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DEAR SIR,

In 'The predictability of speech in schizophrenic patients' Dr Rutter and his colleagues conclude that the "literature [on schizophrenia] abounds with inconsistent results" (p. 231) because they failed to find a significant difference in predictability, as measured by the Cloze procedure, between schizophrenic and normal speech. They attribute their failure to find the difference Salzinger *et al* (1964, 1970) did to methodological factors, but they go on to say that "if so, the phenomenon lacks robustness and can be of little intrinsic interest" (p. 231). One wonders whether they would view blood pressure measurements in the same way. What if Investigator A failed to confirm a difference in blood pressure between hypertensive and normal blood pressure patients found by Investigator B, when A's normal subjects, but not the hypertensive ones, were exercised before the measurement?

What methodological differences might be considered here? The most interesting is that Rutter *et al*'s patients, unlike Salzinger *et al*'s, were receiving antipsychotic medication. A not too radical interpretation of the differences in results is that the medication improved the performance of the schizophrenic patients. Chapman and Chapman (1973) report that cognitive behaviour such as is involved in the Cloze procedure is improved by such drugs when given over a long enough period of time, in a large enough dose. The only study on the effect of tranquilizers on Cloze procedure was done on small acute doses by Salzinger *et al* (1961) who found reduced predictability of speech, but the Chapman review of the literature would have predicted such an effect in that case.

The research by Rutter *et al* begs for a drug study rather than a statement decrying the low state of

research in schizophrenia. There are a number of other differences between Salzinger *et al*'s and Rutter *et al*'s study: normal and schizophrenic subjects of the first study were matched, while in the second, only groups were made 'comparable', and the monologue was elicited by itself in the first study but collected as part of an interview (with no specification as to when in that interview) in the second study.

One more word about robustness of measures and whether the Cloze procedure is of 'little intrinsic interest' as the authors imply. One object of research in schizophrenia is to create objective measures of functioning of important classes of behaviour. The Cloze procedure is objectively scorable and it taps the extent to which people understand each other, a socially significant behaviour. A second object is to embed it in a theory (Salzinger, 1973) relating it to other findings; the Immediacy Hypothesis, which states that schizophrenic behaviour is primarily controlled by temporally close stimuli, fits the data particularly well as tested by a modification of the cloze procedure applied to schizophrenic speech (Salzinger *et al*, 1970; Salzinger *et al*, 1978) but also with respect to cloze performance executed by schizophrenic patients (Blaney, 1974; DeSilva and Hemsley, 1978). A third object is to validate the measure in question by relating it to significant psychopathological variables. The correlation between cloze scores on schizophrenic speech and the length of time the patients had stayed in a psychiatric hospital during six months' follow-up was  $-.47$  (Salzinger *et al*, 1966).

It seems to us that it is far better to investigate why there is a difference in results when trying to repeat an experiment than it is to glory in 'inconsistent findings'.

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#### SCHIZOPHRENIA AND EARPLUGS

DEAR SIR,

As hinted at by McGuffin (*Journal*, June 1979, **134**, 651), the wearing of earplugs by schizophrenics may not be as eccentric as first appears. Intolerance to noise is a common symptom in an ENT clinic as well as among psychiatric patients. The classic feature is that the patient has to turn down the volume if he enters a room where others are watching TV. Regardless of who exhibits this symptom (autistic children, children recovering from otitis media, early otosclerotics, patients with Menière's disease, etc), there is the same correlate on testing with an acoustic impedance meter—a reversal of middle ear stapedial reflexes. Instead of the normal decrease of middle ear compliance on acoustic stimulation, there is an increase. This has the effect of amplifying instead of attenuating loud noises.

Over the last few years I can recall seeing 3 West Indian patients in an ENT clinic with a psychiatric diagnosis of schizophrenia. All had audiological features of Menière's syndrome and positive blood tests for syphilis. In such patients the symptoms often start after minor head injury or pressure changes, as during plane flights. A very common symptom of Menière's disease is an annoying feeling of pressure or blockage in the ears, which may have been the basis

for the patient's delusion that "Half of my brain is linked to the Moon".

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DEAR SIR,

Dr McGuffin's letter (*Journal*, June 1979, **134**, 651) includes incidental observations of the effects of wearing earplugs upon the condition of schizophrenic patients. In particular, he quotes the patient who found that wearing earplugs helped him to 'hear more clear' (sic).

Our own research provides a rationale for improvements in speech comprehension as a result of wearing an earplug in one ear or the other but not in both (Green, 1978a; 1978b; 1978c; Green *et al*, 1979). This research shows that schizophrenics suffer from defective information transfer between the cerebral hemispheres and that the transfer deficit interferes with speech comprehension. Acute schizophrenics with left hemisphere speech representation are significantly better at understanding speech presented to the right ear than to the left. More important, however, is that they are normally able to comprehend speech presented to the right ear only at least twice as well as under normal conditions of binaural speech reception. The wearing of an earplug in the left ear, therefore, leads to significantly increased levels of speech comprehension compared with everyday binaural listening. In cases of right hemisphere speech, the effect is similar but in the reverse direction and a right earplug would be expected to increase speech comprehension.

An additional effect of a single earplug which we are investigating is a decreased frequency of auditory hallucinations which re-appear if the patient removes the earplug. For further information about the experimental work leading to the discovery of these effects, reference may be made to the following articles which are available from the author on request.

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