of mental health science though the selection and weighing of diagnostic criteria perhaps might merit reconsideration and refinement. Besides, socio-demographical investigations among patients with PPD mostly seem to agree (concurrent findings including the author’s study results about typical gender and age of clinical cases as well as about work-life characteristics and trauma as a possible precipitating factor).

- **As concerns laboratory studies**, research has suggested associations between some central characteristics of the disorder and findings in particular regions of the brain. Psychological
instruments also have been developed which particularly address PPD though, as is the case with many other mental disorders, difficulties arise when it comes to providing a means of ‘litmus test’ of the diagnosis. General psychometric instruments furthermore suggest response patterns characteristic of PPD.

- As is often the case with personality disorders, co-occurring mental disorder is sometimes present (concurrent findings regarding other personality disorders, anxiety-, PTSD-, depressive-, delusional-, and substance abuse disorders) and likewise differentiation from other disorders sometimes causes challenges. Current diagnostic criteria, however, provide important guidance, which also prove crucial when applying to the individual case (e.g. thought disorder and hallucinations suggest schizophreniform illness rather than PPD).
- Regarding Follow-up studies, all the literature reviewed suggests PPD to be relatively stable and furthermore suggest a number of distinguishing reaction patterns in PPD to involvement from the surroundings respectively treatment interventions.
- Family studies largely have pointed to an element of heritability of PPD itself as well as a genetic link to delusional disorders, and presumably schizophrenia and mood disorders.

So far, PPD as a psychiatric diagnosis seem to perform reasonably according to Robins and Guze validation criteria. The dissertation further illuminates some core issues in establishing diagnostic validity and more specific problems with studying paranoid disorders, including the inadequacies of existing research and, not least, the limitations of the author’s studies. It is concluded that the research literature seems to suggest PPD as a ‘typology’ be meaningful but even if this typology looks reasonable, current constructs are not undisputable. As with personality disorders in general, there is a continuous need for research both on PPD’s diagnostic validity and the clinical usefulness of (e.g.) dimensional alternatives, possible psychological and biological mechanisms lying behind it, the relationship with mood disorders, paranoid psychoses, and the schizophrenia spectrum, as well as about course and how to manage it. PPD is not without impact for individuals themselves and their surroundings. It causes widespread relationship problems involving the family, workplace and others as well as, e.g., increased psychiatric comorbidity. Additionally it tends to pose special treatment difficulties although patients may benefit from targeted management. Hence, both from a research perspective and in the clinics, there is good reason to give it some attention.
8. Literature


Descartes, R. (1637). Discourse on the Method [Discours de la méthode pour bien conduire sa raison, et chercher la vérité dans les sciences].


Karterud, S., Wilberg, T., & Urnes, Ø. (2010). *Personlighedpsykiatri*. Oslo: Gyldendal Norsk Forlag AS.


Statistics Denmark database (entry: www.dst.dk).


<table>
<thead>
<tr>
<th>Paranoid Personality Disorder - Data Schedule</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>No</strong> (A)</td>
</tr>
<tr>
<td>Birth month (Ba) Birth year (Bb) (Ca) Male (Cb) Female</td>
</tr>
<tr>
<td><strong>Psychopathology</strong></td>
</tr>
<tr>
<td>D The personality disorder diagnosis:</td>
</tr>
<tr>
<td>[ ] D(a) Paranoid Personality Disorder</td>
</tr>
<tr>
<td>[ ] D(b) Sensitive Neurotic Character</td>
</tr>
<tr>
<td>According to ICD-10 characteristics, cit. Danish translation: WHO ICD-10 - psykiske lideler og adfærdsmæssige forstyrrelser - Klassifikation og Diagnostiske Kriterier, 1. Udgave Munksgaard, Copenhagen, 1994:</td>
</tr>
<tr>
<td>Personality disorder characterized by excessive sensitivity to setbacks, unforgiveness of insults; suspiciousness and a tendency to distort experience by misconstruing the neutral or friendly actions of others as hostile or contemptuous; recurrent suspicions, without justification, regarding the sexual fidelity of the spouse or sexual partner, and a combative and tenacious sense of personal rights. There may be excessive self-importance, and there is often excessive self-reference.</td>
</tr>
<tr>
<td>[ ] D(c) Excessive sensitivity to setbacks and rebuffs</td>
</tr>
<tr>
<td>[ ] D(d) Tendency to bear grudges persistently, e.g. unforgiveness of insults, injuries or slights</td>
</tr>
<tr>
<td>[ ] D(e) Suspiciousness - and a pervasive tendency to distort experience by misconstruing the neutral or friendly actions of others as hostile or contemptuous</td>
</tr>
<tr>
<td>[ ] D(f) Combative and tenacious sense of personal rights out of keeping with the actual situation</td>
</tr>
<tr>
<td>[ ] D(g) Recurrent suspicions, without justification, regarding sexual fidelity of spouse or sexual partner</td>
</tr>
<tr>
<td>[ ] D(h) Persistent self-referential attitude, associated particularly with excessive self-importance</td>
</tr>
<tr>
<td>[ ] D(i) Preoccupation with unsubstantiated “conspirational” explanations of events around the subject or in the world at large</td>
</tr>
<tr>
<td>According to study criteria - at least 3 discriminated traits</td>
</tr>
<tr>
<td><strong>E Other mental disease data</strong></td>
</tr>
<tr>
<td>Diagnoses:</td>
</tr>
<tr>
<td>Neurosis type (Ea)</td>
</tr>
<tr>
<td>Psychosis type (Eb)</td>
</tr>
<tr>
<td>Affective disorders:</td>
</tr>
<tr>
<td>Depression (Ed)</td>
</tr>
<tr>
<td>Mania (Ee)</td>
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<tr>
<td>Other diagnoses:</td>
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<tr>
<td>Delusion associated:</td>
</tr>
<tr>
<td>Periods - according to medical chart remarks</td>
</tr>
<tr>
<td>Expectation, if delusion is suspected of being delusional formation (Ef)</td>
</tr>
<tr>
<td>Periods of frank delusion formation according to medical chart remarks (Eg)</td>
</tr>
<tr>
<td>Delusional theme: Persecution (Eh) Paranoia (El) Somatic (Ei) Others (Ek)</td>
</tr>
<tr>
<td>General practitioner referral diagnosis (Ek)</td>
</tr>
<tr>
<td><strong>Demographics and course</strong></td>
</tr>
<tr>
<td>F Age at first psychiatric contact (Fa)</td>
</tr>
<tr>
<td>Total duration of hospitalization (Fd)</td>
</tr>
<tr>
<td>Total number of hospitalizations (Fe)</td>
</tr>
<tr>
<td>Number of psychiatric days (Ff)</td>
</tr>
<tr>
<td>Committed to psychiatric hospital (Fg)</td>
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<tr>
<td>Spell (months) (Fh)</td>
</tr>
<tr>
<td>Number of outpatient sessions (Fi)</td>
</tr>
<tr>
<td>Psychiatric specialist practice treatment (Fj)</td>
</tr>
<tr>
<td>Treatment, psychologist (Fk)</td>
</tr>
<tr>
<td><strong>G Severity of illness</strong></td>
</tr>
<tr>
<td>Severity of illness at first admission (G)</td>
</tr>
<tr>
<td>(Considering your total clinical experience with this particular population, how mentally ill is the patient at this time?):</td>
</tr>
<tr>
<td>G(a) 3: (Ga) [not assessed], (Gb) [not at all], (Gc) [1 (borderline mentally ill)], (Gd) [2 (mildly ill)], (Ge) [3 (moderately ill)], (Gf) [4 (severely ill)], (Gg) [5 (among the most extremely ill)]</td>
</tr>
<tr>
<td><strong>H Treatment responses</strong></td>
</tr>
<tr>
<td>If 6-week observation period information is available:</td>
</tr>
<tr>
<td>First neuroleptic prescribed and continued for 6 weeks (Ha)</td>
</tr>
<tr>
<td>6-week observation period without neuroleptic (Hb)</td>
</tr>
<tr>
<td>6-week “efficacy” index <strong>X</strong> using the following categories of therapeutic effect:</td>
</tr>
<tr>
<td>Marked (most improvement, complete or nearly complete remission of all symptoms), moderate (decided improvement, partial remission of symptoms), minimal (slight improvement which does not alter status of care of patient), and unchanged or worse</td>
</tr>
</tbody>
</table>
| 0: Not assessed (Hc) 1: Marked (Hd) 2: Moderate (He) 3: Minimal (Hf) 4: Unchanged or worse (Hg)
Additional medication information:
Other neuroleptics (la)

Total neuroleptic info (incl. all neuroleptic treatments):
Side-effects: (R(V)hone, Does not significantly interfere with patient's functioning (l6), Significant interferes with patient's functioning (l6), Overdose therapeutic effect (la), Exit dose (l6), Anticolinergic use (la))
Side-effects = continued (la) (EPS-related), (l) (autonomic), (l) (other)
Admissions during neuroleptic treatment (l6)
Known Duration of neuroleptic treatment (days) (l6)
Reasons for termination (l6)
Antidepressant (la)
Tranquilizer (la)
Mood stabilizer (la)

Psychotherapeutic interventions (l6) Unspecified (la) Specified (la)
Comments (l6)

Outcome information: Dead before 1 January 2004 (la)
Age at death (l6)
Total follow-up until death or 1 January 2004 (la)
Follow-up until last contact (la)
CGI-improvement at last psychiatric contact:
(la) (Not assessed), (la) (very much improved), (la) (much improved), (la) (minimally improved)
(la) (no change), (la) (minimally worse), (la) (much worse), (la) (very much worse)
Other comments on development (la)

Marital and socioeconomic information at last psychiatric contact:
Age at last psychiatric contact (l6)
Single (l6), Married (l6), Separated (l6), Widowed (l6), Divorced (l6), Unmarried partnership (l6)
Children (l6) Other info (adoption, etc)
Socioeconomic class: (l6) Student, (l6) Executive, Manager, Academic, (l6) Professional, Management, (l6) Middle management, further education, (l6) Other white collar worker, (l6) Blue collar worker, (l6) Unemployed
Highest level of education:
Patient residence: within/out of town (more than 600 inhabitants) within, not within (l6)
Born in Denmark: yes (l6) no (l6)

Family history of mental illness:
First degree relatives
Schizophreniform illness (la), Affective disorder (la), Anxiety disorder (la), Other (la)
Second degree relatives
Schizophreniform illness (la), Affective disorder (la), Anxiety disorder (la), Other (la)

Risk variable information
Childhood disfigurement (la)
Other risk information (la)

Other information (la)
Additional documented traits (la)
Paranoid Personality Disorder and Sociodemography: a 25-year Study of First Admissions to a Danish General Psychiatric Hospital

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Paranoid personality disorder is predominantly characterized by suspiciousness, self-reference, and exquisite sensitivity. Scarcere search exists on the sociodemographic characteristics of patients with a paranoid personality disorder. A chart review was conducted on patients first admitted to a Danish general psychiatric hospital between 1975 and 2000 with a) an original paranoid (and/or sensitive type) personality disorder, b) no primary organic or schizophreniform disorder, and c) at least three denominated traits in keeping with ICD-10 criteria for paranoid personality disorder. Among 10,400 first admitted patients, 15 patients fulfilled the criteria set forth. Most patients were first admitted in the initial third of the period. The male/female ratio was 11/4 and the mean age at first psychiatric admission was 44 years. With regard to education, patient profiles mostly mirrored that of the general population and patients equally lived in towns and rural areas. At last psychiatric contact, 10 male patients were married. However, 8 patients had been given a disability pension. In conclusion, the findings mostly agree with previous clinical research. Still, additional studies are needed to elucidate the apparently low and declining occurrence in general psychiatric hospital, the possible impact of gender, and the influence on capacity for work.

Keywords: paranoid personality disorder, epidemiology, educational status, employment
Introduction

Paranoid personality disorder is a constitutional syndrome typified by a pervasive pattern of certain traits, particularly suspiciousness, self-reference, and exquisite sensitivity (Birkeland, 2003). The disorder is included in the ICD-10 as well as the DSM-IV-TR classifications (WHO, 1994; APA, 2000); previously the diagnostic agreement and dimensional correlation have been demonstrated to be good suggesting rather similar trait-concept definitions (Ottoson et al., 2002). Nonetheless, the empirical literature on paranoid personality disorder, including its sociodemographic profile, is surprisingly limited and mostly based upon non-clinical samples. One major explanation is that patients with paranoid patterns of thoughts and behavior are extraordinarily disposed to seek psychiatric help (Thompson-Pope & Turkat, 1993).

Within the limited existing literature on the sociodemography of paranoid personality disorder, the prevalence and gender distributions have attracted most attention. Though, there is disagreement among investigations; some community-based studies reveal prevalences ranging from 2.4-4.4% (Torgersen, Kringlen & Cramer, 2001; Grant et al., 2004) whereas others point towards a much smaller prevalence (e.g. Samuels et al., 1994). Although DSM-IV-TR (APA, 2000) puts forward an even higher prevalence in psychiatric hospitals, previous clinical research hints towards a rather small prevalence among psychiatric hospital patients (e.g. Fulton & Winokur, 1993).

In the study by Grant et al. (2004), paranoid personality disorder was most common among women. In contrast, clinical investigations have suggested a male preponderance (Fulton & Winokur, 1993; Kass, Spitzer & Williams, 1983). Again in discordance with clinical research findings, the abovementioned community-based studies demonstrated paranoid personality disorder subjects characteristically to be unmarried (Torgersen et al., 2001; Grant et al., 2004). Besides these discrepancies, with respect to other sociodemographic features of paranoid personality disorder, our knowledge is even more indistinct.

The objective of this study was to examine the sociodemographic characteristics of patients first admitted to a Danish general psychiatric hospital with a paranoid personality disorder.

Method

Prior to the commencement of the study, approval was granted by the Danish Data Protection Agency. Also, the Danish National Board of Health has been notified.

Svenboerg Hospital is located on the Island of Fyn in the central part of Denmark. The catchment area of the (adult) psychiatric unit of the hospital com-
prises 120,000 inhabitants including 27,500 in the town of Svendborg (Statistics Denmark, 2000).

This is a chart review study: The study sample consisted of patients first admitted to the psychiatric unit for inpatient or outpatient treatment between January 1st 1975 and December 31st 1999 (the inclusion period) who had a paranoid personality disorder (see below). The records of patients were followed up until “death or December 31st 2003” as the non-electronic records archives have been updated up to this date.

