

Cypriot Journal of Educational Sciences



Volume 17, Issue 12, (2022) 4745-4758

www.cjes.eu

Exploratory factor and reliability analyses of educational awareness of educational investment

Andy Prasetyo Wati, Universiti Kebangsaan Malaysia, Department of Economics Development Education, Faculty of Education, Jalan Temuan, Bangi, Selangor 43600, Malaysia, https://orcid.org/0000-0003-4208-3599

Sheerad Sahid*, Universiti Kebangsaan Malaysia, Department of Entrepreneurship & Economic Development Education, Jalan Temuan, Bangi, Selangor 43600, Malaysia, https://orcid.org/0000-0003-2401-4629

Suggested Citation:

Wati, A. P. & Sahid, S. (2022). Exploratory factor and reliability analyses of educational awareness of educational investment. *Cypriot Journal of Educational Science*. *17*(12), 4745-4758 https://doi.org/10.18844/cjes.v17i12.8090

Received from August 29, 2022; revised from September 15, 2022; accepted from December 28, 2022 © 2022 by the authors. Licensee Birlesik Dunya Yenilik Arastirma ve Yayincilik Merkezi, North Nicosia, Cyprus. This article is an open access article distributed under the terms and conditions of the Creative Commons Attribution (CC BY) license (https://creativecommons.org/licenses/by/4.0/).

Abstract

One of the factors that affect education investment is an internal factor that comes from the decision of parents to support the maximum education. Therefore, the purpose of this study is to contribute to the identification of the reliability of instruments in measuring the educational awareness that parents have in deciding to invest in the field of education, using exploratory factor analysis and reliability analysis. The results of the analysis showed that, of the 24 items used, there was only 1 item with the Keskom1 code that had no correlation with other items studied, so the item with the Keskom1 code was not used as a measuring tool to retrieve future research data, while other items could be used as a tool for data collection.

Keywords: Educational awareness, educational investment, EFA, reliability analysis.

^{*} ADDRESS FOR CORRESPONDENCE: Sheerad Sahid, Universiti Kebangsaan Malaysia, Department of Entrepreneurship & Economic Development Education, Jalan Temuan, Bangi, Selangor 43600, Malaysia E-mail address: sheerad@ukm.edu.my

1. Introduction

The improvement of human resources through education has long been the centre of attention among various circles, especially if education is used as a tool to improve the well-being and quality of life in the future (Chung & Lee, 2017; Adu & Denkyirah, 2017; Xiong & Mok, 2020; Xiong & Mok, 2020; Hargreaves, 2021; Siyahhan & Ghoddusi, 2021; Heckman & Letkiewicz, 2021). Improving the quality of life through education has been increasingly discussed as one of the factors of the Sustainable Development Goals (SDGs), which focus on the welfare of society through the field of education. As is widely known, one of the key components of the SDGs is human development through improving the quality of education for all ages, which provides the basis for improving the ability of the younger generation to support the latest work and entrepreneurship (Alisjahbana & Murniningtyas, 2018).

The efforts made by Indonesia in supporting the SDGs, especially in optimal education, can be seen in the government's efforts to extract education funds from at least 20% of the National Budget (APBN) in the education sector in the current year as per UUD RI Chapter XIII and Chapter 31 verse 4 (RI, 1945). Meanwhile, past studies have demonstrated the instability of parents' decisions to invest in education at a higher education level, as indicated by the data of gross participatory figures (APK) over the past 5 years (2017–2021) in 2017 (112.72%), 2018 (113.24%), 2019 (109.47%), 2020 (109.01%) and 2021 (115.26%) due to several influencing factors, one of which includes the family factor. This is inversely proportional to the results of research, which states that the family is the main determinant of decisions at the last level of education that must be taken, because one of the factors that affect education investment is internal factors derived from parental decisions (educational planning, educational process, quality of education and competitiveness) in supporting the maximum education (Wati & Sahid, 2022).

One of the factors that can influence parents' decisions to invest in education is their awareness and interest in their children's future. Because parents understand that education has a lot to do with the future of their children, the implementation of education must follow existing rules, duties and responsibilities, and should be carried out consciously (Hasibuan, 2017). The parents' awareness of the importance of education is closely related to the sociocultural form of the educational system since they will use their knowledge and experience to help with their decision to invest their wealth in the form of their children's education (Kumi-Yeboah et al., 2017; Robbins, 2000). However, individual awareness of the importance of education will not appear if there is no concrete action (Qomar, 2012) because, in cultivating such awareness, it is necessary for the individual to execute a process of adaptation by applying it directly to their social life so that this will change their views, thoughts, lifestyles and attitudes, which will then be applied to actions that are different from their previous actions (Atkinson et al., 1999). Hence, by increasing awareness of the importance of education through its application in social life, awareness can bring positive values to the implementation of education.

