Social Phobia as a Comorbid Condition in Sex Offenders with Paraphilia or Impulse Control Disorder

JÜRGEN HOYER, PH.D., HEIKE KUNST, DIP. PSYCH., and ANJA SCHMIDT, DIP. PSYCH.

Studies on the prevalence of social anxiety in sex offenders show mixed results. This may be due to social anxiety being heightened only in diagnostic subgroups of sex offenders, namely in paraphiliacs. In study 1, 72 mentally disordered sexual delinquents and 30 controls were screened for social anxiety with the Social Interaction Anxiety Scale and the Social Phobia Scale by Mattick and Clarke (German versions). In study 2, 55 mentally disordered sexual delinquents were diagnosed with a structured clinical interview. In both studies, sex offenders were categorized as either paraphilic or impulse control disordered (without paraphilia) according to research criteria. Study 1 showed markedly heightened scores for social anxiety in paraphiliacs, particularly for social interaction anxiety. Study 2 found a high lifetime and point prevalence of social phobia in paraphiliacs for which corroborating evidence was again found in questionnaire results. Implications for further research, diagnostic procedures, and therapy are discussed.


Heightened social anxiety in offenders has been discussed as one of the accompanying conditions of sex offenses (e.g., Davis and Leitenberg, 1987). Recent results show that trait anxiety is generally heightened in violent offenders (Engstrom et al., 1999; Vaillant and Antonovicz, 1991). Many sex offenders have been victims of sexual abuse or physical abuse as children (estimates range from 19% to 58%, see Davis and Leitenberg, 1987; McElroy et al., 1999), an experience that increases the risk of developing anxiety problems (Mancini et al., 1995; Stein et al., 1996). Additionally, serious social isolation is seen in the majority of cases (Fehrenbach et al., 1986). However, there are few studies that directly address social anxiety in sex offenders. Baxter et al. (1984) found more interaction anxiety, lower self-esteem, and less assertiveness in sex offenders than in non-sex offenders. Similarly, Blaske et al. (1989) reported that sex offenders showed more self-reported anxiety symptoms than other delinquents and nondelinquent peers. Conversely, Kempton and Forehand (1992) reported data based on teacher reports indicating that sex offenders without confrontational offenses (e.g., exhibitionists) exhibited less social anxiety than confrontational sex offenders or other offenders. Vaillant and Antonovicz (1991) reported more anxiety in their group of offenders without sex offenses than in their sex offenders group.

Two studies used structured clinical interviews and investigated the extent to which criteria for social phobia were met as well as those for other disorders. In a study by McElroy et al. (1999), 6 of 36 convicted sex offenders were diagnosed as having social phobia (17%), four of those in the subgroup of paraphiliacs (19%), and two in the subgroup without paraphilia (13%). In a study by Raymond et al. (1999) investigating a more homogeneous sample of 42 pedophiles, social phobia was found to be the most frequent comorbid disorder (14 participants, 31.1% of the sample) with a prevalence rate clearly higher than that found in the population (11.1% in male subjects; Kessler et al., 1994).

In sum, there is mixed evidence as to whether social anxiety and/or social phobia are heightened in sex offenders. This heterogeneity of results may in part be due to the studies using different methodologies with regard to instruments and selection criteria. Only one study selected study participants by using explicit standardized diagnostic criteria (Raymond et al., 1999) and found a strong association between pedophilia and social phobia. A diagnostically oriented approach seems favorable because offending is based on separate functional analyses, depending on whether delinquents are paraphilic or not (Wulfert et al., 1996). Accordingly,
there has been criticism (Hoyer et al., 1999) that the frequently used distinction between rapists and child molesters may produce psychologically heterogeneous groups. For example, a rapist as well as a child molester may be psychologically disturbed or not, may have a paraphilia or not, or may have a criminal background or not. Although the offense type is normally a relevant variable, to base group definitions on an operationalized diagnostic system such as the DSM IV (American Psychiatric Association, 1994) promises a more valid research strategy, including better comparability across studies.

Paraphilia is not the only mental disorder that may be of direct relevance for committing sex offenses. Beyond specific mental disorders relevant in the context of sex offenses, such as schizophrenia or intellectual deficits, Wulfert et al. (1996) have described a group of mentally disordered offenders that has no deviant sexual preferences (as do paraphiliacs) and is more driven by the need to reduce aggressive arousal when committing sex offenses. Hoyer et al. (1999) stated that this group meets the diagnostic criteria of an “impulse control disorder not otherwise specified” according to DSM-IV (see below). In a study with more than 100 hands-on offenders in a forensic hospital, it was shown that this group could reliably be distinguished from paraphiliacs and other offenders without a history of sex offenses (Hoyer et al., 1999).