The entire psychiatric records archives were screened and patients included as follows:

- The decision on whether to be further considered was based upon the discharge summary statement of a “Paranoid personality disorder” and/or “Sensitive character” diagnosis. The latter category was included because “exquisite sensitivity” has been considered a paranoid personality hallmark ever since the first “Diagnostic and statistical manual of mental disorders” (APA, 1952).
- Patients were excluded if they had a primary organic disorder, chronic alcohol- or drug abuse. Also, patients with schizophreniform development according to ICD-10 F20 (WHO, 1994) or prominent signs of ambivalence, formal thought disorder, autism, or affect modulation deficits within 3 months of the first admission were left out.
- In order to conform to ICD-10 research criteria for paranoid personality disorder (WHO, 1994), at least three contextually based and literally denominated traits had to be present. Thereby accepting sub-threshold cases, the original demand for 4 criteria was mitigated so as to not lose information.

The records of included patients were reviewed and data schedules were filled in concerning sociodemographic, psychopathological, and course characteristics.

Data were analyzed using binomial distribution and multinomial distribution simulation. A probability level of 0.05 was regarded as statistically significant.

**Results**

During a 4 month period, roughly 23,500 case records were screened. Out of those, approximately 10,400 records concerned patients first admitted during the inclusion period; fifteen patients fulfilled the study criteria on a paranoid personality disorder:

- Among 31 patients who had an original “Paranoid personality disorder” diagnosis, 10 patients were included; twenty-one patients were left out comprising 7 patients who suffered from primary alcoholism, 4 patients who were suspected
of organic mental disorder, 3 patients who had a primary schizophreniform disorder, and 7 patients for whom too little information on paranoid personality disorder traits was available to confirm the diagnosis. Many more patients were originally diagnosed as “Sensitive character” though among 560 such patients only 5 patients fulfilled the inclusion criteria and were included in the sample.

The percentage of paranoid personality disorder patients among first admissions might be calculated as 0.14%. Twelve patients had been originally diagnosed during the first third, 1 patient in the middle third, and 2 patients in the last third of the inclusion period (p<0.01, multinomial distribution simulation). The mean follow-up time from first psychiatric admission until last psychiatric contact was 7 years and 7 months and the mean follow-up time till “death or December 31st 2003” was 22 years. Gender and age at first admission are shown in table 1.

Table 1 Gender and ages

<table>
<thead>
<tr>
<th>Paranoid personality disorder</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of patients</td>
</tr>
<tr>
<td>Gender (female/male)</td>
</tr>
<tr>
<td>Mean age at first psychiatric admission</td>
</tr>
</tbody>
</table>

| 15 |
| 4/11* |
| 44 years (range: 25-62 years) |

* p<0.12, Binomial distribution, two-tailed

Marital status at last psychiatric contact and population statistics are compared in table 2. Among the female patients, two were comparatively young and two were of relatively high age (one was widowed).

Table 2 Marital status at last psychiatric contact*

<table>
<thead>
<tr>
<th>Gender</th>
<th>Married**</th>
<th>Others***</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male (p= 0.3****)</td>
<td>10 (72%)</td>
<td>1 (28%)</td>
</tr>
<tr>
<td>Female (p=0.01****)</td>
<td>0 (71%)</td>
<td>4 (29%)</td>
</tr>
</tbody>
</table>

* Proportions in brackets are expected percentages of subjects aged 50-59 in Svendborg municipality (Statistics Denmark, 2000)
** Married
*** Others: unmarried partnership, divorced, single and widowed
**** Multinomial distribution simulation

Table 3 illustrates the distribution of educational levels at last psychiatric contact compared to the Svendborg municipality population (Statistics Denmark, 2000).

In 2000, the proportion of early retirement (disability) pensioners was roughly one seventh of those in Svendborg municipality aged 50-59 (Statistics Denmark, 2000). A significant proportion of the sample (6/15, p<0.01, binomial distribution, two-tailed) had been given an early retirement (disability) pension at last psychiatric contact. Eight out of the 15 patients were living in a town (sized > 500 inhabitants) and all patients were Danish natives.
Table 3 Highest level of education in sample and the Svendborg municipality population (2000, age 30-59)

<table>
<thead>
<tr>
<th>Level of last psychiatric contact</th>
<th>Sample</th>
<th>Svendborg</th>
</tr>
</thead>
<tbody>
<tr>
<td>Basic school (8.-10 class), and general upper-secondary education</td>
<td>(7) 47%</td>
<td>32%</td>
</tr>
<tr>
<td>Vocational education and training</td>
<td>(3) 20%</td>
<td>42%</td>
</tr>
<tr>
<td>Higher education (incl. bachelor)</td>
<td>(5) 33%</td>
<td>25%</td>
</tr>
<tr>
<td>Not stated</td>
<td>(0) -</td>
<td>1%</td>
</tr>
</tbody>
</table>

p < 0.03. Multinomial distribution simulation

Admission characteristics

The distribution of patients according to admission variables is seen in Table 4.

With regard to the number of admissions, it should be noted that two-thirds of patients had one or no inpatient admissions. Apart from that the series proves to be quite heterogeneous.

Table 4 Admission characteristics

<table>
<thead>
<tr>
<th>Paranoid Personality Disorder</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Patients admitted for inpatient treatment</td>
<td>13/15</td>
</tr>
<tr>
<td>Patient total number of inpatient admissions</td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>1</td>
<td>8</td>
</tr>
<tr>
<td>2-6</td>
<td>4</td>
</tr>
<tr>
<td>7</td>
<td>1</td>
</tr>
<tr>
<td>Total length of inpatient admissions</td>
<td></td>
</tr>
<tr>
<td>- 6 days</td>
<td>6</td>
</tr>
<tr>
<td>7-21 days</td>
<td>4</td>
</tr>
<tr>
<td>More than 21 days</td>
<td>5</td>
</tr>
<tr>
<td>Range (days)</td>
<td>0-300</td>
</tr>
<tr>
<td>Mean total length of inpatient admissions (days)</td>
<td>48</td>
</tr>
<tr>
<td>Median length of inpatient admissions (days)</td>
<td>14</td>
</tr>
<tr>
<td>Patient total number of outpatient admission sessions</td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>3</td>
</tr>
<tr>
<td>1-5</td>
<td>5</td>
</tr>
<tr>
<td>6-20</td>
<td>2</td>
</tr>
<tr>
<td>20-</td>
<td>5</td>
</tr>
</tbody>
</table>
Other patient information

Five patients had had treatment in a private psychiatric specialist practice. Six patients had psychiatric specialist statements drawn up for occupational reasons. In contrast, at the last time of psychiatric contact no patient had had any psychological treatment in the private sector. One female patient had been confined in accordance with the Danish Act on Psychiatric Coercive Measures. Two male patients had been detained by the police one supposedly because of offence against property and another because of “domestic disturbances”. Five patients had had other (non-criminal) disputes with the authorities.

With regard to histories of mental disorders among first-degree relatives, there were 3 relatives with “depression”, 2 relatives with “anxiety” disorder, 2 relatives with “alcohol abuse”, 2 relatives with “resembling” personality, and one relative with “schizophrenia”. There were 2 second-degree relatives designated as “odd”, 2 with “depression”, 1 with a “schizophreniform borderline state”, and another relative with multiple unspecified psychiatric admissions who finally committed suicide.

The birthdates of patients manifested no apparent seasonal grouping: four patients were born during the fall (September, October, and November); five patients were born during the winter (December, January, and February); three patients were born during the spring (March, April, and May); and three patients were born during the summer months (June, July, and August).

“Childhood disharmony” (parental “aloofness”, “exceedingly strict”, or “moralistic” upbringings) was noted in the case of 7 patients. Two out of 4 female patients reported that they had been victims of sexual abuse during childhood. The mother of one patient had died in childbirth, one patient had grown up in an orphanage, and the parents of one patient were divorced. One patient suffered from impaired hearing. There was no information on any primary cannabis or psychotropic drug experimentation.

Discussion

In brief, the study suggests that patients with a documented paranoid personality disorder are rare among first admissions to general psychiatric hospitals and the occurrence has possibly decreased. When exceptionally established, the patient with a paranoid personality disorder was most often a male admitted to psychiatric hospital in his middle age. A significant proportion of patients had been given early retirement pension at last follow-up. In all other ways the educational profiles resembled that of the general population and patients equally lived in towns and rural areas.

The study must be viewed as a very limited piece of research on the socio-
demographic characteristics of paranoid personality disorder. Paranoid subjects are disinclined to seek help and if they do they may present with an atypical picture. Additionally, paranoid personality disordered patients actively resist being participants in any psychological research (Thompson-Pope & Turkat, 1993). Consequently, clinical studies of paranoid personality disorder are by their very nature retrospective and sample sizes are unsatisfactorily small. Indeed there are inevitably limitations in this kind of research and generalising from research carried out in one psychiatric department can only be tentative. Moreover, the approach implies the possibility of, e.g., biased family histories and data incompleteness.

The present study represents one way of facing the challenges of retrospectively establishing a paranoid personality disorder sample while maintaining reproducibility. The case record information on personality traits had been originally gathered in “naturalistic settings”. Subsequently, in order to minimize biased diagnoses and the pitfalls of excessive interpretational processes, the aim of the approach was to accept only denominated ICD-10 traits. Certainly, this may cause cases to be erroneously rejected. Therefore sub-threshold patients (only three denominated traits) were included. An alternative way to establish the paranoid personality diagnosis would imply, e.g., expert panel consensus diagnoses which would actually allow for interpretational activities to a substantially greater extent.

Discharge diagnoses and case registers have been formerly used as screening tools in a retrospective study concerning paranoid personality disorder (Fulton & Winokur, 1993). McConville & Walker (2000) later demonstrated that case register diagnoses are reliable enough to act as screening instruments for personality disorders following which chart reviews can confirm or refute the diagnoses. Correspondingly, in the present investigation two-thirds of those with an original case record of “Paranoid personality disorder” diagnosis had an organic mental disorder, a schizophreniform disorder, or insufficient information on recognizable paranoid personality disorder traits. The findings agree with the results of the abovementioned study by Fulton & Winokur (1993): within a computerized database of 18,016 charts from 1953-1986, 351 inpatients had a discharge diagnosis including the term “schizoid personality” or “paranoid personality”. Out of those, only 17 paranoid personality disorder patients could be found who had “unequivocal evidence in the chart of a lifelong pattern of suspicion and/or jealousy of others in a broad context”; cases with hallucinations, delusions, organic brain syndrome, inappropriate affect or disorganized speech, and of less than 16 of age had been primarily excluded. Similarly, Dahl (1986) identified no more than one paranoid personality disorder patient who fulfilled DSM-III criteria among 231 patients consecutively admitted to two psychiatric hospitals in Oslo during one year. Although in agreement with Fulton & Winokur (1993)
and Dahl (1986), the present findings appear remarkable: according to DSM-IV-TR (APA, 2000), the prevalence of paranoid personality disorder is 10-30% among psychiatric inpatients.

Likewise, the reason why most patients were diagnosed in the first third of the inclusion period is not clear. By way of comparison, a parallel decline has been demonstrated with regard to patients first admitted to Danish psychiatric hospitals with schizophrenia (Munk-Jørgensen & Mortensen, 1993). Paranoid personality disorder may have become even rarer in general psychiatric hospitals. Yet the findings may also reflect, e.g., a trend towards a wider use of other personality disorder diagnoses.

In agreement with Fulton & Winokur (1993) and Kass et al. (1983), the present study hints at the possibility of a male preponderance among patients with paranoid personality disorder. Again in agreement with Fulton & Winokur (1993), 10 out of 11 male patients were married at last psychiatric contact. Patients lived equally often in the country and in urban areas. By comparison, the community-based studies by Torgersen et al. (2001) and Grant et al. (2004) demonstrated that subjects were often single and living within cities. Likewise, the findings of the present study do not hint at any impact of immigration or refugee status as proposed by Grant et al. (2004).

The data regarding patients’ level of education might be viewed in the context of the conclusions made by Torgersen et al. (2001) and Grant et al. (2004) that paranoid personality disorder subjects typically are of a lower socioeconomic class who only have a high-school education or less. In the present study a majority had obtained early retirement (disability) pension at last psychiatric contact. Thus, paranoid personality disorder may have a substantial effect on working life. To the author’s knowledge, the employment characteristics of patients with a paranoid personality disorder have not been investigated previously. Yet, in a Norwegian study concerning severely mentally ill outpatients in a community psychiatric centre, 63% received a disability pension; though 65% had a schizophrenia diagnosis and only 18% (n=32) had an (unspecified) personality disorder diagnosis (Faerden, 2001).

Kendler & Gruenberg (1982) formerly demonstrated paranoid personality disorder patients to be more common among biological relatives of schizophrenia spectrum adoptees than in those of control adoptees. Subsequently, a heritability of paranoid personality disorder per se has been indicated in twin studies (Kendler et al., 2007). In this connection it might be mentioned that among the paranoid personality disorder first-degree relatives, a broad spectrum of mood and anxiety disorders, “resembling” personalities, alcohol abusers, and one schizophrenia patient came up. By way of comparison, based upon chart information on relatives’ mental disorders, the investigation by Fulton & Winokur (1993) pointed
towards “paranoid traits” among paranoid personality disorder patients’ relatives whereas no schizophrrenia or schizoid traits were found at all.

The role of childhood adversity in mental illnesses has attracted increased attention in the research literature and a possible link has been previously suggested between paranoid personality disorder and traumatic experiences during childhood (e.g. Bierer et al., 2003). In this regard, one may be tempted to point out the frequent statements of childhood disharmonies in the present sample. Unfortunately, however, substantial limitations arise from the lack of a control group.

**Conclusion**

Any research effort concerning paranoid disorders will face the above indicated Gordian knot. Due to the almost insurmountable challenges concerning clinical patient recruitment, investigations of paranoid personality disorder are particularly difficult to accomplish. As a consequence, most studies will be community-based and involve non-clinical subjects. Even though retrospective studies have inherent deficiencies, they may profit from the use of routinely collected clinical information and, if systematically carried out, provide new knowledge on the characteristics of patients with a clinical paranoid personality disorder. Taken together, the present study findings mostly agree with the limited existing clinical investigations. Either way, supplementary studies are warranted to further clarify the sociodemographic facets associated with paranoid personality disorder including the apparently low and decreasing occurrence in psychiatric hospital, the possible impact of gender, as well as the influence on capacity for work.

