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RESEARCH REPORT

Alcohol and drug intoxication during police interrogation and the reasons why suspects confess to the police

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Abstract

This study investigates the effects of alcohol, drug intoxication and withdrawal symptoms on the mental state of criminal suspects and the nature of their confession. A total of 359 sentenced prisoners were approached on admission and 96% agreed to participate in the study. They completed a specially designed Confession Questionnaire, which asked them questions about their reasons for confessing to the police, their attitude towards their confession, their mental state at the time of the confession and the extent to which they had been under the influence of alcohol and drug intoxication at the time of crime and police interview. The confession rate for the sample was very high (92%), with serious traffic violators having the highest confession rate (95%) and sex offenders the lowest (83%). The findings illustrate that the "perception of proof", "internal need to confess" and "external pressure" are the main reasons why suspects confess. However, subjects were identified who had experienced a typical "prisoner's dilemma" phenomenon during the police interview because of a co-defendant. Alcohol and drug intoxication was very commonly reported both at the time of the offence and the police interview, but these were related to the nature of their offence. Although intoxication and withdrawal symptoms did not appear to seriously impair their coping during the police interview it was consistently reported as having made them confused.

Introduction

A recent survey in England among "young offenders" showed that 93% claimed to be regular drug users and were committing property crimes in order to finance their drug habit (Kirby, 1993). The implication is that many offenders are under the influence of illicit substances when they commit crimes and when they are interviewed by the police.

In an early observational study at an English police station, Irving (1980) noted that a substantial proportion of the suspects were visibly intoxicated while being interrogated by the police. With the introduction of the Police and Criminal Evidence Act 1984 (Home Office, 1986) fewer suspects are now being interrogated in England while under the influence of alcohol (Irving & McKenzie, 1989; Gudjonsson *et al.*, 1993). Nevertheless, many suspects are being detained at police stations while under the influence of either alcohol or illicit drugs. For example, Gudjonsson *et al.* (1993), in their study for the Royal Commission on Criminal Justice, found that 33% of suspects reported having consumed alcohol shortly before their arrest and 22% had consumed illicit drugs. The researchers

found that while it was very rare to find suspects being interviewed while under the influence of alcohol there were a number of suspects who appeared to be under the influence of illicit drugs.

The effects of alcohol and drug intoxication during custodial interrogation are not known. However, it is known that even a mild level of intoxication generally impairs the process of forming new memories (Yuille & Tollestrup, 1990) and similar effects have been found for marijuana (Loftus, 1980). The effects of alcohol and drug intoxication on suspects' ability to cope with interrogation are unknown (Gudjonsson, 1992). By "coping" we mean that subjects are able to act after proper consideration of their predicament and in accordance with their own choosing, which is similar to the recent definition of Davison & Forshaw (1993) concerning autonomy within an interrogative situation.

The purpose of the present study is to investigate the possible effects of alcohol and drug intoxication on the ability of suspects to cope with interrogation. Secondly, the possible effects on the reasons given for confessing were explored. It was hypothesized that suspects are sometimes interrogated while under the influence of either alcohol or illicit drugs, and that such influence impairs their ability to cope and is related to the reasons they give for having confessed. Not being able to cope during interrogation may result in subjects unintentionally giving misleading or self-incriminating answers, saying things they did not mean to say, and in exceptional circumstances it may result in a false confession being made (Gudjonsson, 1992).

In a thought-provoking paper, Davison & Forshaw (1993) argue that withdrawal from opiate dependence may cause physical and emotional distress which reduces the person's capacity for autonomy (i.e. being able to formulate and prioritize goals) during police interrogation.

The present study follows the methodology used in similiar studies by Gudjonsson & Petursson (1991) and Gudjonsson & Bownes (1992), where confessions were investigated for Icelandic and Northern Ireland prisoners, respectively. In these studies, a specially designed Confession Questionnaire was used and a factor analysis revealed three main factors why suspects confess during custodial interrogation: "Perception of proof" (i.e. suspects see no point in denying the offence as the evidence against them seems strong), "Internal pressure" (i.e. feelings of remorse and the need to give their account of what happened), and "External pressure" (i.e. police persuasion and fear of custody). The factorial loadings were very similar for both the Icelandic and Northern Ireland samples. The results from both studies indicate that suspects generally confess for a combination of reasons, rather than due to one reason alone. However, for any given suspect there is often one main reason that dominates, the most common being that suspects believe that the evidence against them is strong and that there is therefore no point in denying the offence.

The two studies also revealed other important reasons why suspects confess, the most prominent being that by making a confession the suspect is attempting to protect somebody else. This was found to be an important contributory factor in 20% of the Icelandic sample and 21% in the Northern Ireland sample.

