EVIDENCE FOR SOCIAL LEARNING IN THE SELF-PRESENTATION OF ALCOHOL PROBLEMS

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Abstract — **Aims:** To examine the extent to which problem alcohol users' self reports of drinking pattern and symptomatology derive primarily from a functional, learned social-cognitive schema (referred to as a 'script' in this paper), rather than from acts of recall or memory. **Methods:** Using a between-groups design with one repeated (within-subjects) measure, problem drinkers and non-problem drinkers were asked to complete a questionnaire about drinking behaviour and symptoms. Each group filled in the questionnaire twice, under both of two conditions. In condition one, they used the questionnaire to describe their own drinking and in condition two they were asked to describe the drinking of the other group (i.e. the problem drinkers filled out the questionnaire to describe non-problem drinking and the non-problem drinkers described problem drinking). **Results:** Using analyses of variance for the different sub-scales of the questionnaire, no overall differences were found between the two groups on four of the five subscales. However, clear and significant differences were found between the two conditions. That is, both groups were able to produce clearly differentiated scripts for both problem drinking and non-problem drinking. **Conclusions:** These data, together with related data from other sources, suggest that 'scripts' for problem drinking and for non-problem drinking can be elicited from both problem-drinking and non-problem-drinking groups. The data support conclusions from an earlier study, suggesting that subjects may use learned 'scripts' rather than recall when responding to certain types of questionnaire instruments.

INTRODUCTION

In an original and groundbreaking study, Chick and Duffy (1979) sought to shed light on certain developmental aspects of the alcohol-dependence syndrome (ADS). Problem users of alcohol were asked to recall the symptoms of their alcohol misuse. The method devised by Chick and Duffy involved symptoms being written on stimulus cards that were presented to subjects. Subjects selected the cards carrying the symptoms they recalled as having experienced, and then placed these cards in order of occurrence to represent the sequence in which the symptoms developed. The symptoms recalled, and their ordering, were interpreted as demonstrating the sequential development of such symptoms within the ADS model.

In a paper by Anderson *et al*. (1981), stimulated by Chick and Duffy (1979), the same basic design was used but in addition to a treatment group a control group was also employed that consisted of subjects who had been previously screened to eliminate any who were heavy drinkers or who had ever had contact with an agency in connection with an alcohol problem. It was found that the treatment group produced data that were almost identical to that of Chick and Duffy (1979). However, the control-group subjects were asked to pretend that they were in treatment for alcohol problems and to carry out the same task as if they had an alcohol problem. They were able to comply with these instructions and produced the same rank-ordering of symptoms as the real patients. As the control group were not recalling any actual personal experience, the study implies the existence of a socially constructed 'script' for alcohol problems that is commonly known and that can be learned through a common social learning process.

Since Anderson *et al*. (1981) there has been little targeted research into the area opened up by Chick and Duffy and the issues raised by their methodology. An important issue has thus been relatively neglected as far as problem alcohol use is concerned. Whilst Anderson *et al*. (1981) showed that alternative scripts were available to a non-problem-drinking group, thereby implying that the problem-drinking 'script' was in wide circulation, the study did not explicitly show that alternative scripts were also available to an in-treatment problem-drinking group. Given that chronic alcohol use can be associated with memory loss, psychosis and impaired brain functioning, the question as to whether or not problem drinkers are aware of and have access to alternative modes of self presentation remains unanswered.

