

## Assessing the impact of intelligence tests on college students' motivation to learn in increasing self-awareness

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### ABSTRACT

This study uses a qualitative method with a phenomenological approach to examine objects directly using descriptive questions on interview participants and without the use of numerical instruments. The purpose of this research is to find out the experience of participant after conducting intelligence tests on increasing motivation in learning. Data obtained through interviews with four female students of the Guidance and Counselling study program at the Faculty of Teacher Training and Education, Sriwijaya University. The results of this study state that when doing the test tends to feel tired, anxious and there is pressure or pressure in doing the test and it is hoped that when going to take the test participants can better maintain expectations on the results that will be obtained.

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### Introduction

The current educational process stimulates the abilities and potential of students so that they can further develop and be able to implement these abilities in future career life. The journey of education in Indonesia from the beginning of independence until now has experienced quite a lot of processes and challenges so that, many changes in the world of education in Indonesia (Zamhari et al., 2023). This research focuses on how an intelligence test in the education process can influence students as part of educational journey. This research is also important as an effort to better recognize the educational process that students have undergone and estimate the effectiveness of the efforts that have been made to encourage their potential.

For students to get to know themselves better so that they can maximize the improvement of their abilities and potential, there are several options that can be done. One of them is by conducting Intelligence tests organized by schools and other private parties. Intelligence in general can also be interpreted as a level of ability and speed of the brain to process a certain form of task or skill (Nur'aeni, 2012). According to Dr. David Wechsler, intelligence is the ability to act purposefully, think rationally, and deal with the environment effectively (Nur'aeni, 2012). George D. Stoddard in 1941 defined intelligence as the ability to understand problems that are characterized by containing difficulty, complex, abstract, economical, directed at a goal, have social value, and come from the source (Nur'aeni, 2012).

The intelligence test itself is designed to make a sample of various skills to estimate a person's intelligence level. Intelligence tests are used to measure general potential

skills such as analysing, understanding, solving problems and developing something using thinking (Maharani et al., 2021). The use of intelligence tests is one of the efforts so that students can recognize their abilities and potential in themselves is one of the right actions to. With the many intelligence tests that can be carried out by professionals, it can provide effective support to learners so that they can undergo the education process in a more organized and efficient manner.

(Sabarrudin & Fitriani, 2022) the benefits of using psychological tests in the world of education, such as in the field of counselling, are actions to determine general intelligence, which is the ability of all general aspects of individuals and groups to act with purpose, think rationally, and be able to adapt more effectively to the environment, sensory motor coordination (gross and fine motor), which affects the individual's ability to control themselves and carry out learning activities. Examples such as writing, singing, and speaking ability to see whether individuals or groups already have age-appropriate speaking skills or are younger than their age.

Intelligence test itself currently has many variants, adjusting to the needs of each individual and his age. This is because everyone has different intelligence. Human intelligence can be measured using various intelligence tests to determine its level such as, with the Binet intelligence test developed in 1905, the Wechsler Intelligence Scale for Children (WISC) developed in 1949 and specifically designed for children, and the Wechsler Adult Intelligence Scale (WAIS) developed in 1955 for adults (Triwulandari & U.S, 2022). Alfred Binet's theory is commonly known as Intelligence Quotient (IQ) which classifies the level of intelligence (IQ) starting from Very Superior (> 130), superior (120- 129), above average (110-119), average (90-109), below average (80-89), borderline mentally / mentally weak 70-79), debil (50-69), imbecil 26-49), and idiot. (= <25) (Triwulandari & U.S, 2022; Veriansyah et al., 2018).

Another form of intelligence test is the Item Response Theory (IRT) method, which according to Huriaty IRT is a theory of how a person's ability variables and item variables determine response data when someone answers the item (Agustin & Sirodj, 2018). And there are different types such as Standard Progressive Matrices (SPM) which was designed by J.C Raven as one of the psychological tests used to measure the level of individual intelligence by posing 60 questions divided into five sets, A, B, C, D, and E, each consisting of 12 items with each question consisting of one large incomplete picture, and there are answer choices to complete picture (Rahmadani, 2019).