Given these considerations, more precise hypotheses about social anxiety in sex offenders can be formulated. We expect that it is specifically the subgroup of mentally disordered sex offenders having sexual deviations, i.e., paraphiliacs, in which heightened social anxiety is found. This group is characterized by psychological deficits that may be more or less widespread (Raymond et al., 1999) and that increase the risk of developing social anxiety. Additionally, sexually deviant behavior during the stage in which paraphilia develops, i.e., early adolescence (Abel and Osborn, 1992), is extremely negatively socially sanctioned and may lead to self-denigration and anxiety (see Baumeister, 1990), although only very little empirical data exist on the subject matter. Moreover, again favoring development and maintenance of social anxiety, paraphilia is often accompanied by reduced social contacts and a generally reduced and norm-oriented lifestyle. On the contrary, criminals without diagnosed mental disorders, although obviously not socially conforming and potentially having socialization deficits, do not seem to have a specific risk of becoming socially anxious. Additionally, those with an impulse control disorder do not display sexual deviance and may, therefore, not consider themselves as deviant or socially deficient. Again, no general risk of developing social anxiety is to be expected. However, it is still unclear whether incarceration and the process of being convicted for a sex offense may also increase social anxiety in this group.

The assumption of heightened social anxiety in paraphiliacs as opposed to impulse control disordered sex offenders (and, in study 1, other delinquents) was tested in two studies. In study 1, social anxiety was measured using the Social Interaction Anxiety Scale (SIAS) and the Social Phobia Scale (SPS) by Mattick and Clarke (1998; German versions by Stangier et al., 1999). In this approach, forms of social anxiety are distinguished based on the type of social situation involved. Whereas the SIAS focuses on interaction situations (e.g., having a personal conversation and other forms of face-to-face-interactions), the SPS is directed toward situations with various aspects of performance (e.g., giving a speech). Stangier et al. (1999) reported clinical cutoff scores for both instruments, making it possible to investigate the percentage of sex offenders with scores lying above these cutoffs and, thus, lying within the distribution of socially phobic subjects.

In study 2, a structured clinical interview (modified German version of the Anxiety Disorders Interview Schedule by DiNardo et al., 1994) was used to determine the prevalence of social phobia in mentally disordered sex offenders.

In both studies, sex offenders with hands-on offenses were selected and categorized as either paraphilic or impulse control disordered (without paraphilia), following research criteria.

**Study 1**

The major aim of this study (Hoyer et al., 1999) was to validate the distinction between paraphilic and impulse control disordered sex offenders for research purposes. This distinction is based on a functional analysis of sexually dangerous behavior (see Wulfert et al., 1996) and refers to the two DSM-IV axis-I diagnoses that are most relevant for mentally disordered sex offenders, a subgroup that, in Germany, is treated in specialized security forensic wards (see Leygraf, 1988). Part of the study was the analysis of social anxiety in both groups.

A general methodological problem in the investigation of long-term incarcerated offenders is controlling the effects of institutionalization. To show that the expected heightened social anxiety is not merely the result of institutionalization and of possible accompanying social deviations, an institutionalized control group was selected that was com-
prised of violent offenders in the forensic hospital without any history of sex offenses.

As stated above, it was expected that social anxiety would be generally higher in paraphiliacs than in impulse control disordered sex offenders and in controls.

**Methods**

**Participants**

Participants were incarcerated in the State Forensic Hospitals of Moringen, Lower Saxony, or Eickelborn, Westphalia (Germany). Those with a history of psychosis, with intellectual deficits, or who had not learned German as their first language were generally excluded. A total of 42 paraphilic participants, 30 impulse control disordered participants, and 30 control participants were examined. The control group was comprised of mentally disordered offenders with various violent offenses ranging from robbery to murder but with no history of a sexual offense. This group was diagnostically heterogeneous, the main clinical diagnoses being personality disorders and neuroses. All participants were male. The groups did not differ with regard to age and time of incarceration (see Table 1). Furthermore, the groups did not differ in their degree of education ($\chi^2[12] = 14.12, p = .42$). Approximately one third of each group had not completed school, the majority of others had completed the lowest level school certificate (Hauptschule).

