

The Secondary School Teachers' Perceptions about Their Educational Background and Their Levels of Income

Oğuz KAYA¹, Serkan GÖKALP¹, Abdurrahman ANGAY¹, Hüseyin Bağrıyanık⁴, Necati ÇOBANOĞLU⁵, İsmail ESER⁶, Erol ÖZDEM⁷, Fahrettin AKGÜN⁸.

¹Doctoral Student Zirve University Education Faculty, Gaziantep-Turkey

*Corresponding Author:

Serkan GÖKALP

Email: ser119119@hotmail.com

Abstract: The purpose of this study was to analyze the teachers' perceptions about their educational background and their levels of income in terms of the variables of gender, education level, and the type of the school. The data were collected from the 900 teachers working in secondary schools, which were in the centre of Mersin Province in 2014-2015 fall and spring semesters. It was found out that there was a significant difference among the teachers' perceptions in terms of the variables of gender, education level, and the career ladders.

Keywords: teachers, perceptions, human capital, screening hypothesis

INTRODUCTION

Human beings have continuously felt responsible for educating the posterity and next generations since the prehistoric ages. The reasons for which human beings have needed education have varied according to the periods of the history. In antiquity, the societies have used the education to convey the information which they have owned to the next generations. In the middle Ages, the societies have especially used the education to inform the next generations about their religions and cultures. However, limited number of people have had benefited from the opportunities of education [1]. After the Industrial Revolution, all of the citizens have started to utilise the opportunities of education.

The Industrial Revolution made important changes in the structure of the societies. The modernization, technological and scientific development, the new mode of production, the industrial society that stemmed from the Industrial Revolution and the need for developing national consciousness required the countries to educate their citizens [2]. Especially, the new mode of production resulting from the Industrial Revolution necessitated the people being educated because the people who were educated became more efficient and productive and the workers also needed more technical information. Consequently, it was understood that education was very important and necessary for efficiency and productivity [3]. Hence, the close relationship between education and economy started. Henceforth, it was accepted that educational institutions played a key and invaluable role in economic growth and the societies' having prosperity. Both the governments and the

private institutions provided great amounts of funds for education and this provision of funds continues. The returns and costs of the field in which large amounts of investments have been made, needed to be calculated. The scientists in both economy and education made a research on both economy and education economy and they created theories and models [4-5]. These theories and models made suggestions and explanations related to education's functions, which were contradictory. Two of the most remarkable and important theories are Human Capital Theory and Screening Hypothesis [6].

Human Capital Theory

According to [7] and [8] the human capital means knowledge, skill, understanding and values accumulated in human beings that influences the production process directly or indirectly. Moreover, [9] states that the total of skills and knowledge about production formed or concretised in human beings form the human capital. The first origins and implications of human capital can be traced back to Adam Smith, who was one of the first economists. Smith regarded the human capital as the totality of skills. Some of the economists as Smith accept the fact that the education is an investment instrument that is used for earning capacity in the future [10]. Approximately two hundred years later after Smith, [11] created the revolution of human capital in economy by emphasizing the role of human capital in the economic development [12-14] enabled the education to take part in the theories of economic growth as one of the most important elements. Before them, the economic growth theories focused on production factors such as land, work and capital. After the acceptance of education as one of the most important elements, the researchers studied the

contribution of education to various areas of economic growth such as agricultural productivity, reduction in poverty, distribution of income, health, nutrition, and democracy, civil rights. Education was regarded as an important development and growth instrument in these areas [15]. Another person who contributed to the development of the concept of human capital was Becker [16]. Stated that human capital was the same as the physical production instruments such as factory and machines. According to Becker, a person can invest in human capital by means of education and a person's efficiency is dependent on the rate of return on human capital [17]. Defined the concept of human capital as a production instrument, which means additional investment resulted in additional efficiency.