The emergence of awareness of the importance of education will affect the actions of parents in realising the implementation of education because they are likely to understand that a certain level of education will be good enough to improve their children's standards of living, well-being and dignity. Therefore, parents need to realise the goals of education by optimally carrying out educational responsibilities for their children, fostering the spirit of learning, correcting weaknesses and shortcomings (introspection), directing and controlling behaviour and fostering the spirit of achievement (Ahdi, 2017). One of the awareness that parents can use to support their actions to invest in education is awareness in planning, because this type of awareness includes rational and organised thinking through the innovation process when making decisions related to the educational

process, because the main purpose of this type of awareness is to be able to explore the future of children with various options in order to effectively and efficiently meet the needs of students, families, communities and the environment, so as to achieve the goal of supporting children's future (Bayram & Balyer, 2021; Coombs, 1970). In addition, educational planning is indispensable because it involves outlining the future goals of children by identifying educational programmes and activities that correspond to their characteristics (Jacob et al., 2021). However, it should also be noted that parents' awareness of educational planning will enable them to realise the educational goals that their children will achieve in accordance with the time frame that has been set (Jacob et al., 2021). This is because, with awareness of educational planning, parents will also be able to determine the targets to be achieved in the future in a proportional and rational manner as measured by the current situation.

In addition to being aware of the need for planning in education, parents also need to have awareness of the educational process, especially awareness that the educational process will not produce maximum results if done in a hurry, so it requires a long process and time according to educational procedures in order to get maximum results. This is also in accordance with Qomar's (2012) opinion that the value of education will be well-instilled in children when everything is done in accordance with the existing process so that they will eventually be more understanding, intelligent, insightful, inclusive and skilled according to their field and competence. In addition, by following the educational process according to the existing procedures, children will be able to develop needs based on their competencies because the process depends on the children's level of participation, which will affect their knowledge based on extensive information and social outcomes (Shestak et al., 2021). Therefore, parents who realise that the educational process takes a long time to produce a maximum output will patiently wait for the process to occur according to the predetermined time.

As is known, the quality of education is inseparable from the process passed, so to improve the quality of educational outcomes, parents also need to pay attention to quality assessment indicators, which include inputs, processes, and outputs to achieve maximum results (Na'im, 2019). Therefore, with regard to the quality awareness factor, parents should be aware that along the educational process, quality awareness cannot be ignored, especially in terms of the quality of the output of educational institutions, so that the parents will see how the institutions can produce graduates who can progressively participate in the economic and national development (Qomar, 2012). In addition, it should also be emphasised that awareness regarding the importance of the quality of graduates entails a dynamic and interconnected service situation, human resources, processes and environments that can meet the needs or expectations of current and future situations (Goetsch & Davis, 1994; Wicaksono & Sunarko, 2019). Therefore, the quality of educational services offered by the world of education is not absolute, and this also means that the quality of education offered by educational services depends on the needs of customers. As such, the output of an institution is said to yield the expected quality if it meets or exceeds the needs of users who use its educational services (Mawati et al., 2020).

To get optimal results in education, parents are not only required to have awareness of planning, awareness of the long educational process, and awareness of the quality stages that need to be passed, but they are also required to have awareness of the competition in obtaining these educational results. Since in order to obtain optimal results in education, it is necessary to carry out behaviours related to situations in which an individual seeks to achieve goals by defeating others (Bernstein et al., 1988; Saputra & Supriyoko, 2019). In this regard, with the ambition to achieve a goal through competition, such competition is an impulse in certain circumstances that affects the circumstances of others (Hamalik, 2007; Saputra & Supriyoko, 2019). Accordingly, when parents can

understand the importance of the quality of educational institutions in producing graduates, they also need to realise full competitiveness in the field of education.

Competitive awareness is required to minimise competitive behaviour that causes damage to certain conditions, especially in the era of rapid globalisation where the competition in educational institutions from within and outside the country that primarily focuses on graduates' results will be extensively tighter. Therefore, parents should be able to understand their children's thinking ability and coordinate with the selection of the best educational institution to invest in so that when the children have graduated, they can compete well in their environment (Qomar, 2012). This is because a competition entails both behaviour and action, depending on the actual conditions of each activity through which it passes. As such, when an individual has a competitive attitude, the individual is ready and courageous to compete with others and their environment. Ultimately, the competition can be directed at the individual's will and ability to achieve their goals, and this can further minimise the damage caused by competitive behaviour such as conflicts.