**Diagnostic Procedures**

Categorical diagnostic procedures were completely based on file information. Due to the juridical decisions preceding the allocation to forensic wards, extensive file information was available in all cases. The file contained detailed information about the interviews of the offender. These interviews were based on diagnostic contacts of up to more than 2 days and are based on relatively close contact between the diagnostician and the offender, which is expected to minimize the problem of underreporting sexual fantasies (Grossman and Cavanaugh, 1990), when compared with a short-term research interview. Based on this information, the following research criteria for paraphilia and impulse control disorder (ICD) were examined:

Paraphilia was defined according to DSM-IV. To diagnose paraphilia based on file information, it was necessary that deviant sexual fantasies were either reported or that there were repetitive features throughout the offenses with an obviously paraphilic theme. Additionally, there had to be hands-on-offenses including elements of deviant sexual fantasies, and finally there should have been no sex offenses without the above-mentioned criteria.

Impulse control disorder was defined a) by having committed a sex offense without any diagnosable relation to sexual deviance/paraphilia and b) having shown signs of loss of impulse control before and during the offense. Loss of impulse control was defined according to DSM-IV as an act that is harmful to the person or to others during which the individual feels an increasing sense of tension or arousal.

All cases were double rated to determine the interrater reliability of the diagnostic decision. Kappa was .78. After determining interrater reliability, unclear cases were identified and consensus was achieved.

Within the paraphilic sample, 23 subjects were classified as pedophiles, and 19 subjects were classified as sexual sadists. Both groups did not differ with regard to sociodemographic and psychological variables including social anxiety (see Kunst et al., 1999) and were pooled for the present analysis.

**Diagnoses and Offenses**

Group criteria were defined by diagnosis alone and not by offense criteria. However, it may be interesting to note that diagnoses were not homogeneous with regard to offense types and vice versa. Of the offenders sentenced for rape ($N = 35$), 21 received a diagnosis of ICD and 14 of paraphilia; of the offenders sentenced for child molestation ($N = 33$), 28 were diagnosed as paraphiliacs and 5 as having ICD. The association between diagnosis and

<table>
<thead>
<tr>
<th>TABLE 1</th>
<th>Age and Time of Incarceration (Mean, SD) in Paraphilic and Impulse Control Disordered Sex Offenders and Forensic Controls (Study 1)</th>
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<tbody>
<tr>
<td></td>
<td>Paraphiliacs ($N = 42$)</td>
</tr>
<tr>
<td>Age</td>
<td>Mean ± SD</td>
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<td>Time of incarceration (in months)</td>
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offense was significant but far from perfect (Cramer’s Index = 5.46, p < .01).

Previous results have shown that within mentally disordered offenders the diagnostic distinction produces more psychologically homogeneous groups than a distinction that is based solely on the offenses. Discriminant analysis with selected psychological variables was found to be significant when the diagnostic distinction was used as a grouping variable but not when an offense based distinction was applied (Hoyer et al., 1999).

Measures. Social anxiety was measured with the SIAS and the SPS by Mattick and Clarke (1998), which are based on the rationale described above. Both scales are self-report measures with 20 items each. Items have to be answered on a 5-point Likert scale ranging from 0 = not at all to 4 = very much. Stangier et al. (1999) reported good to excellent internal consistency for both scales in their German versions (SIAS and SPS: $\alpha = .94$ in social phobics; SIAS: $\alpha = .84$, SPS: $\alpha = .77$ in patients with other anxiety disorders; SIAS: $\alpha = .90$, SPS: $\alpha = .92$ in depressive patients; SIAS and SPS: $\alpha = .79$ in healthy participants). In the sample of the present study, the internal consistency of both scales was again high (SIAS: $\alpha = .90$, SPS: $\alpha = .90$). Stangier et al. (1999) also report a cutoff score for the discrimination of social phobics and other individuals of 30 (SIAS) and 20 (SPS).

Results

In Table 2, group mean scores and standard deviations for SIAS and SPS as well as results of the overall ANOVA are presented. Additionally, post-hoc Scheffé tests were computed to analyze group comparisons. The results show that the overall analysis of variance is significant only with respect to social interaction anxiety (SIAS) but not concerning performance situations (SPS). Scheffé tests revealed that SIAS differences were due to the scores of the paraphiliacs being higher than those of both other groups. The other sex offender subgroup, impulse control disordered offenders, did not exhibit significantly higher scores than control patients.

