



Letter to the Editors

Heightened stimulus salience renders deluded schizophrenics less susceptible to the ‘famous names illusion’[☆]

Dear Editors,

Recent work by [Kapur \(2003\)](#) has suggested that the dopaminergic dysregulation in schizophrenia might cause neutral stimuli to appear abnormally salient to the patient, causing them to ascribe personal significance to the object or situation. The delusion, in this framework, is a cognitive effort by the patient to make sense of these aberrantly salient experiences.

When conceptualised in neural network terms, heightened salience could be considered an increase in the strength of a memory trace, which can also occur by repetition. From this it follows that where the strength of a trace is stronger, frequency will be judged as being greater ([Stapel et al., 1995](#)). One task that examines the impact of the salience of information on the ability to estimate frequency is the ‘famous names’ task ([Tversky and Kahneman, 1973](#)). In this task, participants are presented with a list of names constructed such that names in one gender category were consistently more famous than those in the other (e.g. a list containing 19 names of male celebrities and 20 names of non-famous females). Following this, participants are asked to judge whether the list contained more men or women’s names. [Tversky and Kahneman \(1973\)](#) found that for almost all their participants, whichever gender included more famous names was also judged as being more numerous, even though this was the

opposite of the true state of affairs. Tversky and Kahneman referred to this as ‘availability heuristic’, and suggested that the increased trace strength of the familiar famous names made them easier to recall. If the deluded state is marked by an abnormal assignment of salience to stimuli and a heightened salience towards relatively neutral stimuli occurring in an automatic fashion, as has been suggested by [Kapur \(2003\)](#), we would predict smaller differences between the traces for famous and non-famous names, and as a result, a greater dissociation between fame and gender identification, thus making the deluded participants less susceptible to the famous names illusion.

The current study modified the ratio used to 7 famous names: 10 non-famous names. We also asked participants to identify whether or not they recognised each name as famous immediately after the name was presented. To prevent the use of other cognitive strategies which might supersede availability ([Kahneman, 2003](#)), only two trials of the task were carried out for each participant. As a control task, participants were also presented with two more lists containing only non-famous male and female names in the same ratio (10:7) in a different testing session. The names were read out at the rate of a name every 2 s. The

Table 1
Demographic data of participants

Group (N)	Sex (M/F)	Age	NART	WAIS-R
Controls (15)	8M/7F	36.8 (14.0)	105.6 (9.8)	N/A
Deluded schizophrenics (14)	10M/4F	43.4 (9.5)	103.8 (9.6)	90.8 (7.2)
Non-deluded schizophrenics (14)	10M/4F	41.7 (9.8)	101.3 (10.7)	92.7 (8.6)

[☆] These data were collected as part of the first author’s doctoral dissertation.

Table 2
Gender identification on the neutral and famous names task

Group	Neutral names task			Total number of lists identified
	None	1 out of 2 lists	Both lists	
Controls	0	1	14	29
Deluded	0	3	11	25
Non-deluded	0	5	9	23
Total	0	9	34	77

Group	Famous names task			Total number of lists identified
	None	1 out of 2 lists	Both lists	
Controls	6	7	2	11
Deluded	1	4	9	22
Non-deluded	4	7	3	13
Total	11	18	14	46

Note: The values in data columns 1–3 refer to the number of participants in each group who correctly identified the gender ($Max=n$) (e.g. 2 controls correctly identified the gender of both presented lists and 7 controls only identified it on 1 of the 2 lists in the famous names task). The values in column 4 refer to the total number of lists identified by each group ($Max=n*2$).

order of presentation of the lists was randomised across participants.

The patient sample consisted of a group of deluded schizophrenia patients ($N=14$) and non-deluded schizophrenia patients ($N=14$). Both patient groups had a current WAIS-R IQ of over 85, and no thought disorder. All patients were on atypical antipsychotics. The control group consisted of 15 volunteers with no history of psychiatric illness, matched to the patient groups on age and estimated pre-morbid IQ, using the National Adult Reading Test (NART, Nelson, 1982) (Table 1).

On the neutral names task (see Table 2), there were no differences between the groups on their ability to identify the gender on the lists ($\chi^2(2, N=43)=3.70, p>.10$)¹. However, on the ‘famous names’ version of the task, there was a significant difference in performance between groups ($\chi^2(2, N=43)=10.59, p<.05$), and the performance of the deluded group was actually superior to the other groups—the deluded group correctly identified the gender on the list more often than the controls and the non-deluded group.

We also compared the total number of lists for which gender had been correctly identified on the neutral names task compared to the famous names task (Table 2, last column). Both the control group ($\chi^2(1, n=15)=8.1, p<.01$) and non-deluded participants ($\chi^2(1, n=14)=2.78, p<.05$) performed more poorly on the famous names task, while the deluded group performed no differently between the two versions of the task (25 on neutral version; 22 on famous names version; $\chi^2(1, n=14)=0.19, p>0.66$).

Maley et al. (2000) suggest that an automatic processing mechanism is involved in estimating frequency. In the famous names task however, the relative salience of the famous names causes a bias in recall, which overrides the automatic frequency estimation. In the deluded group, the reduced differences in trace strength between the neutral and famous names might make it easier to identify the gender on the list, based on ‘automatic’ frequency of occurrence traces. Alternatively, this may have occurred simply due to a greater disjunction between fame and gender in the deluded group, an issue that needs to be explored in future research.

¹ Due to the number of zero occurrences in the first column, the chi-square was carried out on a collapsed contingency table, combining columns one and two, although the results remained unchanged using either form of the chi-square table.

References

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