A literature search failed to find any comparable experimental studies directly addressing this specific topic, though the existence of alternative 'scripts' has been strongly implied in a number of more recent drug studies. Thus Davies and Baker (1987) showed that a sample of heroin users, interviewed and then re-interviewed 2–3 weeks later, would present their symptoms and habit pattern differently according to whether the interview was conducted by a suit-wearing psychologist in a formal/clinical setting in an academic institution or by an ex-user in an informal non-institutional setting. McAllister and Davies (1992) also showed how the same group of smokers would produce 'addicted' or 'non-addicted' attributions for smoking according to whether the researcher classified them as heavy or light smokers. Using a different type of methodology, studies by Davies (1997, 1998) showed how alcohol users and illicit-drug users employed distinctively different natural discourses to describe their actions at different times and at different stages of their use history; unfortunately, this study did not address the issue of whether differing scripts were simultaneously available. Finally, a study by Heim *et al*. (2001) provided strong evidence for the existence of socially constructed functional representations of the 'addicted' state, concluding that '*the pattern of results fitted a functional model of the addiction*

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concept rather than an attempt to describe an "objective" state.' However, despite these strong indications, the relevance of these studies to verbal reports of symptoms by problem alcohol users remains to be established.

In other areas of psychological research there is an existing and developing literature on the constructive aspects of memory, 'false memory', suggestibility, confirmatory bias and the impact of motivation and context on what is recalled. The areas of general clinical psychology (e.g. Lilienfeld *et al*., 2003) and eye-witness testimony (e.g. Baxter and Boon 2000; Yarmey, 2003) are cases in point. To date, however, no experimental study has straightforwardly addressed the issue of whether contrasting and socially constructed 'scripts' are consciously and (within a short time scale) equally available to, and thus potentially usable by, people with alcohol problems.

In the present study, a group of problem alcohol users and a group of non-problem alcohol users were asked to fill in an *ad-hoc* series of questions derived from a variety of sources, in such a way as to describe (1) their *own* drinking behaviour and symptoms and (2) the drinking behaviour and symptoms of the *other* group. It was expected that both groups would be able to produce responses that did not differ significantly in each of the different topic areas, under both conditions, indicating that both 'problem-drinking' and 'non-problem-drinking' scripts were available to both groups. Therefore, it was hypothesized that there would be statistically significant differences between the problem-drinking and non-problem-drinking 'scripts' in each of the five topic areas covered by the questionnaire, but there was no hypothesis for a main effect of group membership in any of these areas.

MATERIALS AND METHODS

A design broadly similar to that of Anderson *et al*. (1981) was used. The aim of the study was to demonstrate that alternative types of self presentation of alcohol problems were available both to problem drinkers and to non-problem drinkers using a number of specially constructed scales concerning differing aspects of alcohol problems (described below). Accordingly, a group of problem drinkers and a group of non-problem drinkers were asked to complete the scales in two ways, namely (1) to describe problem drinkers and (2) to describe non-problem drinkers. It was expected that there would be clear and significant differences between the two roles or 'scripts' but no between-group differences in terms of their ability to produce the two 'scripts'.

Subjects

There were 60 male subjects, in two groups of 30. Thirty were recruited from National Health Service (NHS) alcohol problems clinic in Glasgow, UK, which they were attending for help in connection with their drinking. These comprised the 'problem drinkers' group. It should be noted that sample size was determined primarily by availability of subjects from the alcohol clinic (but see note below on power calculations). For the control group, 30 subjects were selected from a group attending Community Development Programmes, also in Glasgow. They underwent a detailed screening procedure to ensure they had no prior history of alcohol problems and had

never sought treatment for such problems. These comprised the 'non-problem drinkers' group.

Chi-squared tests showed no significant differences between groups in terms of marital status, employment status, education and age. The age range, however, was considerable: from 19 to 68 years. There were clear differences between groups in terms of alcohol consumption. Whilst small numbers in both groups reported only light drinking (13% and 14%), due to the presence of people in the 'problem' group who were in the process of cutting back, there was nonetheless a clear difference between groups. Using three categories derived from self-reported consumption during a 'typical week', chi-squared = 12.4 for 2 d.f. ($P < 0.001$) for differences in consumption between groups. Ethical consent was obtained from the agencies and from all individuals involved. Individuals were informed that they could withdraw from the study at any point.