The use of the clinical cutoff scores leads to an estimate of the degree of clinically relevant socially anxious features in all groups. As Table 3 shows, there is a relatively high percentage of offenders in all three groups with scores above the cutoff score for clinically socially anxious individuals. As was expected, this effect was most pronounced in paraphiliacs, but this was true only when cutoff scores were based on social interaction anxiety (SIAS).

Discussion

The results confirm our hypothesis that paraphiliacs reveal elevated social anxiety when compared with other mentally disordered sex offenders (impulse control disordered participants) and controls. However, the effect is seen only on the SIAS: social interaction anxiety describes paraphiliacs, but there is no deviation in performance related aspects of social phobia (SPS). The latter may generally be of less importance in distinguishing between clinical groups because performance situations are more easily avoided than everyday interaction situations.

Estimates of clinically relevant social anxiety based on questionnaire cutoff scores reveal a tendency toward generally heightened social anxiety in offenders. Although the range of epidemiological estimates for the lifetime prevalence of social phobia is very high (between 2.5% for male subjects reported by Eaton et al. [1991] and 16% reported by
Wacker et al. [1992]), social phobia seems to be one of the most frequent anxiety disorders. In the National Comorbidity Survey, a lifetime prevalence of 11.1% was found in men (Kessler et al., 1994). Our prevalence estimates exceed these rates in all groups, indicating there is a base effect of elevated social anxiety that may be due to prolonged hospitalization or of a tendency of the offenders to aggravate socially anxious features in self-reports (Haywood et al., 1993).

Even beyond this unspecific and not yet clearly interpretable effect, there is a specifically high prevalence of social anxiety in paraphiliacs (51%) that exceeds the base rate of a positive screening result for clinical social phobia (of between 14% and 30%) in the other groups by another 21% (relative percentage 70%). This effect is specific for interaction anxiety, i.e., for situations in which face-to-face communication has to be established; it is expected according to theory and can be integrated into the concept of this disorder.

It is important to note that the study and its interpretability have a number of limitations. The study does not have a control group of sex offenders who have no diagnosed mental disorder. Thus, we cannot judge whether elevated social anxiety is typical for mentally disordered sex offenders when compared with purely criminal sex offenders (if there are such offenders). Second, the study does not have a non-institutionalized control group. Thus, we cannot judge whether elevated social anxiety is typical for those who are institutionalized in a forensic ward or whether, alternately, anxiety may be concomitant with mental deficits. However, these questions go beyond the restricted aims of our study, which is clearly, if to a limited degree, interpretable when it is kept in mind that comparisons are only made within groups of mentally disordered offenders. A further limitation lies in the fact that only self-report measures were used for the investigation of social anxiety. To replicate the findings on the basis of expert ratings, study 2 was conducted.

**Study 2**

An estimation of the prevalence of a clinical disorder should never be based on questionnaire measures that are not specifically developed for screening purposes (Hoyer et al., in press). Even if excellent screening ability (or predictive accuracy) has been documented for the SIAS and SPS (Stangier et al., 1999), the use of standardized diagnostic interviews must be regarded as the gold standard for making reliable and valid clinical diagnostic decisions. This notion seems even more valid when an offender population is examined.

In study 2, mentally disordered sex offenders (but no controls) were diagnosed using a standardized diagnostic interview. Additionally, they were screened again for social anxiety with the SIAS and the SPS.

**Methods**

**Participants**

All participants were incarcerated either in the State Forensic Hospital in Arnsdorf, Saxony, or in the State Forensic Hospital of Moringen, Lower Saxony, Germany. Participants were again selected and classified as described in study 1. Interrater agreement was at Kappa = .87. Thirty participants were classified as paraphilic (age: mean = 36.67, SD = 9.72; time of incarceration in months: mean = 47.83, SD = 35.37) and 26 as impulse control disordered (age: mean = 31.19, SD = 9.39; time of incarceration in months: mean = 57.84, SD = 38.42). Of the paraphilic sample, 18 offenders were pedophiles and 10 sexual sadists. Both subgroups were pooled because they did not differ with regard to the SIAS (t[26] = .17, p = .87) or the SPS (t[25] = .63, p = .54). All participants were male. ICD offenders of this sample were younger (t[54] = 2.14, p = .04). Because correlational analyses did not reveal any association between age and social anxiety measures (p > .30 in all analyses), this difference was neglected in the following analyses. There was no difference concerning time of incarceration (t[54] = 1.02, p = .32). Furthermore, the groups did not differ in their degree of education: More than one third of each sample had not completed school (χ²[1] = .00, p = 1.00). It should also be noted that part of the sample was recruited in one of the clinics of study 1 and that due to anonymity and differing research teams a small but unclear percentage of the sample may also have participated in study 1.