Human Capital Theory analyses educational factors as variables that influence level of wage and employment. According to Human Capital Theory, human capital makes a significant contribution to country, organization and the individuals. It is found out that one percent increase in the schooling rate that enables the human capital to exist causes one or three percent increase in Gross Domestic Product [18]. Human capital also makes a significant contribution to the organization as human beings are valuable and significant capitals in today's knowledge economy [19]. Determines that eighty percent of a company's value depends on the people working in the company. Just accessing financial capital isn't a situation that provides opportunities for the competition. In the business world, in which a very high competition is experienced, the human capital adds significant values and real contribution to an organization's performance [20].

According to Human Capital Theory, the highly paid jobs generally encourage the individuals to invest in the formal education or informal education related to these jobs. Provided that an educational programme enables people to have more income, they prefer investing in the programme. The Human Capital Theory states that an individual who is accepted to behave rationally tries to maximize his lifelong benefit. Hence, he makes a choice between today and future. The individual invests in human capital by reducing today's consumption to attain the skills increasing their efficiency; in other words, he has an education which enables him to attain skills that will result in efficiency. Thus, he wants to increase his income and consumption in the future [21].

Human Capital Theory suggests that the skills attained by means of education can change the profits and wages that the individuals earn. The rationale of this suggestion depends on this fact: The number of workers having education for a longer period of time is less than the number of workers having education for a shorter period of time. The worker whose number is less is expected to have more wages and profits than other workers [22]. However, there are some exceptions

to this situation: When the number of workers having education for a longer period of time is more than the number of workers needed for the job, the wages may not be high enough. Generally, it is accepted that the workers having more education have more profits due to the fact that they invest in human capital [23]. To date, new models and theories have been developed as an alternative to Human Capital Theory. These theories criticised Human Capital Theory [24]. One of the most important theories criticising Human Capital Theory is Screening Hypothesis.

Screening Hypothesis

The thought which develops against perfect competition conditions and which is thought to start by means of the article written by Staffa in 1926 enables the workings of imperfect competition market to be defined. One of the significant points that Theory of Imperfect Competition emphasizes is the information asymmetry [25]. The information asymmetry, which is related to the fact that the profit is regarded as the return for the risk of not knowing the future causes the acceptance of the fact that the uncertainty causes instability. This idea contrasts with the idea of continuous (fundamental) equilibrium which the conditions of total competition create automatically. Human Capital Theory bases its analysis and assumptions of labour supply and labour demand on perfect competition conditions. As the analysis and assumptions related to the market, which Theory of Imperfect Competition causes are based on the fact that some of the perfect competition conditions are invalid, they influence the analysis and assumptions related to formal education and education at work. In other words, the investments in education and the interpretation of the results have changed. Akerlof's explanation about information asymmetry caused the formation of Screening Hypothesis [26, 27].

The model, which was created by Spence, defines the process of employment as lottery for both the employers and employees. Spence states that the workers normally can collect information about the well-known and famous employers; however, the employers can collect some information about the workers and he defines this situation as information asymmetry [28]. The employers observe the qualities such as gender, age and race, which the employees can't control and other features (signals) which they can control. These signals (descriptors) can be gained by means of education. The employers can monitor the workers after they are employed and can have information about their performance. However, the employers can predict the employees' future performance just by using some of the signals related to potential efficiency before they start working [29]. The individuals can have signals that enable them to be employed by means of investments in education. Having these signals can be gained by means of cost (expenditure). Some of the costs of the investments

made for having these signals are financial (monetary) and some of them are related to time. According to Screening Hypothesis, the economic aim of the education system is to define the individuals according to their different levels of efficiency. It also suggests that education is a mechanism that categorizes the individuals according to their skills and labels these skills as educational documents. Therefore, diploma, certificate and similar documents are the signals for the skills at a specific level [30].