**Acknowledgements**

The head of the Department of Psychiatry of Svendborg Hospital, Gunnar Jessen MD, placed the records archives of the institution at my disposal. For this I wish to express my thanks.
REFERENCES
Delusional Psychosis in Individuals Diagnosed with Paranoid Personality Disorder: A Qualitative Study

Søren Fryd Birkeland

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Abstract There is scant knowledge on the presentation of paranoid personality disorder in clinical psychiatric settings. In this study, the charts of 15 consecutive patients diagnosed with paranoid personality disorder were retrospectively analyzed. Information was gathered concerning descriptive behavioral and psychopathological characteristics including occurrence of delusional psychosis. With respect to ICD-10 research criteria, ‘excessive sensitivity’ and ‘self-reference’ were most consistently present. Conversely, ‘suspiciousness’ and ‘jealousy’ were only recorded in half of the individuals. Seven individuals had episodes of delusional psychosis and four others were for periods of time suspected of delusion development. Occurrence of delusions was associated with a prolonged psychiatric course. All individuals had positive depression ratings. Implications for conceptualization of paranoid personality disorder are discussed.

Keywords Behavior · Delusions · Paranoid personality disorder · Psychopathology · Psychosis

Paranoid Personality Disorder (PPD) designates a specific pattern of psychosocial dysfunction typified by traits like exquisite sensitivity, suspiciousness, and jealousy (WHO 1994; APA 2000). Although the ICD-10 criteria for PPD differed from DSM-IV-TR, their trait-concept definitions have been shown to be rather similar (Ottoson et al. 2002). Research in PPD is greatly complicated by the fact that individuals with such characteristics are disinclined to seek help (Tyger et al. 2003) and, in particular, they are liable to resist participation in psychological research (Thompson-Pope and Turkut 1993). As a result, there are almost no clinical studies that focus explicitly on PPD (Skodol et al. 2011). Most of the limited available research on PPD has been carried out in community populations and investigations that include individuals hospitalized with clinically significant PPD are few. Concurrently, objections have been raised to the criteria for PPD and recently the diagnosis was removed from the
Diagnostic and Statistical Manual of Mental Disorders (APA 2013). Among the many objections that have been raised against PPD criteria, Parnas and colleagues (2005) put forward that ‘PPD is defined solely by distrust and suspiciousness, and the DSM-IV-TR criterion A simply lists some of the ways suspiciousness may be enacted; one may wonder why such paraphrasing is limited to seven items rather than, for example, two or twenty’. It could of course be reasoned that the proclivity for, e.g., bearing grudge (that was mentioned in both ICD-10 and DSM-IV-TR) indicates something more than suspiciousness. Generally, however, there is a lack of research data to inform any adjusted criteria for PPD. Moreover, the study of behavioral and psychopathological features associated with PPD entails the question if PPD really constitutes a distinct nosological entity or rather signifies, e.g., a mild variant of delusional disorder or schizophrenia (Magaro 1981). Genetic studies point towards a heritability of PPD itself as well as a link to delusional disorder, schizophrenia, and depressive illness (Kendler and Gruneberg 1982; Kendler et al. 1985, 1993, 2007; Reichborn-Kjennerud et al. 2009). Correspondingly, it could be hypothesized that PPD is sometimes complicated by full-blown delusional psychosis and that depression sometimes occur. Again, however, there is limited research available to support any role of delusional psychotic episodes and depressive symptoms in individuals with PPD.

In an attempt to address these issues this paper provides a predominantly qualitative analysis of the behavioral traits and psychopathology in a series of individuals admitted to hospital with PPD.

Method

Participants Medical records were reviewed of 15 consecutive patients who had been first-admitted to a Danish general psychiatric hospital with PPD during the years 1975–1999 (sample characteristics are shown in Table 1; please also see Birkeland 2011). Chart information was included up to end December 2003. All patients had an original ‘paranoid personality disorder’ and/or a ‘sensitive character neurosis’ diagnosis and were described in terms of no less than three explicitly denominated traits consistent with ICD-10 research criteria for PPD (WHO 1994); owing to the rigid claim for explicitly denominated traits, the clinical version’s demand for three traits (rather than

<table>
<thead>
<tr>
<th>Table 1 Sample characteristics</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Characteristic</strong></td>
</tr>
<tr>
<td>Gender</td>
</tr>
<tr>
<td>Mean age at diagnosis, years</td>
</tr>
<tr>
<td>Socioeconomic position</td>
</tr>
<tr>
<td>Executive manager/academic</td>
</tr>
<tr>
<td>Middle manager/teaching</td>
</tr>
<tr>
<td>Other white-collar worker</td>
</tr>
<tr>
<td>Skilled blue-collar worker</td>
</tr>
<tr>
<td>Semi-skilled or unskilled blue-collar worker</td>
</tr>
</tbody>
</table>

*Paranoid personality disorder and/or Sensitive character neurosis (see text)
*See about ‘socioeconomic position’, e.g., Ragulies et al. (2008)
the research criteria's demand for four) was applied. Individuals with an initial schizophreniaiform disorder, chronic alcohol abuse or organic mental disease, or too limited information on PPD traits to confirm the diagnosis were excluded. Resultantly, agreement for diagnosis of PPD was reflected in a Kappa coefficient of $\kappa=0.4$.

**Procedures** Discharge diagnoses of included individuals were registered. Additionally, individuals were rated on the basis of the whole clinical history and the Syndrome Check List (SCL) was used to classify symptoms (Wing et al. 1974). SCL covers most areas of psychopathology and was originally derived from the 140 symptoms (items) in the ninth version of the Present State Examination (PSE). Symptoms are organized into 38 syndromes and may be directly rated from case-notes on the basis of the entire course of illness (Wing et al. 1974). Symptom and syndrome profiles were further reduced to one of 8 'Catego' classes (A, D, M, N, O, P, R, or S). When a patient is assigned to one of these classes a tentative diagnosis can be made. That is, for instance, paranoid psychosis ('Catego class P+?') or uncertain paranoid psychosis ('Catego class P?'). Furthermore, the charts were screened with respect to descriptive personality characteristics and occurrence of full-blown delusional psychosis. A modified version of the Adjective Check List (ACL) was used to assess accompanying descriptive characteristics of the patients. The ACL was originally accredited to Gough & Heilbrun and in the past, rating of adjectives from the ACL was shown to provide a reliable basis for personality descriptions from historical information (Simonton 1986). The version used in this study was developed by Mednick et al. (1987) and Ekstrom and colleagues (2006) for use in schizophrenia spectrum research especially. It contains 106 adjectives which are classified into 12 categories (Intelligence, Concentration, Extroversion, Anxiety, Maturity, Friendliness, Mood, Self-consciousness, Sensitivity, Cooperation, Aggression, and Emotional Instability; Ekstrom et al. 2006). The screening comprised the entire chart information concerning the course of psychiatric treatment (i.e. assessments made during admission interviews and clinical psychiatric follow-up). Finally the length of time from first psychiatric admission until last psychiatric contact was noted. Variables were analyzed by the Mann-Whitney test. The level of significance was set at $P<0.05$ (non-directional).

Preceding the commencement of the study the Danish Data Protection Agency was informed. Also, the Danish National Board of Health has been notified.

**Results**

*Traits According to ICD-10 Research Criteria* Ten individuals had 3 literally denominated traits, four displayed 4 traits, and one displayed 6 traits. The distribution of traits in the series is shown in Table 2.

If allowed for interpretation of chart descriptions, one individual displayed 3 traits, nine displayed 4 traits, four displayed 5 traits, and one displayed all 7 traits. The interpretation concerned five individuals who had signs of gudge bearing, eight who had signs of combative behavior, and one who seemed to be severely concerned with conspiratorial theories.
Table 2  Denominated paranoid personality disorder traits (ICD-10)

<table>
<thead>
<tr>
<th>Trait</th>
<th>Paranoid personality disorder</th>
</tr>
</thead>
<tbody>
<tr>
<td>Excessive sensitivity</td>
<td>15 (4 F/11 M)</td>
</tr>
<tr>
<td>Selfreference</td>
<td>12 (3 F/9 M)</td>
</tr>
<tr>
<td>Suspiciousness/intrust</td>
<td>7 (3 F/4 M)</td>
</tr>
<tr>
<td>Jealousy</td>
<td>7 (0 F/7 M)</td>
</tr>
<tr>
<td>Combativeness</td>
<td>5 (2 F/3 M)</td>
</tr>
<tr>
<td>Bearing grudge</td>
<td>3 (1 F/2 M)</td>
</tr>
<tr>
<td>Conspiratorial explanations</td>
<td>3 (1 F/2 M)</td>
</tr>
</tbody>
</table>

| $F$ female | $M$ male |

Discharge Diagnoses  Accompanying discharge diagnoses had been widely registered: 'Depressive/Dysphoric Neurosis' (6); 'Perfectionistic Neurosis' (6); 'Paranoid Psychosis' (3); 'Hysteria' (3); 'Affect-Reaction' (3); 'Anxiety Neurosis' (2); and 'Depression' (2). 'Narcissistic', 'Erethic-', 'Evasive-', and 'Neurasthenic' neuroses and 'Pseudo-neurotic Borderline State' had all been registered once.

Syndrome Check List Measurements  All had positive ratings of 'Simple depression' (syndrome 6; e.g. symptoms '23: Depressed mood' or '121: Depression on examination'). Two individuals had symptom '9: Hypochondriasis' and 13 had syndrome '32: Social unease' ratings (i.e. symptoms '28: Social withdrawal' and '30: Lack of self-confidence'). Three individuals had displayed symptom '25: Suicidal plans or acts' (failed suicide attempt). According to SCL profiles, ten patients belonged to the Catego P ('paranoid psychosis'; nine belonged to 'P?' and one belonged to 'P+s+'). Two individuals belonged to the 'N+s' class ('neurotic depression') and another two belonged to the 'M+s' ('manic') class. The last individual could not be classified into one of the Catego classes A, D, M, N, O, P, R, or S.

Occurrence of Delusional Psychosis  As mentioned above, three individuals had an additional discharge summary diagnosis of 'paranoid psychosis'; all of these had episodes of delusions registered in their charts. When screened for development of delusions, 4 individuals had no such information, 4 were intermittently suspected of developing delusions even though the presence had not been fully clarified, and the remainder 7 undoubtedly displayed delusional psychosis for periods of time (2 with persecutory type, 2 with jealous type, 2 with unspecified delusions coloured by distant infatuations, 1 with mixed persecutory/jealousy). Generally, during the psychotic episodes, individuals appeared to display pronounced exaggerations of the pre-psychotic psychopathological patterns; contrarily, no hallucinations or other signs of psychosis were recorded in the charts and delusions apparently tended to remit in every case. The distribution and significance of delusions in the series are shown in Table 3.

Individuals with delusional episodes had a significantly prolonged psychiatric course (average duration of almost 13 years). In the case series, suspiciousness was only noted in the charts of those who had also had episodes of delusional psychosis. At end of follow-up (December 2003) two individuals who belonged to the group that had episodes of delusional psychosis had deceased (age at death 39 years respectively 66 years) and likewise, in the group that had no such episodes, two individuals had
Table 3: Episodes of delusional psychosis in paranoid personality disorder

<table>
<thead>
<tr>
<th></th>
<th>Delusional psychosis</th>
<th>No (8)</th>
<th>Yes (7)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>F/7 M</td>
<td></td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>Mean age at first psychiatric contact</td>
<td></td>
<td>47.5</td>
<td>39</td>
</tr>
<tr>
<td>Traits</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Excessive sensitivity</td>
<td></td>
<td>8</td>
<td>7</td>
</tr>
<tr>
<td>Bearing grudge</td>
<td></td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Suspiciousness</td>
<td></td>
<td>0</td>
<td>7</td>
</tr>
<tr>
<td>Combativeness</td>
<td></td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>Jealousy</td>
<td></td>
<td>5</td>
<td>2</td>
</tr>
<tr>
<td>Self-reference</td>
<td></td>
<td>7</td>
<td>5</td>
</tr>
<tr>
<td>Conspiratorial</td>
<td></td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>explanations</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Psychiatric course duration</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean, months</td>
<td></td>
<td>383</td>
<td>152</td>
</tr>
</tbody>
</table>

Episodes of delusional psychosis definitely present (see text)

Mann-Whitney non-directional: p=0.22

From first psychiatric admission until last psychiatric contact

Mann-Whitney non-directional: p<0.05

decesed (age at death 76 years respectively 62 years). The individual who had deceased aged 39 was remarkable in so far as the individual was known to have had later admissions to other psychiatric hospitals with signs of development into schizophrenia.

Adjective Check List Assessments In the chart descriptions, the most commonly denominated adjectives were: ‘Sensitivity’ in all individuals, followed by ‘Vulnerable’ (tender-minded, n=12), ‘Persevering’ (n=8), ‘Distrust’ (n=7), ‘Withdrawn’ (n=7), and ‘Worried’ (n=6). A number of adjectives which were not explicitly included in the modified ACL were remarkably often encountered among denominated behavioral characteristics: ‘Bitter’ (n=8), ‘Egocentric’ (n=7), ‘Introverted’ (n=7), and ‘Brooding’ (n=6). Generally, although there was no measure available, case-note information on individuals’ intellect indicated intelligence to be average or slightly above.

Discussion

In the present study, patients in psychiatric hospital with PPD were habitually described as sensitive and self-referent whilst they periodically might tend to exhibit delusional psychosis. Occurrence of delusional psychosis was associated with a prolonged psychiatric course. Furthermore, patients were often depicted as tender-minded, persevering, and intelligent and depressive symptoms episodically came up.

The findings call into mind some classical concepts of PPD. Thus, Adolf Meyer (1903) emphasized the traits of uneasiness, brooding, rumination, and sensiveness. According to Meyer, suspiciousness, self-reference, and megalomania were manifestations of an advanced development. Equally, the findings are consistent with Kretschmer’s concept of the ‘komplizierter, sehr intelligente und hochwertige’ sensitive and self-referent personality (Kretschmer 1966). The study limitations and findings are discussed below.
Strengths and Limitations of the Study

It comes naturally that generalization from a small single psychiatric hospital case series (dispersed across a 25-year period in the past) should be made with caution both with regard to present-day psychiatric departments and with regard to outside mental health care facilities. The sample size resulted in a statistical power of just <0.4 to detect a double up psychiatric course duration with a 0.05 level of statistical significance. Additionally, the study and its findings are subject to the common shortcomings associated with retrospective methods. Limitations potentially arise from, e.g., biased patient inclusion (selection) and information. As it is discussed below, these challenges have to some extent been met by the use of meticulous procedures.