The Icelandic and Northern Ireland studies revealed that the reason for having confessed was significantly related to how the suspect subsequently viewed his or her confession. Confessing predominantly as a result of police pressure was associated with resentment and regret about having confessed, whereas those suspects who confessed predominantly due to internal need and perception of proof were pleased that they had confessed.

The two studies also revealed that many suspects find it very difficult to confess because they fear the aversive consequences of doing so (e.g. being seen as a "criminal", being viewed and treated negatively by others). Sexual offenders were found in both studies to score particularly high on the "Inhibitory factor" (i.e. found it most difficult to confess), in spite of the fact that they had the strongest internal need to confess.

The present study extends the two previous studies by investigating the possible effects of alcohol and drug intoxication on suspects' mental state and reasons for confessing during custodial interrogation. It was hypothesized that alcohol and drug intoxication are common during the commission of criminal offences and sometimes suspects are interrogated while still under influence of these substances, or that they are experiencing withdrawal symptoms. Intoxication and withdrawal symptoms may adversely influence the suspect's ability to cope successfully with the interrogation.

Method

Subjects

There were 359 subjects in the study. All were serving a prison sentence for various imprisonable offences. There were no remand prisoners in the study. New admissions were approached within 10 days of admission and asked to participate in the study. Of the 359 prisoners 344 (96%) agreed to cooperate. This comprised 323 males and 21 females with mean ages of 30.2 (SD = 9.5, range 17–64) and 33.4 (SD = 9.1, range 19–57), respectively.

Most of the subjects in the present study could be classified into one of the following offender groups: property offenders (152), serious traffic violators (116), drug offenders (31), violent offenders (23) and sex offenders (18).

Instruments

The study is a part of a larger investigation into the psychological characteristics of Icelandic prisoners.

All subjects who reported having confessed to the police completed the Confession Questionnaire used by Gudjonsson & Petursson (1991) and Gudjonsson & Bownes (1992). This questionnaire consists of 36 items, with each item being rated on a seven-point Likert scale. The lower end of the scale is labelled "Not at all" (score 1 and 2) and the upper end as "Very much so" (score 6 and 7), with the label "Somewhat" indicating a range of in-between scores (scores 3, 4 and 5). The Icelandic translation of the questionnaire used in the Gudjonsson & Petursson (1991) study was used.

The Confession Questionnaire contains 12 items that make up three scales directly relevant to why suspects confessed during interrogation (Gudjonsson & Petursson, 1991). The three scales are referred to as:

(1) *External pressure*, which consists of six items and refers to perceived pressure from the police or fear of custody (e.g. "Did you confess because you were frightened of the police?", "Did you confess because you were frightened of being locked up?);
(2) *Internal pressure*, which contains four items related to the need of the suspect to confess as a way of relieving distress (e.g. "Did you confess because you felt guilty about the offence?", "Did you experience a sense of relief after confessing?"); and
(3) *Perception of proof*, which contained two items (e.g. "Did you believe that there was no point in denying it?" "Did you think the police would eventually prove you did it?").

An additional four items, referred to as *Inhibitory factors*, highlight the reasons that make it difficult for suspects to confess, such as the perceived aversive consequences of doing so (e.g. "Did you find it difficult to confess because you did not want others to know what you had done?", "Did the thought that you might be viewed by others as a 'criminal' make you less willing to confess?").

The first three factors, "External pressure", "Internal pressure" and "Perception of proof", are facilitative factors in the sense that they increase the likelihood that suspects will confess, whereas the "Inhibitory factor", in contrast, makes it difficult for suspects to confess.

The remaining 20 items from the Confession Questionnaire related to the attitude of the suspects towards their confession and their understanding of their legal rights. These are not directly relevant to the reasons why suspects confess and the factors that inhibit suspects from confessing. These items formed a part of the original studies of Gudjonsson & Petursson (1991) and Gudjonsson & Bownes (1992) and not all the items are relevant to the hypotheses in the present study. They were nevertheless included in the questionnaire, but the irrelevant items were left out of the analysis of the data.

In the present study, the following 16 items were added to the 36-item Confession Questionnaire, as follows.

(1) Three items that are conceptually related to the "perception of proof" (i.e. "Did you confess because you were apprehended committing the offence?", "Did you confess because it was obvious that you had committed the offence?", "Did you confess because you saw no point in denying it at the time?"). The reason for adding these three items was to identify more clearly the strength of evidence that existed against the suspect at the time of the interrogation.
(2) One item ("Did you find it difficult to confess because you felt ashamed of the offence?"), which is related to the Inhibitory

factor, was added to the questionnaire, because a feeling of shame had not been directly measured in the original questionnaire.

