

THE COMPARISONS OF STATISTICAL REASONING BETWEEN SCIENCE-GIFTED STUDENTS AND AVERAGE STUDENTS: THE APPLICATION OF THE LAW OF LARGE NUMBERS

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Science-gifted students receive most attention in our educational system. The IQ tests together with some other tests are generally used to identify gifted students. However, there still exist some controversies over the identification issue. Although the consensus of this issue is to adopt multiple tools, the need to identify tasks on which cognitive processing differences between science-gifted students and average students can be observed remains. The main purpose of the present study is to investigate whether science-gifted students have better statistical reasoning abilities than average students when the law of large numbers can be applied to the problem solved. The results indicated more science-gifted students showed statistical reasoning than average students when the problem space was clear and the chance factors were salient. Furthermore, once the science-gifted students reasoned statistically, they more frequently used the law of large numbers than the average students. The implications of the results are further discussed.

Keywords: Science-gifted students, Statistical reasoning, The law of large numbers.