Study design

The design involved two groups (problem drinkers and non-problem drinkers) and two conditions in a repeated-measures design. In condition 1, all subjects filled in a questionnaire to describe their current status as problem drinkers or non-problem drinkers. In condition 2, both groups were asked to complete the questionnaire again but this time as if they were a member of the other group. That is, problem drinkers were asked to produce the non-problem drinking 'script', and non-problem drinkers to produce the problem-drinking 'script' using the same questionnaire. There was a time lapse of 3–4 weeks between conditions for all subjects to eliminate specific memory effects concerning their first set of responses. No subject changed their drinking status during that period.

Development of a questionnaire

A 73-item questionnaire was designed in order to cover five specific areas identified from the literature as being of special relevance. The five areas were as follows: reasons for drinking (22 items); physical symptoms (14 items); general health issues (nine items); self-perceptions (15 items); and expectations and motivation (13 items). These were scored by subjects on 5-point Likert scales, using yes/no or agree/disagree dimensions as appropriate. Forty items were self-generated on the basis of pilot discussions with patients at an alcohol clinic; these items concerned reasons (attributions) for drinking, and expectations/motivation. Thirty-eight items were taken from questionnaires used in previous studies by other workers.

In order to ensure the reality of the dimensions underlying the different sections of the questionnaire and the internal consistency of the items within subscales, a pilot study was carried out on an independent sample using 30 male subjects selected at random from a shopping precinct. [It should be noted that it is not valid to carry out psychometric analysis and item selection on the same sample used in the main analysis (Cronbach and Meehl, 1967).] Analysis was by means of elementary linkage analysis followed by calculation of alpha coefficients (Cronbach, 1951; McKennel, 1970). Elementary linkage analysis assigns items to clusters on the basis of their single highest correlation and therefore produces results similar to those that might be expected from an orthogonal rotated factor analysis (McKennel, 1970), where factor definition is

also usually on the basis of single highest loadings. However, the method described goes beyond normal factor analysis '*insofar as it enables the researcher not only to explore the dimensionality of an attitude domain but also to decide at the same time on the number of items required in order to measure each domain at an appropriate level of reliability*' (McKennel, 1970). Under the procedure, once a cluster has been identified, an iterative procedure is used to identify the weakest item, which is then discarded and the alpha re-calculated. The procedure is repeated for each cluster until the alpha-value reaches an asymptote. Alphas for the different clusters ranged from 0.82 to 0.92. On the basis of the analysis, five of the self-generated items were rejected as being unsatisfactory on statistical grounds, leaving a total of 73 items. The final questionnaire is available in McConnochie (1997).

Analysis

The initial method used to derive the questionnaire shows the scales to be psychometrically distinct, but no hypothesis is offered concerning whether the different scales operate as independent entities or share common variance. Whilst the theory behind this paper clearly enables the interpretation of two-way interactions, there is no comparable testable theory for any three-way interactions that might emerge, other than *ex-post-facto* speculation. Accordingly, five, mixed, two-way analyses of variance (ANOVA) (one repeated measure and one between-groups measure) were performed; one for each of the subscales (reasons for drinking, symptoms, health issues, self perceptions, expectations/motivation). The results of these analyses are given in Table 1. In each table, the A-effect refers to group membership (i.e. problem or non-problem drinker) and the B-effect refers to the role or script requested (i.e. problem-drinker role versus non-problem-drinker role). It should be noted that a power calculation using the highest non-significant *F*-value (self perceptions; $F = 2.92$) yields an effect size of 0.22; suggesting that two samples of 329 would be necessary to achieve a significant effect for the A variable at the 0.05 level, with a power of 0.8. In the case of the other non-significant between-groups effects, substantially larger samples would be required.

RESULTS

In the analyses, a clear difference arose for each subscale between the problem-drinker and the non-problem-drinker 'scripts'. By contrast, there was only one significant difference between groups, this being at the 5% level for the subscale 'expectations and motivation'. There were also two A × B interactions that were significant for the subscales 'physical

Table 1. Two-way ANOVAs for each of five subscales.

