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Reliability of clinical assessment of blunted affect

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ABSTRACT – The affect of 20 chronic schizophrenic in-patients was assessed by two psychiatrists using two rating scales. The interview recordings were reviewed three times – firstly with the auditory information only (the “audio review”), secondly with the visual information only (the “visual review”) and thirdly with both (the “audio-visual review”). The “blunted affect score” correlated strongly with the total score of the verbal items of scales, but did not when a single mode of information was given. Since the absolute values of the “blunted affect score” were lower in the “visual review” than in the live interview and in the “audio-visual review”, it was speculated that speech tended to bias the assessment of affect.

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The facial expression of patients suffering from schizophrenia has been regarded as an important diagnostic feature of the illness. Bleuler (1) postulated that the blunted affect was one of the “fundamental symptoms” of the illness. Recent operational diagnostic criteria of schizophrenia have made it an element of diagnosis (2, 3).

Blunted affect has also been thought to indicate poor prognosis. For example, Langfeldt (4) included a “special type of emotional blunting” in a list of factors which endeavoured to distinguish between the good outcome “schizophreniform psychoses” and the poor outcome “typical schizophrenia”.

Carpenter et al. (5), in their 5 year follow-up study of schizophrenic patients, found that of all the symptoms and signs assessed only restricted affect predicted poor outcome.

Despite the apparent importance of blunted affect which these studies indicate, the assessment of affect is notoriously unreliable (6, 7, 8), limiting its value in objective studies of schizophrenia.

The present study was designed to determine whether auditory information biased the assessment of blunted affect. Although affect can be measured in terms of not only the subject’s behaviours (e.g. facial expression and gesture) but also his vocal characteristics (9) (e.g. pitch, in-

tonation and loudness), the raters in this study were forced to concentrate on the former in order to clarify the possible influence of what the subject had said in the interview on the scores of blunted affect given by the raters.

Method

Selection of subjects

Twenty Caucasian chronic schizophrenic in-patients, aged between 20–63 years (16 males and 4 females) were randomly selected from long-stay wards by R. K. who took no part in the subsequent interviews. Of the 20 patients, only one was married, three were divorced and the rest had never been married. The number of hospital admissions (including the present one) varied from 1 to 10 (mean 4.4) and so did the duration of the illness which ranged from 1 to 30 years (mean 19.1 years).

After the completion of the study, the diagnosis was re-assessed by T. K. using Feighner's (10) criteria of schizophrenia. It was found that 14 patients could be placed in the "definite schizophrenia" category, one patient in the "probable schizophrenia" category and four patients in the "non-schizophrenia" category, although their case notes obviously indicated schizophrenia. One patient showed many features found in schizophrenia but was later found to be suffering from a presenile dementia.

Interview

The subjects were interviewed by one investigator (T.K.) in the presence of the second one (A.K.) and it lasted for half

an hour. The interview was conducted following the instruction of the Brief Psychiatric Rating Scale (6) with the glossaries and rating instructions by Kolakowska (11) (BPRS). Both investigators had never been involved in the treatment or management of the subjects, and therefore this was their first clinical interview with the patients. Both investigators rated the patients' psychiatric condition independently using the following two scales:

- 1) BPRS (6, 11) is a 7-point scale which covers a wide range of psychiatric symptoms.
- 2) Symptom Rating Scale (12) (SRS) is a 5-point scale which covers symptoms of long-stay patients, namely flatness and incongruity of affect, poverty of speech, incoherence of speech, and coherent delusions.

These two scales were adopted firstly because both have items for affective flattening and secondly because they cover other areas of psychopathology, BPRS focussing on positive schizophrenic and non-specific symptoms whilst SRS on negative schizophrenic symptoms.

All interviews were recorded by auditory cassette tapes and video tapes for subsequent assessment.

Reviews

The recorded interviews were reviewed and rated on three subsequent occasions at intervals of approximately 2 months. At the first review only the auditory content of the interviews was played back. The two raters assessed those items on the two scales which were not dependent on visual information (i.e. "somatic concern", "anxiety", "conceptual disorganisation", "guilt feeling", "grandiosity", "depressed mood", "hostility", "suspici-

Table 1
Inter-rater reliability of the total scores and of the "blunted affect scores" of the two rating scales

Psychiatric rating scale	Occasion	Total score	"Blunted affect scores"
BPRS	live interview	0.67***	0.75***
	visual review	—	0.38 NS
	audio-visual review	0.86***	0.49*
Wing	live interview	0.86***	0.80***
	visual review	—	0.48*
	audio-visual review	0.70***	0.47*

Reliability is expressed as the r value of Spearman rank ordered correlation.
NS: not significant. * $P < 0.05$; ** $P < 0.01$; *** $P < 0.001$.

ousness", "hallucinations", "unco-operativeness", "unusual thought content" and "elation" of BPRS and "poverty of speech", "incoherence of speech" and "coherent delusions" of SRS). This is referred to as the "audio review".