(3) Two items that relate to suspects wishing to protect co-defendants (i.e. "Did you confess because your co-defendant implicated you?", "Did you find it difficult to confess because you wanted to cover up the offence in order to protect a co-defendant?"). Considering the potential importance of attempts to protect others on the readiness (or reluctance in some instances) to confess, particularly in drug-related offences where there is often more than one offender, these two items were considered a useful addition to the questionnaire.

(4) Two items were included to assess whether the subject had minimized or exaggerated his or her involvement in the offence when interviewed by the police (i.e. "Did you minimize your involvement in the offence?, "Did you exaggerate your involvement in the offence?").

(5) One question addressed whether the subject had felt isolated from his or her family and friends during the police interview (i.e. "Did you confess because you felt isolated from your family and friends?").

(6) One question was concerned with whether the subject had considered that it was in his or her interest to have confessed (i.e. "Did you think it was in your own interest to confess?").

(7) One question related to the undesirability of confessing (i.e. "Did you find it difficult to confess because you wanted to avoid the consequences (e.g. be sentenced, go to prison)?"

(8) Five items related to alcohol and illicit drug intoxication during the commission of the offence and the interrogation were included (i.e. "Were you under the influence of alcohol when you committed the offence?", "Were you under the influence of other intoxicating substances when you committed the offence?", "Were you under the influence of alcohol during the police interview?", "Were you under the influence of other intoxicating substances during the police interview?", "Did you experience withdrawal symptoms during the police interview?").

Procedure

The study was conducted on prisoners in Iceland over a period of 21 months. All new admissions were approached and asked to participate in the study. Of the total number of subjects approached, 96% agreed to participate. Each subject then completed the revised Confession Questionnaire, which comprised 52 questions, in relation to the offence for which they were currently serving a prison sentence. They were also asked questions about their illicit drug use and alcohol problems as a part of another study (Sigurdsson & Gudjonsson, in press).

Twenty-nine subjects (8%) denied having committed the offence for which they were serving a prison sentence and had made no confession. Twenty of the subjects who reported not having made a confession to the police completed the confession questionnaire in relation to a previous offence. The remaining nine who claimed never to have made a confession and therefore did not complete the confession questionnaire were excluded from the analysis of the reasons subjects gave for having made a confession to the police.

Results

Confession frequency

For the total sample, 315 (92%) claimed to have confessed to the police with regard to the offences for which they were serving their sentences. The highest rate of confession was found for serious traffic violations (95%) and drug offences (94%) and lowest for sexual (83%) and violent (87%) offences. For property offences the confession rate was (90%).

Frequency of extreme scores

Appendix I gives the frequency with which subjects endorsed the 52 questions on the revised Confession Questionnaire. The questions from the original Confession Questionnaire were endorsed very similiarly to those in the previous studies by Gudjonsson & Petursson (1991) and Gudjonsson & Bownes (1992).

The most frequently endorsed reason for confessing to the police was the "Perception of proof", with 68% of the subjects stating that they had "very much" reason to confess because it was obvious that they had committed the offence

Table 1. *Number of prisoners claiming to have been under the influence of alcohol or illicit drugs during interrogation and at the time of the offence*

	Type of offence					
	Property	Traffic	Drug	Sex	Violent	χ^2 (df = 4)
	(n = 147)	(n = 115)	(n = 31)	(n = 17)	(n = 20)	
Alcohol intoxication at the time of offence	78 (53%)	92 (80%)	11 (35%)	9 (53%)	19 (95%)	39.8 $p < 0.001$
Drug intoxication at the time of offence	71 (48%)	14 (12%)	17 (55%)	1 (6%)	6 (30%)	50.5 $p < 0.001$
Alcohol intoxication during interrogation	31 (21%)	74 (64%)	3 (10%)	2 (12%)	9 (45%)	68.6 $p < 0.001$
Drug intoxication during interrogation	40 (27%)	14 (12%)	14 (45%)	0 (0%)	3 (15%)	24.2 $p < 0.001$
Withdrawal symptoms during interrogation	64 (44%)	36 (31%)	12 (39%)	5 (29%)	11 (55%)	7.7 NS

(item 40) and that they saw no point in denying it (item 3; 66%).

Confessing as a way of "getting it off their chest" (item 4) was reported as having been very important in 25% of cases. Interestingly, 38% (item 13) of the total sample reported feeling greatly relieved immediately after confessing. In 20% of cases (item 30), police persuasion was said to have been a very important contributing factor to their confessing. Fear of the police was found to be an important factor in only 5% of cases (item 31). Fear of being locked up was considered very important in 16% (item 19) of cases. Eleven percent of the sample reported that protecting somebody else (item 10) was a very important factor. About 20% of the subjects had found it very difficult to confess, because of the perceived aversive consequences of doing so (items 28, 29). Initial denial to the police was evident in 35% of the cases, with this being very marked in 26% of the sample (item 24).