The literature on education investment has shown that education investment will not be able to be run optimally if it is only run by the government; therefore, educational investment also needs to be balanced with the decisions of the users of education themselves, namely the parents and students (Domino, 2018; Papalia et al., 2009; Rasyid, 2015; Sun & Huang, 2019; Yu & Wenjing, 2021). The decisions of educational users are very closely related to their awareness of the importance of education because their awareness indicates their ability to understand and carry out such responsibilities (Hasibuan, 2017). Thus, it can be said that the emergence of awareness regarding the importance of education can positively support the improvement of quality human resources from an early age. Parents' awareness of the importance of education is very influential on children's education because the mobilisation of parental involvement in the decision-making and policies regarding children's education will be adjusted to their (parents') expectations in the future (Pidarta, 2013). This means that parents' awareness of the importance of education includes indispensable capital for children, especially in motivating them to continue their education to a higher level. Basically, the motivation to undertake education is closely related to the efforts made by individuals in increasing their potential and benefiting the development of society and the environment (Omar Hamalik, 2018).

From the description of the background of the problems that have been discussed, a problem statement appears: 'How is the awareness factor of the importance of education that parents have been able to measure their actions in deciding to invest in education?' Therefore, to answer these problems, in the context of this study, we focus specifically on analysing the instruments of educational awareness that parents use to make decisions about investing in education, through exploratory factor analysis (EFA) and also reliability. This is important to do because the construct of educational awareness owned by parents is a new construct in measuring education investment (Wati & Sahid, 2022), so it is necessary to make concrete measurements to see the relationship or correlation between items or aspects of the construct of educational awareness and educational investment. In addition, it is also necessary to conduct an analytical test to see the reliability of the indicators of the educational awareness construct and educational investment that will be used in collecting research data. Therefore, this article contributes to the identification of the reliability of the instrument in measuring the educational awareness that parents have in deciding to invest in the field of education.

2. Method

As the research methodology should suit the purpose of this study, a quantitative method using EFA and reliability was used to measure the extent of the items in the dimension of planning awareness, the dimension of process awareness, the dimension of quality awareness and the dimension of competitive awareness in order to represent the relationship between parents' educational awareness and in their decision to invest in education. The research data were obtained through the dissemination of an online questionnaire using the Jotform application. Meanwhile, the sample of parents of high school students was selected using the random sampling technique. Because this study does not pay attention to strata or levels in the population, all members of the population have an equal opportunity to become research samples (Sugiyono, 2019).

The sample used in the factor analysis includes 116 respondents. Of the 116 respondents' responses to the 25 items in the questionnaire, none was omitted or discarded; hence, all items could be used for the EFA. This result confirms that the parents have strong participation in their children's education. The study used 25 items to measure the extent to which the parents' educational awareness can influence their decision to invest in education. These items were developed by the researchers in reference to the opinions and theories that have been developed by experts in relation to each of the research constructs. Further details of the 25 items are presented in Table 1.

Table 1. Items in the Questionnaire

Construct	Construct Code	Measurement	Reference
Educational A	wareness		
Planning Awareness	Kep1	I understand that the need for adequate facilities and training can support the success of a child's educational process.	Qomar (2012)
	Kep2	I understand that there needs to be additional knowledge through tutoring.	
	Kep3	I don't see the risk of sending a child to school as a situation to avoid at all costs.	
	Kep4	I understand that education can improve the skills that children have.	
	Kep5	I understand that higher education is indispensable to finding a job.	
	Kep6	I understand that the last education taken will affect his career path.	
	Кер7	I see that education will increase children's concern for their environment.	
	Kep8	I am aware that the level of education taken can develop relationships in creating jobs.	
	Kep9	I am aware that education can provide a good social position in society/environment.	
Process Awareness	Kespro1	I understand that with the right process, children will have the skills required by the world of work.	Qomar (2012)
	Kespro2	I realised that sending children to a higher stage of education has a long rate of return.	
	Kespro3	I see that to get the maximum decision, the formal education process can be supported by informal education.	
	Kespro4	I realised that education in the family is also necessary to support the formal and informal education process.	
	Kespro5	I provide various conveniences needed by children to support the learning process at home (for example, textbooks, support media, and so	

		on).	
Quality Awareness	Kesku1	The availability of teachers who have 4 educator standards is at the forefront of producing maximum output.	Qomar (2012)
	Kesku2	The correct use of the curriculum can help a child understands the lesson.	
	Kesku3	School facilities and infrastructure are educational media that help produce good output.	
	Kesku4	Good school management will assist a child in developing talents and interests in accordance with their skills.	
	Kesku5	A conducive school environment is needed in the learning and education process.	
Competitive Awareness	Keskom1	I don't see the need to dominate parents' decisions about the course of study that children will take.	Qomar (2012)
	Keskom2	I see that the skills that children have will have a positive impact in the future.	
	Keskom3	I realise that the skills that children have will be maximised if they are supported by the right programmes and levels of education.	
	Keskom4	I always coordinate with children in the selection of educational institutions.	
	Keskom5	I need to choose an educational institution that suits my child's needs.	
	Keskom6	I need to look at educational institutions that have skills programmes and can maximise a child's potential.	

