Empowering students: Unleashing the impact of economic literacy and family education on economic decision-making, with a focus on economic rationality

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Abstract This research aims to describe and analyze the influence of economic literacy on student economic behavior, the influence of family financial education on student economic behavior, the impact of economic rationality on student economic behavior, and how economic rationality mediates the relationship between economic literacy and student economic behavior. Rationality economics mediates the relationship between financial education in the family and students' financial behavior. The participants in this study were all students from the State University of Malang, East Java, Indonesia, class of 2021, totaling 6,645 students with a total sample of 287 students. This study used a two-stage sampling technique. The first stage of selection in this research used a regional sampling technique (cluster sampling); in the second stage, the selection was carried out randomly (random sampling). The method used was quantitative research with path analysis techniques using the IBM SPSS-AMOS version 26 software program with structured equation modeling analysis (SEM). The model analysis results show that the constructs ECL, PEKO, RAS, PE, and their components are valid or valid as models. Research data also prove that rationality has a significant relationship with economic behavior.

Keywords: economic literacy, family economic education, economic rationality, economic behavior

1. Introduction

When continuously changing economies or new technology is emerging, it becomes essential for each person to think correctly about the economy (Genicot & Ray, 2020). Economic literacy, family education, and their synergy in molding the economic behavior of students have become areas of interest. This article broadly analyzes the different factors that contribute to student empowerment economically and deliberately focuses on the catalyzing effects of economic literacy and family education. In the context of understanding the complexities involved in economic empowerment, the core notion of economic rationality is explored. Understanding how economic rationality operates represents one crucial connection in a chain that compiles factors such as education, family impact, and future economic options for these students (Relawati et al., 2020) (Djunaidi et al., 2021). The aim is to highlight the specific influence of economic literacy and family education and the complex mechanism through which they work together to develop economic rationality among students.

This intricate process reveals how these two factors affect students' economic rationality. However, through a rigorous analysis of the interactions among these critical variables, we strive to elucidate the complex nexus formed by these constructs that inform students' mental frameworks for rational economic choices. Economical literacy, which is essential for children, involves providing them with knowledge that helps them understand what it means for budgeting, investment, and resource allocation (Bayu Surindra, 2022). At the same time, family education brings another dimension, linking theory with actual incidents. Many times, it is in the home setting that pupils see the practical applications of economics, how decisions are made based on certain economic principles, financial planning, and the effects of making different economic choices (Abbas et al., 2020).

Nevertheless, its depth is evident in the longitudinal section between economic literacy and child education. This promotes a hands-on approach integrating theory with case studies and is reinforced by their "family experiences", which are rooted in economics learning. However, synthesis makes it possible for students not only to accumulate mere facts and figures but also to understand how economic reasoning can be used as a tool to apply to different scenarios in life. In this enhanced learning setting, economic literacy becomes the foundation upon which students develop a complete awareness of economic concepts. Students realize how basic theories such as supply and demand, market structures and fiscal policies operate through tailored coursework (Suratno et al., 2021). Nonetheless, it is only by applying these principles to real scenarios of family education that their true power manifests itself.
This provides them with a different perspective, as they view economic theory in terms of financial decisions and strategies within their own families. However, it is critical to note that this direct experience with the practical consequences of making economic decisions in a family setting not only strengthens the grasp of such theoretical concepts but also deepens our understanding of the far-reaching socioeconomic implications (Budiwati et al., 2020). This helps in fostering critical thinking skills in students by encouraging them to think about the causes of these phenomena as well as their possible effects on future generations.

Additionally, family experience enriches learning with constant feedback in motion. Through this, students bring real-life situations back into the classroom, creating an environment that is filled with interesting ideas and different views. This interrelation sharpens their analytical capacities; hone them on how to solve problems and eventually prepare them with economic tools that will go a long way toward helping them make economic decisions in situations that would go beyond class settings. Essentially, family education, as an element of economic literacy, does not just teach; it provides practical sense that transcends the realm of pure theory (Narmadiya et al., 2023). Therefore, students develop not only as enlightened men but also as perceptive economic agents with the ability to apply reasonable economic reasoning to the multiple challenges and chances that surround them in everyday life.

This investigation is more than just an intellectual exercise; it calls on teachers, government leaders, and parents to take action. Our work intends to reveal pathways for raising generations of able-bodied persons capable of providing for themselves economically. This study will provide some contributions. First, it enriches the economic literature and family economic education from the perspectives of economic decision making, which are missing from many scholars (Mei Lyn & Sahid, 2021). Second, based on the measurement of economic literacy, the effects of family education on economic decision making and economic rationality can be evaluated. Insights will be offered to policymakers and universities to present an alternative model of education for shaping economic behavior to accomplish economic welfare. Last, the study in Indonesia is unique because it has a large population and demographic bonus with various cultures, ethnicities, and religions that potentially provide a greater understanding of this issue, which in turn can provide some suggestions for dealing with the economic behavior of students.