Source	SS	DF	MS	F	p
Reasons for drinking.					
A (between Ss)	143.01	1	143.01	0.45	n.s.
Subjects × gps.	18253.08	58	314.71		
B (within Ss)	35260.41	1	35260.41	110.05	<.001
AB	980.41	1	980.41	3.60	n.s.
B × Ss × gps	18583.68	58			
Total	46701.87	119			
Physical Symptoms					
A (between Ss)	154.33	1	154.33	1.05	n.s.
Subjects × gps	8500.73	58	146.56		
B (within Ss)	22963.33	1	22963.33	102.44	<.001
AB	2083.33	1	2083.33	9.29	<.01
B × Ss × gps	13000.33	58	224.14		
Total	46701.87	119			
General Health Issues					
A (between Ss)	134.41	1	134.41	2.42	n.s.
Subjects × gps	3218.02	58	55.48		
B (within Ss)	639.41	1	639.41	12.82	<.01
AB	23.41	1	23.41	0.47	n. s.
B × Ss × gps	2892.68	58	49.88		
Total	6907.92	119			
Self Perceptions					
A (between Ss)	208.03	1	208.03	2.92	n. s.
Subjects × gps	4126.67	58	71.15		
B (within Ss)	11097.63	1	11097.63	113.59	<.001
AB	1020.83	1	1020.83	10.45	<.01
B × Ss gps	5666.53	58	97.7		
Total	22119.7	119			
Expectations and motivation					
A (between Ss)	330.01	1	330.01	4.124	<.05
Subjects × gps	4641.08	58	80.02		
B (within Ss)	7954.41	1	7954.41	102.151	<.001
AB	102.67	1	102.67	1.319	n. s.
B × Ss × gps	4516.42	58	77.87		
Total	17544.59	119			

symptoms' and 'self-perceptions'. Examination of mean scores by use of Scheffe tests revealed that in both cases the interaction came about because problem drinkers associate more problems with 'non-problem' drinking than do the non-problem drinkers themselves.

DISCUSSION

The results show that non-problem drinkers can produce answers to questions about problem drinking that are not significantly different from those produced by problem drinkers themselves. This replicates the findings Anderson *et al.* (1981) and attests to the generality of that finding. However, the present study produces evidence that problem drinkers also have access to both scripts, are consciously aware of them and can employ either type of self-presentation when required to do so within a short period of time during which their problem drinking status has not changed. The hypothesis that there are widely known scripts for different patterns of drinking, and that these are known to problem and to non-problem drinkers alike, is thus supported. It also appears that this type of common knowledge has a fairly broad base, as the results are the same in a number of different subject areas covered by the questionnaire, rather than being specific to a particular area or areas. This conclusion is qualified only by the finding of a between-group effect on one subscale, suggesting there is less of a common 'script' with respect to expectations and motivational issues, where the problem drinkers outcome expectations are perhaps somewhat more 'realistic/pessimistic'. Two significant interactions suggest that whilst the major influence is the type of presentation required, rather than group membership, problem drinkers tend to see more dangers in non-problem drinking than do non-problem drinkers. Finally, there are clear and significant differences between the non-drinking 'scripts' or roles over all sub-scales.

Implications of the two-way interactions

The A × B interactions cannot be dismissed without comment, showing as they do that duplication of the 'script', whilst not significantly different in most areas, is nonetheless slightly different in some. The interactions suggest that, in certain areas of social perception, in-treatment problem drinkers may have a different (i.e. more sensitive) criterion for identifying clinically implicative drinking than do non-problem drinkers. Specifically, in terms of two subscales they see more dangers in 'normal' drinking than do 'normal' drinkers themselves. Such a 'criterion shift' has in fact been explicitly investigated by O'Connor *et al.* (2003), who used a version of signal detection theory (Shannon and Weaver, 1949; but see Davies and Best, 1996) to successfully differentiate between groups who remained in, or dropped out of treatment purely in terms of their response criterion (in SD parlance, in terms of beta). Taken together with the present study, these findings suggest exciting lines of development for future assessment/diagnostic methods. Thus, whilst standard self-report question-and-answer formats (it is argued here) lead to 'scripty' responses, problem drinkers' descriptions of other people's 'normal drinking' may hold predictive value. This would be the case if certain subtle differences between non-problem drinkers' and problem drinkers' descriptions of normal drinking could reliably be found with larger samples in natural settings. Further research is needed on this topic.