**Diagnostic Assessment**

The diagnostic assessment was based on the Diagnostisches Interview für psychische Störungen–Kurzversion (Mini-DIPS; Margraf et al., 1996). The Mini-DIPS is a structured interview to diagnose axis I disorders according to the DSM-IV, for lifetime and point prevalence. It is based on the Anxiety Disorders Interview Schedule (ADIS-IV-L; DiNardo et al., 1994) and is also a continuation of earlier work according to DSM-III-R (DIPS; Margraf et al., 1991). Unlike previous versions, it also contains sections for substance abuse and dependence. The following disorders can be diagnosed: all anxiety disorders,
affective disorders except cyclothymia, hypochondriasis, somatization disorder, conversion disorder and pain disorder, substance abuse and dependence, bulimia, and anorexia. Furthermore, there is a sociodemographic section, a screening for psychosis, a screening for the general medical condition and medication, a short section of family history of psychological disorders, and a section about treatment for psychological disorders. Axis IV (psychosocial and environmental problems) and axis V (global assessment of functioning) are also registered or rated. (A report with the full diagnostic results of the interview in our sample will be published elsewhere.)

The retest and interrater reliability of the original DIPS was tested in an unselected sample of 201 patients, mostly of an internist-psychosomatic clinic (Schneider et al., 1992). The retest reliabilities across the groups of disorders were between .68 and .79 (Kappa coefficient) and .67 and 1.0 (Yule’s Y coefficient). Apart from a few exceptions, the individual diagnoses also reach satisfactory values (Kappa coefficient between .68 and .73 and Yule’s Y between .71 and 1.0), with a Kappa of .72 and Yule’s Y of .83 for social phobia (Schneider et al., 1992, p.222). The study proved the DIPS to be a valid instrument for the diagnosis of psychiatric disorders (Margraf et al., 1991).

Interviews were conducted by the third author (a clinical psychologist experienced in forensic work) after special training of about 1 week. During the training, the different disorders were explained, emphasizing DSM-IV criteria and differential diagnosis. Each single interview was reviewed by experienced clinical supervisors. Unclear cases were discussed, and a consensual diagnosis was given.

Further Measures

Social anxiety was again measured with the SIAS and the SPS, which showed internal consistencies of \( \alpha = .89 \) (SIAS) and \( \alpha = .92 \) (SPS), respectively.

Results

Questionnaires

Results for the SIAS were as follows: paraphiliacs (mean = 25.03, SD = 13.31) again reached a significantly higher mean score (t[54] = 2.08, \( p = .04 \)) than impulse control disordered subjects (mean = 18.54, SD = 9.45). There was no respective difference between groups on the SPS (mean = 15.10, SD = 13.54 in paraphiliacs; mean = 12.38, SD = 11.04 in ICD offenders, t[54] = .82; \( p = .42 \)).

Eight of 30 paraphiliacs scored above the clinical cutoff for SIAS (26.7%) and 7 for SPS (23.3%); two ICD subjects scored above the clinical cutoff for SIAS (8%) and 3 for SPS (11%).

Diagnostic Interview Data

Results of the structured clinical interview are presented in Table 4. Prevalence of current social phobia is clearly higher in paraphilia than in ICD (23.3% vs. 8%; the number of subjects within cells is too low for a valid statistical test). A lifetime diagnosis of social phobia is frequent in paraphiliacs (53.3%) and less prevalent in ICD offenders (20%; \( \chi^2[1] = 6.42, p = .01 \) for a one-sided test).

To examine the association between case identification by questionnaire and by interview, Kendall’s tau was computed. For lifetime diagnoses, we found \( \tau = .52 (p < .001) \) when the SIAS was used and \( \tau = .42 (p < .001) \) when the SPS was used—for current diagnoses \( \tau = .37 (p < .001, \text{SIAS}) \) and \( \tau = .19 (p < .001, \text{SPS}) \).

Discussion

In study 2, the main results of study 1 were replicated on the basis of self-report data. Paraphilic sex offenders showed heightened scores of social anxiety when compared with impulse control disordered sex offenders. This effect was again specific for interaction anxiety. The use of cutoff scores indicated that social anxiety is clinically relevant for a high percentage (approximately a quarter) of paraphiliacs even in the restricted social area of a forensic hospital.