2. Materials and Methods

2.1. Economic literacy

Economic literacy, or economic literacy, is knowledge about economics that is necessary because every human activity cannot be separated from financial problems. The main problem in economics is the problem of scarcity, so society must find a way to determine what commodities to make, how to make them, and for whom to make them. If people are economically rational, they hope to make the right decisions as consumers, exporters, investors, and citizens (Febrian & Majid, 2022). Economic literacy identifies economic problems, provides alternative solutions, and calculates benefits and costs. The elements of the dominant attitude in economics are rationality and morality. Norms, habits, and values influence economics, the practice of economic activity, and the financial system demanded by society. Economic literacy is very important for someone deciding to consume an item. A person with economic literacy will find it easier to determine the choice of goods or services that he or she will consume. A person will also be able to behave wisely in making decisions to consume goods appropriately by having economic literacy.

Economic literacy is one of the most critical areas of literacy and is a condition and result of information literacy (Barbier, 2021). Other details about economic literacy are becoming increasingly important for making household decisions, namely, how to make appropriate investments, how large the loan amount should be, and how to understand the consequences for the overall stability of the economy (McCowage & Dwyer, 2022). Understanding economic literacy requires self-awareness or self-control to control one’s consumption behavior because every individual tends to be more emotional when consuming. Therefore, there is a need for self-control (Kumari et al., 2020). Economic literacy provides individuals with tools to understand the world economy and how to interpret events as direct or indirect events (Bedi et al., 2019). Furthermore, a teenager is considered to have economic literacy if he meets the following requirements (Nurastuti, 2019):

1. To assess the costs, benefits, and limitations of resources, use knowledge as a user, exporter, depositor, investor, or citizen;
2. The ability to evaluate various methods of using goods and services to gain advantage of the costs and benefits of each technique;
3. The ability to identify economic drivers that influence human behavior and explain how impulses affect human behavior;
4. Understand how competition, trade barriers, profits and losses, and interactions between buyers and sellers can affect prices;
5. The ability to describe various public and private economic institutions, including the central bank;
6. Understand the basis of income and distribution, interest rates, inflation, unemployment, investment, and risk;

https://www.malque.pub/ojs/index.php/mr
7) To ascertain and evaluate the benefits and costs of alternative public policies and estimate who will enjoy the benefits and bear the costs.

2.2. Family Economic Education

In family education, parents have a duty as educators, so education in the family is to instill attitudes, behaviors, and values in themselves and build life skills. Of the various aspects covered in children’s education in the family environment, the economic factor is very influential in maturing children toward an independent life. However, some families still need to realize the importance of financial aspects in children’s education in the family environment. It cannot be denied that most human activities cannot be separated from economic problems. Therefore, the attitudes and behaviors of children must receive special attention from parents, especially the economic behaviors that affect their lives as adults. Children’s inability to live economically also causes parents to be forced to bear their future life even if they are adults and have a new family life (Grimes et al., 2021). Family economic education is economic education that is carried out within the family itself; family members provide financial learning to their children about the economy, starting from when they wake up until they return to sleep to carry out effective and efficient economic activities to meet their needs (Mayasari, 2019). Intensity of family needs. One example is education in managing income that is used to meet family needs transferred to children’s needs.

Economic education can be instilled in children so they are accustomed to and rational in managing money. Regarding money management education, several positive factors are associated with purchasing, storing, or investing money correctly (Hamid & Loke, 2021). Children who are not used to managing finances well will have several behaviors, namely, (García-Santillán et al., 2021):

1) Financial dependence. Children can be financially irresponsible, and they may spend all their income, leaving them unable to save and have a habit of getting into debt;
2) Destructive values, where children will have a consumerist nature based on following the latest trends in various media without taking into account their abilities;
3) Debt trap: Children without knowledge of good money management will be trapped in debt because of the culture of consumerism and tempting credit.

2.3. Economic Behavior

Fulfilling needs are carried out from the basic level to the conditions that actualize themselves, so consumers must fulfill their own needs by buying, using, and consuming goods or services. The knowledge consumers possess in terms of financial knowledge will be able to process information in the future, thus encouraging consumers to consume goods according to the reports they receive (Świecka et al., 2021). Economic behavior is the actions or reactions of an object in the form of rationality, morality, lifestyle, efficiency in consumptive activities, and effectiveness in productive activities (Mayasari, 2019).

Fulfillment of primary, secondary, and tertiary needs is different. Consumptive behavior usually occurs during adolescence; the cause of wasteful behavior in adolescents is their psychological characteristics. In fulfilling the needs of adolescents, if the priority in need is a basic need, it will not be a severe problem, but if a prioritized adolescent market turns out to not be a basic need. Nevertheless, other conditions must receive special attention immediately because they will impact consumptively if not treated immediately (Moenjak et al., 2020).

Two main factors influence consumer behavior patterns, namely, cultural factors, social groups, social class, and parental references. In addition, other factors that influence consumption patterns are perception, motivation, learning process, attitudes, and beliefs. The method of making decisions when consuming goods or services is strongly influenced by consumer behavior. Consumers will recognize problems for their needs, look for information regarding fulfilling needs, and evaluate and select rational alternatives for consuming a product or service as an initial stage in fulfilling requirements. One of the internal factors that influences consumption behavior is psychological factors, namely, the learning process factor. In addition, the factors that influence consumptive behavior are emotional factors and rational factors.

The next indicator is that before buying an item, consumers will consider quality and price, which will negatively affect consumer behavior. Therefore, this is used as a plan when buying something:

1) Consideration of Needs/Desires

Needs are missing feelings that must be filled—in other words, something that is needed by someone to meet needs and be able to provide satisfaction. If needs are not met, survival will be impacted, unlike desire. Desire is optional for survival. However, only the desire to fulfill a desire; if the desire is not fulfilled, then survival is not threatened. Therefore, in general, needs are something that must be fulfilled, while desires are not required to be fulfilled and can be fulfilled after they are fulfilled (Sianipar & Jusmaya, 2019).