The chart review methodology could imply that PPD be underdiagnosed because only those charts were reviewed that had an original ‘paranoid personality disorder’ or ‘sensitive character neurosis’ diagnosis. If these criteria had been omitted, a larger pool of potential patients that would have met PPD criteria, but were never diagnosed as such could be included. Anyhow including patients having no such personality disorder diagnoses would actually imply retrospectively diagnosing a PPD which originally had not been judged clinically significant. Such retrospective diagnoses could be considered rather questionable. According to DSM-IV, PPD is estimated to be found among 10-30 % of patients in psychiatric settings (APA 2000). Anyhow, previous research has suggested that the occurrence of PPD in psychiatric hospitals probably is rather small. In the past, Kass and colleagues (1983) found the proportion of PPD among psychiatric patients to be 1.7 % and in a succeeding retrospective chart study, the proportion of patients recognized with PPD was 4 per 1,000 (Koenigsberg et al. 1985). Subsequently, no more than one patient with PPD was found among 231 patients consecutively admitted to psychiatric hospital (Dahl 1986) and afterwards, by means of Danish psychiatric case registers, only 2.5 % of first-admitted patients were found to have a PPD (Mors and Sørensen 1994). One explanation for the low occurrence of PPD in hospitals may be the one proposed by Tyrer and colleagues (2003) that individuals with PPD are unlikely to seek treatment (see introduction).

There has been performed no reliability statistics for the SCL and ACL measures in this study yet they have been previously used in studies looking at schizophrenia spectrum disorders (Jørgensen et al. 1987; Mednick et al. 1987; Ekstrom et al. 2006). Both allow for assessment on the basis of a specifically defined number of characteristics. In the present study, in order to improve reliability and minimize biased interpretational activities, only explicitly denominated characteristics were included for the main analyses. In regard to validity, the retrospective approach in this study precludes further analyses yet in general it was ensured that chart notations were in keeping with contextual information. Hypothetically, it cannot be ruled out that data are, for some reason or another, inaccurate or incomplete (i.e., relevant information might not have been recorded in the original chart) yet it is taken for granted that medical records basically provide sound information on psychiatric patients’ psychopathological and behavioral features. Likewise, regarding identification of delusional psychosis, it could be objected that full-blown delusions can be sometimes difficult to verify and that a continuum exists between non-psychotic and psychotic experiences (Gladis et al. 1994). On the other hand, in the present study, clinical statements had been originally made without a research purpose. They had been made in day by day clinics in collaboration between qualified mental health care workers on the basis of their expertise in psychiatric assessment.
Comparisons with Existing Literature. It has been already mentioned that there is only limited clinical research available concerning PPD (Skodol et al. 2011). Anyhow, it appears that both DSM-IV-TR and many traditional introductions concerning PPD have particularly highlighted the proclivity among individuals with PPD for suspicious behavior. In this connection the present study adds some new nuances: individuals with PPD sometimes resort to an introverted and brooding attitude and may often be able to conceal their suspiciousness if any. What is more, overt suspicious behavior perhaps points towards a severe impairment of reality testing while, in first line, various other signs of a disordered personality may habitually predominate.

The significance of exquisite sensitivity and self-reference has been supported in the present case series though additional aspects deserve specific mention. Even if studies including control groups are warranted to draw further conclusions, the inclination to ‘persevering’ and ‘brooding’ in the case series may support the hypothesis that important cognitive weaknesses are present in individuals with PPD. By way of comparison, Salvatore and colleagues (2005) previously discussed the hypothesis that the PPD way of internal experience be characterized by relatively few, repetitive thought themes and emotions; thus, within the context of the individual’s ‘inner dialogues’, the relationship between the character identified as self and other (typically ‘hostile’ etc.) characters become very stereotyped always tending towards the same outcome. Likewise the findings seem to agree with some classical concepts of ‘ruminatiion’ in PPD (see Meyer 1903 and Kretschmer 1966).

According to ICD-10 research criteria, transient quasi-psychotic episodes intermittently can occur in schizotypal disorder (WHO 1994). Likewise, it has been previously stated that individuals with PPD have a ‘tendency to experience transient psychotic symptoms during episodes of extreme stress’ (Thompson-Pope and Turkat 1993) although there is a lack of empirical research on the occurrence of psychosis in PPD. The present study findings however suggest that transition occasionally occurs from the ‘paranoigenic extreme’ into a simple delusional psychosis and congruently, in the majority of individuals, SCL assessment hinted at a connection with the ‘paranoid psychosis’ class. What more, although delusions seemed to be only temporarily present, conversion into delusional psychosis was associated with prolonged psychiatric contacts with durations comparable to those formerly found in delusional disorder (Stephens et al. 2000). The finding of intermittent co-occurrence of PPD and full-blown delusional psychosis can be seen from the perspective of the previously mentioned hypothesis proposed by Magaro (1981) in terms of a paranoid spectrum of varying degrees of pathology, independent of the non-paranoid schizophrenias, that ranges from a so-called paranoid personality (with some PPD traits), PPD, simple delusional disorder, paranoia, acute paranoid disorder to paranoid schizophrenia. A recent study has supported the notion that paranoid ideation is continuously distributed in the general population with full-blown paranoid delusions being placed at the severe end of the continuum (Bebbington et al. 2013). However, in that study, subcategories of individuals were found within the continuum: a ‘quasi-normal’ class with infrequent endorsement of interpersonal sensitivity, mistrust and ideas of reference, and no ideas of persecution; two intermediate classes, characterised respectively by relatively high endorsement of items relating to mistrust and to ideas of reference; and a rare, severe, persecutory class with high endorsement of all symptoms. Moreover, when de Portugal et al. (2013) retrospectively considered the occurrence of premorbid personality disorder in outpatients with a
current Delusional Disorder (DD), PPD was found to be the most commonly encountered personality disorder followed by schizoid personality disorder. Thus, taken together, research findings indicate that there is overlap between PPD and delusional psychoses although some individuals may belong to only one of these diagnostic categories.

Besides, the SCL findings suggest a prominent role of depressive symptoms in PPD yet only some individuals had accompanying ‘Depressive/Dysphoric Neurosis’ or ‘Depression’ discharge diagnoses. In this regard it could be mentioned that Handest and Parnas (2005) previously identified depression as a remarkably frequent pre-admission symptom (and antidepressant medication as a most common treatment) in first-admitted patients with ICD-10 schizotypal disorder. As proposed by Handest and Parnas (2005), ‘clinicians (might) become quickly impressed by the affective complaints of their patients’. Then again, the present findings agree with Kretschmer’s concept of ‘Sensitive Beziehungswahn’ in which sense of reality was unstable and ‘reactive’ depressions frequently supervened (1966). Similarly a population-based interview study among young adult twins has hinted at a connection between liability factors for PPD and major depression (Reichborn-Kjennerud et al. 2009). Nevertheless, as mentioned in the introduction, a number of genetic studies also point towards heritability of PPD itself as well as toward a genetic link between PPD and delusional disorder and schizophrenia (Kendler and Gruenberg 1982; Kendler et al. 1985, 1993, 2007). The present study offers no clarification of why genetic studies point in various directions in regard to the connection between PPD on the one side and delusional disorder, schizophrenia, and depressive illness on the other, though collectively, the findings confirm that the relationship between PPD and other psychiatric illness is complex.

Concluding Comments Studies on the psychopathology of PPD face a number of hurdles. One major problem concerns the recruitment of appropriate probands. In this regard, retrospective studies may prove beneficial. Despite important limitations, they may benefit from the fact that data have been routinely collected in everyday clinics. The findings of this study add some tentative nuances to our conceptualization of the typical individual presenting with clinical signs of PPD: suspiciousness is sometimes manifest yet, in addition to sensitiveness and self-reference, patients might likewise exhibit, e.g., a tender-minded and persevering behavioral attitude, depressive symptoms, as well as a complicating delusional psychosis. Still, further research is warranted to confirm the findings in larger patient populations.

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References


Psychopharmacological treatment and course in paranoid personality disorder: a case series

Søren F. Birkeland

Little is known about the role of psychopharmacological treatment and course of illness in patients diagnosed with paranoid personality disorder. This short communication provides a naturalistic study of a psychiatric hospital case series. Fifteen consecutive patients were retrospectively studied. The Clinical Global Impression was rated at first admission, at last psychiatric contact, and after a 6-week observation period with or without antipsychotic treatment. During psychiatric admissions, three patients improved markedly, eight showed only minor changes, and four worsened. In total, seven patients had been administered any antipsychotic medication. The median duration of treatment was 16 weeks (range 4 days–328 weeks). No major adverse effects were noted. Among patients with six-week observation available, four had received antipsychotics; they appeared to improve considerably compared with six patients who had not received antipsychotics. Although the findings should be interpreted with caution, they support the notion of the disorder being a relatively chronic condition, although antipsychotics appeared to be safe and possibly had an effect in the short term.

Introduction

Recent advances in treatments for personality disorders have focused on borderline personality disorder in particular (Schmahl et al., 2012). By way of comparison, the management of personality disorders with predominant paranoid symptoms has received only scant research attention. Traditionally, paranoid personality disorder (PPD) has been characterized by the presence of traits such as hypersensitivity, distrust, and jealousy. Study recruitment of patients with such traits is particularly difficult and therefore empirical research is very limited (Thompson-Pope and Turkat, 1993; Pani et al., 2005). This short communication presents a naturalistic study of the psychopharmacological treatment and course of illness in a Danish case series.

Case series

The charts of 15 consecutive patients diagnosed with PPD in a general psychiatric hospital were retrospectively assessed; the method of patient inclusion and data collection has been described previously (Birkeland, 2011). Clinical Global Impression (CGI) (Guy, 1976) was rated at first admission, CGI-S (severity), and last psychiatric contact, CGI-I (improvement), together with the course of psychopharmacological treatment and additional interventions. The reasons for discontinuation were recorded. An open-label cohort study was carried out; if available, a CGI-I rating was applied at the first 6-week psychiatric observation period either with or without antipsychotic medication. The 6-week juncture was chosen because antipsychotics should be manifestly effective in most patients within this time frame. Also, this juncture might sort out temporary changes and effects. Patients were considered to have continued taking a medication if they were in hospital or maintained their visits to the clinic and discontinuation was not suspected. Finally, adverse effects and other treatment modalities were noted. Ordinal variables were analyzed using the Mann-Whitney U-test. The level of statistical significance was set at P value less than 0.05, two-tailed.

At first psychiatric admission, three patients were ‘moderately ill’ (CGI-S 4), nine were ‘moderately ill’ (CGI-S 5), and three were ‘severely ill’ (CGI-S 6); the median patient age was 42 years. At last psychiatric contact, the median age was 56 years: three patients were ‘much’ improved (CGI-I 2), eight showed only minor changes (CGI-I 3–5), and four were ‘moderate’ or ‘very much’ worsened (CGI-I 6 and 7).

One patient developed alcohol abuse. One patient was suspected of developing schizophrenia and died before the age of 40, two died in their 60s, and one died aged older than 70 years. Among the patients alive, one was older than 80 years of age.

In total, seven patients had been administered antipsychotic drugs (most frequently fluphenazine). The median duration of treatment was 15 weeks (range 4 days–328 weeks). Three patients reported sedation, resulting in discontinuation in one. One reported restlessness and one who received benzodiazepine additionally reported rigidity, ‘feelings of indifference’, and ‘diminished initiative’ and...
therefore discontinued. Psychiatric hospital admission was unavoidable in five patients receiving antipsychotics.

Five patients were lost to 6-week observations (CGI-S; range 4–5, median 5, mean 4.8), whereas data were obtainable from ten four had received antipsychotics (three men, one woman; median CGI-S 5.5, range 5–6, mean 5.5; haloperidol 2 mg/day, promazine 50 mg/day, and fluphenazine 2 and 3 mg/day; no suspicion of noncompliance) and the rest (four men and two women; median CGI-S 5, range 4–6, mean 4.8) had not. In terms of therapeutic effects, all patients in the antipsychotics group had improved much or very much (CGI-I, range 1–2, median 2, mean 1.8) compared with improvement in only two patients and unchanged or worsened status in the remaining four patients in the nonantipsychotics group (CGI-I, range 2–5, median 4.5, mean 4.0; P < 0.05, Mann-Whitney U-test, two-tailed). At last psychiatric contact, one patient in the antipsychotics group was much improved, two were minimally improved, and one was much worse. Beyond the 6-week follow-up, antidepressives had been administered in seven patients; a beneficial effect (decrease in depression symptoms) was recorded in only three patients and typically following 1 month of treatment.

Seven patients received a more or less well-defined psychosocial intervention (mostly group and milieu therapy) that was considered somewhat beneficial in five. One patient received meprobamate and seven patients occasionally used benzodiazepines; there was no information on effects but at least one patient developed abuse.

Discussion
In this naturalistic open-label study, the presentation of PPD tended to be chronic while 6 weeks of antipsychotic treatment seemed to relieve symptoms with no major adverse effects.

The study presupposes that sound information on the dynamics of patients’ status can be read from charts. However, in addition to the small sample size, resulting in a statistical power of just below 0.5 to detect even major group differences, the assessment of antipsychotic effects lacks a randomized, blinded, assignment. Outcomes, therefore, can be biased by, for example, confounding by indication because of baseline and time-dependent factors that are not accounted for. Baseline CGI-S ratings indicate that the group that received antipsychotics may have had (slightly) more severe illness than those who received no antipsychotics. It remains, however, unclear to what extent any such difference and, for example, ‘naturally occurring fluctuations’ in severity of illness can explain the comparatively large dissimilarity in CGI-I ratings.

The course of illness in patients with PPD has received only scant attention in the literature. In the past, the longitudinal course was investigated retrospectively in 19 patients by Putton and Winokur (1993). They succeeded in obtaining follow-up information by letter or personal interview in only seven patients; in these patients, no evident clinical change could be found. The present results seem to be in agreement with these earlier findings.