Of the total sample, 64% (item 46) claimed to have been under the influence of alcohol when they committed the offence; 33% (item 47) were under the influence of illicit drugs. There was some variation according to the type of offence, as can be seen in Table 1. For example, being intoxicated at the time of the offence was most commonly found in relation to violent offences (95%) and serious traffic violations (92%), and lowest in cases of drug offences (35%). In contrast, being under the influence of drugs at the time of the offence was most commonly found among drug (55%) and property (48%) offenders, whereas it was rare in the case of sexual offenders, with only one subject (6%) reporting having been under the influence of alcohol at the time of the offence.

Being under the influence of alcohol during the police interview was most common among traffic violators (64%) and violent offenders (45%) and far less common among drug (10%), sex (12%) and property (21%) offenders. In contrast, being under the influence of illicit drugs was most commonly reported for drug offenders (45%) and least common for sex offenders (0%), traffic violators (12%) and violent offenders (15%). As far as withdrawal symptoms associated with drugs or alcohol were concerned, there was no statistical difference between the groups, with 29% and 55% of the offenders reporting withdrawal symptoms.

The subjects were not asked about the type of drug they had consumed prior to their interrogation. However, they had filled in a specially designed questionnaire about their general use of illicit drugs (Sigurdsson & Gudjonsson, in press), which indicates that the drugs most commonly used were cannabis and amphetamines. Hard drugs such as heroin were rarely used.

Factor analysis

The first 47 items on the Confession Questionnaire were factor analysed with a principal components extraction and varimax rotation. Five of the items contained in the original Confession Questionnaire (items 48–52 in Appendix I) were not relevant to the hypotheses in the present

study and were consequently excluded from the factor analysis.

Twelve factors had eigenvalues greater than 1, but six factors were rotated according to the Scree-test using varimax procedure, as this appeared to give a meaningful and conceptually interpretable model. The loadings on the first six factors, which accounted for 45% of the variance, are shown in Appendix II.

Factor 1 is associated with *"external pressure"* to confess, for example, perceived police persuasion or fear of being locked up in police custody. External pressure to confess was clearly related to dissatisfaction with the confession, where subjects regretted having confessed and believed that at the time they confessed too readily. This type of confession was strongly associated with difficulties in coping with the interrogation (0.65), feelings of isolation from family and friends (0.50), and not fully realizing the consequences of making a confession (0.60).

Factor 2 is best described as an *"inhibitory"* factor to confessions. Here subjects reported having found it very difficult to confess, primarily because at the time of the interrogation they had experienced strong feelings of shame and embarrassment about the commission of the offence and did not like being viewed as a criminal, as well as being concerned about the consequences of making self-incriminating admissions.

Factor 3 is comprised of an "alcohol" factor, where having been intoxicated during the commission of the offence and interrogation was associated with feeling confused during the police interviews and being apprehended while committing the offence.

Factor 4 relates to *"drug intoxication"* and withdrawal symptoms during the interrogation. The desire to confess in order to protect somebody else loaded highly (0.63) on this factor, providing an association between drug-taking and the need to protect other interested parties (e.g. co-defendants). Unlike the "alcohol" factor, being initially reluctant to confessing loaded moderately (0.50) on this factor as well as not being apprehended while committing the offence. It seems that here the suspect was experiencing a typical "prisoners' dilemma" phenomenon because of the involvement of a co-defendant.

Factor 5 represents an *"internal need"* to confess, which appears to be primarily related to feelings of remorse and the need to communicate what they have done to others as a way of relieving their distress. Associated with this need to confess is a favourable attitude towards the confession they had given to the police, and the view that they would have confessed even if the police had not suspected them of the offence.

Factor 6, which is best described as *"perception of proof"*, relates to subjects reporting having confessed primarily because they realized that the police would sooner or later prove their involvement in the commission of the offence and there was therefore no point in denying it.

Correlation matrix between the factors

Table 2 gives the correlation matrix between the six factors. Some of the factors were significantly correlated, but the correlations tended to be very low. The highest correlation was between factors 1 ("external pressure") and 2 ("inhibitory"), which is entirely consistent with that found in the studies of Gudjonsson & Petursson (1991) and Gudjonsson & Bownes (1992). One possible interpretation for the significant relationship between "external pressure" and the "inhibitory" factor is that where suspects are very inhibited about making a confession, more external pressure is required to break down their resistance.

