

# The Exploration of Self Esteem on Gifted Intelligent Students

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## Abstract

To be able to achieve success in their life, gifted intelligent students do not only need to optimize their cognitive function, but also to manage their self esteem. There have been many cases where students with high intellectual capacity failed in their life and work. This study aims to integrate technological innovation with the exploration of 5.0 educational based self esteem model or Exploration of Self Esteem Model (Exseed) in order to strengthen the character of gifted intelligent students. 5.0 education emphasizes the use of technology as an instrument to enrich learning experience. 5.0 educational approach enables the integration of technology such as Artificial Intelligent (AI), Augmented Reality (AR), and Virtual Reality (VR) into the learning process. In this study, technology is used as a tool to create an immersive learning experience in order to help gifted intelligent students to understand abstract concepts as well as they understand concrete concepts. Research method used in this study was the waterfall method. Waterfall method has five stages, namely, analyzing requirements, designing, applying, testing, and maintaining. The result of this study is a technological product for the Exploration of 5.0 Educational Based Self Esteem Model which is called Exseed to strengthen the characters of gifted intelligent students. Practical implication of this study includes the development of Exseed learning platform which can be adjusted with the individual need of gifted intelligent students as well as the improvement of learning involvement through the use of technology. Technology Integration in 5.0 educational based Exseed to explore self esteem of gifted intelligent students can be a progressive step to strengthen characters in the context of inclusive learning centered on them.

**Keywords:** Self Esteem Model, Gifted Intelligent Students, Education

## 1. Introduction

Education is a conscious effort to prepare students through guiding and teaching activities, and or training for any roles they will have in the future(1). Education is a learning process experienced by all human beings (students) in order to make the human beings (students) understand and more mature as well as able to make them more critical when thinking (2) .

Education is the main foundation in shaping the character of students including gifted intelligent students (3). Significant effort has been made to improve learning and teaching methods for gifted intelligent students, yet there is still a big challenge on how to strengthen their characters, especially in the aspect of self esteem(4).

Self esteem is a principle or value given by oneself subjectively to him/herself. This principle is based on one's belief and opinion, so it tends to be difficult to change (5). Self esteem plays a significant role in shaping positive personality and independence of gifted intelligent students (6). Gifted intelligent students often deal with challenges in developing their self esteem because they tend to feel isolated or not acknowledged in conventional educational environments (7) . Improper support and lack of recognition for their achievements can have a negative impact on the development of their self esteem in the future. (8).

On the other hand, 5.0 educational era promises big chances to introduce technological advances which can change the paradigm of education (9). 5.0 education emphasizes the use of technology as a tool to improve effectiveness, efficiency, and inclusivity of education (10). Utilizing technology in the learning process can create more interesting and relevant learning experiences, and it can be adjusted according to the needs of gifted intelligent students (3). Furthermore, only few studies specifically explore how innovation of technology can be used to strengthen characters (1) of gifted intelligent students. Therefore, a study which combines innovative concepts of 5.0 education based on technology is necessary to strengthen the characters of gifted intelligent students (11).

Further research on technology innovation in the exploration of 5.0 education based the self esteem model to strengthen characters of gifted intelligent students can contribute to the literature and practices of inclusive education (12). This study used the Exploration of Self Esteem Model (Exseed) platform to strengthen the character of gifted intelligent students. This type of research is expected to give a new insight on how technology can be utilized effectively(13) to empower gifted intelligent students, improve their involvement in learning, and strengthen their self esteem so that they can have strong character when they live in a community (14). This study investigated the following :

1. How effective is technological innovation of Exploration of Self Esteem Model Exseed in exploring 5.0 educational based on the self esteem model in gifted intelligent students?
2. Is technological innovation of Exploration of Self Esteem Model Exseed an effective platform of interactive and relevant learning for self esteem development?
3. How effective is the development of technological innovation of Exseed Model for mapping self esteem of gifted intelligent students?
4. How effective is the technological innovation of Exseed Model for giving appreciation

and strengthening self esteem in gifted intelligent students?