On the second occasion, the two raters then viewed the video recording without sound. Only items which were independent of auditory information (i.e. "emotional withdrawal", "tension", "mannerisms and posturing", "motor retardation", "unco-operativeness", "blunted affect" and "psychomotor excitation" of BPRS and "flatness and incongruity of affect" of SRS) were rated. This is referred to as the "visual review".

Finally, the video tapes were reviewed with both vision and sound. All items of the rating scales were scored. This was called the "audio-visual review".

Scoring

The summation of the score of all the items of each scale was referred to as the "total score". The "total score" was, therefore, available only in the live interview and the "audio-visual review".

The score of the item which was supposed to elicit blunted affect (i.e. "blunted affect" in the BPRS and "flatness and incongruity of affect" in the SRS) was

Table 2
Test-retest reliability of the total scores and of the "blunted affect scores" of the two rating scales

Psychiatric rating scale	Live interview vs.	Total scores		"Blunted affect scores"	
		First rater	Second rater	First rater	Second rater
BPRS	Visual review	—	—	0.40*	0.49*
	Audio-visual review	0.77***	0.80***	0.63**	0.71***
Wing	Visual review	—	—	0.40*	0.56**
	Audio-visual review	0.80***	0.78***	0.64***	0.61**

Reliability is expressed as the r value of Spearman rank ordered correlation.
* $P < 0.05$; ** $P < 0.01$; *** $P < 0.001$.

designated as the "blunted affect score". This was, therefore, not available in the "audio review".

The summation of the score of the items which could not be rated without auditory information (i.e. those rated in the "audio review") was referred to as the "audio score". This was, therefore, not available in the "visual review".

Results

Total score

The inter-rater reliability and the test-retest reliability of the total score for

each scale was calculated and found to be satisfactorily high (Tables 1, 2).

Blunted affect score

The inter-rater reliabilities for "blunted affect score" in each of the rating scales were then examined independently of the total scores (Table 1). It was found that although the inter-rater reliability of the "blunted affect score" was as high as that of the total score in the live interview, it was relatively low in the visual review and the audio-visual review.

The test-retest reliability of the "blunted affect scores" was then examined (Table

Blunted Affect Score

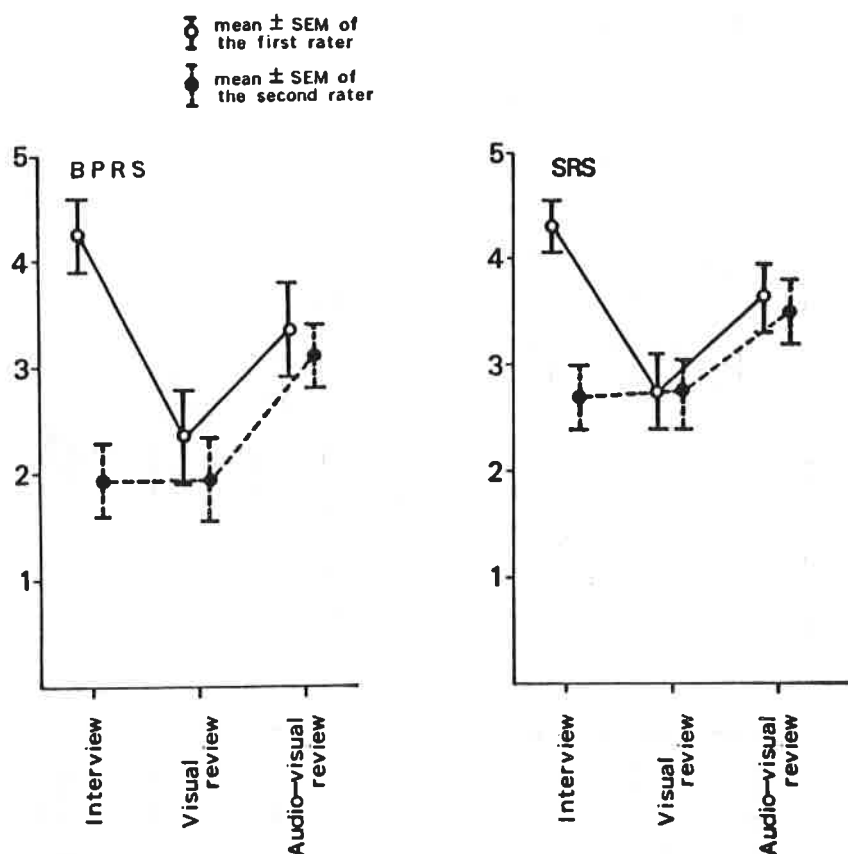


Fig. 1. "Blunted affect scores" of the two rating scales on three assessing occasions.