2) Accuracy in Consumption

Consuming behavior is developed from an understanding of rationality and utilitarianism. Utltitarism is defined as
something that is based on values and moral attitudes. Moreover, according to Engel, consumption behavior is an action directly involved when consuming or producing the use value of goods and services in which a decision process precedes and follows that action. Consuming behavior is a decision-making process that requires individuals to acquire, evaluate, use, and manage goods and services. It can be concluded that there are two components: consumption behavior consists of personal consumption and household consumption; consumption behavior involves a decision-making process before purchasing an item or action in using, obtaining, and spending a product; and behavior consumption takes into account the number of goods to be consumed and when and how these goods are consumed (Altymurat et al., 2021).

The principle of consuming behavior is that it is determined by utility or satisfaction; the term satisfaction is defined as the ability to fulfill a need, which includes the power of an object to be consumed to meet human needs and needs related to public policy, namely, there are terms such as place satisfaction (utility of place), time satisfaction, the utility of time and the form of satisfaction that arises from an object or service.

3) Frequency of Impulsive Buying

Impulsive giving is giving that is not planned or can be said to be spontaneous. Impulse buying is a psychoeconomic phenomenon affecting many people’s lives, especially those in urban areas. This phenomenon is interesting to research because impulsive buying also affects the lives of teenagers in large cities who do not have the financial capacity to meet their needs. Teenage consumers have the following characteristics: (a) are easily influenced by the seduction of sellers, (b) are easily persuaded by advertising, especially by the appearance of the product, (c) do not think economically, and (d) are less realistic, emotional and impulsive (Trivedi & Mehta, 2019). During adolescence, an individual’s emotional maturity is not yet stable, which encourages the emergence of various symptoms of unreasonable buying behavior. Buying is no longer performed because the product is needed. Nevertheless, buying is done for other reasons, such as just following the fashion trend, just wanting to try a new product, and wanting to obtain an objective function, and it becomes a waste of money because you do not have your income.

4) Conformity enhancement

Conformity is an unwritten demand from a peer group toward its members but has a strong influence and can cause the emergence of certain behaviors in group members (Daniel et al., 2023). Conformity is a change in behavior due to group pressure, as seen from the tendency of teenagers to always equate their behavior with that of the reference group to avoid blame or alienation (Shareef et al., 2020). Adolescent conformity is the adjustment of teenagers’ behavior to adhere to reference group norms accepting group ideas or rules that regulate how adolescents behave. A person conforms to a group only because individual behavior is based on the group’s or society’s expectations.

5) How to consume (credit/cash)

As explained above regarding consumption planning, how to consume is also almost the same as the concept above, namely, rational and utility—the right way to finish using a priority scale. A high level of understanding of the priority scale will result in more rational consumption behavior, and the lower the level of knowledge of a person’s priority scale is, the more irrational their consumption will be. Understanding a high-priority scale will result in common consumption behavior so that consumption is not achieved. They can prioritize meeting needs, such as arranging main and urgent needs to be fulfilled, and then other conditions if there is a remaining budget (Świecka et al., 2021). Moreover, before consuming goods, they will describe the optimal use of the goods to be purchased. They will consider whether they provide optimal service before buying goods. They consume indicators according to whether they benefit or not. The greater the benefits provided by an item, the greater their priority will be to fulfill it; if it does not offer benefits, then they will not buy it. The next indicator is that before purchasing an item, consumers will consider quality and price, which will influence consumer behavior. Therefore, this is used as a plan when buying something.

2.4. Economic Rationality

The concept of rationality in economics has given rise to the term rational economic man, which in conventional economics equates rationality with the meaning of serving wealth through maximizing wealth and wanting satisfaction. Self-interest control is based only on the moral equity theory of the force of gravity in nature (Drichoutis & Nayga, 2021). Economic rationality can be understood as an act based on personal interest (self-interest) to achieve material satisfaction because of the fear of not attaining that satisfaction due to limited tools or sources of happiness.

Rationality is very similar to self-interest rationality and is categorized into two types: (1) self-interest rationality (the rationality of personal desires), which is a type of genuine rationality, and (2) preference rationality (the rationality of goals faced based on preferences), which arises from internal factors that are influenced by internal (psychological) and external (sociological, environmental) economic factors (Mezzanotte, 2022).

Self-intelligence is based on three human traits that become the axioms of human intelligence, namely, (1) completeness (completeness), meaning that in the same situation, humans cannot have a clear choice because both are a priority and needed; (2) transitivity, meaning that there is a priority of choice; and (3) continuity, meaning that various things
The reality of a research problem is still weak (not necessarily actual), so it must be tested empirically. The target population is first divided into several groups containing an aggregate of the ingredients in the population. The sampling technique used in this research was regional sampling (cluster sampling). After that, the second stage of this research’s sampling technique used random sampling. Cluster sampling is the collection of samples in groups or pieces of elements, an idea that is a natural aggregate of the ingredients in the population. The target population is first divided into several groups.