After the data were collected, the EFA method was carried out using IBM Statistics 26. The criteria for receiving the results of the investigation through EFA are divided into several interests, namely (1) maintaining items that have a correlation or relationship with the items studied based on the results of the Kaiser–Meyer–Olkin (KMO) and Bartlett examinations, with criteria p < 0.05 and KMO value > 0.50; (2) maintaining items that can be used for subsequent analysis using the results of eigenvalues and factor loadings, with total eigenvalues criteria > 1 and percentage of variance eigenvalues criteria \pm 60%; and (3) Cronbach's alpha values in each construct with factor loadings criteria \pm 0.5 (Hair et al., 2010; Pallant, 2016).

3. Results

In the factor analysis, 24 items in the educational awareness construct items have been tested and divided according to 4 dimensions, specifically 9 items in the planning awareness dimension, 5 items in the process awareness dimension, 5 items in the quality awareness dimension and 6 items in the competitive awareness dimension. The EFA results are presented in Table 3 through (1) the KMO and Bartlett's tests, (2) eigenvalues, (3) factor loading and (4) Cronbach's alpha score in each dimension.

Based on the analysis results, one item (coded as Keskom1) does not have a correlation or relationship with the items studied because it does not meet the requirements of one of the result criteria; thus, it is necessary to reduce the number of items in accordance with the EFA results. Further details on the factor analysis results will be presented.

3.1. Kaiser-Meyer Olkin (KMO) and Bartlett's Tests

The results of the EFA using the KMO and Bartlett tests (Table 2) showed the adequacy of the intercorrelation between samples, i.e., 0.878 for the planning awareness dimension, 0.864 for the

process awareness dimension, 0.852 for the quality awareness dimension and 0.877 for the competitive awareness dimension. From these results, it can be inferred that all items have a KMO value of > 0.05 and a p-value of < 0.05. In view of the outcome from the KMO and Bartlett tests, all items in the educational awareness construct can be used as a data collection tool.

Table 2. KMO and Bartlett's Tests

KMO and Bartlett's Tests (Educational Awareness)	
Kaiser-Meyer-Olkin Measure of Sampling Adequacy (Planning Awareness)	0.878
Bartlett's Test of Sphericity (Approx. Chi-Square)	559.551
Df	36
Sig.	0.000
Kaiser-Meyer-Olkin Measure of Sampling Adequacy (Process Awareness)	0.864
Bartlett's Test of Sphericity (Approx. Chi-Square)	258.544
Df	10
Sig.	0.000
Kaiser-Meyer-Olkin Measure of Sampling Adequacy (Quality Awareness)	0.852
Bartlett's Test of Sphericity (Approx. Chi-Square)	304.824
Df	10
Sig.	000
Kaiser-Meyer-Olkin Measure of Sampling Adequacy (Competitive Awareness)	0.877
Bartlett's Test of Sphericity (Approx. Chi-Square)	340.513
Df	15
Sig.	0.000

3.2. Eigenvalues

The eigenvalues based on Varimax rotation have an overall value of > 1, while the cumulative eigenvalues (%) showed a value of >60%, specifically 67,412 for the planning awareness dimension, 65,140 for the process awareness dimension, 67,242 for the quality awareness dimension and 60,748 for the competing awareness dimension (Table 3). From these results, it can be inferred that all items have an overall value of >1 and a cumulative eigenvalue of >60%. Therefore, based on the results of the eigenvalues, all items in the educational awareness construct can be used as a data collection tool.

Table 3. Components and Total Variance Explained for Educational Awareness

Construct		Initial Eigenvalues				
	Component	Total (%)	Variance (%)	Cumulative (%)		
Planning Awareness	1	4.962	55.129	55.129		
	2	1.106	12.284	67.412		
Process Awareness	1	3.237	65.140	65.140		
Quality Awareness	1	3.362	67.242	67.242		
Competitive Awareness	1	3.645	60.748	60.748		

3.3. Factor Loading

One indicator, namely the dimension of planning awareness, produces two components in the total variance explained. However, only one component would be taken into account for the loading factor on the component matrix because this indicator does not have sub-indicators and only has two orders. While not all items have a loading factor of ±0.5, the loading factors of the items for the dimensions of education awareness, process awareness and quality awareness are >0.5; however, as for the competitive awareness dimension, one item (coded as Keskom1) has a loading factor of <0.5, specifically 0.348. Therefore, of the six items used to measure the competitive awareness dimension, one item must be discarded because it does not meet the test criteria (Table 4).