In terms of the usefulness of psychopharmacological treatment in personality disorders, empirical research has been increasing. Previously, on the basis of the charts of 10 patients, olanzapine was concluded to be beneficial in cluster B personality disorders (Zullino et al., 2002) and afterwards, in a small 8-week open-label trial, quetiapine induced significant improvements in borderline personality disorder (Adityanjee et al., 2008). More recently, naltrexone showed promising effects in the management of borderline personality disorder in a small randomized-controlled trial, although statistical significance was not reached (Schonholt et al., 2012). Continuously, there has been a lack of research on psychopharmacological use in PPD. When viewed from this background, the findings in this study seem convincing and apparently are in accordance with the advice by Siever and Kendler (1985) that such patients sometimes benefit from low doses of neuroleptic medication. In any case, the findings suggest that the impact of antipsychotic treatment was not definite. Within the ‘naturalistic’ setting, only a minority of patients received a durable medication. Likewise, the requirement of readmissions was not efficiently prevented and last-contact improvement ratings did not impressively show that antipsychotics affected the long-term prognosis. Moreover, the study shows that other treatment modalities may come into play as well.

Conclusion
Although the findings should be interpreted with caution, they support the notion that personality disorder of paranoid type tends to follow a chronic course, whereas, in the short run, antipsychotic treatment may perhaps be safe and effective. In any case, appropriately controlled studies are required to ascertain the role of pharmacological and nonpharmacological interventions for patients with this kind of disorder.

Acknowledgements
Thanks are due to Gunnar Jessen, MD, the head of the Department of Psychiatry, Stavanger Hospital, who placed the records archives at disposal.

Conflicts of Interest:
There are no conflicts of interest.

References


Paranoid Personality Disorder and Organic Brain Injury: A Case Report

To the Editor: Paranoid personality disorder (PPD) is a mental disorder characterized by, for example, excessive sensitivity, self-reference, suspiciousness, and jealousy, which is included in both DSM-IV-TR and ICD-10 with relatively similar trait-concept definitions. There is a lack of clinical reports describing the presentation of PPD in connection with organic brain involvement. Here below, a retrospective case description is provided in which a patient presented with a history of head trauma, alcoholism, and the full-blown syndrome of PPD.

Case Report
A 46-year-old male blue-collar worker was first admitted to the psychiatric hospital after attempted suicide. In his teenage years, he had been hospitalized for head trauma with brain concussion after a traffic accident. Also, he had long-standing alcohol abuse. After detoxification, he was described as vulnerable, self-doubting, self-referential, very sensitive, touchy, suspicious, and mistrustful. The most prominent trait, however, was jealousy, especially in regard to his wife's fidelity. Reportedly, she was accused of miscellaneous matters and "interrogated" about diverse idiosyncratic issues. Alcohol intake consistently resulted in a marked exacerbation of the paranoid pattern. During 3 inpatient admissions and 22 outpatient sessions, recurrent depressive symptoms were observed. However, no episode of clear-cut delusion formation was ever registered. No further cognitive impairments could be established, and no brain imaging was performed. The patient had taken a variety of antidepressants, antipsychotics, and disulpride, although no last discharge, diagnosed with "paranoid personality disorder" and "episodic alcoholism," there was no major clinical change.

Comment
The presented case suggests an association between organic cerebral factors and developing extensive features of PPD. Although the causal mechanisms cannot be fully clarified, it is plausible that the alcohol abuse and perhaps the brain trauma might have contributed to the presentation of PPD.

The available literature has been ambiguous with regard to the connection between organic brain factors and simple paranoid disorders in terms of pathophysiological mechanisms and manifestations. Thus, for instance, Fils and Stewart recently demonstrated left-hemisphere injury in a case of Capgras syndrome ("delusion of doubles"), whereas a previously published study rather pointed toward right frontal brain injury in a patient with delusional jealousy, depression, and attempted suicide.

Clinically, however, the possibility of extreme personality traits after alcohol abuse is acknowledged in the literature, and likewise, traumatic brain injury is known to sometimes cause depression, suicidality, and personality changes with, for example, aggressive proclivities. Hence, even though the exact neurobiological correlates remain unclear, the possibility of an underlying substance abuse and organic brain injury should be considered in patients presenting with signs of PPD, and perhaps in pathological jealousy, in particular.

Thanks are due to the head of the Department of Psychiatry of Sørenborg Hospital, Gennser Jessen, who placed psychiatric record material at our disposal.

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References
Complex Case
Paranoid personality disorder and the schizophrenia spectrum—Where to draw the line?

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ABSTRACT
By means of a case vignette, this study explores the clinical intersection between paranoid personality disorder and other schizophrenia-spectrum illness. Even though the patient described had paramount signs of a paranoid personality disorder and was diagnosed as such, psychopathological symptoms extended considerably beyond the common concept and diagnostic criteria of the disorder. Management strategies included psychopharmacological and non-pharmacological interventions, yet psychosocial functioning permanently appeared defective. While there is a persistent need for an opportunity to distinguish the characteristic syndromal pattern of paranoid personality attributes, the case exemplifies the challenges associated with classifying some largely suspicious and distrustful eccentrics within the schizophrenia spectrum. Copyright © 2013 John Wiley & Sons, Ltd.

Introduction
The current reconceptualization of the personality disorder nomenclature concerns not least the 'eccentric' variety of personalities. One representative of the latter is schizoid personality disorder. Nineteen, Lukacs, Cimpan and Taran (2012) recently demonstrated the challenges associated with both diagnosing and managing patients suspected of this disorder; particular difficulties arose with distinguishing schizoid personality disorder from another eccentric variant, schizotypal disorder. The theme of this case presentation is paranoid personality disorder (PPD) which is the residual representative of the eccentric character types.

Paranoid personality disorder is an adult mental disorder that is typically characterized by features like suspiciousness and distrust. The disorder was easily described by leading psychiatrists (see, e.g. Meyer 1903), and at present, it is included both in DSM-IV-TR and ICD-10 (APA, 2000; WHO, 1993) with relatively similar criteria-concept definitions (Ottozon, Boelius, Gran, & Kullgren, 2002). Nevertheless, the diagnostic status of PPD has been repeatedly questioned, most recently, as indicated earlier, in connection with the current revisions of the DSM and ICD diagnostic systems. Concurrently, there is a lack of clinical research evidence concerning PPD. According to interview studies, PPD may be relatively frequent in the community with prevalence rates as high as 2.4% (Torgersen, Kringlen, &
Cramer, 2001). Still, subjects with PPD tend to reject psychiatric intervention (Tyrer, Mitchell, Mehtenu, & Rander, 2003), and PPD may be relatively uncommonly diagnosed in psychiatric hospitals (Fulton & Winokur, 1993; Birkeland, 2011). What is more, patients with PPD are disinclined to participate in any research (Thompson-Pope & Turkat, 1993).

In addition to being one of the eccentric personality disorders, PPD is considered a member of the so-called schizophrenia spectrum. This spectrum also includes (broadly defined): schizophrenia, schizotypal, schizophreniform, and delusional disorders; schizoaffective disorder; and unspecified psychotic disorder (Tienari et al., 2003). Members of the spectrum are deemed to have distinctive psychopathological aspects in common and are considered to be somehow genetically transmitted with schizophrenia. In general, however, the qualitative psychopathological similarities have received scant research attention (Raballo & Parnas, 2011). More specifically also, in regard to PPD, the clinical implications of the spectrum membership remain understudied. Anyhow, as the following case diagnosed with PPD demonstrates, the intersection with neighbouring spectrum illness may cause considerable challenges in clinical practice.

Case report

Mrs A was admitted to psychiatric hospital in her thirties. She was admitted according to a referral from her family doctor under the diagnosis of 'intermittently paranoid'. Before admission, she had been assessed and declared motivated for treatment in the outpatient clinic.

Family and personal antecedents

A few years previously, Mrs A had been to another psychiatric hospital. In that connection, she was observed 'guarded', 'shy', 'tense' and anxious, with deficient emotional contact. Additionally, she had proclaimed to 'experience everything in sharp colours' and revealed 'unrealistic thoughts', and intermittently, she had been suspected of having hallucinations. She had been attached to that hospital's day clinic for a couple of months and was subsequently discharged with fluphenazine under the diagnoses of 'reactive psychosis' and PPD (ICD-8).

Purportedly, in childhood, Mrs A used to be a joyful and extroverted person. Her mother was described as having had 'bad nerves'. In her early teens, Mrs A's parents divorced. From about that point in time, she was increasingly withdrawn and had a growing sense of being 'splitted', chaos of thinking and feeling of self-insecurity. She had an early sexual debut and reported to have been victim of sexual assaults (by a non-family member) during adolescence. In her twenties, after a few years of marriage, she had a child. Unfortunately, her husband was ailing and finally deceased. Afterwards, from time to time, she had a boyfriend.

The history of the illness

For the most part, the present admission was socially caused: Mrs A's whole social situation concerning a problematic relationship with an alcoholic boyfriend, difficulties in caring for her child and problems in working life had gradually worsened. As were her mental troubles. Besides, she had developed a slight alcohol abuse and occasionally took cannabis.

From admission onwards, she was described as exceedingly distrustful, suspicious and intermittently supposedly clear-cut paranoid. Her distrust and suspiciousness were continuously defined in broad terms—as an attitude towards the surroundings which was never further explicated. Allegedly, she had no experiences of, e.g. persecution; rather, she claimed to express a 'sound scepticism'. Once she admitted that she did not completely trust her colleagues, yet the psychiatrists did not succeed to delve more thoroughly into the matter. Her behaviour always appeared tense and guarded. Intellectually, she was categorized low in average area. Emotional contact was slightly poor-modulated and sometimes vastly defective. Recurrently, she
appeared anxious, and a few times, she had brief episodes suspected of auditory and visual hallucinations. Likewise, there was a slight trend towards subtle formal thought disorders with vague thoughts, jumping of thoughts and faint ambivalence. For instance, during one admission, she passively announced to aim at 'progression to a degree that she would know what fashion she preferred her hair cut'.

Once it was speculated that Mrs. A could possibly suffer from a borderline personality disorder with 'micro-psychotic breakthroughs', and on another occasion, it was suggested that there was 'more in the disease picture than just a disordered personality structure'. Still, the distrustful, suspicious, tense and guarded attitude was considered predominant. On the top of it, unstable affects played a shifting role.

Mrs. A attended wide-ranging social psychiatric care in connection with attachment to psychiatric specialists, nurses and social workers and joined extensive group therapeutic sessions. In this regard, her psychosocial background, work-related worries chiefly with collaborating with others, the problematic motherhood with difficulties in communication and her fear of losing the child appeared to be the leading (almost stereotyped) themes. For a period of time, depressed mood supervened with inability to concentrate, a tendency towards insomnia and suicidal ideation. As a consequence, citalopram was administered (20 mg per day), which during a 3-week period proved to relieve depressive symptoms. Successively, a minor hypomania was suspected.

During 10 years, Mrs. A had three fairly similar courses of outpatient treatment and one inpatient admission. Fluphenazine (2 mg per day) was administered for years; it was perceived subjectively beneficial although treatment was discontinued because of presumed developing tardive dyskinesias. Subsequently, she had long-term risperidone (2 mg per day) that was considered of some effect also. Mrs. A intermittently had anabuse and likewise, for periods, she received chlorpromazine and different tranquilizers. Discharge diagnoses were PD, reactive psychosis and 'mixed anxiety' (ICD 8 and 10). Until the psychiatric admission, she had moved nine times, yet afterwards, she settled down. She succeeded to finish a short cycle higher education and was in employment for a few years but was finally fired because of difficulties in cooperation with colleagues. Then, an application was produced for premature retirement.

Discussion

A case is presented in which dominant signs indicative of PD occurred together with a variety of (co-morbid) features that are not usually thought representative of PD but rather belong to other illness mainly within the schizophrenia spectrum.

There is limited knowledge about co-morbid illness in PD. In the past, Oldham et al. (1995) demonstrated that patients with mood, anxiety and psychotic disorders have significantly more PD traits than patients without these disorders. Anyway, only a few patients were diagnosed with PD; similarly, in those patients, mood, anxiety and psychotic disorders often co-occurred, although this finding was not statistically significant.

Lack of participants with a clinically established diagnosis of PD is a common setback in the research literature. As mentioned in the Introduction, PD may be only rarely encountered in psychiatric hospitals. Moreover, as maintained by Skodol et al. (2011), controversies sometimes arise when diagnosing PD according to current categorical criteria. Distress and concomitant behaviours are present among various disorders, and some studies based upon SCID-II (Structured Clinical Interview for DSM-IV Axis II Personality Disorders) respectively MCMH-III (Millon Clinical Multiaxial Inventory-III) have added support in favour of considering PD within a dimensional context (Arntz et al., 2009; Rossi, Elklit, & Simonsen, 2010) rather than as merely one diagnostic category. In connection with the recent proposals for the DSM-V, Skodol et al. (2011) have taken it further and, although they maintain that 'PD is one of the most common PDs in the community...', even abandon the personality disorder nomenclature being represented by any specific paranoid personality dimension.
the first proposals of the 11th revision of the ICD (see Tyrer et al., 2011) introduce a little paradigm shift. Much emphasis is put on the difficult task to assess personality disturbance severity, yet room seems only left for PPD to be ‘accommodated’ into the patchwork of newly constructed ‘asocial’ and ‘dysocial’ domains. The particular scientific discoveries lying behind the rather non-incremental break-up of, e.g. the territory of PPD may not appear exceedingly clear. It must be admitted that PPD have had difficulties to show empirical data that might guarantee its status as a clinical diagnosis (Simonsen, 2005). But even though PPD could be described in terms of a ‘dead’ entity, it does not necessarily designate a scientific consensus on its abrogation but rather reflects a simple scarcity of research (Parnas, Licht, & Bovet, 2005) in accordance with the traditions of clinical psychiatric practice and enduring—however limited—empirical research, there seem to be grounds for expressly diagnosing a paranoid type of character in some instances.