## **2. Literature Review**

### **A. Self-Esteem of Gifted Intelligent Students :**

Gifted intelligent students are students who have above average ability and intelligence or students who possess high creativity (15). They are categorized as children who have high intellectual or above average intellectual ability (16). The term 'gifted intelligent' or usually called "the gifted" means very intelligent, bright with superior mental capacity. "Giftedness" refers to extraordinary intellectual capacity, or also known as intellectually talented (17). The definition of gifted students is those who are identified as having extraordinary ability and high achievers by qualified professionals. Those students need educational services which are differentiated and/or services beyond regular school education in order to be able to contribute to society (16). The definition of students who have potential intelligent giftedness is those who are identified as students with outstanding achievements and have general intellectual ability functioning on the level of intelligence, adequate creativity, and attachment to decent tasks.

Each student, including gifted intelligent students, has the need to develop their self esteem as the foundation for shaping a more mature personality when they become a member of the society(18). Self esteem is the picture of one's subjective feeling about themselves or their self value. Self esteem is an evaluation process of one's self towards him/herself, which is associated with the process of self acceptance (19). In this case, the evaluation will describe how oneself feels about him/herself, whether they show any appreciation and recognition or not, and it also shows how far oneself feels capable, successful, and worthy. In brief, self esteem is defined as judgment towards oneself about self worth expressed through their behaviors(20).

Self esteem develops and is shaped based on interaction within an environment and also based on one appreciation towards him/herself. The higher the self esteem, the easier the gifted intelligent students to adapt with their environment(21). Self esteem is a judging process to one's own self. Because it is related to one's own self, this judgment tends to reflect acceptance or rejection towards him/herself, showing how far that person believes that he/she is capable, matters, successful as well as worthy(22). Self esteem can affect various aspects of life, particularly the life of gifted intelligent students.

Having good self esteem can make gifted intelligent students easier to understand, appreciate, and love him/herself with all the self potential they have(23). Self esteem in gifted intelligent students indicates that they have strength, significance, virtues, and competence within themselves (24).

### **B. Education in 5.0 Society Era**

5.0 society was launched in 2019 as a resolution of 4.0 industrial revolution ; in this era people start to interact with new technology and integrate it into their daily life (1).

5.0 society has become a crucial topic in global discussion regarding social and economic transformation in the digital era. The vision of this concept is about how society can utilize digital

technology to achieve significant development in various aspects of life(10). 5.0 society is the picture of the future where technology provides solutions for any social problems, improves people's quality of life, and brings positive impact on society in general (25). 5.0 society is a concept of society which is centered on human beings and is based on technology. In this era, society is expected to be able to solve various social challenges and problems by utilizing any innovation invented in the 4.0 industrial revolution era in order to improve their quality of life. To sum up, 5.0 society era focuses on human being components by utilizing artificial intelligence as a tool/ media to learn (11)

Gifted intelligent students are a superior generation in 5.0 society era. They possess competencies such as (1) intelligence that suits their talent and interest ; (2) ability to think clearly and critically; (3) ability to communicate; (4) ability to be a responsible citizen; (5) readiness to work; (6) responsibility for the preservation of environment; (7) ability to try to understand and tolerance to different views; (8) wide interest of life; (9) the ability to live withinglobal society (26).

Education is a process, technique, and method of learning and teaching aimed to transfer knowledge from one person to another through systematic and organized procedure which lasts for a relatively long period of time. Education has an important role in producing high quality future generations which are competent to face challenges as well as able to create better innovation(27). The world of education in the 5.0 society era is expected to be able to present more meaningful learning activities through fun learning for gifted intelligent students (25).

5.0 society education for gifted intelligent students means to adopt the latest technology into learning and teaching, such as adaptive learning, artificial intelligence, virtual reality, and project based learning; encouraging collaboration between teachers and technology to create interesting, relevant, and realistic learning experience in accordance with the concept of 5.0 education; identifying challenges and chances in educational system that can be solved through technological innovation, learning differentiation, curriculum personalisation, or online learning accessibility; and determining accurate research approach to understand root problems and to create effective solutions by using the latest technology (28).

Moreover, 5.0 society education in gifted intelligent students also adds character education focusing on the development of values such as integrity, empathy, honesty, and social responsibility. In addition, this education also gives gifted intelligent students chances to practice those values in their daily life and to strengthen their positive behaviors through constructive feedback (18).