DSM-IV diagnoses using a structured clinical interview revealed estimates of current social phobia diagnosis that came close to the estimates using cutoff scores in the SIAS. However, the statistical association between current diagnosis and the SIAS cutoff selection was only moderate (\( r = .37 \) and small with regard to SPS (\( r = .19 \)), indicating that screening for social phobia by using questionnaire data alone would result in a high risk of wrong

<table>
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<th>Lifetime Diagnosis</th>
<th>Total</th>
</tr>
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<td></td>
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<tr>
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<td>61.8%</td>
<td>16.4%</td>
<td>38.2%</td>
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</tr>
</tbody>
</table>

Note: SIAS = Social Interaction Anxiety Scale; SPS = Social Phobia Scale; ICD = Impulse Control Disorder; \( \chi^2 \); Kendall’s tau.
screening decisions. The association between lifetime diagnosis and cutoff criterion is more satisfying, particularly when using the SIAS. Questionnaire data may be more sensitive to a general social phobia problem, regardless of whether it is still manifested during incarceration.

With regard to lifetime diagnosis, social phobia was shown to be a highly prevalent comorbid condition in paraphiliacs (53.3%), but it is not seldom also in impulse control disordered sex offenders (20.0%). Because both groups did differ statistically in lifetime prevalence, our initial hypothesis about the specificity of social anxiety for paraphiliacs was confirmed. A history of social phobia seems to be a common feature of mentally disordered sex offenders in general, although the syndrome seems to persist more permanently in paraphiliacs. It remains unclear whether the differences between lifetime and current prevalence rates are due to effective treatment conditions, to the natural course of social phobia and spontaneous remission, respectively, or to the reduced set of social situations during incarceration, which may lead to a reduced experience of interaction and performance anxiety. Given the latter case, the relevance of social phobia may be underestimated even by the delinquents themselves, and social phobia may reoccur after hospitalization with unknown, yet possibly complicating, consequences.

More general implications as well as limitations of the data are discussed in the following section.

**Discussion**

Is social phobia a frequent comorbid condition in sex offenders with mental disorders including paraphilia or impulse control disorder? On a multi-method basis, our studies have shown that this is consistently the case in paraphiliacs. In impulse control disorder, rates of a social phobia diagnosis as well as mean scores in the SIAS are consistently lower, although there is a slightly heightened prevalence of social anxiety on the level of lifetime diagnosis. At the same time, the findings confirm the assumption that there are diagnostic subgroups within mentally disordered sex offenders that can account for the heterogeneous results in previous research and that should be acknowledged in the future.

Generalizability of our data remains restricted. We have examined mentally disordered offenders with hands-on offenses in forensic hospitals in Germany. The validity of the judicial decision as to whether offenders are mentally disordered is unclear. The basis of the definition of our sample is, therefore, only partially based on psychiatric or psychological rationale. The group under study was, furthermore, specifically defined by the fact that we could not include sex offenders with intelligence deficits or a history of psychosis who usually constitute a relevant subgroup within this population of mentally disordered offenders. However, even if we believed that our results were not generalizable at all to other subgroups of sex offenders, they have important implications because the group we studied comprised those offenders who are under treatment and who have committed severe and dangerous offenses, in most cases repetitively. Overlooking an important psychiatric feature such as social phobia, which has direct theoretical links to the explanation of sex offenses and accompanying psychological deficits, would obviously reduce the chances of an effective and risk preventive treatment.

More generally, it has recently been argued that a more precise understanding of the mental disorders of “persons who perform harmful sexual behaviors would have important clinical, legal, public health, and theoretical implications” (McElroy et al., 1999, p. 419). More valid diagnostic procedures are the most important prerequisite for this. Under this view, the reliable and valid classification procedures that have been achieved after the development of DSM-III-R and DSM-IV should be transferred to the forensic field (see also Hoyer, in press).

This might be a pathway to better prognosis and treatment; also the understanding of the etiology of sexually deviant aggressive behavior can be improved by a more thorough and systematic use of diagnostic information about sexual delinquents. Our results indicate that social phobia may play a role in the development and/or maintenance of paraphilic behavior. However, it is unclear whether social anxiety is a predecessor of the development of paraphilic tendencies or whether social anxiety develops after the development and self-acknowledgment of deviant sexual behavior. Moreover, both possible “causal” pathways may combine to constitute the extreme social isolation seen in many paraphiliacs (see Fehrenbach et al., 1986). Due to the severe methodological difficulties developmental psychopathology has to face in this field, retrospective studies may help to derive first information about the validity of these hypotheses.

**References**