Factor scores and type of offence

Table 3 gives the mean average scores for six factors according to type of offence (those subjects whose offence did not fit into one of the

Table 2. *Correlations between the six factors* ($n = 322$)

	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5
Factor 2	0.49***				
Factor 3	0.16**	0.14*			
Factor 4	0.44***	0.20***	0.25***		
Factor 5	0.17**	0.33***	−0.06	−0.11*	
Factor 6	0.00	0.09	0.05	−0.11	0.21***

* = $p < 0.05$, ** = $p < 0.01$, *** = $p < 0.001$.

Table 3. *Means and standard deviation scores for the six factors according to type of offence*

		Factors*											
		F_1		F_2		F_3		F_4		F_5		F_6	
Type of offence	*n*	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD
Property offences	147	2.5	0.9	2.8	1.4	2.9	1.5	2.9	1.3	3.2	1.6	4.3	1.6
Serious traffic violation	115	2.3	0.8	2.5	1.5	4.1	1.4	2.2	0.8	2.5	1.2	4.4	1.7
Drug offences	31	2.9	1.0	3.5	1.4	2.9	1.5	3.3	1.4	2.8	1.5	4.1	1.5
Violent offences	20	2.5	0.9	2.7	1.4	3.9	1.7	2.3	1.1	3.0	1.4	3.7	1.6
Sex offences	16	2.9	1.3	4.3	1.8	2.7	1.2	2.1	0.7	2.8	2.1	3.6	1.3
Total	329	2.4	0.9	2.8	1.5	3.4	1.6	2.6	1.2	2.9	1.5	4.2	1.6
ANOVA		$F(4,321)$ $= 3.89$ $p < 0.01$		$F(4,324)$ $= 7.24$ $p < 0.001$		$F(4,322)$ $= 13.08$ $p < 0.001$		$F(4,322)$ $= 9.54$ $p < 0.001$		$F(4,321)$ $= 3.82$ $p < 0.01$		$F(4,321)$ $= 1.63$ NS	

*These factors include scores of all items with loadings over 0.40. F_1 = "External"; F_2 = "Inhibitory"; F_3 = "Alcohol"; F_4 = "Drug intoxication"; F_5 = "Internal need"; F_6 = "Perception of proof".

offence categories listed were left out of the analysis). One-way analysis of variance (ANOVA) were performed on the data to analyse differences in factor scores between offence groups. Significant differences were found between type of offence for the first five factors. Scheffé tests (two-tailed) were performed on the mean scores for the individual offender groups in order to establish exactly where the significant differences were.

With regard to Factor 1, drug and sex offenders reported the strongest amount of external pressure to confess and serious traffic violators reported the least pressure. A Scheffé test indicated a significant difference between drug and traffic offenders ($p < 0.05$).

Sex offenders, followed by drug offenders, earned the highest score on Factor 2, the "inhibitory" component, whereas serious traffic violators earned the lowest (i.e. they were least inhibited about making a confession). Scheffé tests revealed the following significant differences between the offender groups: sex offender vs. property offenders ($p < 0.01$); sex offenders vs. traffic violators ($p < 0.001$); drug vs. traffic violators ($p < 0.05$); violent vs. sex offenders ($p < 0.05$).

The situation was reversed for Factor 3, "alcohol", where sex offenders obtained the lowest scores and serious traffic violators and violent offenders the highest. Scheffé tests indicated the following significant group differences: traffic vs. property offenders ($p < 0.001$); drug vs. traffic offenders ($p < 0.01$); sex vs. traffic offenders ($p < 0.01$).

Factor 4, "drug intoxication", was far the highest for drug offenders, followed by property offenders, and lowest for sex offenders and serious traffic violators. Scheffé tests revealed the following significant group differences: traffic vs. property offenders ($p < 0.001$); drug vs. traffic offenders ($p < 0.001$); sex vs. drug offenders ($p < 0.01$); violent vs. drug offenders ($p < 0.05$).

With regard to Factor 5 ("internal need" to confess), property offenders had significantly higher scores that traffic violators (Scheffé, $p < 0.01$). No overall difference was found between the offender groups with regard to Factor 6 ("perception of proof").

Discussion

The study was conducted on new admissions to Icelandic prisons. The very low refusal rate (4%) indicates that the sample studied is extremely representative of newly admitted prisoners. The refusal rate in the present study was markedly lower than that found in a similar study by Gudjonsson & Petursson (1991). This probably relates partly to the fact that the previous study looked at current prisoners rather than new admissions. It is likely that prisoners become less inclined to participate in research once they become established within the prison. When the research is seen as a part of their admission procedure they are less likely to decline to cooperate.