2.5. Hypothesis

A hypothesis is a temporary answer to a research problem whose truth will still be tested empirically. An idea is a statement or conjecture that the reality of a research problem is still weak (not necessarily actual), so it must be tested empirically. The conclusions of this research are as follows:

H1: It is suspected that economic literacy has a significant effect on students’ economic behavior;
H2: Family economic education has a substantial impact on economic behavior Student;
H3: Economic rationality is suspected to have a significant effect on economic behavior student;
H4: It is suspected that economic rationality mediates the relationship between literacy economic and behavior student economics;
H5: It is suspected that economic rationality mediates the relationship between economic education in the family and students’ economic behavior

2.6. Research Design

This research approach uses a quantitative approach, namely, quantitatively examining economic literacy models, economic education in the family, and economic behavior moderated by economic rationality. The criteria taken into account in selecting a research design include factors that influence the results (Bougie & Sekaran, 2016). Data analysis techniques have been carried out using path analysis or path analysis with research instruments using a Likert scale. This analysis is a suitable method of explaining when there is an extensive data set to analyze and look for causal relationships. The development of a path analysis model must be based on a quality relationship that has a strong theory. This development aims to develop the causality to be tested and expressed as an equation before the path analysis is performed. Models are designed based on concepts and theories. Path analysis carried out with the help of the IBM SPSS-AMOS version 26 software program with Structured Equation Modeling Analysis (SEM) (Gozali and Latan 2015) with the path analysis method (path analysis) can be described with the path structure as follows.

![Path Analysis Model](image)

2.7. Sampling

The population for this research included postgraduate students at Universitas Negeri Malang, East Java, Indonesia. The reason for choosing Malang as a research center is to maintain the accessibility of research locations owned by researchers, including energy, funds, and time in data collection (Table 1).

The sampling technique used in this research was a two-stage sampling technique. The first stage in the sampling technique used in this research was regional sampling (cluster sampling). After that, the second stage of this research’s sampling technique used random sampling. Cluster sampling is the collection of samples in groups or pieces of elements, an idea that is a natural aggregate of the ingredients in the population. The target population is first divided into several groups.
(Bougie & Sekaran, 2016). Then, in random sampling, all elements in the population are considered, and each piece has an equal chance of being selected as a subject (Bougie & Sekaran, 2016). The two sampling techniques were chosen because each sample has the right to be a sampling respondent, which is an action in delivery based on a group or region so that every student in the entire target population has the same opportunity to be selected as a respondent. After the number of samples is determined, samples are taken using a proportional random sampling technique. Proportionally, samples are taken from the population in each of the faculties mentioned above and can be tabulated according to table 2.

Table 1 Research population.

<table>
<thead>
<tr>
<th>Faculty</th>
<th>Number of Student</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Men</td>
</tr>
<tr>
<td>1. Faculty of Mathematics and Science</td>
<td>228</td>
</tr>
<tr>
<td>2. Faculty of Engineering</td>
<td>620</td>
</tr>
<tr>
<td>3. Faculty of Educational Sciences</td>
<td>144</td>
</tr>
<tr>
<td>4. Faculty of Literature</td>
<td>280</td>
</tr>
<tr>
<td>5. Faculty of Economics</td>
<td>290</td>
</tr>
<tr>
<td>6. Faculty of Sports Sciences</td>
<td>355</td>
</tr>
<tr>
<td>7. Faculty of Social Science</td>
<td>283</td>
</tr>
<tr>
<td>8. Faculty of Psychological Education</td>
<td>45</td>
</tr>
<tr>
<td>Total</td>
<td>2 245</td>
</tr>
</tbody>
</table>

Table 2 Distribution of research samples.

<table>
<thead>
<tr>
<th>Faculty</th>
<th>Population</th>
<th>Sample</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Faculty of Mathematics and Science</td>
<td>1 107</td>
<td>48</td>
</tr>
<tr>
<td>2. Faculty of Engineering</td>
<td>940</td>
<td>41</td>
</tr>
<tr>
<td>3. Faculty of Educational Sciences</td>
<td>987</td>
<td>43</td>
</tr>
<tr>
<td>4. Faculty of Literature</td>
<td>980</td>
<td>42</td>
</tr>
<tr>
<td>5. Faculty of Economics</td>
<td>1 043</td>
<td>45</td>
</tr>
<tr>
<td>6. Faculty of Sports Sciences</td>
<td>591</td>
<td>25</td>
</tr>
<tr>
<td>7. Faculty of Social Science</td>
<td>785</td>
<td>34</td>
</tr>
<tr>
<td>8. Faculty of Psychological Education</td>
<td>212</td>
<td>9</td>
</tr>
<tr>
<td>Total</td>
<td>6 645</td>
<td>287</td>
</tr>
</tbody>
</table>

Source: BAKPIK Universitas Negeri Malang, Indonesia.

3. Results and Discussion

The results of the indirect influence formulation used to test hypotheses H1, H2, and H3 were taken from standard and nonstandard values before all the constructs received treatment from the moderating construct, namely, education policy. The following are the direct effect output results that will be used to test hypothesis 1, hypothesis 2, and hypothesis 3:

Table 3 shows that the direct effect output has an R-square value of 0.270 for the predictor variables ECL, PEKO, and RAS, indicating that the contribution of the independent variables (ECL, PEKO, and RAS) in estimating the dependent variable (PE) is 27%, while the remaining variables (100% - 41.5% = 58.5%) are influenced by other variables not studied. Apart from that, the contributions made by R-square values of 0.415 or 41.5% are included in the medium category; this is in line with the opinion of (Hair et al., 2020), which states that there are three categories of grouping R-square values, namely, the strong category [1 - 0.75], the medium category [0.75 - 0.25] and the weak category [0.25 - 0].

