Psychiatric diagnosis and criminal record determine the courts' decisions

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ABSTRACT

INTRODUCTION: Section 69 of the Danish Penal Code implies the possibility of sentencing also non-psychotic offenders to treatment when this is considered expedient. The aim of this study was to analyse which factors influence the courts' decisions to sentence offenders to psychiatric treatment instead of punishment.

MATERIAL AND METHODS: The psychiatric statements of the Danish Medico-Legal Council from 1 April 2005 to 31 December 2007 were screened retrospectively to sample all cases processing non-psychotic offenders under Section 69. Analyses were performed using logistic regression with a verdict of a measure of psychiatric treatment as the response variable as opposed to punishment; the following reference variables were used as the main explanatory variables: demographic data, diagnosis, prior and present charges, and psychiatric history. The selection of the material thus ensures diagnostic validity.

RESULTS: A psychiatric diagnosis is clearly the most decisive factor associated with a psychiatric treatment measure, but also psychiatric history and prior offences have a significant impact. The present charge only has limited influence.

CONCLUSION: Section 69 of the Danish Penal Code is still used as intended, i.e, treatment measures are given according to psychiatric needs and take into consideration the offender's criminal behaviour.

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TRIAL REGISTRATION: The Danish Data Protection Agency has approved the study. Approval from the Danish Data Protection Agency was obtained (file no. 2012-41-1272).

For centuries, the Danish Penal Code has stipulated that psychotic offenders are not punishable. Since 1933, they are instead to be treated psychiatrically, cf. Section 16. The possibility of court ordered treatment measures for non-psychotic criminal offenders was introduced in 1973-1975 by way of Section 69 of the Danish Penal Code.

Earlier studies show that although some non-psychotic offenders are referred to psychiatric settings [1, 2], most are sentenced to ordinary punishment [3]. In 1993, Kørner et al [4] found that the more serious the psychiatric diagnosis and the less severe the present offence and the criminal history, the higher was the possibility of being recommended a treatment measure instead of punishment.

Since the introduction of Section 69, the number of psychiatric beds in Denmark has been reduced by about 75%, outpatient services have increased, and the number of patients in forensic psychiatry has increased exponentially [5].

A psychiatric assessment report is required by the court in all but minor criminal cases if mental disturbance is suspected, if the charge is very severe, or if the offender is very young (< 18 years) or old (> 60 years). If the defendant is found to be non-psychotic, but otherwise mentally disordered, it is stated whether a psychiatric measure might be more expedient than punishment with a view to preventing future offences. In cases of severe offences and if the psychiatric assessment report leaves the court in doubt as to whether mental health issues are relevant for the trial, the court may request that the Medico-Legal Council (MLC) [6] provides its opinion based on the criminal files and a psychiatric assessment report. The MLC then states whether the defendant is believed to have been psychotic at the time of the crime or is believed to be otherwise mentally disordered, and it recommends a relevant psychiatric sanction. The final choice of sanction rests with the judicial system.

The aim of the present study is to conduct an up-to-date study of factors influencing the courts' decisions when sentencing to psychiatric treatment instead of punishment.

MATERIAL AND METHODS

By retrospectively screening all statements given by the MLC from 1 April 2005 to 31 December 2007, we sampled 298 cases in which the defendant was found to definitely be or possibly fall under Section 69. Data were extracted from the psychiatric assessment reports, Council statements and final verdicts covering socio-demographics, health issues including medication and substance abuse, previous offences, the conclusions of the assessment report and of the MLC, and the final outcome of the trial. Diagnoses were given as main F categories of the International Classification of Diseases (ICD)-10 [7] by the two participating psychiatrists (EAK, PG) based on the clinical description provided in the assessment report. Ten percent of the diagnoses were co-rated to ensure re-

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TABLE 1

Some demographic and sociological characteristics of the sample.