The present study is based on self-report. Self-report, including a clinical interview, is obviously dependent on the ability and willingness of subjects to give an accurate and truthful account of themselves. In the present study the subjects were reassured about anonymity and that the findings would only be used for research purposes.

One of the most striking findings was the very high proportion of subjects who claimed to have confessed to the police when interrogated. The average confession rate of 92% across five major offence categories appears to be much higher than confession rates reported in Britain and the United States of America. Direct comparisons are, of course, difficult because of different methodology being applied in various studies. Confession rates are generally considerably higher among subsamples of convicted offenders than among samples studied at police stations, because the fact that they confessed may influence whether or not they are charged and eventually convicted (Gudjonsson, 1992). The present study was only concerned with offenders who had been sentenced to prison, and the confession rate for other groups of offenders in Iceland is not known. Nevertheless, the very high confession rate in the present sample may be partly due to the fact that Iceland is a small community where evidence is relatively easy to obtain and the proportion of crimes solved is likely to be high.

The confession rate was highest among traffic violators (95%) and drug offenders (93%), who were often caught during the commission of the offence, and lowest for sex offenders (83%) who are very rarely apprehended at the time of the commission of the offence. The present findings reinforce previous research (see Gudjonsson, 1992, for a review), where differences in con-

fession rates among different offence categories have been found. It is likely that the discrepancy in the confession rates relating to different offences is more a reflection of the evidence that exists against suspects when they are interrogated than the nature of their offence *per se*. However, the present findings suggest that sex offenders report feeling particularly ashamed of their crimes, which is at least partly due to the social disapproval that such crimes attract. This makes it more difficult for sex offenders to confess than other offenders. Therefore, the nature of the offence and its perceived seriousness may interact with other salient factors, such as the strength of the evidence available against the suspect, the nature of the police interview and whether or not there are co-defendants. Certainly, the present findings, in conjunction with the previous findings of Gudjonsson & Petursson (1991) and Gudjonsson & Bownes (1992), clearly illustrate that suspects confess for a combination of reasons, rather than for any one reason. The nature of the offence is probably only a minor factor in a majority of cases, with the perception of the evidence against the suspect being the single most important factor. The need to "get it off their chest" and police pressure also appear to be important factors in many cases, particularly among sex offenders.

The finding that feelings of shame and feelings of remorse loaded on separate factors supports the views of Gudjonsson (1992) that the former inhibits suspects from making a confession, whereas feelings of remorse make suspects more inclined to confess. This indicates that a clear distinction must be made in future research between feelings of shame and those of remorse.

The present study supports the findings of previous studies that there are three main factors responsible for suspects confessing to crimes for which they are interrogated. These are "perception of proof", "internal pressure" and "external pressure". However, the present study adds to the previous literature by highlighting some offenders, who were initially very reluctant to confess but eventually did so because of the involvement of co-defendants which placed them in a difficult situation. Some suspects reported having had no choice but to confess in order to protect a co-defendant, while others believed they had to confess because a co-defendant had already confessed and implicated them. Therefore, where there are co-defendants suspects may be faced with a particular dilemma, which by itself greatly influences their behaviour during interrogation. This phenomenon is known in the social psychology literature as a "prisoners' dilemma" (Luce & Raiffa 1957; Brown, 1965) and it places immense pressure on a prisoner to confess before a co-defendant does. In the present study it was most commonly found among drug offenders.

The Confession Questionnaire of Gudjonsson & Petursson (1991) was designed on the basis that there are three main reasons why suspects confess to the police. This assumption was derived from a review of the literature on confessions. It could be argued that the present data only reconfirm the factors that the questionnaire was developed to measure in the first place, which means that there may be other important reasons why subjects confess which are not yet discovered. In the Gudjonsson & Petursson (1991) study, subjects were invited, at the end of the questionnaire, to add any other important reasons that had not been included in the questionnaire. No subject did.

Consistent with the previous studies, but using a different method of analysis, the primary reason for having confessed was significantly associated with the attitude of the prisoner towards his or her confession. Those who had confessed primarily because of police pressure were dissatisfied about having confessed, whereas those who confessed because of an internal need and where there had been strong evidence against them had no regrets and were pleased that they had confessed.

The main purpose of the present study was to investigate the possible effects of drugs and alcohol on confession evidence. The findings show that many offenders are under the influence of either alcohol or drugs while committing offences. Alcohol intoxication was particularly common among violent offenders, with 95% of them claiming to have been under the influence of alcohol during the offence, followed by traffic violators (80%). Even among property offenders, over half (53%) claimed to have been intoxicated. Being under the influence of illicit drugs while committing the offence was also common, particularly among property (48%) and drug (55%) offenders, but it was far less common among traffic violators (12%) and sex offenders (6%).