5.0 society education for gifted intelligent students comprehensively integrates principles of shaping self esteem into education environment, such as giving recognition for their achievements, building confidence through accomplishment, and providing positive social support; as well as conducting continuous evaluation of the effectiveness of the strategies appliedto improve their self esteem, and employing approach suitable to the need of the students (29). Through 5.0 society education, new technologies are adopted into the teaching and learning process, such as adaptive learning, artificial intelligence, virtual reality, and project based learning. This has promoted collaboration between teachers and technologies to create

interesting and relevant learning experiences which are related to the real world and is based on the 5.0 education concept for gifted intelligent students.

In a broad sense, 5.0 society education for gifted intelligent students can integrate character education into the learning process comprehensively by focusing on the development of values such as integrity, empathy, honesty, and social responsibility. This technology based education also provides chances for students to apply these positive values in their daily life and to strengthen their positive behavior through constructive feedback(30).

### 3. Materials and Methods

This research used waterfall method (31). Waterfall method is a software developing model. This model works like a waterfall. Each of its stage is conducted sequentially from top to down. The advantage of using waterfall model is that this method enables departmentalization and control. The developing process of the model phase is one by one, so as to minimize potential errors. Waterfall is literary defined as water that falls. However, for computer science and informatic technology, waterfall is one of methods used to develop a system (32).

Waterfall method consists of five stages, namely, requirements analysis, design, implementation, testing, and deployment & maintenance (33). Below is the illustration of workflow of technological innovation using waterfall method :

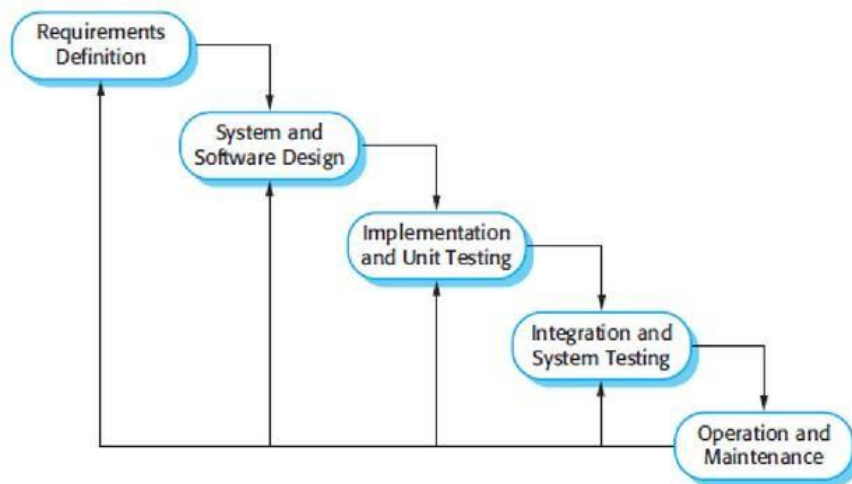


Figure 3.1 Workflow of Waterfall Method

Exploration of Self Esteem Model (Exseed).

The concept of this method is the systematic, sequential and linear process (34). Technological innovation of this waterfall method is developed and applied based on the concept of 5.0 Education. This waterfall method is used to explore technology based on the self esteem model

in gifted intelligent students.

This method involves the development of technological based learning platform covering elements such as artificial intelligent (AI) to personalize the learning process, augmented reality (AR) or virtual reality (VR) to create immersive learning experience (35), and automatic feedback system to give recognition for achievement accomplished by gifted intelligent students; based on this, the researcher then named this platform as Exploration of Self Esteem Model (Exseed) of gifted intelligent students.

Self esteem explored in gifted intelligent students covers various dimensions as mentioned below:

Dimension	Indicators
Power (strength)	• Managing and controlling other people's behavior
	• Recognition and respect from others
	• Controlling own self behavior
Significance	• Self acceptance
	• Family acceptance
	• Friends acceptance
	• Self popularity
Virtue	• Obeying moral ethics
	• Obeying rules/ religious principles
	• Caring to others
Competence	• Being able to handle responsibility well
	• Being able to deal with social situation
	• Being able to accomplish something
	• Solving problem
	• Making decision

Dimensions in Exploration of Self Esteem Model (Exseed)  
on Gifted Intelligent Students

#### 4. Result and Discussion

The Implementation of Research Activities

This study was conducted in Jekulo Public Junior High School in Kudus, Central Java. There were as many as 20 gifted intelligent students selected to participate in this research experiment. The stages involved in this study are illustrated below.