Table 4. Components and Items Used in the Study				
Construct	Item Code	Loading		
Construct	item code	1		
Planning Awareness	Kep1	0.659		
	Kep2	0.704		
	Kep3	0.519		
	Kep4	0.810		
	Kep5	0.702		
	Kep6	0.833		
	Kep7	0.780		
	Kep8	0.861		
	Kep9	0.755		
Process Awareness	Kespro1	0.824		
	Kespro2	0.676		
	Kespro3	0.851		
	Kespro4	0.857		
	Kespro5	0.814		
Quality Awareness	Kesku1	0.676		
	Kesku2	0.787		
	Kesku3	0.888		
	Kesku4	0.889		
	Kesku5	0.840		
Competitive Awareness	Keskom1	0.348		
	Keskom2	0.887		
	Keskom3	0.866		
	Keskom4	0.817		
	Keskom5	0.834		
	Keskom6	0.791		

3.4. Cronbach's Alpha

The value of Cronbach's alpha for each item in the educational awareness construct is >0.60. Specifically, Cronbach's alpha value for the Kep code is 0.889, followed by the Kespro code with 0.857, the Kesku code with 0.868 and the Keskom code with 0.800. Thus, each item in the educational awareness construct has a high-reliability value since the Cronbach alpha value of each dimension is above 0.60. Since the Cronbach alpha values are within the discrimination power index that distinguishes 0.70 < r11 < 0.90, all items in each dimension also have a high differentiating power (Table 5). This means that each item has met the criteria and can be used as a data collection tool.

Table 5. Reliability Analysis of the Items for Educational Awareness

No.	Construct	Code	Number of Items	Cronbach's Alpha	Discrimination Index	Interpretation of Differentiating Power
1	Planning Awareness	Kep	9	0.889	$0.70 < r_{11} < 0.90$	High Reliability
2	Process Awareness	Kespro	5	0.857	$0.70 < r_{11} < 0.90$	High Reliability
3	Quality Awareness	Kesku	5	0.868	$0.70 < r_{11} < 0.90$	High Reliability
4	Competitive Awareness	Keskom	6	0.800	$0.70 < r_{11} < 0.90$	High Reliability

A summary of the EFA results is presented in Table 6. Of the four EFA results, namely the KMO and Bartlett tests, eigenvalues, factor loadings and Cronbach's alpha values, only one item in the competitive awareness construct (Keskom1) does not meet the loading factor criteria. Therefore, the item should be excluded from being used as a data collection tool. Accordingly, the initial 24 items across 4 dimensions (9 items in the planning awareness dimension, 5 items in the process awareness dimension) would be reduced to 23 items across the 4 dimensions (9 items in the planning awareness dimension, 5 items in the process awareness dimension, 5 items in the competitive awareness dimension, 5 items in the competitive awareness dimension, 5 items in the competitive awareness dimension). After removing the item that does not meet the criteria, the other items may be used to measure the extent to which parents' educational awareness can influence their actions in determining the education of their children.

Table 6. Summary of Exploratory Factor Analysis (EFA) and Reliability Analysis Results

		Expl	oratory Fa	Reliability		
Item Description			Eigenv alues (EV)	% of Variance (TVE)	Loading Factor	Test (Cronbach's Alpha)
Factor 1:	Planning Awareness					
Kep1	I understand that the need for adequate facilities and training can support the success of a child's educational process.	0.878	6.068	67.412	0.659	0.889
Kep2	I understand that there needs to be additional knowledge through tutoring.				0.704	
Kep3	I don't see the risk of sending a child to school as a situation to avoid at all costs.				0.519	
Kep4	I understand that education can improve the skills that children have.				0.810	
Kep5	I understand that higher education is indispensable to finding a job.				0.702	
Kep6	I understand that the last education taken will affect his career path.				0.833	
Kep7	I see that education will increase children's concern for their environment.				0.780	
Kep8	I am aware that the level of education taken can develop relationships in creating jobs.				0.861	
Кер9	I am aware that education can provide a good social position in society/environment.				0.755	

	Process Awareness					
Kespro1	I understand that with the right process, children will have the skills required by the world of work.	0.864	3.257	65.140	0.824	0.857
Kespro2	I realised that sending children to a higher stage of education has a long rate of return.				0.676	
Kespro3	I see that to get the maximum decision, the formal education process can be supported by informal education.				0.851	
Kespro4	I realised that education in the family is also necessary to support the formal and informal education process.				0.857	
Kespro5	I provide various conveniences needed by children to support the learning process at home (for example, textbooks, support media and so on).				0.814	
Factor 3: C	Quality Awareness					
Kesku1	The availability of teachers who have four educator standards is at the forefront of producing maximum output.	0.852	3.362	67.242	0.676	0.868
Kesku2	The correct use of the curriculum can help a child understands the lesson.				0.787	
Kesku3	School facilities and infrastructure are educational media that help produce good output.				0.888	
Kesku4	Good school management will assist a child in developing talents and interests in accordance with their skills.				0.889	
Kesku5	A conducive school environment is needed in the learning and education process.				0.840	
Factor 4: C	Competitive Awareness					
Keskom1	I don't see the need to dominate parents' decisions about the course of study that children will take.	0.877	3.645	60.748	0.348	0.800
Keskom2	I see that the skills that children have will have a positive impact in the future.				0.887	
Keskom3	I realise that the skills that children have will be maximised if they are supported by the right programmes and levels of education.				0.866	
Keskom4	I always coordinate with children in the selection of educational institutions.				0.817	