	Incl. near-psychotics (N = 275)	Excl. near-psychotics (N = 203)
Males, n (%)	225 (82)	175 (86)
Single, n (%)	174 (63)	122 (60)
Somatic illness, n (%)	38 (14)	25 (12)
Foreign extraction, n (%)	51 (23)	32 (16)
Not in own home, n (%)	106 (39)	83 (41)
Unemployment, n (%)	214 (78)	151 (74)
Prior abuse, n (%)	89 (32)	63 (31)
Intoxication, time of charge, n (%)	150 (55)	114 (56)
No prior offences, n (%)	88 (32)	63 (31)
Psychiatric history, inpatient, n (%)	136 (50)	92 (45)
Psychiatric history, outpatient, n (%)	182 (66)	127 (62)
Age, mean, yrs	30.96	29.98
Age, median (range), yrs	28 (15-71)	28 (15-68)

liability. A somatic illness was considered relevant if serious enough to warrant mentioning in the conclusion of the report. Outcome was defined as the courts' verdicts resulting in either normal punitive sanctions or psychiatric treatment measures. The demographic data of the entire material, n = 298, were published elsewhere [8].

Statistical analyses

Data were stored electronically and analysed statistically using SAS JMP 9.

Logistic regression analysis using psychiatric treatment measures as response variable and punishment as reference category was used to identify variables influencing the courts' decisions, starting with a model including all main actions followed by a stepwise reduction. Also, possible first-order interactions were tentatively included into the model. The potentially explanatory variables included in the logistic regression analyses were age, gender, living conditions, unemployment, somatic illness, ethnicity, prior abuse, intoxication at the time of alleged offence, prior offences (categorised into four groups: none, only non-violent, only violent, both non-violent and violent offences), ICD-10 diagnosis (categorised into eight groups: 1. Personality disorders, 2. Organic disorders, 3. Schizotypal disorders, 4. Affective disorders, 5. Mental retardation, 6. Autism, 7. Attention deficit hyperactivity disorder (ADHD), 8. No diagnosis), and, finally, the most serious of the present charges (categorized into seven groups: 1. Homicide, attempted homicide, grievous bodily harm; 2. Arson; 3. Other violent crimes; 4. Rape; 5. Other crimes of sexuality; 6. Robbery; and 7. Other crimes – a category counting less serious charges, e.g. theft, traffic violation, possession of drugs).

Ethics

The anonymity of the included offenders was guaranteed, and approval from The Danish Data Protection Agency was obtained (file no. 2012-41-1272).

Trial registration: The Danish Data Protection Agency has approved the study.

RESULTS

Of the original 298 cases, 23 cases were excluded because neither punishment nor psychiatric treatment was the outcome of the trial, which left 275 cases for the present analyses. In 72 of these cases, the MLC expressed some uncertainty as to whether the defendant was psychotic; but if not, the defendant was definitely otherwise mentally disordered cf. Section 69. These 72 cases (near-psychotics) were excluded to allow for separate analysis of the remaining 203 cases. The two datasets are presented in **Table 1**.

As described previously [8], the participants were mainly unemployed, single males, often without their own home, most had been in contact with the psychiatric health-care system, and abuse of alcohol and drugs was highly prevalent. The mean age was around 30 years; the age range spanned from 15 to 71 years. When including the near-psychotic cases, 50% (138/275) were sentenced to a psychiatric measure compared with 33% (68/203) when excluding the near-psychotic cases.

Marginal analyses showed a statistically significant association with the following explanatory variables: age (when excluding the below 18-year-olds receiving youth sanctions), gender, living conditions, somatic illness, unemployment, ethnicity, prior abuse, intoxication at the time of the alleged offence, prior offences, prior psychiatric treatment, present criminal charges and present psychiatric diagnosis . However, the remaining variables became redundant when a final model was applied that included only prior offences, prior psychiatric treatment, present criminal charges and present psychiatric diagnosis.

The likelihood-ratio tests of these four variables for each of the two datasets are shown in **Table 2**. When analysing the impact of these four explanatory variables, the psychiatric diagnosis clearly has the most profound impact regardless of whether the near-psychotic offenders are included or not, even though the p-values decrease considerably when the near-psychotics are included.

Prior psychiatric history and prior convictions also both have an impact, albeit a weaker one than that of the diagnosis, whereas the present charge has an impact only when the near-psychotics are included.

When analysing the contribution of the single categories of the explanatory variables, **Table 3**, the refer-

ence group chosen within each variable is the category that a priori is assumed least likely to result in psychiatric treatment.

The logistic regression of the explanatory variable categories clearly demonstrates that, among the ICD-10 diagnoses, the schizotypal disorders have the highest odds-ratios of receiving a treatment sentence followed by affective disorders, organic disorders and disorders of the autism spectrum. Conversely, mental retardation with odds-ratios around 2-3 does not reach statistical significance. All odds-ratios of the diagnoses decrease when the near-psychotics are excluded.