Table 3 Direct effect output results.

<table>
<thead>
<tr>
<th>Relationship</th>
<th>R²</th>
<th>Standardized estimate</th>
<th>Unstandardized estimate</th>
<th>SE</th>
<th>CR</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>ECL → PE</td>
<td>0.4</td>
<td>0.126</td>
<td>0.114</td>
<td>0.079</td>
<td>3.095</td>
<td>0.021</td>
</tr>
<tr>
<td>PEKO → PE</td>
<td>0.280</td>
<td>0.220</td>
<td>0.026</td>
<td>0.079</td>
<td>0.031</td>
<td></td>
</tr>
<tr>
<td>RAS → PE</td>
<td>0.270</td>
<td>0.212</td>
<td>0.062</td>
<td>3.718</td>
<td>***</td>
<td></td>
</tr>
</tbody>
</table>

S.E. (standard error) and C.R. (critical ratio). a. Predictors: (constant), ECL, PEKO, SSE, RAS. * Signifikan pada aras p < 0.01

H1: Economic literacy has a significant relationship with and influence on students’ economic behavior

The estimated standard value is known to be 0.126 for the ECL construct (Table 3); this shows that if the ECL increases by a standard deviation of 1, it will be followed by an increase in the PE of 0.126 or 12.6%. This means that the effective contribution made by economic literacy to the construct of economic behavior is 12.6%. Meanwhile, the unstandardized estimate value is known to have a value of 0.114; this shows that if there is a change in the economic literacy construct of 1
unit, it will be followed by a difference in the value of the economic behavior construct—or economic behavior of 11.4%.

The results of this analysis support hypothesis 1 (H1), which states that economic literacy has a significant relationship with and influence on students' economic behavior. This is reinforced by the regression weight value that the financial literacy construct has in predicting that the economic behavior construct has significance at \(p < 0.05 \ [p = 0.021]\). Although the effective contribution made by the financial literacy construct to the economic behavior construct is only 12.6%, and the change in the value of the economic literacy construct is only 11.4%, it has a significant value below 0.05. This means that although the contribution given is manageable for changing the construct, it has considerable weight, which indicates that this hypothesis is accepted. Therefore, it can be concluded that economic literacy has a direct relationship with and influences economic behavior.

The data presented in the previous section show that economic literacy significantly affects the consumer behavior of Universitas Negeri Malang students. This fact indicates that the better the students' financial literacy is, the better the consumer behavior of students at the University of Nigeria, Malang. Financial literacy is one of the essential factors that influences students' wasteful behavior, and this behavior is based on students' economic literacy. The results of this study are also in line with those of several previous studies showing that financial literacy significantly affects students' consumption behavior. This is also in line with Kotler's theory, which states that consumer behavior is influenced by psychological factors, which in this case is students' economic literacy.

One factor influencing user behavior is the learning process, which explains changes in a person's behavior arising from experience (Haryana & Dewanto 2015). According to this learning process, people have good economic literacy, which makes them behave well during consumption. Students can learn from economic education in the family, financial education in the school environment, and economic education in the community (Ningsih & Bawono 2016).

Saleimi (2005) says that economic literacy is a tool for achieving goals. Nevertheless, in reality, only some have high financial literacy skills, so this narrows opportunities to achieve prosperity in a more consumptive way. One indicator is that people are wise in managing their economic resources to gain wealth, which follows the findings (Cavdar & Aydin 2015).

**H2: Economic education in the family has a significant influence on students' economic behavior**

The estimated standard value is known to be 0.280 for the PEKO construct (Table 3); this shows that if PEKO experiences an increase in the standard deviation of 1, it will be followed by an increase in PE of 0.280 or 28%. This means that the effective contribution made by economic education in the family to constructing economic behavior is 28%. Meanwhile, the unstandardized estimate value is known to be 0.220; this shows that if there is a change in the financial education construct in the family by 1 unit, it will be followed by a difference in the economic construct value. Behavior or economic behavior accounted for 22%.

The results of this analysis support hypothesis 2 (H2), which states that economic education in the family has a significant relationship with and influence on student economic behavior; this is reinforced by the regression weight value that is owned by the financial education construct in the family in predicting the economic behavior construct, which has significance at the level of \(p < 0.05 \ [p = 0.031]\). Even though the effective contribution given by the construct of financial education in the family to the construct of economic behavior or economic behavior is only 28%, and the change provided by the value of the construct of economic education in the family is only 22%, it has a significant value below 0.05. This means that although the contribution given is manageable for changing the construct, it has considerable weight, which indicates that this hypothesis is accepted. It can be concluded that economic education in the family has a direct influence on economic behavior.

Based on the research results on students at the State University of Malang, it can be concluded that there is a significant relationship and influence of economic education in the family on the economic behavior of students in terms of consumption efficiency. This shows that good financial education in families will positively affect consumption efficiency. This means that the better the quality and intensity of financial education in the family, the better the economic behavior of students in terms of student consumption efficiency.