Indeed, in other patients, the appearance of psychopathological symptoms connects closer to neighbouring disorders and especially the schizophrenia spectrum. In the case presented here, from a psychotic illness perspective, the distrust and suspiciousness could be claimed to mirror a downright schizophrenic process (cf. Simonsen et al., 2008). In this regard, it remains uncertain from the chart notes whether development into, e.g. schizophrenia, was ever suspected, yet every one of accompanying symptoms was unceasingly concluded marginal and inconsequential perse. During the entire psychiatric course, the signs of distrust and suspiciousness were judged by the psychiatric specialists to constitute the most marked and invariant elements of the disease picture together with the tense and guarded attitude and struggles in social life. Even so, a number of classical PPD traits were not present. Neither was any exquisite sensitivity mentioned in the chart notes, nor was self-reference, bearing grudge, concern about conspiracies or pathological jealousy. From the point of view of personality disorder syndromes, the signs of distrust and suspiciousness were left alone, so to speak; there happened to be remarkably little ‘matter’ behind. When confronting the distrustful attitude, there were no long-winded explanations, no far-out excuses, no opinionated accusations, no brooding anger and nothing but a diffuse antagonism and anxiety. In PPD, we might expect the patient’s distrustful attitude to constitute an all-encompassing trait tightly connected to mighty bastions of the latter mentioned indicators of a distinctively disorderly personality; confronting the mental health-care worker with either harsh rejection or recruitment as the solitary allied.

Questions:

(1) Does Mrs A suffer from PPD?
(2) Should we expect to occasionally find slight formal thought disorder, subtle self-disorder and the like in PPD or its diagnostic successors?
(3) Might Mrs A rather have been diagnosed with, e.g., schizotypal disorder or a paranoid schizophrenia?
(4) Precise diagnosis of Mrs A—does it matter at all (e.g. treatment)?

Conflict of interest

None.

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REVIEW ARTICLE

Paranoigenic Extremes - a Reappraisal Concerning Paranoid Personality Disorder

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Abstract: Background: Paranoid personality disorder refers to an extensive and enduring psycho-social dysfunction typified by a penetrating pattern of manifestations like hypersensitivity, self-reference, and mistrust. Even though it is continuously represented in DSM and ICD, its diagnostic status has been intermittently questioned.

Objective: Provide a brief review on paranoid personality disorder with particular emphasis on socio-demographic characteristics, psychopathology, and course.

Method: Literature review.

Results: While research suggests that the disorder is not rare in the community, the diagnosis is comparatively seldom made in psychiatric hospital. But if so, the characteristic patient is a young-to-middle-aged male. Comorbid mental disorder and depressive symptoms habitually appear and full blown paranoid symptoms sometimes may supervene. However, the presence of, for example, another schizophrenia spectrum disorder or primary organic illness should be ruled out. Usually the course is chronic, and there may be difficulties with staying in the labor market. Management is challenging and must address the pervasive paranoid mechanisms and extreme behavior. Although scientific support is limited, psychotherapy and possibly psychopharmacological agents may be treatments of choice.

Conclusion: The concept of paranoid personality disorder has received a substantial scientific support though research is needed, perhaps most of all, to inform future diagnostic measures and care recommendations.

Keywords: Paranoid Personality Disorder, Etiology, Epidemiology, Psychopathology, Disease Management.

INTRODUCTION

Among the various manifestations of personality one may come across a distinctive pattern of behavior which does not only possess a great challenge to family members, friends, and colleagues but also tends to place health care workers and the individual itself into a real catchment. Even though it is tricky to pin down what exactly has gone askew, the life story indicates that the character is to be attended to. By being deeply imbued with tense sensitivity, self-reference, and lack of confidence with the environment, the entire psychosocial capacity is at stake.

Paranoid personality disorder (PPD) and personality extremes with predominant paranoia features have been portrayed in the literature ever since the inception of psychiatric research [1]. It has been continually represented in the diagnostic manuals though again its status was lately questioned in connection with DSM and ICD revisions. The present article provides a brief review of traditional views and up to date findings on the socio-demography, psychopathology, and course of PPD.

METHODS

This is a brief (narrative) literature review. The literature was surveyed up to end March 2016. Electronic searches were performed in PsyCINFO and PubMed/Medline using the base term “paranoid personality disorder”. Additional search terms were added to the base term for each area of issue assessed. Electronic searches were complemented with material identified through informal searches and reference lists from the retrieved literature (see Fig. 1).

A BRIEF HISTORICAL OUTLINE

As early as 1798, Immanuel Kant described a mental disorder where the ‘formal laws of thinking’ were preserved but enemies were believed to be present everywhere and all expressions, remarks, or indifferent actions of people were
Fig. (1). Literature selection process.

perceived as intentional traps. Kast remarked that such individuals seemed "so ingenuous in analyzing that which others unwittingly do, in order to explain it to their own satisfaction, that if their data were only accurate, one would have to pay every tribute to their intelligence" [2]. Wimmer later emphasized the significance of paranoid-like attitudes, a term that will be widely used throughout this review [1]. He hypothesized that the evolution of paranoia could be explained as "cynical" reasoning therefrom [1, 3]. Contemporary, the description of a paranoid type constitution Meyer put weight on the characteristic tendency to isolation, hypersensitivity to others' evaluations, and suspiciousness. Often these symptoms are described with "disarm" or "withdraw" [4]. In Kretschmer's ensuing description of the pre-psychotic psychosomatic profile, suspicious and self-referentially predisposed sensitive character, subjects were considered complex, intelligent, and worthy [5]. Also they were thin-skinned, "southernly differentiated", excessively scrupulous, and introverted people who tended toward religious sublimation. Reality judgment fluctuated and "reactive depression" was frequently intervened. Soon after, Kraepelin in 1921 described the "Paranoid personalities" characterized by distrust, impatience, fault-finding, and obstinacy [6]. Despite its ambiguous meaning, subjects were called "paranoid" as far as they exposed the "essential...preliminary conditions for the development of paranoia", however without "systematic working up" of delusions. According to Kraepelin, these individuals often were intelligent but "difficult to get on with", they had no understanding for the insufficiencies of their own personality, felt unjustly treated, and abnormally were extremely occupied with gaining success and future honor. In this regard patients thought of themselves "as having a mission which they had to fulfill" although they usually failed "to meet the most commonplace claims of life". From there, the delusion of a paranoid personality type was on firm ground.

PPD AND THE DIAGNOSTIC CLASSIFICATIONS

"Paranoid personality" was included in the Diagnostic and Statistical Manual of Mental Disorders (DSM, 009-844) since its first version in 1952 [7]. Essentially it was defined as schizoid personality traits "coupled with an exquisite sensitivity in interpersonal relations and with a conspicuous tendency to utilize a projection mechanism, expressed by suspiciousness, envy, extreme jealousy and enmity. DSM-II (1968) presented a revised definition with "hypersensitivity, rigidity, unwarranted suspicion, jealousy, envy, excessive self-importance, and a tendency to blame others and accuse evil motives to them" interfering with the "patient's ability to maintain satisfactory interpersonal relations" [8]. It was emphasized that the presence of suspicion of itself did not justify the diagnosis since "Suspicion may be warranted in some instances" [7]. DSM-III (301.00 1080) introduced a multi-axial system, detailed diagnostic criteria, and extended a descriptive, theory- and etiologically "neutral" but empirically based diagnostic approach [9]. Three major criteria for the diagnosis of a "Paranoid Personality Disorder" were specified: (A) Pervasive, unwarranted suspiciousness and mistrust of people as indicated by at least three of the following: expectation of
paranoid or harm; hyper-vigilance manifested by continual scanning of the environment for signs of threat, or taking unneeded precautions; guardedly or secretive; avoidance of accepting blame when warranted, questioning the loyalty of others; intense, narrowly focused searching for confirmation of bias, with loss of appreciation of total context; over-concern with hidden motives and special meanings; pathological jealousy. H. Hypersensitivity as indicated by at least two of the following: tendency to be easily slighted and quick to take offense; exaggeration of difficulties, e.g. making mountains out of molehills; readiness to counter-attack when any threat is perceived; inability to relax. C. Restricted affectivity as indicated by at least two of the following: appearance of being 'cold' and unemotional; pride taken in always being objective, rational, and unemotional; lack of a true sense of humor, absence of passive, soft, tender, and sentimental feelings. D. Not due to another mental disorder such as schizotypal or a paranoid disorder [9]. In DSM-III-R (1987), C. criteria were excluded while in DSM-IV (1994) and DSM-IV-TR (2000) versions, the remaining criteria were somewhat rephrased and reorganized [10-12]. Four of seven criteria now had to be met. Ahead of DSM-5, even though PPD was found to hold some potential as a valid diagnostic, a 'history of theoretical importance', as well as empirical data to suggest its 'clinical importance', abandoning PPD was proposed by some parties with reference to, among others, the necessity for research findings to positively 'mitigate' its inclusion [13]. Finally, however, the American Psychiatric Association decided to retain it unchanged in DSM-5 [14].

With regard to the International Statistical Classification of Diseases, Injuries, and Causes of Death (ICD), 'Paranoid personality' was included as of its 6th version from 1948 [15]. In ICD-9 (1975) it was retitled 'Paranoid personality disorder' [16]. In ICD-10 (1992) seven specific criteria were enumerated with a demand for three (research version: four criteria to be present [17]. According to current ICD-10 criteria PPD is characterized by "excessive sensitivity to setbacks, unforgiveness of insults, a tendency to distort experience by misconstructing the neutral or friendly actions of others as hostile or contemptuous; recurrent suspicion, without justification, regarding the sexual fidelity of the spouse or sexual partner, and a combative and tenacious sense of personal rights. There may be excessive self-importance, and there is often excessive self-reference" (see also below under 'Clinical Features') [15]. Yet another diagnostic methodology is provided by the Psychodynamic Diagnostic Manual (PDM) [19].

Many of the existing studies on PPD address DSM-IV or DSM-IV-TR versions. Fakour and colleagues thus proved the association between PPD DSM-IV criteria and PPD to be much higher than the association with any other personality disorder diagnosis [20]. Likewise, a principal component analysis supported the validity of the PPD construct as a solid pattern and separate entity. Its reliability and internal consistency in terms of correlation between criteria was found to be 0.70 (alpha) and confirmatory factor analyses further substantiated its validity both as a unidimensional construct (CFI=0.97, subdimensions suspiciousness and hostility).

Good agreement and dimensional correlation have been demonstrated between DSM-IV and ICD-10 PPD diagnoses (κ = 0.74; r= 0.85) indicating of similar underlying trait-concepts [21]. Research findings, however, suggest the external reliability to be only just acceptable. Studies on inter-rater reliability of the categorical PPD construct have shown k estimates between 0.35 and 0.87 (DSM-III) [22, 23] while a study on test-retest agreement demonstrated a k of 0.39 (DSM-IV, see, however, later about newer findings on long-term criteria construct stability) [24]. Regarding inter-rater and test-retest reliability of a dimensional DSM-IV PPD construct was found to be 0.88 respectively 0.71 [24].

OCCURRENCE AND SOCIO-DEMOGRAPHY

Some former American studies pointed toward a rather small PPD prevalence in the community [25, 26] whereas European studies found it to be greater [27, 28]. Newer research findings suggest DSM-IV PPD prevalence rates to be 0.3-0.7% [29, 30] which is virtually the same as found in Borderline Personality Disorder (BPD) [31]. This infers that most family doctors will see a number of PPD patients and need to know how to deal with one. Conversely, only few are diagnosed with PPD in psychiatric hospitals; individuals with PPD seem disinclined to seek psychiatric treatment [32]. Hence, they have been claimed to "fall through the cracks" of the mental health system [33]. Also it has been put forward that when by way of exception, they turn up for mental health care they themselves or clinicians are likely to keep from publishing in research [34-36]. This may be among the major reasons why clinical investigations involving patients with PPD are few, mostly retrospective in nature, and sample populations are small. According to one study, the annual first-admission incidence rate of patients with PPD was 1.8/100.000 among citizens aged 18-49, and never patient record review findings hint towards a rate of roughly 0.5/100.000 in the total population [37, 38]. In the latter study patients chiefly had shorter length hospital stays, with typically three weeks at the most. In Fulton and Winchster's study of more than 15,000 mental hospital patients records the proportion of PPD was roughly 1 per thousand first admissions in psychiatric hospitals, a finding that was recently backed up [38, 39]. Clinical studies support the notion of a male predominance and a relatively high marital rate among PPD patients with mean ages at first psychiatric contact between 41 and 44 years [36-41]. In Fulton and Winchster's the mean education of PPD patients exceeded 11 years and in a subsequent study the educational profile resembled that of the general population [38, 39]. Nonetheless, a substantial proportion of patients were early retirement pensioners at last psychiatric contact [38] and later findings are consistent herewith [42].

ETIOLOGICAL AND PATHOGENIC

Neurobiological and Hereditary Factors

Research has suggested an association between paranoid phenomena and dopamine signaling disturbances in the ventral striatum and in brain areas connected to executive behavioral control like the prefrontal cortex [45]. However,
there is only scant research that relates specifically to PPD [44, 45]. Functional imaging and EEG topography data mostly point toward an association between left hemisphere over-activity and neurocognitive manifestations in terms of e.g. self-referencing, excessive inferencing, and jumping to conclusions [46] while event-related potential (ERP) findings suggest the frontotemporal cortical network to play a particular role in the onset of suspicious thoughts [47]. Most recently, voxel-based morphometry and functional MRI findings demonstrated a relationship between paranoid disorder and abnormalities in the medial frontal/medial anterior cingulate cortex and insula [48].

As concerns the possible genetic link between PPD and other mental disorders, an association was formerly demonstrated between PPD and behavioral disorder [49] respectively schizophrenia [50]. PPD itself has been found to be fairly heritable with an estimated heritability of 0.66 [51].

**Psychological Factors**

Traditionally, paranoid disorders have been connected to psychosocial trauma of childhood. Some remarkable perspectives on etiology were introduced by psychoanalytic approaches. In the context of complex theories on homosocial intra-psychic urges and conflicts, failed repression, projective mechanisms and evolution of hate, paranoia was hypothesized to serve a restitution function [52]. Emphasis was given to the impact of harsh parental norms with demands for premature cleanliness and ambivalence between desire for the naughty vs. being ‘good’, respectively over-ambitiously and proportion of megalomaniac kinds of self-reliance [53, 54]. From this point of view, individuals were provided with a restrictive emotional attitude and artificial sense of perspective and objectivity. Cameron later suggested PPD be partly caused by negative parenting practices, sadistic treatment during early infancy with resulting anxiety, lack of basic trust, inadequate protection from tensions, and progressive absorption in inner fantasies [55]. Afterwards, under the heading of object constancy, Blom proposed that the lack of internalization of the ‘comforting, constant mother’ could cause ego disintegration, ambivalence, separation-anxiety, and fear of loss resulting in future objects appearing to be both persecutory and needed’ [56].