Two persons were found not to display any psychiatric morbidity, both received ordinary punishment, and the logistic regression therefore results in an odds-ratio of zero. All defendants diagnosed as suffering from ADHD received a sentence of psychiatric treatment resulting in an infinite odds-ratio.

Prior psychiatric history results in odds-ratios of 2.6 and 2.9, i.e. slightly higher ratios than when the near-psychotic cases are excluded. No prior convictions result in odds-ratios of 3.7 and 3.8, whereas prior non-violent and violent crimes are not statistically significant variables.

Within the variable *present charge*, modest odds-ratios are reached, and only "Other violent crimes" is statistically significant, while arson is only significant when the near-psychotics are included. The logistic regression analyses were also performed excluding those diagnosed with ADHD and the two without psychiatric morbidity. This did not alter the outcomes of the logistic analyses.

We included interaction-terms of the explanatory variables into the logistic regression analysis. There were no significant effects of interaction between psychiatric diagnoses and present charges on the likelihood of a verdict of psychiatric treatment. However, a significant interaction was found between psychiatric diagnosis (schizotypal disorder) and a history of prior offences (p = 0.022, n = 275; p = 0.15, n = 203). This confirms that having a history of prior offences rather than the present charge interacts significantly with diagnoses, which decreases the likelihood of a verdict of psychiatric treatment. The analytic processes were also performed using the recommendations of the MLC (psychiatric treatment versus punishment) as the response variable instead of the final verdict. The results were similar to those presented above.

DISCUSSION

The findings of a previous study from 1993 [4] are largely corroborated by the present study. The psychiatric diagnosis remains the single most important factor when the courts decide in favour of psychiatric treat-

TABLE 2

The results of the logistic regression analyses with the four categorical explanatory variables using psychiatric treatment opposed to punishment as the response variable. Two datasets are used, one including and one excluding the near-psychotic cases.

	n	Likelihood-ratio	Degrees of freedom	p-value
Present charge				
Incl. near-psychotics	275	16.5	6	0.013
Excl. near-psychotics	203	9.9	6	0.128
Prior offences				
Incl. near-psychotics	275	10.8	3	0.013
Excl. near-psychotics	203	13.8	3	0.003
Diagnosis, ICD-10				
Incl. near-psychotics	275	94.5	7	< 0.001
Excl. near-psychotics	203	44.4	7	< 0.001
Prior psychiatric history				
Incl. near-psychotics	275	6.0	1	0.014
Excl. near-psychotics	203	5.3	1	0.021

ICD = International Classification of Diseases.

TABLE 3

The results of the logistic regression analyses are displayed as estimated odds-ratios with 95% confidence intervals. Psychiatric treatment opposed to punishment is the response variable.

		Incl. near-psychotics (N = 275)		Excl. near-psychotics (N = 203)	
Variable	Category	n	odds-ratio (95% CI)	n	odds-ratio (95% CI)
Present charge	Homicide incl. attempted (ref.)	45	1 (–)	37	1 (–)
	Other violent crimes	122	3.9 (1.4-10.8)	88	3.7 (1.09-14.0)
	Arson	36	4.0 (1.1-14.1)	24	4.4 (0.9-21.1)
	Rape	9	1.5 (0.2-10.4)	9	2.3 (0.3-19.9)
	Other sex crimes	17	1.4 (0.3-6.5)	16	2.1 (0.3-12.4)
	Robbery	16	0.5 (0.1-2.9)	12	0.6 (0.1-5.3)
	Other[a]	30	1.6 (0.4-5.9)	17	1.1 (0.2-7.0)
Diagnosis, ICD 10	F 40-60 Personality disorders (ref.)	156	1 (–)	138	1 (–)
	F 00 Organic disorder, dementia	20	6.0 (1.9-18.5)	15	5.6 (1.6-19.6)
	F 20 Schizotypal	43	92.6 (17.6-486.6)	8	40.3 (4.8-334.6)
	F 30 Affective disorders	18	12.1 (3.28-48.7)	7	10.7 (1.4-80.6)
	F 70 Mental retardation	13	2.0 (0.6-7.0)	12	2.7 (0.7-10.6)
	F 90 Autism	15	4.1 (1.2-14.7)	15	7.3 (1.9-27.7)
	No psychiatric diagnosis[b]	2	0 (0-–)	2	0 (0-–)
	Attention deficit disorder[b]	8	∞ (0-–)	6	∞ (0-–)
Prior psychiatric history	None (ref.)	200	1 (–)	139	1 (–)
	Yes	75	2.6 (1.2-5.6)	64	2.9 (1.1-7.2)
Prior offences	Both non-violent and violent (ref.)	99	1 (–)	78	1 (–)
	Non-violent only	76	3.7 (0.8-17.4)	54	3.7 (0.6-12.5)
	Violent only	12	2.0 (0.9-4.6)	8	2.3 (0.8-6.3)
	None	88	3.7 (1.6-8.5)	63	3.8 (2.2-5.8)

