

## **Appendix B: Sample debriefing statement**

Feedback for Participants  
Experiment 19: Reasoning and inference  
Academic Year 2000/2001  
Osherson Laboratory, Department of Psychology  
Rice University, Houston, TX

First, thank you for participating in this experiment. Regardless of how well you think you may have done in this test, the data you have given us will be of great value in our research.

The experiment you have just completed is part of a set of experiments designed to test theories of how the human brain distinguishes validity from invalidity and high probability from low probability. Ultimately, we wish to discover the brain mechanisms responsible for this remarkable human ability. Indeed, the data collected in the present experiment serve as a control condition for research carried out in brain-scanning laboratories here in Texas. In this research, the question we are concerned with is: what parts of the brain are used for logical versus probabilistic reasoning? What regions are shared between the two tasks, and which are specific to each of them?

In our brain-scanning experiments we have observed distinct regions of the brain responsible for the two types of reasoning (logical versus probabilistic). In determining the precise roles of these regions, however, it is helpful to have information about the

reasoner's subjective experience when performing the two kinds of inference. This is why we queried you so extensively in the follow-up questionnaire.

We will look for several different trends in your data. First, were you successful in distinguishing valid from invalid arguments according to the criteria of formal logic? Second, do different respondents tend to agree with each other about the probability judgments? Third, do reasoners have opinions about the mental processes they employed to solve the problems? Were these processes the same for logic versus probability problems?

The answers to these questions will tell us a lot about how the brain uses stored information to infer new information. If all (or nearly all) subjects in this experiment provide data that is consistent with our brain imaging results, then we can be fairly sure that we have learned some answers. It is important to note that there are no 'right' or 'wrong' introspections that should appear in your questionnaire; we have few preconceived notions of how the results should turn out, and we already know that for different kinds of reasoning tasks, different patterns of results are found. It is also important to note that we are not concerned with how accurate you are overall, compared with other subjects; we are concerned only with the patterns present in your data.

Should you wish to learn more about this research, please ask the experimenter, who can provide you with more details and perhaps point you to some published research available on the internet. Thank you again.