2). It was found that the test-retest reliability was lower between the live interview and the visual review than between the live interview and the audio-visual review.

The absolute values of the "blunted affect scores" showed significant changes over the three occasions (Fig. 1). The value of the "blunted affect scores" varied, being high in the live interview and the audio-visual review, and low in the visual review for one rater (T.K.) whilst for the other rater (A.K.) it was low in the interview and the visual review, but high in the audio-visual review. It can, therefore, be said that the absolute values of the "blunted affect score" in the visual review were always either as low as, or

lower than when auditory and visual information is presented simultaneously.

Audio score

From Fig. 2, it can be seen that the "audio scores", unlike the "blunted affect scores", were relatively stable over the three occasions for both raters.

Correlation between the "blunted affect scores" and the "audio scores"

The "audio scores" on the three occasions were correlated with the "blunted affect

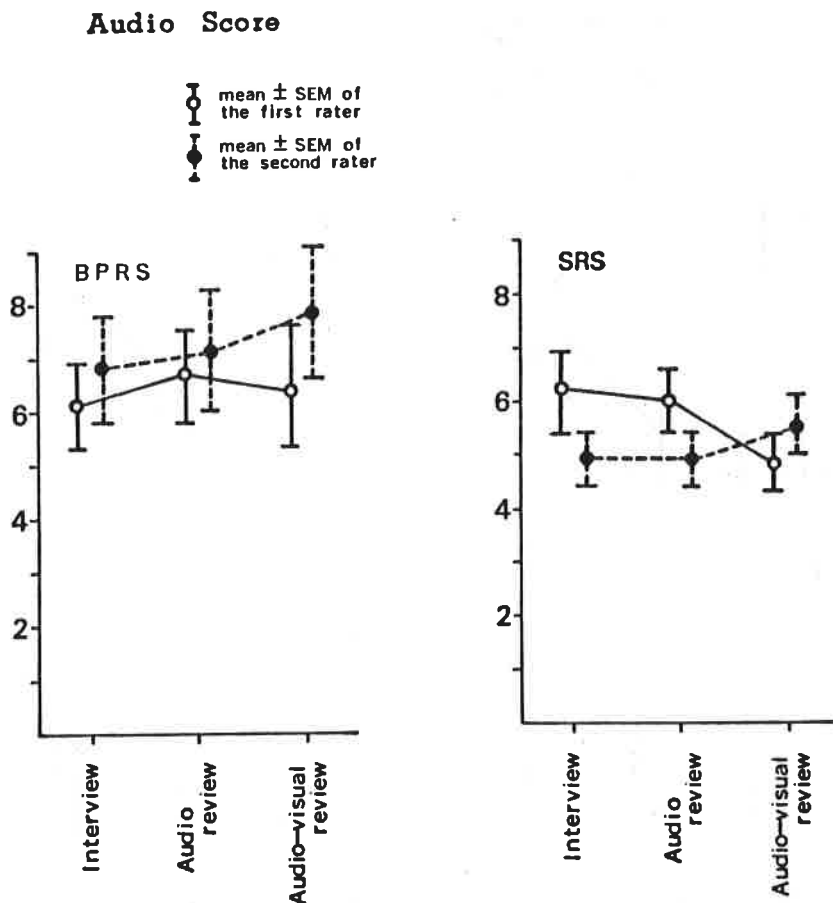
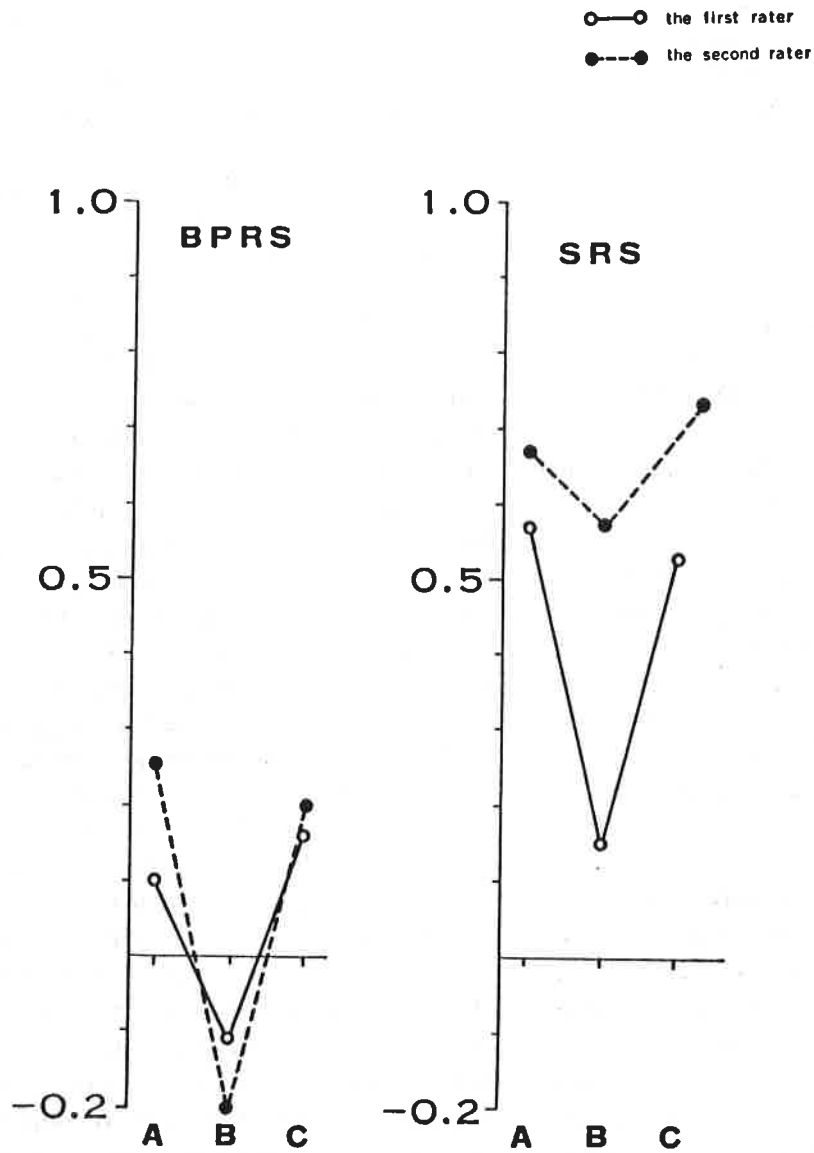