In a social context, developments in the family environmental system are part of the microsystem. The microsystem is where the individual lives, such as family, peer world, school, and work. A family is a unit system formed by interrelated and interacting parts. Socialization between parents and children is not a one-way process (Bugeintal & Gruseic 2006). Parents do interact with their children, but interactions within the family are reciprocal. Reciprocal socialization occurs in two directions; children get along with parents as parents get along with children (Croutier & Booth 2003; Karrakeir & Goleman 2005; Patteirson & Fisher 2002).

**H3: Economic rationality has a significant relationship with and influence on students' economic behavior.**

The standard estimated value is known to be 0.270 for the construct of economic rationality (Table 3); this indicates that if economic rationality increases by one standard deviation, it will be followed by a rise in economic behavior of 0.270 or 27%. This means that the effective contribution given by economic rationality to the construct of economic behavior or economic behavior is 27%. The unstandardized estimate value is known to be 0.212, which indicates that if there is a change in the economic rationality construct of 1 unit, it will be followed by a difference in the constructed value of economic
behavior—or economic behavior of 21.2%.

The results of this analysis support hypothesis 3 (H3), which states that economic rationality has a significant relationship with and influence on economic behavior among students; this is reinforced by the regression weight value that is owned by the economic rationality construct in predicting the economic behavior construct, which has significance at the p < 0.05 level [p = 0.001]. Although the effective contribution made by the construct of economic rationality to the construct of economic behavior is only 27%, and the change given by the value of the rationality construct is only 21.2%, it has a significant value below 0.05. This means that although the contribution given is manageable for changing the construct, it has considerable weight, which indicates that this hypothesis is accepted. Therefore, it can be concluded that economic rationality has a direct relationship with and influence on economic behavior.

The results of the data analysis show that economic rationality significantly affects the consumptive behavior of students at the State University of Malang. This shows that the more rational the student’s economy is, the better his wasteful behavior will be. As economists, people always prioritize their interests and consider trade-offs, namely, the balance of factors that cannot be achieved all at the same time or the allocation of one thing in exchange for another; opportunity cost is the additional cost of using a resource (for example, for production or speculative investment) equal to the difference between the actual value resulting from the use of the help and its alternative value; marginal change, i.e., the smallest unit of change in the relevant variable. For example, the marginal cost is the sum of the total cost of a slight increase in output, a unit increase. The marginal benefit adds the full advantage of increased peer activity per unit increase. Decision-making is usually performed by comparing marginal costs and benefits and marginal incentives, that is, anything that motivates people to act to obtain rewards (Mankiw 2018; McConnell & Bruei 2015). These considerations will indeed determine the degree of individuality in productive activities.

The results of this study are also in line with several previous studies, which also state that economic rationality has a significant effect on student consumptive behavior. This finding is also in line with the theory put forward by Kotleir, which states that wasteful behavior is influenced by personal factors, which in this case are students’ economic rationale. Zarri (2010) argues that financial human beings are human beings who are seen as individuals who make rational decisions, so that to reason, they must know the various alternatives available. (Dei Meinil et al. 2016) It assumes that users act rationally if they consider all other options carefully and choose the option that provides the most utility. The concept of rationality states that users select targets based on objective criteria (Beirtoméu-Sánchez & Istachei 2017).

After testing the direct relationships between constructs without mediating the constructs, the next step is to assess the direct and indirect relationships using the mediating construct. This is necessary because the first requirement for carrying out the mediation test is to determine whether all paths from all the constructs studied have a significant relationship and influence with a p value <0.05 or p <0.01. The following are the direct effect results after bootstrapping, which will be used to test Hypothesis 4 and Hypothesis 5:

**Table 4 Direct and indirect influences (direct and indirect effects).**

<table>
<thead>
<tr>
<th>No</th>
<th>Relationship</th>
<th>Coefficient of Influence</th>
<th>T Values</th>
<th>P</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Direct</td>
<td>Indirect</td>
<td>Total</td>
<td></td>
</tr>
<tr>
<td>1.</td>
<td>ECL → PE</td>
<td>0.12</td>
<td>-</td>
<td>0.12</td>
<td>2.09</td>
</tr>
<tr>
<td>2.</td>
<td>PEKO → PE</td>
<td>0.28</td>
<td>-</td>
<td>0.28</td>
<td>3.21</td>
</tr>
<tr>
<td>4.</td>
<td>RAS → PE</td>
<td>0.27</td>
<td>-</td>
<td>0.27</td>
<td>2.45</td>
</tr>
<tr>
<td>5.</td>
<td>ECL → RAS</td>
<td>0.16</td>
<td>-</td>
<td>0.16</td>
<td>3.61</td>
</tr>
<tr>
<td>6.</td>
<td>PEKO → RAS</td>
<td>0.35</td>
<td>-</td>
<td>0.35</td>
<td>7.17</td>
</tr>
<tr>
<td>8.</td>
<td>ECL → RAS → PE</td>
<td>0.16</td>
<td>0.27</td>
<td>0.42</td>
<td>3.02</td>
</tr>
<tr>
<td>9.</td>
<td>PEKO → RAS → PE</td>
<td>0.35</td>
<td>0.27</td>
<td>0.62</td>
<td>4.81</td>
</tr>
</tbody>
</table>