CI = confidence interval; ICD = International Classification of Diseases.
a) Less serious charges, e.g. theft, traffic violation, possession of drugs.
b) 2 persons without psychiatric diagnoses received sentences of traditional punishment; all 8 persons with an attention deficit hyperactivity disorder diagnosis received a treatment sentence; effects therefore cannot be estimated. However, the estimated odds-ratio of the other diagnoses are unaffected by these results.

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ment. The present study has clear advantages over the 1993 study. It uses the final outcome, i.e. the verdict, as the response; the material is far more representative of the forensic psychiatric patient in general, geographically and diagnostically (data from all over the country versus from one clinic); and having the MLC as a source also ensures that each case has been reviewed thoroughly and extensively (by the primary assessing psychiatrist and, additionally, by three psychiatric members of the Council). Thus, although the material is selected – in an earlier study we have estimated that only 25% of all forensic psychiatric assessments are presented to the MLC [9] – this selection also diminishes the known problem of reliability of psychiatric diagnoses. By using main categories only and by having diagnostic co-rating sessions, diagnostic agreement is further improved.

Finally, the present study is considerably larger than the 1993 study. In sociological terms, the two studies are very similar apart from the fact that the present study comprises around 20% of foreign extraction, while the former study does not report any participants of non-Danish origin. Foreign extraction was, however, not significantly associated with a measure of psychiatric treatment in the final model.

Present criminal charges are of limited importance. Other violent crimes and arson have significant impacts when including the near-psychotic cases, while the significant impact of arson disappears when they are excluded. However, having a history of prior convictions significantly decreases the likelihood of receiving a measure of psychiatric treatment. i.e., the load of lifetime criminality, particularly violent offences, rather than the single criminal offence is a deciding factor.

Surprisingly, the group "Other"did not carry a higher probability of psychiatric sanction than the most serious offences. The explanation most probably is found in the small number of cases in the "Other" group, which again is most likely due to case-selection as one of the criteria for presenting the case before the MLC is the seriousness of the criminality. The schizotypal disorders are clearly the diagnostic entity with the highest likelihood of leading to a verdict of psychiatric treatment, followed by the affective disorders.

Notably, all eight participants with an ADHD diagnosis were recommended for psychiatric treatment. This may be due to renewed attention from media and psychiatry alike at the time of the forensic psychiatric assessment, i.e. between 2005 and 2007, which probably influences the recommendation, albeit with considerable geographic variations [10]. A recent study [11] has demonstrated that pharmacological treatment decreases criminal behaviour in ADHD patients.

Section 69 has been criticised [1] not least because personality disorders are, by some psychiatrists, considered untreatable – at least if the sufferer lacks motivation for change. At the same time, many psychiatric centres presently seem to find it important to include offers of treatment for non-psychotic disorders in their services.

Furthermore, the number of non-psychotic offenders who are sentenced to treatment increases in the same way as the number of psychotic and mentally retarded forensic patients [12]. This seems to be in agreement with the findings of our study: that the decisive factors behind the courts' choice between punishment and treatment are primarily the psychiatric condition and secondarily the criminality – and there are no other significant variables.

As this study only included cases that had been laid before the MLC, we can only conclude that Section 69 was used as intended by the law-makers in those cases in which the expertise of the MLC was available to the court. As the fraction of psychiatric forensic assessments seen by the Council is only one quarter and as this fraction seems to be decreasing [12], further studies are required to ensure the full, correct use of Section 69.

CONCLUSION

The study shows that a psychiatric diagnosis by far has the greatest impact and that psychiatric history and prior offences seem to have some impact, while the present criminal charge has only a limited impact. Although the material is especially selected to minimise diagnostic uncertainty, Section 69 of the Danish Penal Code seems still to be of use almost 40 years after it was introduced.

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