These findings illustrate clear differences between offender groups. Property and drug offenders are most commonly under the influence of drugs while committing offences, while traffic violators and violent offenders are much more commonly intoxicated by alcohol. A similar pattern is seen at the time of the police interview with the suspects, although the rate of alcohol and drug intoxication is much lower than at the time of the offence. Nevertheless, 64% of the traffic violators and 45% of the violent offenders claimed to have been under the influence of alcohol at the time of the police interview. With regard to drugs, 27% of the property offenders and 45% of the drug offenders claimed to have been under the influence of drugs during the police interview. These results indicate that among Icelandic prisoners, many claim to have been either under the influence of drugs or alcohol when interviewed and making a confession. In addition, over one-third of all the prisoners claimed to have experienced withdrawal symptoms from either alcohol or drugs while being interviewed by police.

What were the effects of the alcohol and drugs on the prisoners' mental state during the police interview? The main effect of drugs, alcohol and withdrawal was to make the prisoner feel confused, but this did not appear to increase their level of anxiety or make them feel that they were not coping with the demand characteristics of the situation, nor did it influence their reasons for making a confession. The implication is that drugs and alcohol may make it difficult for suspects to think clearly, which could, on occasions, result in misleading or erroneous accounts being given to the police. The effects of alcohol and drug intoxication and withdrawal symptoms appeared very similar. To what extent different types of drugs may have differential effects on suspects' mental state and confession evidence is not possible to say from the present findings and it requires a much more extensive study.

None of the subjects in the present study claimed to have made a false confession to the offence they were serving a prison sentence for, but it is nevertheless worth noting that subjects withdrawing from opiate dependence may be sufficiently distressed to make them vulnerable to making a false confession (Davison & Forshaw, 1993; see also the case of Carole Richardson, which is extensively discussed by Gudjonsson, 1992).

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APPENDIX I

Frequency of extreme scores on the Confession Questionnaire

Question	Not at all (%)	Very much so (%)
1. Did you think that after confessing you would be allowed to go home?	21	60
2. Did you confess because you felt guilty about the offence?	43	31
3. Did you believe there was no point denying it?	24	66
4. Did you feel you wanted to get it off your chest?	56	25
5. Did you think you might get a lighter sentence if you confessed?	63	21
6. Did you think the police would eventually prove you did it?	30	55
7. Did you confess because of police pressure during the interview?	71	16
8. Would you have confessed to the police if they had not suspected you of the crime?	69	22
9. Did you think it was in your own interest to confess?	23	63
10. Did you confess to protect somebody else?	83	11
11. Are you now pleased that you confessed?	31	49
12. Do you think you would have confessed if at the time you had fully realized the consequences of doing so?	22	60
13. Did you experience a sense of relief after confessing?	35	38
14. Did you confess because you were uncertain about what would happen if you did not confess?	80	9
15. Were you initially very unwilling to confess while being interviewed by the police?	69	20
16. Do you think you confessed to readily or hastily?	76	11
17. Do you feel the police bullied you into confessing?	80	8
18. Did you feel tense or nervous while being interviewed by the police?	33	35
19. Did you confess because you were frightened of being locked up?	69	16
20. Did you become confused during the police interviews?	47	26
21. Did you feel you confessed because you did not cope well with the police interviews?	77	10
22. Did thoughts of (or talks with) your family and friends make it more difficult for you to confess?	74	13
23. Do you now regret having confessed?	77	13
24. Did you at first deny having committed the offence?	65	26
25. Did the thought that you might be viewed by others as a "criminal" make you less willing to confess?	77	10
26. Did you confess because you had the need to talk to somebody?	86	5
27. Did you confess because at the time you felt you needed help?	73	14
28. Did you find it difficult to confess because you did not want others to know what you had done?	63	20
29. Did you find it difficult to confess because you did not want to accept what you had done?	54	23
30. Did you confess because the police persuaded you it was the right thing to do?	66	20
31. Did you confess because you were frightened of the police?	88	5
32. Did you confess because you saw no point in denying it at the time?	25	61
33. Did you confess because at the time you believed the police would beat you up if you did not confess?	92	3
34. Did you exaggerate your involvement in the offence?	91	4
35. Did you find it difficult to confess because you felt ashamed of the offence?	60	20
36. Did you confess because you felt isolated from your family and friends?	79	8
37. Did you find it difficult to confess because you wanted to avoid the consequences (e.g. be sentenced, go to prison)?	56	21
38. Did you minimize your involvement in the offence during the police interview?	79	7
39. Did you confess because you were apprehended committing the offence?	48	42