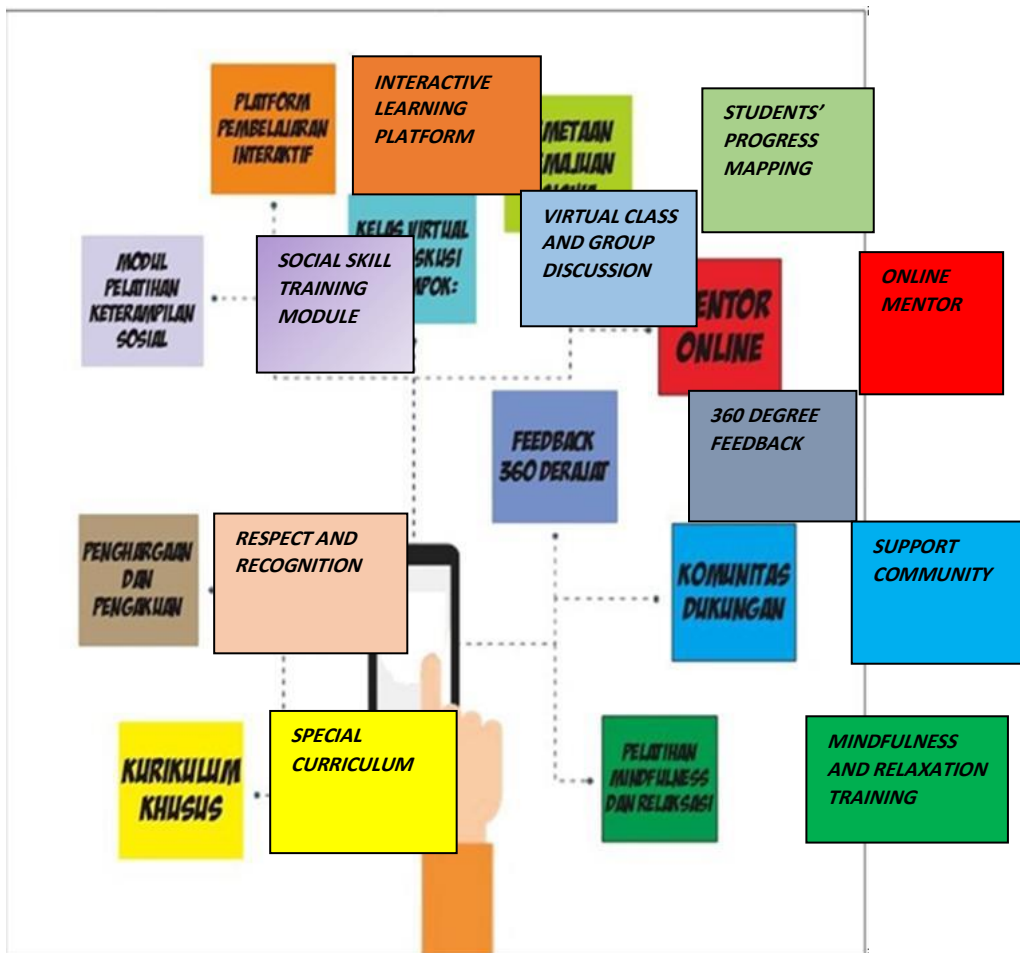


Figure 4. Features of Technological Innovation of Exploration of Self Esteem Model (Exseed) On Gifted Intelligent Students

Technological features in Exploration of Self Esteem Model (Exseed) on Gifted Intelligent Students in this study are as follows :

- a. Interactive learning platform: platform Exploration of Self Esteem Model (Exseed) learning platform which is interactive and is adjusted to the need of gifted intelligent students. This covers learning contents which are suitable for their level of comprehension and interest and provide various relevant resources for the development of their self esteem.
- b. Mapping of Gifted Intelligent Students' Progress: This feature is used to monitor and trace gifted intelligent students' progress in understanding and developing self-esteem. This

mapping can help teachers and parents to understand which area needs further attention and then arrange suitable strategies to support their self-esteem development.

c. Virtual Class and Group Discussion: This feature enables gifted intelligent students to participate in a virtual class and group discussion which promotes collaboration, communication, and active participation. This not only supports their learning, but also strengthens social interaction and interpersonal skill development among them.

d. Online Mentor: This feature provides access to online mentors which can give individual support to gifted intelligent students. This mentor can guide them to set their goal, to overcome any obstacles, and to build trust within themselves..

e. Support Community: This community aims to build an online community which provides a safe space for gifted intelligent students to share their experiences, challenges, and achievements. This community can also cover discussion forums, webinars, and certain events to facilitate information exchange and support among them.

f. 360 Degree Feedback: The purpose of this feature is to implement 360 degree feedback involving teachers, peers, parents, and gifted intelligent students themselves to give constructive feedback on their progress and development in order to strengthen their characters and self esteem.

g. Appreciation and Recognition: This feature provides an appreciation and recognition system which strengthens self esteem of gifted intelligent students.