When a person enters a system and progresses in the system, he is exposed to screening elimination process. Some of them can progress and move to a specific stage, but they are screened and eliminated from the system. The others graduate. Some of the workers can pass the next stage, but they can complete the stage successfully or they have to go out of the system. The system declares that the individuals are successful or unsuccessful, grade (rank) their success. This is totally dependent on the congruence between the individuals' skills and the skills that are required by a specific education level [31]. Thus, the educational documents that a person gets and the degrees of the document are the signals for his skills. Diplomas and certificates are the signals for success, improvement skills, desire for promotion and other values that a firm expects the workers to possess. These documents define the individual according to qualities they have. The employers distinguish the individuals having the expected and desired skills from the ones who don't have the expected and desired skills by paying attention to the documents [32]. Thus, education is a mechanism which describes the individuals whose efficiency is higher than others. When the fact that educated individuals have averagely more incomes than the less educated people is analyzed within the context of Screening Hypothesis, it means that the educational documents defines the fact that the people who have more education are more skilful and competent than the people who have less education and both the more educated and the less educated are sorted out. When the process of sorting out gets better, this process gives more information about the people's qualities [33].

Spence Model and Signalling

Spence's Model explains how the preferences that the individuals have made according to their education category or education level influence their personal profits (returns) and cost. The employers employ the individuals who have different educational qualities and observe the congruence between education and efficiency. Thus, they establish a relationship between education categories (education levels) and efficiency and they determine the wages which they are ready to pay according to the employee's education category [34, 35]. This also means that the employers have an opinion and make a judgement about the relationship between education and efficiency. The employers' judgement and the wages determined

according to this judgement influence the individuals' decisions about the investment. The individuals make a choice by considering the cost of education programme and the wages paid to the workers graduating from the education programme while investing in the various education programmes. As this situation which the education categories cause influences the relationship between education and efficiency, it influences the employers' judgements [36, 37].

Spence created a signalling model by considering two types individuals: one type of individual has high skills and the other type has low skills. According to this model, education points to more productive and efficient workers and signals to employers to employ the productive and efficient workers or hire their service or education screen the workers to assign the duties. Some of the main assumptions of the model are explained below [38-39]:

- The students don't attend school to save human capital. They attend school to signal and show that they are the best workers.
- The direct benefit and return of education is low
- The individuals have education because they know that the employers employ or hire the employees who have right qualities (the qualities that the documents specify).

Signalling model assumes that education doesn't have any effect on efficiency. The model accepts the distinction between the types of screening. Weak screening occurs when the employers pay higher wages to the more educated than the less educated for starting the job, but they reduce the less skilful workers' wages and increase the more skilful workers' wages in the end. Strong screening means that the employers continue paying higher wages to the more educated workers after they observe them. Every worker accepts the fact that paying the cost of the signalling due to the increase in wage although the signal doesn't increase his efficiency is suitable for his interest and benefit [40]. Screening process for reducing the cost of information occurs by means of education and the returns and incomes from education can be gained just for the years spent for education that separates the students from each other. However, education reduces the cost of information by preventing lemon markets and it is the factor which reduces the cost the most. The companies screen, the workers define themselves by using the signals [41]. These two concepts are related to choosing the individuals. In the field of education economy, many researches related to Human Capital Theory and Screening Hypothesis, Spence Screening Model, which is closely related to Screening Hypothesis have been done. Some of these researches have been provided below.

Heywood and Wei [42] analyzed the differences in educational returns between employees and

freelancer. In the research, it was determined that the returns from education for freelancers were lower than the returns from education for the workers working for other people and companies. In this research, it was found out that the cumulative returns from university education for the freelancers was minimal and the cumulative returns from secondary education was close to zero. All of the information indicated above shows that education has a significant function of signalling in the competitive job market of Hong Kong. Despite this result, it was proved that education increased the freelancers' efficiency. It was determined that the freelancers graduating from university earned more than the freelancers graduating from high school. As a result, it was concluded that education increased human capital.

Arkes [43] analyzed whether the employers obtained information from the university documents about the workers' skills and whether the employers appreciated and valued getting the documents as these documents signal to them. It was found out that having high school diploma, attendance at university, graduating from university meant high skills. The results of the research determined that the employers attached importance to university diploma, in other words, bachelor degree because this degree was a signal of the skills that were expected and desired. By means of coefficient calculation for bachelor degree, it was determined that this degree showed the qualities such as motivation, ambition and perseverance that the employers appreciated.

Chevalier and others [44] aimed to determine whether education increased the productivity and education was just a signal of skills and they found out that the results didn't support the signalling system. The results of the research supported the explanations and implications of human capital strongly.