Millon suggested a number of more or less distinct paranoid personality variants like the narcissistic (resulting from upbringing characterized by over-evaluation/independence), antisocial (caused by upbringing characterized by aggression/withdrawal), and compulsive (due to upbringing characterized by over-controlling/compulsion) subtypes [57]. As noted by Millon and Davis individuals with PPD often display an outer rational and unemotional attitude [58]. From the paranoidic perception, however, situations and events tend to lose their objective attributes and are increasingly interpreted in terms of subjective expectations and feelings [58]. It was observed that individuals are often markedly vulnerable to error, knowing that they have to keep within ‘approved boundaries’ but continually being unsure of the exact nature thereof [58]. When beyond the ‘protective home setting’, individuals therefore tend to ‘run hard against objective reality’. Thompson-Pine and Turkat proposed a supplementary cognitive-behavioral stage model beginning with exaggerated parental focus upon child uniqueness and carefulness as distinguishing attributes [54]. Features have been inflated in their importance (for example, ‘You are different (…) much brighter than peers (…) closer to God (…)’), and, along with the need for family closeness, the child is instilled with the expectation that others are jealous. Additionally, being ignored, abandoned, and feeling divergent, behavior actually is different. As a result rejection is precipitated, thereby reinforcing anticipations and further diminishing social skills.

While PPD has been also coupled with later life trauma and PTSD [59], cognitive information processing models provide an additional focal point with particular emphasis on the cognitive schemas (e.g. the conviction that others are not trustworthy) [60, 61]. Schemas relate to feelings of inadequacy, reduced self-esteem, vulnerability, and negative emotions in conjunction with defective social skills and the external attribution of blame as a means of reducing anxiety [60, 62]; other people are seen as potentially malicious and, to obtain protection, the behavioral strategies are those of hyper-vigilance and mistrust.

**CLINICAL FEATURES**

**Hyperactivity**

PPD has been nearly archetypally described in terms of excessive sensitivity to setbacks, slights, and rejection in interpersonal relationships (Table 1) [17, 14]. Even the smallest sign or possibility of rejection or ‘something disharmonious’ (e.g., the tone of voice in a colleague’s quick remark) is detected [63] and everything unfavorable or unfriendly that is picked up from the surroundings is magnified thereby making ‘half-truths or quarter-truths’ the whole truth [52]. The exaggerated attention toward threatening outer dangers is calculated and rigid and preferentially accepts hints in support for the misapprehensions [64]. Alternative facts are not necessarily fully neglected yet individuals entirely disagree about their significance giving rise to exaggeration of concerns and interpretations all out of proportions (‘making mountains out of molehills’) [9]. While individuals with PPD seem to believe that surroundings are always capable of decoding their various unspoken signals, expectations, and feelings it appears as if they feel a parallel sense of having special knowledge about others’ intentions. Every so often a glimpse of pride can be noticed about having avoided something potentially awful like exploitation by peers. Only occasionally, however, the rationale is clear to others.

**Brooding Introduction**

In PPD thinking appears ‘exaggeratedly psychological’—although it is often based upon supposed intentionality and a pigeonholed view on cause and effects rather than descriptive reasoning and coherent deduction. There is a tendency to disregard that thoughts are different from actions [19]. Like a malignant spiral, controversies rapidly expand because of brooding over the behavior and remarks of others, carrying of grudges, gradual conversion of imaginary ‘tormentors’, and concurrent boost of paranoia, exacerbation, and vindictiveness [65, 66]. Transitory irritation in others tends
Table 1. PPD Clinical diagnostic features.

<table>
<thead>
<tr>
<th>Theme/Heading</th>
<th>DSM (14)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hypersensitivity</td>
<td>“(...) beginning by early adulthood (…)”</td>
</tr>
<tr>
<td>Emotional Involvement</td>
<td>Persistent preoccupations</td>
</tr>
<tr>
<td>Suspicious Minds</td>
<td>Pervasive distrust and suspiciousness (incl. of harm or injury, misinterpretation of others’ intentions, mistrust, and anxiety)</td>
</tr>
<tr>
<td>Jealousy and Desire</td>
<td>Recurrent suspicions, unexplained jealousy, concern, and dissatisfaction with the fidelity of spouse or sexual partner</td>
</tr>
<tr>
<td>Intimacy</td>
<td>Increased perception of attacks and preoccupations for counterattacks</td>
</tr>
<tr>
<td>Self-esteem and the Grandiose Ego</td>
<td>Excessive self-importance and self-reference</td>
</tr>
<tr>
<td>Me vs. Them</td>
<td>Comprehensibility and escalation, including narcissistic self-importance</td>
</tr>
</tbody>
</table>

The neighbor’s suggestion about sharing a newspaper subscription or a coworker lending a hand is straightforwardly decoded as an affront. Especially when there is a history of prior distrust, experience is typically distorted by misconstrues others’ actions as derogatory or deceptive (17, 62). Symptomatically, every snub and snarl is explored to procure “irrefutable proof” and if events fail to confirm suspicions, it only proves “how small and clever others actually can be” (58). Even the most subtle point is readily misunderstood as improper or mal-intentioned. Likewise, the individual is short to anger if a peer happens to mention simple but “inconvenient” facts or point to natural implications of the paranoid perspective. So the next of kin who presents a modified viewpoint or gives some well-intentioned advice may soon realize that “dis clandestine” is anathema. If not, the punch line probably is missed and only those few elements fitting into the prejudiced perspective are grabbed as the footing of reinforced paranoid expansions. Full blown delusional breakthroughs may sometimes appear (63). As events are transformed to suit self-image and impression, they can be regarded as an extreme form of the “general process of reality reconstruction” (58). Millon and Davis noted that breakthroughs typically are brief while patients subsequently return to the PPD pattern and seek to “rationalize their actions, reconstruct their defense, and bend their aggression” (57, 58).

Jealousy and Desire

PPD has been usually coupled with pride, humility, and envy. Indeed, paranoid individuals are self-centered. Their egos are in the center of the picture (65). When the cake is sliced or the roast is served they certainly keep. They deserve special honor and privileges, and are hard to avoid somehow promoting their “interests.” Yet in contrast to, e.g., narcissists, “who achieve a modest of success with their optimistic veneer and exploitive behaviors,”
fanatic paranoids run hard against reality” [38]; they do not
evence the same instinct, social ease, and “capacity to deal
their life in a manner that is quite successful and competent,
omen to elicit admiring response from others”. Even so a
trace of narcissism, grandiosity, empathic deficiency, and
hurting rage is more or less present. Resentment, jealousy,
and bad temper lie in wait, especially when others are
perceived obstructive [67]. Manifestations of jealousy may
be numerous but often refer to demonic approaches to love
and feelings of inferiority in sexual development [14, 17,
53]. In spite of the apparent aloof facade, however, sex plays
a role in life with PPD though it often takes an unlucky turn
(morbid jealousy, distant infatuation, the ‘impossible love
story’, etc.). Every so often, jealousy is further reaching. It
typically encompasses matters where the individual
perceives deeply disregarded or deceived [58]. From this
perspective, most others have attained their wealth and
esteem unjustly [37]. Individuals with PPD therefore enjoy
to point out the defects they uncover among persons they
depise [58]. The explanation has been provided that they seek
to “redeem themselves and reestablish their sense of
autonomy and power (…) Left to nominate alone, they may
construct proofs of their ambivalence through intricate self-
deceptions (…) They can now rise above petty jealousies,
‘understanding all too clearly’ why others seek to undermine
their stature and varnish” [38].
Quarrelsome
On the whole, PPD exhibits a relational disturbance. In a
manner of speaking, the ‘mental compass’ appears solidly
but incorrectly attuned. The attitude is antagonistic and
quarrelsome and the approach in social interaction is
argumentative and combative with a tenacious sense of
rights and privileges which is wholly out of keeping with the
situation [14, 17, 62]. This often gives rise to disputes with
neighbors, municipalities etc. [38]. Diverse lawyers and
experts may be engaged or the limitless documentation is
piled up by the individual him- or herself. PPD and conflict
are loyal companions and the non-flexible propensity for
affect-biased, over-contemplated, and absolutistic
persecution is a continuous stamp of the paranoid
extreme [63]. There is an opposition to adopt to external
realities [38] and relative inability to compromise [67]. In a
vastly non-dynamic way, adversaries and bitter experiences
are followed up by more of the same sort. Otherwise good
preconditions are somehow reversed into controversies
which are predestined to degenerate. The threshold for anger
or bitterness is low when judgment is somehow questioned,
when real or unreal criterions are perceived, or positive
regard is not forthcoming [69]. Since any alternative
viewpoint or any little challenge is considered a betrayal also
family and acquaintances are in danger of being shfed out
[69]. Alternatively the paranoid frame of reference is
absorbed by those around (cf. shared delusions) who are
horribly influenced with untruth, anger, and categorical
‘everything or nothing’ thinking. Surroundings are consistently
blamed for difficulties [7, 70] and, metaphorically speaking,
the splinter in the neighbor’s eye is noticed a long time
before the wooden beam in the paranoid individual’s
own eye is perceived, if ever. Remarkably little personal
responsibility is accepted, self-insight is lacking, and the
individual is last to admit that he or she may judged any
situation. Projections often come up as quasi-psychological
articulations and labelling of others which tend to turn
conversation into a biased and simplistic monologue [7, 70].
Most interestingly, the stamming intermittently exposes some
quite noticeable qualities of the individuals themselves.
Social and, e.g., work-related problems seem tightly associated
with their attitude. Surroundings must agree with the
preconceived conceptions or be prepared for a breakdown. So,
peculiar discrepancies are likely to occur when realizing
that many a person is not prepared to go the whole hog.
From a distance, though, the sequence of events repetitively
leading to deadlock looks quite predictable and stereotyped.
Self-reference and the Grandiose Ego
As it was indicated above the individual with PPD is
wont to perceive him- or herself as in the very center of the
world [17]. Any noticed occurrence seems apt to be
somehow concerned with him or her, intuitively calling for a
response (a full-scale counterattack or nothing but a tiny
‘precautionary’ act). Unfortunately, the interpretation of
incidences habitually has a skewed and negative (often
bitter or persecutory) colouring. The piece of chat overheard
in the train or in a room nearby is ‘probably’ about the
individual, silly joking in the football players’ changing
room or any irritated remark from a peer is perceived as if
strictly focused and deeply personal. Interpretations not
necessarily are impossible or even unlikely as people could
be bad mouthing etc. [71]; what distinguishes paranoid
self-reference is its all-encompassing impact on the
individual’s perception of nearly every little happening
and reluctance to truly realize that interpretations can very well
be wrong. The emotional contact is avoided and prone to be
on the paranoidic individuals’ terms mainly. Hence,
endurable being together will hang on synchronous expressive
‘oscillations’ of the surroundings. Resultently, individuals
with PPD are not amiable atmosphere makers and, by way of
an example, when deciding the party seating plan, special
attention must be paid to their sitting. Reduced small talk is
not in their matter. In dialogue, a limited number of issues (e.g.
‘pet aversions’, self-pity, or somewhat peculiar interest) and
heavy conversations are preferred as opinions, ‘wisdom’, and
arguments are put forward with great pain. Individuals with
PPD often live an ambitious life, occupied in tedious and
sometimes desperate attempts to make a mark. Some
may carry out great duties and mammoth projects to ‘save the
world’ or solve unmentionable scientific problems and
schemes may be sufficiently worked out to draw at least
‘momentary recognition’ [59]. The attitude principally is that
of a lexer enthusiast, Down-to-earth family life, e.g., with its
numerous little day by day joys and sorrows is far too trivial
to pay much awareness unless triumphs or misfortunes lie in
wait. Life is dedicated to the endless broodings and
obsessional construction of ‘monuments’, seemingly no
matter the price. Paranomic interests are often admirable,
distinguished sympathetic or almost heroic, but the overall
picture is lacking [9]. One reason may be that this kind of
activities “defend many a paranoid person from ego
dissatisfaction” [53]. At least, it seems as if a grave sense of
emptiness would alternatively be wanting.
Paranoid Extremes

Me vs. Them

At times the individual with PPD may be particularly preoccupied with conspiratorial explanations concerning workplace, neighborhood etc. [17]. Reasons may be closely connected to the lacking self-esteem, depressive approach to the unkind, propensity for excusing conflicts, and the decreasing number of ‘true allies’. Meanwhile, there is a predilection for withdrawal, alienation, and isolation from surroundings [65]; the rejecting attachment style simply disrupts the opportunity for social feedback and challenges to the paranoid view [66]. A striking discrepancy seems to exist between the lack of self-confidence and the demanding, moralizing, and more or less inscrutable ‘cold fish’ appearance [9, 72]. Individuals with PPD are paradoxically capable with degradation, sarcasm, and stepping on others’ toes and the sense of situation often looks pretty damaged. The dysfunctional emotional contact capacities and the non-fortcoming, gloomy stance indicate intractability though it comes naturally that individuals do not perceive themselves unfriendly, hostile, or ‘paranoid’. Social engagement is not always desired from. Unfortunately, however, any thorough social commitment must imply somehow being in charge of the one who is adored (pseudo-altruistic egoeninism).

The gift for placing oneself of secondary importance or equality in social relationships hardly exists and concern in others often bears the impress thereof. By tradition, literature has focused on the connection with particular modes of spiritual behavior [5]. Among others, Wimmer indicated the significance of paranoid religious beliefs [1]. Despite their egoeninistic access individuals occasionally emerge as strongly religious committed. Wimmer, however, commented that distinctive of the paranoid mindset they may tend to ‘perceive themselves as the Chosen’ and correspondingly ‘very soon condemn those with alternative thoughts and beliefs’.

Paranoid individuals rarely feel satisfied with life and commonly signs of overt melancholy and worry (‘cold fish’) are present [65]. Correspondingly, a study demonstrated PPD traits to be among the most important negative predictors of perceived quality of life; particularly, traits were strongly related to negative contact with family and an overall poor self-realization [73, 74]. The rather narrow, individualistic focus in life activities and sharp concentration on own visions, prospects, and ambitions will, no matter how ‘noble’ they are, tend to undermine any close bond with those around. Awareness is continuously directed away from intermental life obstructs and toward the stream of outer circumstances and offences. But even if paranoid individuals provisionally succeed to ‘reorganize facts’ in their ‘macro-environment’ [cf. 38], incongruities will sooner or later tend to surface.