Keskom5	I need to choose an educational institution that suits my child's needs.	0.834
Keskom6	I need to look at educational institutions that have skills programmes and can maximise a child's potential.	0.791

4. Discussion

The results of the study revealed that not all items in the educational awareness construct have relationships or correlations among items. This can be seen from the presence of an item that does not meet the loading factor criteria (Keskom1); hence, the item cannot be used as a measuring tool for obtaining research data in the future. This is in accordance with the opinions of Hair et al. (2010) and Pallant (2016), which indicate that the items for the research instrument in factor analysis should have a loading factor of 0.05.

The educational awareness construct can provide a good overview of how parents can make educational investments when driven by self-induced factors (planning awareness, process awareness, quality awareness and competitive awareness). Each item in the educational awareness construct has a correlation with other items, except for the Keskom1 item, which outlines that the parents' decisions to choose the course of study to be taken by the child are not necessary. This finding is in line with the results of past research whereby parents must be able to know the talents and interests of their children (Bai et al., 2020; Chung & Lee, 2017; Hargreaves, 2021; Nakagawa et al., 2021; Sellami et al., 2019). Parents should also adjust courses and educational institutions that can increase their children's potential and not impose their will on the programme to be pursued (Wati & Sahid, 2022).

Since other items in the educational awareness construct have correlations among items, planning is indeed very necessary for parents to help manage their expenses and determine the target level of final education that the children will take. This is important because parents must understand the benefits of the children's level of education to support their future (Alonso-Carrera et al., 2020; Bokayev et al., 2021; Hargreaves, 2021; Tshabangu, 2017). Thus, parents need to set targets for their children's level of education (Dhanaraj et al., 2019; Hargreaves, 2021; Jagnani & Khanna, 2020; Nakagawa et al., 2021; Tshabangu, 2017; Siyahhan & Ghoddusi, 2021), especially in educational planning to support the achievement of children's future needs, both economically and socially (Alonso-Carrera et al., 2020; Bokayev et al., 2021; Dhanaraj et al., 2019; Jagnani & Khanna, 2020; Nakagawa et al., 2021; Siyahhan & Ghoddusi, 2021; Tshabangu, 2017; Yasuoka, 2018).

Moreover, it is also worth noting that parents' awareness of the importance of children's education is associated with the experience they gained from the educational process and the benefits they gained after the process (Kumi-Yeboah et al., 2017; Robbins, 2000). Hence, from this knowledge and experience, parents can provide more motivation to their children to carry out the learning process in educational institutions.

5. Conclusion

This study aims to measure the extent to which the items for the planning awareness dimension, process awareness dimension, quality awareness dimension and competitive awareness dimension can be used to represent the relationship between parents' educational awareness and their decision to invest in education using the EFA. The sample used in this factor analysis includes 116 respondents and data were obtained from the online questionnaires distributed using the Jotform application. The sample includes the parents of high school students, who were selected using the random sampling

technique. The results showed 24 items for the educational consciousness construct, which are dispersed in four dimensions, i.e., 9 items in the dimension of planning awareness, 5 items in the dimension of process awareness, 5 items in the dimension of quality awareness and 6 items in the dimension of competitive awareness. Based on the analysis results, one item (coded as Keskom1) does not have a correlation or relationship with other items because it does not meet the requirements of one of the criteria; hence, it is necessary to reduce the number of items in accordance with the EFA results. Therefore, there is no need to dominate the decisions of parents in choosing the programme to be taken by the children. In addition, further research is also highly recommended, especially given the many other factors that can influence the implementation of educational investments by parents.