In Turkey, there is only one research in the field of education related to Human Capital Theory and Screening Hypothesis and Spence's Signalling Model. However, it is about the teachers' perceptions in middle school. There aren't any researches on high school teachers related to Human Capital Theory and Screening Hypothesis and Spence's Signalling Model. The high school teachers' perceptions about the economic functions of education related to Human Capital Theory and Screening Hypothesis and Spence's Signalling Model can provide significant information for economic functions of education in Turkey. The results of the research can contribute to the researches that will be done in the future. The results gained can contribute to the education economy which has a limited literature in Turkey. The results can provide the opportunity for comparing the results with results of the research done on the same topic in different countries of the world and can enable the economic functions of

education in Turkey to be compared with those of the world.

THE AIM OF THE RESEARCH

The purpose of this study was to analyze the teachers' perceptions about their educational background and their levels of income in terms of the variables of gender, education level, and the career ladders.

METHOD

Research Model

In the research, the perceptions of the teachers working in high schools in the central districts of Mersin Province about their educational background and their levels of income are compared in terms of variables of gender, educational level and career ladders. It is aimed to determine whether there is a significant difference among the teachers' perceptions. As the research aims to determine the existing situation as it is, it is a descriptive research. Hence, a general scanning model is used in the research. The different groups are compared in terms of the variables indicated above. Thus, this research is also a relational research [45].

Population and Sample

The target population of the study includes the teachers working in the high schools in the central districts of Mersin Province in 2014-2015 academic years. There are 7946 teachers in the target population [46]. As it isn't possible to reach all of the teachers, a sample is chosen from the population. Accordingly, simple random technique is used and 800 teachers are determined as the sample [47].

The Research Instruments

One scale has been used for collecting data. To collect the data related to the perceptions of high school teachers about their educational background and their levels of income, the scale which was developed by [48] was used in the study. The name of the scale is The Scale of Teachers' Perceptions about Their Educational Background and Their Levels of Income. The scale is a Likert-type scale and its items are rated on 5 point scale which ranges from Definitely Disagree (1) to Definitely Agree (5). Based on the results of reliability analysis, it is seen that that cronbach alpha for the scale is 0,991.

The participants indicate their perceptions by marking one of the categories, which are "definitely disagree", "disagree", "partially agree", "agree" and "definitely agree" placed in the scale. Considering the intervals in the scale are equal (4/5), the bounds of the categories are organized in a way as it is shown below [49].

Categories	Code	Bounds
Definitely disagree	(1)	1.00-1.80
Disagree	(2)	1.81-2.60

Partially agree	(3)	2.61-3.40
Agree	(4)	3.41-4.20
Definitely agree	(5)	4.21-5.00

Data Analysis

Statistical Package for the Social Sciences (SPSS) version 17.0 is used to analyze the data. Before starting to analyze the data, data were analysed in terms of marginal values, missing value, normality and multi-collinearity. In other words, the assumptions of the analyses are tested. Mean values and standard deviation were computed to determine teachers' perceptions. T-test was applied to determine whether there was a significant difference among the teachers' perceptions in terms of the variable of career ladders and gender. One-

way variance analysis was used to determine whether there was a significant difference among teachers' perceptions in terms of the variables of level of education. When the significant difference was determined, Tukey HSD Test was done to determine which groups differed and clarify which groups among the sample in specific had significant differences.

RESULTS

The results of the t-test, which is performed to determine whether there is a significant difference among the high school teachers' perceptions about their educational background and their levels of income in terms of the variable of gender, are shown in Table-1.