DIAGNOSIS AND RELATIONSHIP WITH OTHER MENTAL DISORDERS

Strictly speaking, regardless of the term ‘paranoid’ personality disorder, individuals should not be regarded as truly ‘paranoid’ until reaching the point where genuine delusions are present (compare Wimmer’s alternative term ‘paranogic’) [1, 72]. Diagnosis may, however, be complicated by the circumstance that paranoid (delusional) psychoses sometimes has a gradual onset and assessment therefore can be quantitative rather than qualitative in nature [76-81]. The wide-ranging, pattern-like manifestations of PPD appear to closely border on the systemic working up of delusions in paranoia as described by Krapels [6]. While it is needless to say that various (e.g. social) variables can modify their way of appearance, both exhibit a proclivity toward ardent production of customarily comprehensible, but contra-conventional, and inter-subjectively implausible pronouncements with reference to commonly recognized matters [79].

Although paranoid individuals may be aware to display only little suspiciousness, if any, the introverted, guarded, and brooding appearance can be more noticeable [65]. Likewise, formulation of the particular patient case may provide a valuable contribution by relating complaints and experiences to one another, offering possible explanations for the development of particular difficulties, and presenting predictions regarding behavior in upcoming circumstances [80]. Information from the individual’s surroundings should be obtained if possible. In addition direct observations from the interaction with, e.g., relatives can provide much relevant information.

Further diagnostic assessment of PPD demands thorough clinical interviews and meticulous use of diagnostic criteria. The quality of ‘paranoid’ elements and for example suspiciousness should be given consideration as to whether they are components of the PPD pattern: the hermeneutic principle applies that the PPD diagnosis should be recognized from its constituents whilst symptoms must be comprehended from the general pattern. Furthermore, the clinician should consider if signs of, e.g., formal thought disorder, affect modulation deficits, or hallucinatory experiences are present [38, 81] and, particularly when the PPD pattern is relatively incomplete, the suspicious eccentric may be better diagnosed otherwise within the schizophrenia spectrum [81]. Likewise, when spotting PPD, the presence of organic mental disorders and substance abuse should be ruled out [45, 82].

The International Personality Disorder Examination (IPDE) is a semi-structured clinical interview originally designed to assess the personality disorders. It can be used to provide a definite, probable or negative diagnosis of PPD or to rule out the presence of other personality disorder [83]. Likewise, the interview can be complemented by use of projective testing and measurement instruments [35, 58]. Specifically, the PPDFQ (Paranoid Personality Disorder Features Questionnaire) [84] is a 19-item questionnaire designed to assess central prototypical aspects of PPD and, up to now, its reliability and construct validity have proved promising. Among assessment instruments which do not distinctly address PPD are those based upon the Five-Factor Model (FFM) [85]. The NEO Personality Inventory is a questionnaire operationalizing FFM by assessing traits and subordinate facets; among FFM facets, low trust, mopy hostility, low straightforwardness, and low compliance appear to be important for the conceptualization of PPD [86]. Among other relevant measures is the freely available PID-5. It incorporates 25 core elements of personality description covering five domains of maladaptive personality variation: negative affect, detachment, antagonism, dissociation, and psychoticism [87]. Moreover, assessment can be made using
Table 2. General practical approach to handling PPD: DEICE principles.

| Detection | An important next move when meeting PPD is to recognize oneself from the psychoanalytic mechanisms. Individuals with PPD are apt to create their own environments in which they can react upon them [5, 59, 66] and due to difficulties in perceiving the “apparent facts,” surroundings are easily adapted in the ill-defined pattern. To those around who do not know which matters have been “actually observed and which only inferred, the chaos of logic may sound unfathomable. This is why an intelligent and earnest paranoid person sometimes convinces relatives and friends, and occasionally even jurists (that) convictions are social fact” [55]. Likewise, health care workers may be masked. During psychoanalytic outlier manipulation is especially intensified, rendering it almost impossible to keep any foothold. People around are obliged to comply with the prescription, routines, and unspoken while locally acting “inaudible.” Even so, they most probably are not to be accused of masochistic behavior. Similarly relatives are each other’s potential enemies while absolute “compliance” soon will lead to domestic peace [45, 74]. Preservation of personal integrity, values, and judgement is crucial when approaching PPD and can be obtained through means of, e.g., some support and soothing words or dissuading acting an “excellent observer role.”

| Illustration | Further interaction in PPD requires a delicate balance between courtesy and anchoring in reality. Anyway, this task is challenging. For example, making individuals reach an understanding regarding reparative mechanisms and predictability of their struggles is hard. Simultaneously they frequently fancy themselves as great paragons of character and are remarkably quick to ‘spot’ the most frustrating differences and flaws in others [58] By way of accent only, they themselves put into words some confusion ofshortcut behavior. Given so, they hardly seem to come sort of common human, overexpressing, or explain away phenomena as being provoked responses, etc.: symptomatically, they begin to perceive themselves increasingly alienated and isolated from others [59, 60]; however their belief helped to interrupt brooding sequences or be distracted from participation in social contact disconnected from the psychoanalytic routine. They maintain their fiction, however, that they unwittingly create around this atmosphere of alienation and resentment which makes others avoid their company and actually increases their social isolation, making them feel even more discriminated against [78]. Further engagement in interaction, in so far as it is believed worthwhile, demands a style that is not too caring or cause questioning of interests [59, 62, 66]. It is advisable to maintain a modestly respectful attitude and, as individuals with PPD often display obvious personal weaknesses, to communicate a sense of strength [55]. If interaction turns into disagreement, allegations as well as rage and backhanded logic are apt to take charge. In that case, armature seems futile making it necessary to rigidly insist on the scope (e.g. plain message delivery) or to politely state the presence of distortion and resign.

| Collaboration | Individuals with PPD usually struggle to “pull themselves up by their own bootstraps” and therefore rarely seek help [58, 66]. In so far as they are really ready for a personal change, further collaboration with the person is necessary [60, 62]. This tends to require professional expertise. Supplementary pharmacological agents may perhaps be considered [97, 98]. Due to the paranoid unswearing of face any flaw in personality or behavior, the mental health worker needs almost impossible circumstances [59, 99]. First and foremost, it is crucial to establish a confidential relationship [60]. Patients must preserve a feeling of personal control and the therapist should be aware to ‘draw back’ sometimes [59, 62]. While one should be skeptical of what they present, acting in a suspicious-confirming manner only increases defensiveness and negates [58, 94]. Therapists therefore should appear straightforward but supportive and understanding while gently increasing the questioning nature of questions etc. Cognitive approaches are commonly applied methods. Through means of a so-called “collaborative” style, evidence supporting respectively compelling beliefs is weighed, overgeneralizations and dichotomous thinking is nuanced [67], and more options in thinking and behavior are left open. SKILLS of reality testing are further developed through verification experimenting and evidence assessment. Attention is called to alternative explanations and counter-examples where abstract thinking rules [60, 62, 96, 100]; when therapy is successful a gradual insight into the paranoid patterns is gained.

| Handbook | An utmost goal for the individual in PPD is to enable adequate socialization and life intertwining. This implies supporting the patient’s sense of efficacy in problem situations [56]. It was previously proposed that therapy should address the propensity for withdrawal from others whereas individuals “injected and bound of the reality checks that might reinstate their erupcery and fascination” [58, 66]. Group therapy can provide an ideal forum while the rigidity and lack of trust necessitates ensuring that settings are perceived safe [58]. Correspondingly, milieu-therapeutic approaches have been suggested to be of some help in treating PPD symptoms [98, 101]; individuals are taught to express thoughts in a constructive and more socially acceptable manner, without the impeclicity of the negative affect [98]. Typically they need to learn to “play the ball instead of the man” and also cleave communications directly with people instead of mostly talking negatively about them. Consequently they are taught not to read too much into the semantic and behavior of others and to “cut the crap.” The apparent misconception should be challenged that every detail is whatsoever expression of bad feelings which require some sort of apology or compensation to be properly “replied” [54]. Attention is drawn to how many resources perseveration, evasions, and demonstration take up [61]. Finally they are taught that experiences and perceptions can be challenged by peers with being a process rather than a blow and be provided with some conception about when to bow out and when to change path.
the Millon Clinical Multiaxial Inventory (MCMI) which is specifically developed in clinical populations [86]. It closely relates to Millon’s theory of personality described in terms of evolutionary polarities and structural domains. Among others, the MCMI contains 15 personality scales, including the three severe pathology scales of paranoid, borderline, and schizotypal personality disorder.

It should be noted that FPD sometimes appears to co-exist with other personality disorders (like schizoid, antisocial, obsessive-compulsive, dependent, schizotypal, and BPD) [20, 65] and furthermore, co-occurrence has been shown with anxiety-, mood-, and psychotic disorders [85, 89, 90]. Correspondingly, studies have indicated that FPD has some overlap with both normal personality as measured by NEO-PI-R as well as with, for example, schizoid and schizotypal personality disorders [86, 91, 92].

APPROACHES TO MANAGEMENT

Although individuals with FPD (or, for that matter, their closest environment) sometimes have been quite obviously sidelined from normal life trajectories, detection of FPD is often the first challenge when encountering it. Particularly from a clinician’s perspective, however, these patients’ interpretation of symptoms, illness, or life events at large often involve a lack of ‘private’, inflexible, and affect-laden. This leads to the next undertaking which is to reasonable interact with the individual and avoid being intervened into a malfunctioning progression. Failure to examine from the parasitic processes almost unanswerably results in doing a disservice to the patient, backing up faulty objectives and schemes, or activating a boundless battle. Durable collaboration with individuals with FPD tends to be a task for clinicians with substantial mental health care experience. A special challenge is when an entire family is involved, a scope as is located in the family circle, ‘interactions’ are ongoing, and the parasitic ‘bulwark’ is otherwise intact - a situation which on the other hand provides a perfect look into the unhealthy relational structures. Then again, cooperation if successful sometimes will enable individuals to establish a better contact with own feelings and with those around. A few basic principles which generally apply to managing FPD are given in Table 2.

PROGNOSIS

Millon and Davis noted that during therapy, when defenses cease up, feelings of vulnerability and inferiority can predominate and depression result requiring extra attention [5,58]. Anyway, they concluded that it is possible to put “these personalities (...) on the road to recovery” and provide them “with a glimpse of a positive, healthy way of relating that might ultimately draw them further into the process of therapy”. Similarly it was put forward by Turkat that some individuals with FPD truly can be treated successfully [86]. Correspondingly, although clinical investigations are scarce [13], they indicate a beneficial effect of psychological interventions [62, 102-104].

Regarding psychopharmacologic treatment in FPD research is severely lacking [33]. An empirical study proposed that a small group of patients with parasitic symptomatology obtained significant improvement after receiving pinealocyte during 2 months with only mild side-effects. But the specific effect in those two participants with a ‘Paranoid personality’ was not reported [105]. Later, presumably based upon the authors’ clinical experiences, Serret and Kessler suggested that FPD patients sometimes can benefit from low doses of neuroleptic medication [97]. Newly, an effect of antipsychotics (theoretically being the most commonly used) was suggested with no major side-effects in patients with FPD though the majority showed less changes at the most after a median follow-up of 8 years [98]. However, in addition to being based on a very small material (n=15) from a single psychiatric unit, the study was retrospective and suffered from considerable limitations due to, e.g., lacking a blinded randomized assignment.

As regards prognosis, some additional follow-up information is available from broader personality disorder studies and community samples. In a study (n=529) among individuals with various personality disorders, the 2-year temporal stability of FPD categorical scores, according to the Dimensional Interview for DSM-IV Personality Disorders (DIPD-IV), showed a χ²=0.47 (mean χ² of all personality disorders was 0.37) [106]. In the 10-year study of diagnostic stability from the same sample (n=266), the correlation was found to be χ²=0.39, or slightly above the mean and that of BPD [107]. Most recently, community study findings (n=2382) using the Structured Interview for DSM-IV Personality suggested cluster A personality disorders to be highly stable over a 10-year period [108, 109]; criteria count stability for FPD demonstrated a correlation coefficient of 0.34 (polythetic), which was somewhat less than for BPD yet, comparable to BPD, two-thirds of the stability derived from genetic factors.

CONCLUSIONS AND PERSPECTIVES

It appears from this review that a substantial amount of empirical studies exist that tend to support the concept of a parasitic extreme like FPD. Regarding socio-demographical, psychopathological, and course characteristics, research suggests that it makes sense to delineate a paranoid personality disorder characterized by a pattern of criteria which significantly differs from the patterns of other personality disorders. The quantity of individuals complying with criteria comprises a relatively constant proportion in separate populations and criteria closely relate to clinical prototypical descriptions which are substantiated by a sizeable amount of theory from different schools of thoughts, through various eras of psychiatry. Apart from diagnostic characteristics, individuals seem unified by some additional, qualitatively similar behavior and stereotyped social complications. As is often the case with personality disorders, signs of co-occurring mental disorder are frequently present. In spite of everything, the same pattern of symptoms pointing to FPD tends to be scored by different examiners and validated measures have been developed which more specifically address the typology.

Clinical researchers or patients themselves may be unsatisfied to partake in investigational forms of research concerning clinical FPD is limited. While existing studies point toward treatment options like those for other
personality disorders, individuals look remarkably more difficult to manage and tend to exhibit an unaltered symptom pattern when followed up after years. Genetics apparently play an important role and research has suggested that associations may exist between some central characteristics of the disorder and particular neurobiological correlates.

Thus, it is proposed that an individual has a PPD when one or more of the following conditions are met: (1) the patient has a chronic and persistent pattern of interpersonal dysfunction, characterized by a lack of empathy, social withdrawal, and a tendency to view others as manipulative and dishonest; (2) the patient exhibits a disinterested and uninvolved manner of dealing with reality, causing difficulty in job and family relationships; (3) the patient displays an inability to express emotions, particularly in response to external events; and (4) the patient exhibits a reduced capacity for personal fulfillment and satisfaction.

CONFLICT OF INTEREST

The author(s) confirm that this article has no conflict of interest.

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