APPENDIX 1 *(continued)*—

40.	Did you confess because it was obvious that you had committed the offence?	18	68
41.	Did you find it difficult to confess because you wanted to cover up the offence in order to protect a co-defendant?	80	11
42.	Did you confess because your co-defendant implicated you?	81	12
43.	Were you under the influence of alcohol during the police interview?	64	16
44.	Were you under the influence of other intoxicating substances during the police interview?	78	12
45.	Did you experience withdrawal symptoms during the police interview?	61	20
46.	Were you under the influence of alcohol when you committed the offence?	36	51
47.	Were you under the influence of other intoxicating substances during the offence?	67	26
48.	Did you confess because you thought your co-defendant(s) would talk?	53	30
49.	Were your rights explained to you?	18	69
50.	Did you understand what your rights were?	19	62
51.	Did you understand the Police Caution?	15	72
52.	Would you have confessed if a solicitor had been present during the interview(s)?	24	54

APPENDIX II*

*Factor loadings (varimax rotation) of the revised Confession Questionnaire on the first six factors***

Question	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Factor 6
1.	0.02	−0.09	0.05	−0.42	0.16	−0.19
2.	−0.09	−0.30	0.08	−0.17	−0.62	−0.06
3.	−0.12	0.05	0.08	−0.31	−0.04	−0.45
4.	−0.07	−0.30	−0.10	−0.01	−0.65	−0.24
5.	0.21	−0.03	−0.16	−0.03	−0.26	−0.58
6.	−0.19	−0.09	0.26	0.15	−0.10	−0.43
7.	0.54	−0.25	−0.17	0.31	0.09	0.00
8.	−0.02	0.13	−0.13	−0.27	−0.57	0.08
9.	−0.14	0.02	0.11	−0.30	−0.32	−0.35
10.	0.14	−0.02	−0.06	0.63	−0.09	0.01
11.	−0.57	−0.11	0.04	−0.04	−0.35	−0.16
12.	−0.60	0.06	0.07	−0.14	−0.20	−0.03
13.	−0.24	−0.26	−0.07	0.08	−0.64	−0.10
14.	0.51	−0.18	−0.07	0.11	−0.12	−0.34
15.	0.23	−0.22	−0.31	0.50	0.26	0.01
16.	0.60	−0.11	−0.11	0.21	0.04	−0.01
17.	0.55	−0.14	−0.12	0.20	0.17	0.08
18.	0.26	−0.43	0.15	0.05	−0.10	−0.07
19.	0.58	−0.28	0.00	0.11	−0.11	−0.26
20.	0.39	−0.18	0.43	0.33	−0.07	−0.00
21.	0.65	−0.23	0.05	0.16	−0.02	−0.05
22.	0.29	−0.42	−0.16	0.06	−0.03	−0.04
23.	0.71	−0.03	0.00	0.10	0.10	0.10
24.	0.14	−0.26	−0.35	0.57	0.26	0.06
25.	0.11	−0.65	−0.12	−0.04	−0.16	−0.10
26.	0.16	−0.17	−0.07	0.12	−0.54	0.12
27.	0.16	−0.26	0.12	0.21	−0.57	−0.01
28.	0.18	−0.76	0.01	0.00	−0.08	−0.04
29.	0.10	−0.71	0.17	0.03	−0.20	0.08
30.	0.49	−0.34	−0.02	0.17	0.01	−0.19
31.	0.69	−0.12	0.07	0.01	−0.04	0.07
32.	0.03	−0.30	0.27	0.12	0.35	−0.13
33.	0.49	0.07	0.15	0.09	−0.22	0.29
34.	0.25	0.03	0.01	0.09	−0.11	0.30
35.	0.07	−0.77	0.12	−0.06	−0.22	0.03
36.	0.50	−0.24	−0.03	0.26	−0.23	−0.11
37.	0.29	−0.47	−0.14	0.27	0.19	−0.20
38.	0.12	−0.09	−0.11	0.43	0.17	0.02
39.	−0.18	0.03	0.55	0.07	0.32	−0.23
40.	−0.36	−0.12	0.39	0.07	0.12	−0.33
41.	0.12	−0.05	−0.07	0.69	−0.00	0.16
42.	0.11	−0.04	−0.33	0.35	0.21	0.09
43.	0.07	−0.08	0.67	−0.07	0.10	0.14
44.	0.28	0.20	0.31	0.60	−0.02	−0.09
45.	0.16	−0.06	0.43	0.49	−0.08	0.00
46.	−0.10	−0.14	0.65	−0.10	−0.05	0.05
47.	0.11	0.17	0.16	0.67	−0.05	−0.15

*This table comprises the first 47 questions from Appendix I. ** Loadings > 0.40 underlined.

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