Table-1: The results of the t-test, which is performed to determine whether there is a significant difference among the high school teachers' perceptions about their educational background and their levels of income in terms of the variable of gender

Dimensions	Gender	N	\bar{X}	Sd	t	p
Education's Contribution to Human Capital	Woman	422	2.50	1.03	7.635	.000**
	Man	478	3.72	1.09		
Dimension of Education's Screening	Woman	422	2.73	.931	7.313	.000**
	Man	478	2.01	.748		

**p<.001 *p<.01

As it is seen in Table 1, there is a significant difference between the means of the points of the teachers' perceptions related to the Dimension of Education's Contribution to Human Capital [$t_{(798)}= 7.63$ p<.001] and the Dimension of Education's Screening [$t_{(898)}= 7.31$ p<.001] in terms of the variable of gender. There is a significant difference between the perceptions of male and female teachers about their educational background and their levels of income in the dimensions of education's contribution to human capital and education's screening. According to findings, the mean value of the male teachers' perceptions in the Dimensions of Education's Contribution to Human Capital ($\bar{X}=3.72$) is higher than the mean value of female teachers' perceptions ($\bar{X}=2.50$) and the mean value of male teachers' perceptions is at a level of "agree" while the mean value of female teachers' perceptions is at a level of "disagree". Male teachers' perception that education contributes to human capital is higher than female teachers' perception. However, the mean value of the female teachers' perceptions in the Dimensions of Education's Screening ($\bar{X}=2.73$) is higher than the mean value of male teachers' perceptions ($\bar{X}=2.01$) and the mean value of female teachers' perceptions is at a level of partially agree while the mean value of male teachers is at a level of disagree. Female teachers' perception that education has the function of screening is higher than male teachers' perception.

The results of the one way variance analysis, which is performed to determine whether there is a

significant difference among the high school teachers' perceptions about their educational background and their levels of income in terms of the variable of education level, are shown in Table 2.

As it is seen in Table-2, there is a significant difference among the means of the points of the teachers' perceptions related to the Dimension of Education's Contribution to Human Capital [$F_{(3-897)}= 7.12$ p<.05] in terms of the variable of education level. The results of Tukey HSD test establish that the means of the teachers who have master's degree ($\bar{X}=3.90$) differ from the teachers who have bachelor's degree ($\bar{X}=2.80$) and have significant differences. In other words, the teachers who have master's degree cause the source of variance. The mean of the perceptions of teachers who have master's degree is at a level of "agree" while the mean of the perceptions of teachers who have bachelor's degree is at a level of "partially agree". Accordingly, the perception of the teachers having master's degree that education contributes to human capital is higher than that of the teachers having bachelor's degree. There isn't a significant difference among the means of the points of the teachers' perceptions related to the Dimension of Screening Hypothesis [$F_{(3-897)}= 1.51$, p>.05] in terms of the variable of education level.

The results of the t-test, which is performed to determine whether there is a significant difference among the high school teachers' perceptions about their educational background and their levels of income in

terms of the variable of career ladder, are shown in Table-3.

Table-2: The results of one way variance analysis, which is performed to determine whether there is a significant difference among the high school teachers' perceptions about their educational background and their levels of income in terms of the variable of level of education

Dimensions	Source of Variation	Sum of Squares	df	Mean Squares	F	P
Education's Contribution to Human Capital	Between Groups	3.853	9	.862	7.122	.031*
	Within Groups	122.148	897	.422		
	Total	126.001	899			
Dimension of Education's Screening	Between Groups	2.912	3	1.201	1.515	.983
	Within Groups	93.671	897	.114		
	Total	96.583	899			

*p<.05

Table-3: The results of the t-test, which is performed to determine whether there is a significant difference among the high school teachers' perceptions about their educational background and their levels of income in terms of the variable of career ladder

Dimensions	Career ladder	N	\bar{X}	S	t	p
Education's Contribution to Human Capital	Teacher	500	3.31	1.65	5.312	.013*
	Expert Teacher	400	3.69	1.94		
Dimension of Education's Screening	Teacher	500	2.01	.459	5.439	.437
	Expert Teacher	400	1.80	.389		