S.E. (standard error) and C.R. (critical ratio) * Signifikan pada aras p < 0.01

**H4: Economic rationality mediates the relationship between economic literacy and students’ economic behavior.**

Economic rationality testing, which is used to determine the relationship between financial literacy and economic behavior after the mediating effect of economic rationality, is used to test the fourth hypothesis, part 1 (H4.1). The results of the analysis showed that the relationship between the ECL → PE pathway [p = 0.003] and the RAS → PE pathway [p = 0.010] was significant at the p < 0.05 level, while the relationship between the RAS → PE pathway [p = 0.003] was significant at the p < 0.01 level (Table 4). Table 4 shows that there is a direct decrease in the relationship and influence between ECL and PE after the RAS construct is inserted into the model, namely, 0.064, from 0.124 (c) in Table 4.18 to 0.060 (c) in Table 4 This value was significant [p = 0.038, p < 0.05]. This shows that the construct of economic rationality mediates the relationship between ECL and PE in the form of partial moderation.

After conclusions are drawn by comparing the unstandardized estimate before mediation with the unstandardized estimate after using the mediation that economic rationality is a partial mediation for the relationship and influence between
economic literacy and economic behavior or economic behavior, the next step is to confirm the mediation results using the bootstrapping test on the ECL route. \( \rightarrow \) RAS \( \rightarrow \) PE. This needs to be done to ensure that the economic literacy construct indirectly influences the economic behavior construct, and mediation is needed so that the economic literacy construct influences the economic behavior construct.

The results of the indirect effect and direct effect tests using bootstrapping show that the indirect effect value of ECL \( \rightarrow \) RAS \( \rightarrow \) PE has a significance value of 0.015 at the \( p < 0.05 \) level (Table 4). The following bootstrapping test results can be seen in Table 5:

<table>
<thead>
<tr>
<th>Regression Path</th>
<th>Direct Effect</th>
<th>Indirect Effect</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>ECL ( \rightarrow ) RAS</td>
<td>0.132</td>
<td>0.000</td>
<td>Signifikan</td>
</tr>
<tr>
<td>RAS ( \rightarrow ) PE</td>
<td>0.011</td>
<td>0.000</td>
<td>Signifikan</td>
</tr>
<tr>
<td>ECL ( \rightarrow ) PE</td>
<td>0.111</td>
<td>0.139</td>
<td>( a*b ) insignificant</td>
</tr>
</tbody>
</table>

The results of the bootstrapping test show that the construct of economic rationality can mediate the relationship between financial literacy and economic behavior as a whole because the indirect effect of the ECL \( \rightarrow \) RAS \( \rightarrow \) PE regression path is more significant than 0.05 \( [p = 0.139] \), indicating that the RAS construct can affect the relationship between the ECL construct and the PE construct. The interpretation process path used for the mediation test is shown in Figure 2.

Because there are differences in the results between the results of the mediation test using unstandardized values and the results of the mediation test using bootstrapping, in the opinion of (Preacher & Hayes, 2004), a conclusion can be drawn using the results of the bootstrapping test. Therefore, according to the results of the mediation test, economic rationality can mediate between economic literacy and economic behavior through complete mediation. According to these results, hypothesis H4.1 for the mediation test is supported. The results of this mediation test confirm that data from the RAS construct can mediate the relationship between ECL and PE. In other words, economic literacy is influenced by economic rationality. Thus, this study revealed that (1) economic behavior is influenced by the level of understanding of economic literacy and that (2) students are fully aware of the importance of rationality in carrying out consumption actions.

The results of the data analysis show that economic literacy significantly affects the economic rationality of students at the State University of Malang. This shows that the greater the economic literacy of students is, the greater the economic
rationality of students. Self-potential development in science and technology to face the global financial market is necessary; users need basic economic knowledge to use their income to make decisions regarding the use of available resources to meet needs that are difficult to fulfill. Limit. In principle, monetary literacy is a tool for achieving goals, but not all people have high financial literacy, narrowing opportunities for prosperity. One of the instructions is to be wise in managing financial resources to achieve prosperity. This can be understood through logical reasoning that someone who tends to act according to rational thoughts and considerations to prioritize self-interest without taking into account the interests of others has a positive perception of his economic life and subjectively feels good because he is satisfied (Budiwati et al., 2020). The main parameter of rationality is the goal of a person (Mezzanotte, 2022). The aspects relevant to the rational measurement of a destination are not the type, intent, or content of the so-called dream but the level of achievement or fulfillment of the plan, regardless of the class, meaning, scope, or purpose. Normatively, achieving or fulfilling a higher dream will be seen as more valuable or desirable than achieving or fulfilling a more significant number or level of goals. This study summarized the views of Baron, Stanovich, and Weist (2014), who explained that rationality contains two meanings, namely, as an action worth seeing from the expected results measured from the point of view of achieving goals, as well as beliefs held by individuals, where these beliefs are supported by the best evidence available. The first realm of rationality is called instrumental rationality, while the second is called epistemic rationality.