However, from the many types of intelligence tests and the positive impact of using intelligence tests in education today, there are still many shortcomings and forms of negative aspects of intelligence tests. The use of an intelligence test is generally not designed to measure the specific abilities of individuals (Pane et al., 2023). According to Wangmuba, intelligence is a concept regarding the general ability of individuals to adapt to their environment (Pane et al., 2023). In its use, intelligence tests can only measure the general ability and understanding of individuals when conducting this intelligence test. Thus, the use of this test can aim to measure individual abilities

specifically is not effective and efficient. Therefore, researchers feel the need for research to see and know the conditions in the field of the intelligence test itself, as well as its impact on students who have taken, and have taken the test.

Method

Research Methods in this research is qualitative research with a phenomenological approach. Qualitative research is a type of research that examines objects directly with descriptive questions to interview participants and without using numerical instruments. According to Hadi, the phenomenological approach is a philosophical approach that aims to investigate human experience (Mutiarrahma et al., 2024). Participants who are research subjects are selected based on their experience in taking intelligence tests, so that they can provide statements that are relevant and in accordance with the needs of this study. To determine the participants, the researcher had several characteristics that became the reference for selecting participants, individuals of female or male gender, had taken the intelligence test at least 1 time or more, aged 17-22 years (born in 2003-2008), and were willing to follow the interview guidelines conducted by the researcher. In this study, there were four who had conducted interviews. The table below is part of the demographic data regarding information from the four participants who have participated in this study.

Table 1. Sample Demography

Participant Identity	EY	S	H	N
Gender	Female	Female	Female	Female
Age	20	19	19	19
Employment Status	Student	Student	Student	Student
Domicile	Indralaya	Indralaya	Indralaya	Indralaya

Researchers use the procedure of how to collect data by conducting semi-structured interviews which are useful for understanding a phenomenon, with the aim of this type of interview being useful for finding problems more openly, where the parties being interviewed are asked for their opinions and ideas (Wilinny et al., 2019).

Results and Discussion

The general theme of this research examined the experience of taking an intelligence test, the experience after taking an intelligence test, the relationship between intelligence tests and motivation to learn, and participants' suggestions and hopes for future intelligence tests. From the research conducted, several results were found that can be seen directly through the results of interviews and observations that occurred.

Intelligence test experience

Wahono & Rusmiyanto, experience is an event or incident that has been experienced by someone, especially events that are always remembered (Loi, 2022). Experiences experienced by individuals will provide stimulation that has a direct or indirect effect on the individual. In the intelligence test that has been carried out by participants, it certainly has an influence on them.

EY is a student at Sriwijaya University studying in the counselling study program, Faculty of Teacher Training and Education. EY herself comes from Bangka Belitung Province, more precisely on the island of Bangka. EY had undergone an intelligence test during her school days before entering the world of lectures, precisely in the 10th grade of Senior High School. The reason EY did the intelligence test at that time was because it was required by the school to find out the ability of students and the appropriate career field in the future. At the time of doing the intelligence test, EY experienced moods that can be said to be complex such as, tension, curiosity, and expectations of the results to be obtained

Another experience of participants who took the intelligence test was from S who also took this test, namely in grade 10 and grade 12 with the aim of knowing the potential and appropriate career path to maximize this potential. this intelligence test is also held by the school as well as the previous participant, but its nature is different, which is not required. S's mood at the time of the test was equally complex, such as feeling tired, relieved and a little depressed because the test time was considered too fast.

Participant N when conducting intelligence tests with the same mood, namely, tired, there are also feelings of worry but there are still feelings of pleasure and enjoyment. This can happen because the intelligence test is done based on personal desire and high curiosity. This test was conducted by participants during the 10th grade of high school.

For the fourth participant, H, the reason he took the test was because he wanted to know about his intelligence, and this test was also organized by the school. When doing the intelligence test, participant H experienced same mood as participant S, namely, tired, relieved and there was also a sense of pressure when doing the test.

Rohmah argues that intelligence tests are psychological instruments that function to provide self-understanding, self-assessment, and self-acceptance (Maharani et al., 2021). Meanwhile, according to Gregory, the intelligence test is a test tool intended as an effort to measure a person's ability in a very broad domain of intelligence, such as verbal understanding, perception, or reasoning that can help individuals in determining academic or employment potential (Maharani et al., 2021). Therefore, the intelligence tests carried out by the four participants were almost all based on their curiosity about their abilities and potential. This shows that learners are very curious about their abilities, want to understand more, and are curious about themselves so that they encourage to get to know themselves better.