*p<.05

As it is seen in Table 3, there is a significant difference between the means of the points of the teachers' perceptions related to the Dimension of Education's Contribution to Human Capital [$t_{(898)} = 5.31$ $p < .05$] in terms of the variable of career ladder. However, there isn't a significant difference between the means of the points of the teachers' perceptions related to Dimension of Education's Screening [$t_{(898)} = 5.43$ $p > .05$] in terms of the variable of career ladder. There is a significant difference between the perceptions of teachers and expert teachers about their educational background and their levels of income in the dimensions of education's contribution to human capital. According to the findings, the mean value of the expert teachers' perceptions in the Dimensions of Education's Contribution to Human Capital ($\bar{X} = 3.69$) is higher than the mean value of teachers' perceptions ($\bar{X} = 3.31$) and the mean value of expert teachers' perceptions is at a level of "agree" while the mean value of teachers' perceptions is at a level of "partially agree". Expert teachers' perception that education contributes to human capital is higher than teachers' perception.

CONCLUSION AND DISCUSSION

In this research, the high school teachers' perceptions about their educational background and their levels of income in terms of the variables of gender, education level, the career ladders were analyzed and it was determined that there was a significant difference among the teachers' perceptions in terms of these variables. It is determined that there is a significant difference between the means of the points

of the teachers' perceptions related to the Dimension of Education's Contribution to Human Capital and the Dimension of Education's Screening in terms of the variable of gender. Male teachers' perception that education contributes to human capital is higher than female teachers' perception while female teachers' perception that education has the function of screening is higher than male teachers' perception. This result of the study is supported by the researches done before [50]. Did a research related to graduate students graduating from faculties in the field of social sciences and determined that the investment in men's education is more profitable than the women's education. Similarly, [51] found out that the investments made in men's education is more profitable than the investments made in women's education [52, 53]. Compiled the studies which analyzed the returns of investments in education and calculated the returns of higher education (university education) for the genders. According to this study, the percentage that men earn income from the higher education is 11 while the percentage that women earn income from higher education is 10.8. Especially, the women earn lower income than men especially in the private sector despite the fact that they have the same education level as men [54]. As the female teachers earn less than male teachers, their perception about the education's contribution to human capital may be lower than male teachers' perception.

In the research, it is determined that there is a significant difference among the means of the points of the teachers' perceptions related to the Dimension of

Education's Contribution to Human Capital in terms of the variable of education level. The perception of the teachers having master's degree that education contributes to human capital is higher than that of the teachers having bachelor's degree. This finding is supported by [55]'s research findings. He used the data of World Value Survey and analyzed the effect of education on personal income. He found out that the returns of education increased when the level of education increased. The research also emphasized that education provided the people with better working conditions, educated people's children had better education and educated people had more rational decisions related to health, environment and neighbourhood. The teachers having master's degree may earn more income and plus value compared to the teachers having bachelor's degree.

In the research, it was determined that there was a significant difference between the means of the points of the teachers' perceptions related to the Dimension of Education's Contribution to Human Capital in terms of the variable of career ladder. Expert teachers' perception that education contributes to human capital is higher than teachers' perception. This finding can be explained by Mincer earning function that explains earning as a function of schooling and experience [56]. Mincer did a research related to formal educations' effect on education and determined that 30 % percent of the incomes could be explained by experience[21]. Expert teachers have more experience than the teachers because it is necessary for the teachers to have experience in teaching for 7 years. As the expert teachers have more experience than teachers, the expert teachers have more opportunities for experiencing the contribution of education to their lives and returns of education. Therefore, the expert teachers' perception about education's contribution to human capital can be more positive than the teachers' perceptions. Moreover, the expert teachers' salary is higher than the teachers. This situation can influence the perceptions about the expert teachers and teachers about education's contribution to human capital.

The findings of the research provide important information for senior executives in the field of education and the school principals who have direct exchange with the teachers. Necessary conditions should be created in order to make the teachers feel necessary for increasing their education level. Therefore, a system in which the teachers having a master's degree and doctorate degree earn more money should be established. In other words, new incentives for teachers' increasing their human capital should be created. The teachers' quality of educational background and personality should be considered for the teachers' being employed and determining their salaries.

The researchers can carry out this research in other provinces and can compare the results of their research with the result of this research. Moreover, the researchers can study teachers' perceptions about their educational background and their levels of income with the variables of job satisfaction, the burnout. This study can be done in primary schools and high schools.

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