

# Why I Chose to Become a Mathematics Teacher?

## —An Analysis of the Motivations behind the Choice of Profession Based on Gender, Seniority, and Age of Students

Bat-Sheva Ilany

Hemdat Hadarom College, Netivot, Israel

Email: bat77i@gmail.com

**How to cite this paper:** Ilany, B.-S. (2022). Why I Chose to Become a Mathematics Teacher? *Creative Education*, 13, 183-202. <https://doi.org/10.4236/ce.2022.131013>

**Received:** December 23, 2021

**Accepted:** January 21, 2022

**Published:** January 24, 2022

Copyright © 2022 by author(s) and Scientific Research Publishing Inc. This work is licensed under the Creative Commons Attribution International License (CC BY 4.0).

<http://creativecommons.org/licenses/by/4.0/>



Open Access

---

### Abstract

One of the major decisions individuals make in their life is their choice of profession. This article presents a unique study of 60 mathematics teachers who disclose their motivations for choosing to teach mathematics. It shows that their main reasons are the intrinsic challenge in learning and teaching mathematics, their desire to impart knowledge to students and influence the next generation, their desire to be an educational figure, and their sense of purpose and mission. The teachers filled out a questionnaire with statements in categories based on findings in the literature, which were then analyzed on the basis of gender, seniority, and type of school (elementary/post-elementary). The results suggest that women were more apt than men to be motivated by the desire to impart learning strategies to students, the desire to be an educational figure, and out of a sense of purpose and mission; veteran teachers were more motivated than novice by their love of mathematics and their desire to influence their student's personal development; and elementary school teachers were attracted to the profession because the degree required is not difficult to achieve and because students respect mathematics and therefore it is easy to teach it, whereas post-elementary teachers were attracted to the structure of the work week which is suitable for raising children. While there are many studies in the literature pertaining to why an individual may choose the teaching profession in general, there are hardly any studies that focus on teaching mathematics in particular.

### Keywords

Math Teachers, Choosing a Profession, Teaching Mathematics

---

## 1. Introduction

One of the major decisions individuals make during their life is choosing their profession (Ayçiçek & Toraman, 2020), a decision that will have a great effect on the economic and psychological status of an individual (Sayime Erben, 2019). The choice of profession also affects an individual's status in society, professional affiliation, personal identity, and self-realization. Choosing an appropriate field is a major concern not only for adults but also for younger people when graduating from high school (Balyer & Ozcan, 2014).

While there are many studies in the literature pertaining to why an individual may choose the teaching profession in general, there are hardly any studies that focus on teaching mathematics in particular.

The purpose of this article was to find the reasons why people chose to become a mathematics teacher.

## 2. Literature Review

### 2.1. The Image of the Teaching Profession (in General)

It is a sad fact that the teaching profession does not tend to attract quality manpower and fails to compete with technological and knowledge-intensive professions due to insufficient remuneration (Özgül & Sedat, 2019). A study that ranked the prestige of teaching (as perceived by teachers!) found that an average of only 26% of teachers agreed or strongly agreed that the teaching profession is valued by society (OECD, 2018). A similar study in Israel found that teaching was ranked only fifth out of seven professions (Gilat & Wengrowicz, 2018). Numerous other studies conducted globally in recent decades have found that, when compared to other professionals, the status of teachers was perceived to be lower than those of doctors, lawyers, and engineers, for example (see Tye & O'Brien, 2002; Cochran-Smith, 2002). This is despite the fact that the general public tends to look at the profession positively.

A possible reason for the low image that teaching has may be the “feminization” of the profession: teaching is perceived to be a permanent job for women but only temporary for men. In addition, there is a perception that “talented” women do not apply to teaching colleges in the first place (Kılınc, 2012). This may be attributed to the fact that teaching, in general, does not supply opportunities for progression or promotion, not to mention the low salary usually afforded to teachers. Finally, the public's ambivalence toward—and sometimes outright contempt for—teachers and the tendency for parents to be unsupportive of teachers also lead to lower the prestige of the profession (Mathew, 2005). The amount of responsibility involved may also be a deterrent (Atemnkeng et al., 2020).

### 2.2. Motives for Choosing Teaching (in General) as a Profession

Teaching is a profession with unique characteristics (job requirements, working conditions, qualifications, etc.; Çimen, 2016). Numerous studies have been con-

ducted to examine the considerations that motivate an individual to choose teaching, and these include a desire to contribute to society, prestige, attraction to the profession, and a preference for teaching over other options (Balyer & Özcan, 2014). The motives for choosing teaching can be divided into several categories: altruistic, intrinsic, extrinsic, and identification with “others” (Av-gousti, 2017).

### 1) Altruistic motives

There are a number of altruistic motives for choosing to be a teacher. Teachers help children advance in life and thereby indirectly contribute to building a better society (Akpochofo, 2020). Another altruistic motive is the teacher’s appreciation of children’s unique needs for normal development and their desire to help them develop their abilities for self-expression and contribute to their future (Pizarro & Laborda, 2017).

Another altruistic motive is the desire to work within a system that some people are critical of to create a better one that will allow equal opportunities and appropriate learning conditions for all students (Ozsoy et al., 2010).

### 2) Intrinsic motives

A large number of motives can be defined as either intrinsic or extrinsic. Extrinsic factors as those related to material rewards (wages, working conditions, welfare, and social status). Intrinsic factors are related to the fundamental characteristics of the profession and the satisfaction experienced by those who engage in it (Pink, 2009).