References

- Adu, D. T., & Denkyirah, E. K. (2017). Education and economic growth: a co-integration approach. *International Journal Education Economics and Development*, 8(4), 228–249. https://doi.org/https://doi.org/10.1504/IJEED.2017.088815
- Ahdi, M. W. (2017). Kesadaran Pendidikan; Kunci Pengembangan Pendidikan Islam. *Dinamika: Jurnal Kajian Pendidikan Dan Keislaman*, 2(1), 1–26. https://doi.org/https://doi.org/10.33367/tribakti.v26i1.197
- Alisjahbana, A. S., & Murniningtyas, E. (2018). *Tujuan Pembangunan Berkelanjutan di Indonesia* (2nd ed.). Unpad Press.
- Alonso-Carrera, J., Caballé, J., & Raurich, X. (2020). Intergenerational mobility in education and occupation. *Macroeconomic Dynamics*, 24(2), 291–326. https://doi.org/10.1017/S1365100518000226
- Atkinson, R. L., Atkinson, R. C., & Hilgard, E. R. (1999). Pengantar Psikologi (2nd ed.). Erlangga.
- Bai, X., Sun, X., & Chiu, Y. H. (2020). Does China's higher education investment play a role in industrial growth? *Technology in Society*, *63*(July), 101332. https://doi.org/10.1016/j.techsoc.2020.101332
- Bayram, A., & Balyer, A. (2021). Educational Administrators ' Views on their Awareness about Educational. *Apuntes Universitarios*, 11(3), 396–413. https://doi.org/https://doi.org/10.17162/au.v11i3.720
- Bernstein, D. A., Roy, E., Wickens, C., & Srull, T. (1988). Psychology. Houghton Mifflin.
- Bokayev, B., Torebekova, Z., Davletbayeva, Z., & Zhakypova, F. (2021). Distance learning in Kazakhstan: estimating parents' satisfaction of educational quality during the coronavirus. *Technology, Pedagogy and Education, 30*(1), 27–39. https://doi.org/10.1080/1475939X.2020.1865192
- Chung, K., & Lee, D. (2017). Inefficient competition in shadow-education investment. *Journal of Economic Behavior and Organization*, 139, 152–165. https://doi.org/10.1016/j.jebo.2017.05.007
- Coombs, P. H. (1970). What is Educational Planning? UNESCO.
- Dhanaraj, S., Paul, C. M., & Gade, S. (2019). Household income dynamics and investment in children: Evidence from India. *Education Economics*, 27(5), 507–520. https://doi.org/10.1080/09645292.2019.1599325
- Domino, P. (2018). Investasi Dalam Bidang Pendidikan Anak Untuk Meningkatkan Kualitas Kehidupan Keluarga. *Jurnal Inovasi Pendidikan Dasar*, 2(1), 77–85. https://doi.org/https://doi.org/10.21067/jbpd.v2i2.2534

- Goetsch, D. L., & Davis, S. M. (1994). *Introduction to Total Quality: Quality, Productivity, Competitiveness*. Macmillian College Pub-lishing Co.
- Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2010). *Multivariate Data Analysis* (7th Editio). Pearson.
- Hamalik, Oemar. (2007). Psikologi Belajar Mengajar (Edisi 5). Sinar Baru Algensindo.
- Hamalik, Omar. (2018). Pendidikan Guru Berdasarkan Pendekatan Kompetensi. Bumi Aksara.
- Hargreaves, A. (2021). Austerity and inequality; or prosperity for all? Educational policy directions beyond the pandemic. *Educational Research for Policy and Practice*, 20(1), 3–10. https://doi.org/10.1007/s10671-020-09283-5
- Hasibuan, M. S. (2017). Manajemen Sumber Daya Manusia. Edisi Revisi. PT. Bumi Aksara.
- Heckman, S. J., & Letkiewicz, J. C. (2021). Navigating Risky Higher Education Investments: Implications for Practitioners and Consumers. *Journal of Financial Counseling and Planning*, 32(1), 131–145. https://doi.org/10.1891/JFCP-18-00002
- Jacob, O. N., Deborah, J., I, A. E., & Samuel, A. (2021). Impact of COVID-19 on Educational Planning in Federal Capital Territory, Abuja, Nigeria. *Riwayat: Educational Journal of History and Humanities*, 4(1). https://doi.org/10.24815/jr.v4i1.20756
- Jacob, O. N., Eyiolorunse-Aiyedun, C. ., & Olatunde-Aiyedun, T. G. (2021). Educational Planning In Nigeria During Covid-19: Problem And Way Forward. *Academia Globe: Inderscience Reseatch*, 2(7), 137–147. https://doi.org/https://doi.org/10.17605/OSF.IO/RM4SY
- Jagnani, M., & Khanna, G. (2020). The effects of elite public colleges on primary and secondary schooling markets in India. *Journal of Development Economics*, 146. https://doi.org/10.1016/j.jdeveco.2020.102512
- Kumi-Yeboah, A., Tsevi, L., & Addai-Mununkum, R. (2017). Parental Aspirations and Investments in the Educational Achievements of African Immigrant Students. *Multicultural Learning and Teaching*, 13(2), 1–19. https://doi.org/10.1515/mlt-2016-0009
- Mawati, A. T., Permadi, Y. A., Rasinus, Simarmata, J., Chamidah, D., Saputro, A. N. C., Purba, B., Ritonga, M. W., Sudono, E. P., Purba, B., Karwanto, & Prasetya, A. B. (2020). *Inovasi Pendidikan: Konsep, Proses dan Strategi*. Yayasan Kita Menulis.
- Na'im, Z. (2019). Relevansi Teknologi Pendidikan dan Mutu Pendidikan. *Jurnal Evaluasi*, *3*(2), 273–287. https://doi.org/https://doi.org/10.32478/evaluasi.v3i2.296
- Nakagawa, M., Oura, A., & Sugimoto, Y. (2021). Under- and over-investment in education: the role of locked-in fertility. *Journal of Population Economics*, 35(2), 755–784. https://doi.org/10.1007/s00148-021-00823-8
- Pallant, J. (2016). SPSS Survival Manual, 6th edition, 2016 (Sixth Edit). Open University Press.
- Papalia, D. E., Olds, S. W., & Feldman, R. D. (2009). Human Development (Eleventh Edition). In *McGraw-Hill* (Eleventh). McGraw-Hill Education.
- Pidarta, M. (2013). Landasan Kependidikan: Stimulus Ilmu Pendidikan Bercorak Indonesia. Rineka Cipta.
- Qomar, M. (2012). Kesadaran Pendidikan: Suatu Penentu Keberhasilan Pendidikan. Ar-Ruzz Media.