#### *Experience after taking an intelligence test*

Participant H experienced a sad feeling when found out the test results obtained, because he felt that it did not suit him even though not in its entirety. The results shown were inversely proportional to the expectations of participant H. However, the test provided an increase in motivation and learning ability in himself and, there was also an increase in self-awareness in the form of awareness of his talents and potential. Therefore, through self-awareness, it can help individuals to recognize their unique

interests and talents so that these individuals can direct their energy and efforts to areas that are in accordance with their potential (Setianawati et al., 2024).

In the test taken by participant H, there are also many new insights received into his weaknesses, but apart from that the test results also reduce self-confidence as stated at the beginning when knowing the results of the test. There were demands from the family when knowing the test results obtained, but participant H had a strategy to overcome the negative impact he experienced, namely by looking at the individuals around him and making them an observation reference to better understand himself from the test results obtained.

EY participants also felt normal and disappointed when they found out about test results, because the test results were already in EY participants' imaginations. The test results provide motivation to develop themselves and further increase curiosity as well as, an increase in social skills, critical thinking and provide insight into the weaknesses of EY participants. Rather than that, the test that was carried out did not reduce self-confidence even though there were demands from within and outside simultaneously. The test results that participant N had made him feel happy, which was because the test results were in line with expectations. The impact that arises is to increase motivation and learning ability and an increase in self-awareness to better recognize abilities and weaknesses. Apart from the positive impact, there was also a negative impact felt by participant N, namely, a decrease in self-confidence, as well as demands that also arose from the family.

Similarly, participant S felt happy when he found out the results of the intelligence test because it was in accordance with his imagination and expectations, although there were some that did not match. The desire to maintain the intelligence test results became the motivation of participant S, which was also shown by increasing self-awareness, adding new insights so that prospects were already in the picture.

Woodworth and Marques define motivation as a set of motives or readiness that makes individuals tend to carry out certain activities and to achieve certain goals (Setianawati et al., 2024). Based on the concept of this theory, we can assume that the test activities carried out are part of an effort to achieve goals by knowing the abilities of each participant and making them understand more about themselves.

#### *Relationship between intelligence test and learning motivation*

Learning motivation is a condition that exists in an individual where there is an urge to do something to achieve a goal (Rahmah et al., 2022). During the interview, participant S stated that significant changes in his learning motivation were not really felt after taking the test, but it was also conveyed that there was still a desire to maintain the results obtained, and the tests carried out helped understand how to study accordingly.

Based on what was stated, it provides one point of view that the learning motivation possessed by participant S was indeed good from the start and it was shown by the desire or drive to achieve the goal of maintaining the test results obtained. After taking

the intelligence test, Participant S made a learning strategy that suited him, namely by being directly involved in the teaching and learning process in class because of his kinaesthetic learning style. And the test results are applied to his personal life such as making more confident in making decisions and stances.

The change in learning motivation felt by participant H is shown by an increase and followed by confidence in learning. The intelligence test conducted by participant H was very helpful to understand how to learn that suits him. A more comprehensive learning strategy is owned by participant H after taking the test due to knowing how to learn. The application of the test results is shown by participant H's efforts to better understand others and try to become a more open individual.

EY believed there was an unconscious change in motivation to learn by reaching this point. And EY felt that the test did not help her understand how to study appropriately. But in contrast to the way of learning, EY found learning strategies that suit him such as, by recording the learning process, listening, and memorizing and the test results obtained are applied by getting to know the weaknesses in himself.

In participant N, there was no significant change in learning motivation, but there was a different impact from the intelligence test conducted by making participant N enjoy the learning process more. This is because participant N better understands how to learn that is suitable for him personally, which is evidenced by the existence of new learning strategies and learning styles during class. As well as it is also evidenced by the application of the results of the intelligence test to the academic and personal life of Participant N in the form of growing stance on himself and being more courageous in making decisions.

### *Suggestions and expectations*

Lewis Madison Terman in 1916 defined intelligence as a person's ability to think abstractly (Nur'aeni, 2012). To support that intelligence tests can always be relevant and dynamic according to the needs of the participants, the participants put forward suggestions from their experience. Like participant N who said that the relevance of intelligence tests cannot be said to be fully relevant depending on individual conditions. Andidar et al. (2021) users of psychometric tools realize that the characteristics of the instrument are not contextually relevant, so the role of culture is needed.