Limitations of the study

The study has a number of limitations. First, whilst the questionnaire used has good internal consistency, its psychometric properties in terms of population norms or norms from larger and different samples remain unknown. The results could conceivably be specific to this instrument, though other research into 'drug discourses' suggests this may be unlikely. Second, order effects were not controlled for in the study. Both groups initially replicated that of Anderson *et al.*'s 1981 study by describing the 'alcohol problem user' first and the 'non-problem user' second. The main reason was to ensure direct comparability with Anderson *et al.*, but as a result order effects remain a possible confounding factor. Finally, precise details of patients' medical history, diagnosis and prognosis were not obtainable by virtue of patient confidentiality, so the differences found between the groups are based on verbal report of voluntary information. However, it is the authors' contention that the major driver for the alcoholic script is the fact of having decided to attend for treatment, rather than any physiological substrate. This remains to be demonstrated, however. Finally, the subjects were all male.

CONCLUSIONS

The study seeks to extend earlier work, and shows that both problem drinkers and non-problem drinkers can produce self-report data consistent with both problem and non-problem drinking behaviour, and that the 'scripty' version is not significantly different from the (assumed) 'real thing'. Consequently, a choice is available over which version to employ in any given set of circumstances. It is argued that the 'scripts' involved become available through a common process of social learning (a learned schema) rather than being wholly reliant on direct recall of personal experience, and that this entity is 'tapped into' when it makes sense to do so, rather than placing reliance on a (presumed) static memory 'store' of events. Such a suggestion is also more in line with contemporary theories of 'working memory' as opposed to traditional 'storage and pipe-line' models (see Baddeley and Hitch, 1974; Baddeley, 1976), and with conceptions of recall as having a motivational component.

If this finding is robust, it suggests that the interpretation of verbal responses or statements about alcohol problems requires the clinician to give emphasis to the fact that the meaning of such reports might lie primarily in their functionality (i.e. as a goal-directed 'cry for help') rather than in their literal semantic content. Their functionality, on the other hand, may also give a guide to motivation and need, regardless of their veridical status viewed as 'acts of memory'. From such a standpoint, concentrating clinical interventions on the precise semantic content of an utterance could be non-productive in some circumstances, unless the functions of the utterance are more closely explored, in terms of detail and other supporting testimony.

The results of this study complement research in other areas that cautions any assumption that the act of recall is simply

analogous to retrieval of data, unmodified, from a computer. On the other hand, the study also suggests that a conceptualization of reports from substance misusers that ignores the socially mediated and functional nature of their responses, and in its place categorizes the things that people tell us in terms of a simple dichotomy between 'truth' and 'lies', misses the fundamental significance and purpose of language. It goes without saying that many experienced clinicians will already be aware of the dangers of taking everything that their clients say at 'face value' and fully appreciate the metaphorical and functional nature of much that is said. In many cases they will also be in a position to interpret responses in the light of clinical experience and in the context of other, and possibly collateral, data that are available. From such a standpoint, the present findings are perhaps not so surprising. Even so, certain subtle differences between 'scripts' give clues as to how complementary methods of assessment might be developed in the future that might give better prediction of treatment outcome at the individual level. Paradoxically, there might be added value in involving problem drinkers in describing other people's drinking, in addition to involving them in a presumed 'recall' exercise about their own. The area remains ripe for further exploration.

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