**H5: Economic rationality mediates the relationship between family economic education and students’ economic behavior.**

Economic rationality testing, which is used to determine the relationship between financial education in the family and economic behavior after the mediating effect of economic rationality, is used to test the fourth hypothesis, part 2 (H4.2). The results of the analysis showed that the relationship between the PEKO → PE pathway \([p = 0.003]\) and the RAS → PEKO pathway \([p = 0.010]\) was significant at the \(p < 0.05\) level, while the relationship between the RAS → PE pathway \([p = 0.003]\) was significant at the \(p < 0.01\) level (Table 4). Table 4.19 shows that there is a direct decrease in the relationship and influence between ECL and PE after the RAS construct is inserted into the model, namely, 0.064, from 0.124 \((c)\) in Table 4.18 to 0.060 \((c')\) in Table 4.19. This value was significant \([p = 0.038, p < 0.05]\). This shows that the construct of economic rationality mediates the relationship between PEKO and PE in the form of partial moderation.

After the conclusion is drawn by comparing the unstandardized estimated value before mediation with the unstandardized estimated value after using the mediation that economic rationality becomes a partial mediation for the relationship and influence between financial education in the family and economic behavior, the next step is to confirm the mediation results using the bootstrapping test on the PEKO line → RAS → PE. This needs to be done to ensure that the construct of economic education in the family indirectly influences the construct of economic behavior. Mediation is required so that the construct of financial education in the family affects the construct of economic behavior.

The results of the indirect effect and direct effect tests using bootstrapping show that the indirect effect value from PEKO → RAS → PE has a significant value of 0.019 at the \(p\) level <0.05 (Table 4). Further analysis can be seen in Table 6 below:

<table>
<thead>
<tr>
<th>Regression Path</th>
<th>Direct Effect</th>
<th>Indirect Effect</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>PEKO → RAS</td>
<td>0.028</td>
<td>0.000</td>
<td>Signifikan</td>
</tr>
<tr>
<td>RAS → PE</td>
<td>0.011</td>
<td>0.000</td>
<td>Signifikan</td>
</tr>
<tr>
<td>PEKO → PE</td>
<td>0.053</td>
<td>0.039</td>
<td>(a*b) insignificant</td>
</tr>
</tbody>
</table>

The results of the bootstrapping test show that the construct of economic rationality can mediate the relationship between financial education in the family and economic behavior as a whole. \(p = 0.139\) indicates that the RAS construct can influence the relationship between the ECL and PE constructs. The interpretation process path used for the mediation test is shown in Figure 3.

Because there are differences in the results between the results of the mediation test using unstandardized values and the results of the mediation test using bootstrapping, in the opinion of (Awang, 2014), a conclusion can be drawn using the results of the bootstrapping test. Therefore, according to the results of the mediation test, economic rationality can mediate the relationship between economic education in the family and complete economic behavior or full mediation. These results support and support hypothesis H4.2 for the mediation test. The results of this mediation test confirm that data from the RAS construct can mediate the relationship between PEKO and PE. In other words, economic education in the family will be influenced by economic rationality. Thus, this research revealed (1) parents’ awareness of the importance of children’s economic education in life and (2) parents’ full awareness that their children’s lives will be guaranteed by developing their potential through economic education in the family.

According to the data, economic education in the family significantly affects the economic rationality of students at the State University of Malang. This shows that good financial education in the family means that students’ economic rationality will improve. It is understood that the family has a vital role in developing a child’s personality. Parents who are full of love and education about the values of life, both religious and sociocultural, are conducive factors in preparing children to become individuals and members of a healthy society. Parents have a duty as educators; the family is the environment most
responsible for educating children. The pattern of attitudes, behavior, and values applied by parents to their children is the basic foundation for the balance of personality and the continuation of children’s behavior.

The statement above aligns with what was expressed: the main parameter of rationality is the goal that someone owns. The aspects relevant to the rational measurement of a plan are not the dream’s type, purpose, or content. The goal is the degree to which it is achieved or fulfilled, regardless of its kind, form, content, or meaning. Normatively, achieving or fulfilling a higher goal will be seen as more valuable or desirable than achieving or fulfilling a more significant number or level of goals. It summarized the views of explaining that rationality contains two meanings, namely, as an action that should be seen from the results expected to be measured from the point of view of achieving goals, as well as held beliefs, by the individual, where the best available evidence supports this belief (Hernandez & Ortega, 2019). The first realm of rationality is called instrumental rationality, while the second is called epistemic rationality. In forming a child’s personality, understanding, and thinking, the family remains the leading group that lays the foundation of character. The family is the first and foremost environment in which life skills develop in children (Sun & Huang, 2019). The example a child receives from his family influences the formation of the child’s behavior.

Figure 3 Results of the Hypothesis 2 Mediation Test.

4. Final Considerations

Research on economic literacy, family economic education and economic rationalization provides important insights into the economic behavior of university students. It was found that students with high levels of economic literacy tend to make better financial decisions during their studies and after graduation. The economic education received in the family also plays a crucial role in shaping students’ economic literacy, with families that provide strong economic education tending to have students who are more capable in managing their finances. Economic rationalization is also an important factor, where students who are able to apply economic principles in their financial decision-making are more likely to avoid consumptive
and impulsive behaviors that can be detrimental to their financial stability. Overall, this study shows that economic literacy, economic education in the family, and economic rationalization play an important role in shaping college students' economic behavior. Encouraging a better understanding of economic concepts and providing effective economic education in the family environment can help college students make wiser financial decisions and build better financial stability for their future.

Therefore, efforts to improve economic literacy and economic education among college students can be a valuable investment in preparing future generations for complex economic challenges.

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Ethical considerations

The authors declare that all respondents agreed with this research.

Conflict of Interest

The authors declare no conflicts of interest.

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