The research method of Exploration of Self Esteem Model (Exseed) on Gifted Intelligent Students was designed to give deeper understanding about how technological innovation can empower gifted intelligent students during the development of their self esteem.

With a comprehensive and goal oriented approach, it is expected that this study can give positive contributions for literature and the practice of inclusive education (25).

Here are the indicators of achievements used in this study:

1. Self Improvement: The use of technology to build student's self esteem can be measured from the improvement of their confidence and self respect.
2. Academic Achievement: Improvement in student's academic achievement involving technology for independent and adaptive learning can be one indicator of their success.
3. Adaptability: The ability of the educational system to adapt with the needs of students through the use of adaptive technology and learning personalization.
4. Improved involvement: The improvement of student's involvement in the learning process occurs through the use of interactive and responsive technology.
5. The Development of Moral Values: The use of technology to teach characters can be measured from the improvement of student's comprehension of moral values and their ability to implement them in their daily life.



Research Result and Discussion

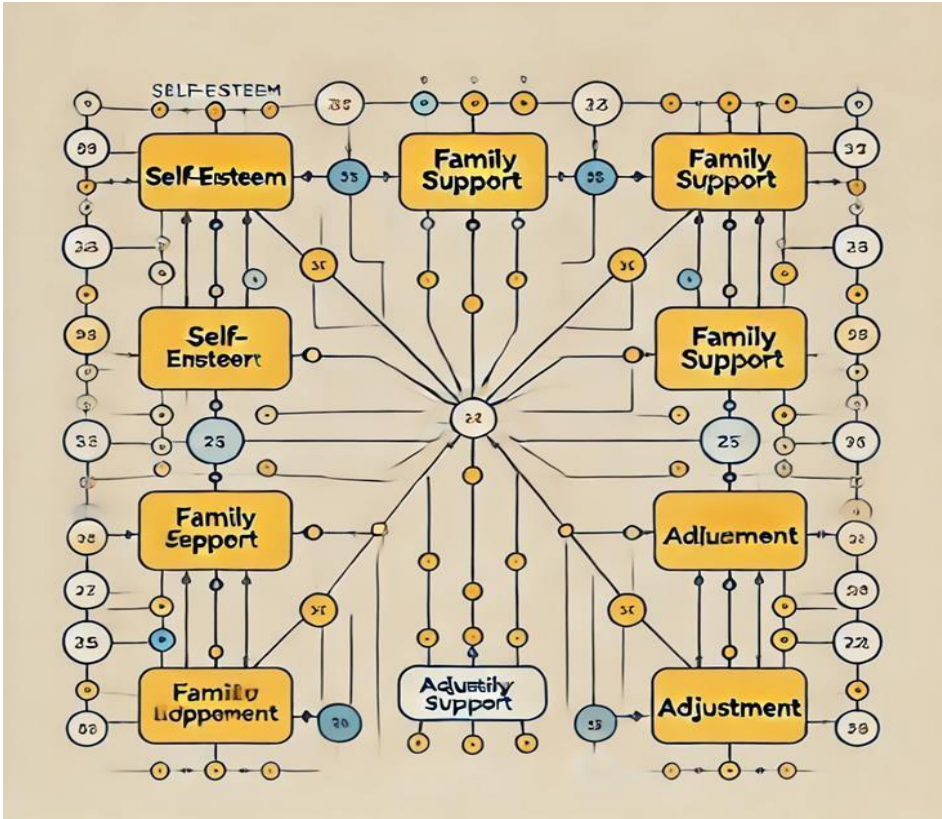


Figure 5. The Result of Self Esteem Exploration Of Gifted Intelligent Students - Exseed

This diagram shows relation among three main variables: Self Esteem, Family Support, and Self Adjustment. Each variable is represented with a blue circle, with a connecting line showing the effect or correlation among the three.