N also advised those who want to take the intelligence test to prepare more and get more rest before taking the test. Criticism of the test according to participant N is about the time and questions that are felt to be more adjusted. Like participant N, according to participant S, the relevance of the intelligence test depends on the individual's condition when doing it. Participant S also strongly recommends taking the test for those who have never taken it and is also expected to reduce expectations. However, there was a little criticism for the implementation of the test that participant S felt should be considered, namely, the time and place that might be more adjusted.

According to participant EY herself, intelligence tests themselves are relevant to the people who take them, but it must still be seen that individual's condition at the time of taking the test. Suggestions for those who want to take the test, namely, must prepare themselves more and maintain expectations. And it is hoped that the intelligence test will be given more attention to instructions at the beginning.

According to what participant H perceived, intelligence testing is relevant for serious individuals and depends on the individual's condition. For those who are not, Participant H suggested to take it to know more about themselves. And the criticism for the intelligence test itself according to participant H is that maybe the duration of the work can be extended. The intelligence test consists of two sets, namely set I, 12 questions of 5 minutes and test II is 36 questions with a processing time of 40 minutes (Sunarya, 2017).

From one of the studies conducted by (Rahmah et al., 2022) using the literature study method in the form of literature review, and theory, it was found that the Wechsler Adult Intelligence Scale test which is one of the intelligence tests has several uses in the clinical assessment process, namely: (1) as a tool to see indications of illness in psychiatric patients; (2) as a tool to screen for Alzheimer's Dementia (AD) in a person; (3) can be used to suspect damage to a person's brain; and (4) as a tool to see comparisons between people with beta minor thalassaemia and normal people.

#### *To test for trichotillomania disorder*

The many uses of one form of intelligence test make it one of the important proofs of intelligence testing for all individuals. The statements in the interviews conducted for this study were further examined and fused in this study with a different form of approach, namely phenomenology, which is a form of study of human experience. Junaidah (2022) the benchmarks of success and failure in an intelligence test can be seen from two aspects, namely the test must evaluate the level of intelligence possessed by students and a test is said to have quality if it has validity, reliability, objectivity, practicability, and economy. So, from this we can know the conditions that should be shown if the test is successful or not. One example is, if the intelligence test does not evaluate or measure the level of intelligence of students, then what is measured by the test.

The follow-up process that can be carried out in the problems studied in this study if it is carefully recommended, is to strive for equalization of intelligence tests in every aspect of education at elementary, middle, and high school levels. That way, students can grow their self-awareness of their respective potentials, this has also been supported by the results of interviews with each participant whose impact they have felt. And, it is necessary to appeal to students about factors that can actually interfere with the results and process of an intelligence test, as stated by (Febrianti et al., 2025) namely: (1) Physical Health: A healthy physical condition when taking an intelligence test encourages students to be in a state of maximum intelligence, and minimizes errors in the process and (2) Mental Health: Mental or psychic conditions that are in an

unproductive condition encourage individuals to tend not to focus and are less able to manage themselves properly, so maintaining mental conditions at a prime stage is as important as physical conditions.

### **Conclusion**

Researchers can conclude that intelligence tests play a role and contribute to influencing students' motivation and self-awareness during their education process. In this case, everyone has their own experiences, feelings and desires when taking an intelligence test. EY said that he took an intelligence test because it was required by the school which aimed to determine students' abilities and future career fields. Unlike S in taking this test, the school provided a forum but did not require students to take this intelligence test. N and H took this intelligence test of their own accord. However, these four participants had the same feelings that were felt such as tension, fatigue, relief, feeling pressured and high expectations of the results.

With the initial aim of the researcher in conducting this study as a form of qualitative measurement of the condition of students who had taken the intelligence test in terms of their motivation and self-awareness. This is proven that this intelligence test is very helpful for participants in increasing their learning motivation. As conveyed by H and EY, this intelligence test can unconsciously help them because they feel an increase in themselves which increases their self-confidence in learning. In contrast to H and EY, other participants stated that they did not feel a significant change in learning motivation, but they found their own learning style. And it is also proven by the emergence of self-awareness from each participant about how they really are in an academic process. In the next study, it is expected that more in-depth research will be conducted on the impact of an intelligence test on each student, so that students can find a picture of the results of individuals who have taken the intelligence test themselves

### **Conflict of Interest**

No potential conflict of interest was reported by the author(s).

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