Fig. 2. "Audio scores" of the two rating scales on three assessing occasions.



- A : the "audio scores" in the live interview vs. the "blunted affect scores" in the live interview
- B : the "audio scores" in the audio review vs. the "blunted affect scores" in the visual review
- C : the "audio scores" in the audio-visual review vs. the "blunted affect scores" in the audio-visual review

Fig. 3. Correlation of the "audio scores" with the "blunted affect scores" on three assessing occasions for the two psychiatric rating scales. The correlations are expressed as the r values of Spearman rank ordered correlation.

scores". Both raters showed a high correlation in the interview and the audio-visual review, whilst the correlation of the "audio scores" in the audio reviews and the "blunted affect scores" in the visual reviews was found to be low (Fig. 3).

Discussion

The aim of the study was to examine the influence of auditory information on the assessment of affect. The "blunted affect scores" were correlated with the "audio scores". It was found that the two were most strongly correlated when two modes of information were given but not so when only a single mode of information was given. The finding that the absolute values of the "blunted affect scores" in the visual review did not exceed those in both the live interview and the audio-visual review, also supports this hypothesis. Therefore, it can be concluded that speech biases the assessment of affect, at least within each interviewer.

The inter-rater reliability did not improve when auditory information was excluded, although the number of cases rated as having blunted affect were similar between the two raters in the visual review. The raters were not rating the same patients as having blunted affect. Paradoxically, the inter-rater reliability seemed to increase when two modes of information were given (i.e. in the live interview and the audio-visual review). A possible explanation for this might be that the auditory information (for which there is a good inter-rater reliability) "drags up" the assessment of affect so that a high reliability is obtained.

Similarly, the finding that the test-retest reliability of "blunted affect" was higher when the live interview was com-

pared with the audio-visual review than when the live interview was compared with the visual review, can also be explained by this "drag" effect. It seems, therefore, that the presentation of auditory information does affect the rating of blunted affect, even though the instruction manuals of the two rating scales used clearly state that blunted affect should be rated solely on the observation of the subjects' behaviour, and that speech content should be ignored. When doing the rating we endeavoured to follow the instructions of the manuals. We have shown that one is heavily influenced by the auditory information received with regard to the assessment of affect. This finding, as far as we are aware, has not been reported before. In retrospect, this finding should not be surprising since blunted affect can be thought of as the diminished expression of "internal emotion" and may be reflected in the quality of speech such as intonation, inflection, tempo, pitch and quality of tone (9).

We can see in this study that the assessment of affect has a low inter-rater reliability, even when the bias of speech in the assessment of affect was eliminated by the application of the visual review. We feel that this will not be overcome by improvements in interviewing techniques or further definition of terminology. It may be, however, that more objective assessments, especially with an ethological approach (13), might be the key to further research in this field. A further study is in progress and our impression is that an ethological analysis is more reliable. This work is now in progress.

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