- **Self Esteem:** This variable is on the left part of the diagram. It represents the level of one's belief toward him/herself or how much a person respects him/herself.
- **Family Support:** This variable, in the middle of the diagram, shows the level of emotional and instrumental, information support received from the student's family. Family support acts as a mediation factor between self esteem and self adjustment.
- **Self Adjustment:** This variable, on the right side of the diagram, refers to one's ability to adapt in a new environment, to manage stress, and to maintain psychological welfare. Self adjustment is influenced by self esteem and family support.

Connection and Value:

- Lines which connect those circles show correlation among these variables with numerical values indicating the strong correlation. These values show how strong one variable affects others.

Additional Value:

- Small yellow squares with additional numbers attached in each main variable show further insight about the components or specific subfactor related to self esteem, family support, and self adjustment..

Overall, this diagram visually describes how self esteem and family support interact to influence one's ability to adjust to their environment, emphasizing on the importance of personal and family support in psychological welfare.

Correlation between Self Esteem and Self Adjustment ( $r = 0.65$ ) :

This positive correlation shows that the higher the self esteem, the better the self adjustment is. This makes sense because a person with high self esteem tends to feel more confident and be able to face life challenges better.

Correlation between Family Support and Self Adjustment ( $r = 0.70$ ):

This correlation shows that strong family support has a strong correlation with one's ability to self adjust. Emotional and instrumental support from family can provide a sense of security and improve one's ability to adapt in a new environment or to deal with stress.

Correlation between Self Esteem and Family Support ( $r = 0.55$ ):

This correlation shows that there is positive correlation between self esteem and family support although not as strong as correlation to other variables. This means that although family support is important, self esteem can also be affected by other factors such as wider social environment or personal experience.

Based on those correlation numbers, it can be concluded that:

**Effective Mediator:** Family support acts as a strong mediator in correlation between self esteem and self adjustment. This means that high self esteem can directly increase self adjustment, but this effect can even be stronger if a person also receives family support. **The Importance of Family Support:** Family support is a key role in assisting a person to adjust themselves. It can even be stronger than self esteem. This emphasizes the importance of a supportive family environment during one's psychological development. **Psychological Intervention :** Intervention which is intended to increase one's self adjustment must consider the increase of self esteem and strengthen family support. For example, family therapy or a self development program aimed at increasing self esteem can be an effective strategy.

Positive correlation between "Self esteem", "Family Support", and "Self Adjustment" shows that those three variables affect each other and all contribute to one's psychological welfare. Family support seems to be the most significant factor affecting self adjustment ability, but self esteem also plays an important role in this.

A study conducted by Rini Sugiarti and Erwin Erlangga from Semarang University found that family support plays a key role in increasing self esteem and self adjustment in teenagers (16).

This study also shows that teenagers receiving emotional and instrumental support from family tend to have higher self esteem, which then affects their ability to adjust themselves in various social and academic situations.

### Integration with Correlation Analysis

#### Correlation between Self Esteem and Self Adjustment:

emphasize that strong self esteem, which often builds through positive family support, significantly improves one's ability to adjust themselves. This is in line with positive correlation ( $r = 0.65$ ) showing that the higher the self esteem is, the better the self adjustment is.

#### Correlation between Family Support and Self Adjustment:

This study also found that family support has significantly strong correlation with self adjustment ability ( $r = 0.70$ ). This finding shows that support from family not only provides a sense of security, but also strengthens one's ability to deal with life challenges.

#### Correlation between Self Esteem and Family Support:

Sugiarti and Erlangga also revealed that although self esteem is affected by various factors, family support is a factor that affects it the most ( $r = 0.55$ ). This highlights the importance of a supportive family environment in building self esteem, which then gives a positive effect to self adjustment(3).

## 5. Conclusion

### Conclusion and Related Researchers

A study by Sugiarti and Erlangga (28) highlights the importance of family role in psychological development of teenagers. This study found that family support not only affects self esteem, but also strengthens correlation between self esteem and self adjustment. Therefore, interventions intended to increase self adjustment in teenagers must focus on strengthening family support and increasing self esteem as steps that are related to each other **【Rini Sugiarti & Erwin Erlangga, Semarang University】**.

Thus, this study provides a strong foundation to support the correlation findings in this analysis, and confirms the importance of a holistic approach to understand factors affecting a person's self adjustment .

### Conflict of Interest

There is conflict of interest in the conduct of this study.

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