- Rasyid, H. (2015). Membangun Generasi Melalui Pendidikan Sebagai Investasi Masa Depan. *Jurnal Pendidikan Anak*, 4(1), 565–581. https://doi.org/10.21831/jpa.v4i1.12345
- RI. (1945). *Undang Undang Dasar 1945*. https://doi.org/10.31227/osf.io/498dh
- Robbins, D. (2000). *Bourdieu and Culture*. Sage Publications Ltd. https://doi.org/https://dx.doi.org/10.4135/9781446218549
- Saputra, B. D., & Supriyoko. (2019). Pengembangan Manajemen Budaya Berprestasi Dan Kompetisi Untuk Meningkatkan Kualitas Pendidikan. *SOSIOHUMANIORA: Jurnal Ilmiah Ilmu Sosial Dan Humaniora*, 5(2), 69–81. https://doi.org/10.30738/sosio.v5i2.5332
- Sellami, S., Verhaest, D., Nonneman, W., & Van Trier, W. (2019). Education as investment, consumption or adapting to social norm: implications for educational mismatch among graduates. *Education Economics*, 28(1), 26–45. https://doi.org/10.1080/09645292.2019.1680955
- Shestak, V., Gura, A., Borisova, U., & Kozlovskaya, D. (2021). The Role of Social Networks in the Organization of the Educational Process and Learning. *International Journal of Interactive Mobile Technologies*, *15*(11), 96–112. https://doi.org/10.3991/ijim.v15i11.21545
- Siyahhan, B., & Ghoddusi, H. (2021). Optimal investment in human capital under migration uncertainty. *Review of International Economics*, 1–34. https://doi.org/10.1111/roie.12570
- Sugiyono. (2019). *Metode Penelitian Kuantitatif, Kualitatif dan R&D*. Alfabeta.
- Sun, X., & Huang, A. (2019). Analysis of Chinese Family Education Investment and Its Demographic Variables. *Open Journal of Social Sciences*, 07(06), 15–35. https://doi.org/10.4236/jss.2019.76002
- Tshabangu, I. (2017). The intersectionality of educational inequalities and child poverty in Africa: a deconstruction. *Educational Research for Policy and Practice*, *17*(1), 69–82. https://doi.org/10.1007/s10671-017-9216-0
- Wati, A. P., & Sahid, S. (2022). Factors Influencing Parents 'Awareness of Children 'Education Investment: A Systematic Review. *Sustainability (Switzerland)*, 14(14), 8236. https://doi.org/https://doi.org/10.3390/su14148326
- Wicaksono, B. A., & Sunarko, B. (2019). Analysis Of The Effect Of The Implementation Of TQM On Quality Costs. *Journal of Research in Management*, 2(1), 8–15. https://doi.org/10.32424/jorim.v2i1.60
- Xiong, W., & Mok, K. . (2020). Critical Reflections on Mainland China and Taiwan Overseas Returnees' Job Searches and Career Development Experiences in the Rising Trend of Anti-globalisation. *High Education Policy*, 33, 413–436. https://doi.org/https://doi.org/10.1057/s41307-020-00185-y
- Yasuoka, M. (2018). Fertility and education investment incentive with a pay-as-you-go pension. *Eurasian Economic Review*, 8(1), 37–50. https://doi.org/10.1007/s40822-017-0078-9
- Yu, L., & Wenjing, Z. (2021). Study on the Influencing Factors of Family Education Investment Difference. Advances in Social Science, Education and Humanities Research, 573(Proceedings of the 2021 International Concerence on Modern Educational Technology and Social Science (ICMETSS 2021)), 94–98. https://doi.org/10.1051/e3sconf/202123502017