Flum (1966) arranged the various factors that influence choice of profession into a taxonomy with intrinsic and extrinsic factors along one axis and directional and confining factors on the other (Table 1). Physical or emotional factors belonging to the chooser himself are “intrinsic” whereas factors related to the surrounding reality (either directly or indirectly) are extrinsic. Factors that motivate an individual to move in a specific direction are termed “directional” while those that set boundaries are termed “constraining” factors.

Intrinsic motives are personal benefits that some activity contributes. In general, intrinsic motives are the ones most prominently reported reasons that led teachers to choose the profession (Atemnkeng et al., 2020). The most prevalent intrinsic motives for choosing teaching are self-fulfillment and the realization of personal and professional destiny. They include some of the most essential

**Table 1.** Flum’s scheme of factors (Flum, 1996).

	Intrinsic	Extrinsic
Directional factors	Tendencies, needs, interest, aspirations, preferences, attitudes, approach to others	Key figures: parents, friends, etc. institutionalized values of the surrounding culture
Constraining factors	Gender, age, education, intellectual level, skills, knowledge, temperament, rigor	Absorption options at work, or in training, family’s financial status, etc.

aspects of the role, specifically the love of teaching and the love of the subject being taught (in this case mathematics) (Fokkens-Bruinsma, 2012) and the ability to express personal talents (creativity, patience, leadership ability, and the like) on a daily basis (Atemnkeng et al., 2020).

Another intrinsic factor teaching has on those who practice it in their daily interaction with young people and the effect this has on their *joie de vivre*. The vibrant nature of the education system, which is filled with non-routine activities such as holiday activities, field trips, etc., attracts people who believe that this atmosphere will give them a sense of joy (Balyer & Özcan, 2014).

### 3) Extrinsic motives

Extrinsic motives are those related to comprehensive benefits associated with the teaching profession that are not related to its intrinsic aspects (Sahin, 2010).

Even though the salary for teachers is generally not high, teaching has favorable employment conditions such as a shorter work week than is customary in the economy, the possibility of early retirement from work, and so forth. Therefore, a leading extrinsic motive for choosing teaching are the comfortable terms of employment. Teachers can take many vacations during the year, which gives them time to be with their own children during these periods and their short working day also contributes to their ease in raising their children (Watt, 2012).

Job security is another extrinsic factor (Claeys, 2011) as are the social rewards: teachers are appreciated by the public for being someone who educates and nurtures students and works to improve the society. The teacher's image is that of a respected, educated person, and this influences their status in society (Atemnkeng et al., 2020).

The accessibility of teaching as a profession is also an extrinsic factor for some. Admission requirements to teachers colleges are not as stringent nor is the curriculum as difficult as those of other prestigious professions. The geographical proximity of a teachers college to their place of residence may also influence their choice (Baker, Ismail, & Hamzah, 2014).

### 4) Identification with "others"

Another motive that may lead an individual to choose to become a teacher is his or her "identification" with another, for example, an exemplary teacher who helped this person as a student and demonstrated the importance of teaching and the influence that teaching can have to influence society. Conversely, a person's displeasure with a teacher maybe a motive: to become a *better* teacher because they realize how a teacher's attitude can have a major influence on students (Özgül & Sedat, 2019).

Another important motive is family tradition. There are families in which most of the members are teachers: such family values may be a factor for the individual. Or, the influence of the individual's peer group in which many of the members decide to become teachers may play a role (Kambeyo & Julius, 2020).

Another aspect maybe one's "perception of worthiness," whereby certain behaviors—such as becoming a teacher—are considered socially appropriate even if they do not involve extrinsic or intrinsic rewards (Atemnkeng et al., 2020).

### 2.3. The Professional Image of the Mathematics Teacher

In contrast to the low social positioning of teachers in general, the position of mathematics itself as a discipline is highly regarded and mathematicians are conferred an especially high status in society (Mehmet & Thomas, 2020). The importance of mathematics is also demonstrated by its great value in the education system, which stems, among other things, from the weight it is accorded in the entrance exams for institutions of higher learning, its effect on matriculation and psychometric scores, and the importance that the subject has in the elementary and post-elementary curriculum (National Research Council, 1993).

Mathematics also has “special status” because no one is indifferent to it! There are people who love math and those who hate it; there are people who succeed in math and those who fail in it; there are people who think math is essential and those who think math is overrated. But no one is indifferent to it (Picker & Berry, 2000). Indeed, mathematics is a complex subject that requires excellent conceptual abilities, expertise in handling mathematical operations and manipulations, the ability to use various concepts in different contexts, and the possession of reflective abilities and organizational skills.

The high intellectual requirements required for studying mathematics are even more important for teaching it. Thus, mathematics teachers need to have advanced skills such as developed thinking, the ability to apply research and discovery processes while solving problems, and the ability to use suitable reasoning and make appropriate hypotheses (Picker & Berry, 2000). These, in addition to the high admission requirements for studies in teaching mathematics, may point to a unique profile of the mathematics teacher compared to teachers of other subjects.

### 2.4. Motives for Choosing to Specifically Teach Mathematics

Whereas the teaching profession in general may not be considered especially prestigious, there are some unique reasons for choosing to teach mathematics. (These, in addition to the general reasons for choosing teaching as a profession as noted above). Some are sympathetic to the difficulty and frustration some students experience when learning math and want to help such students succeed and increase their self-confidence in the subject. Others may have criticisms of accepted norms in teaching the subject and feel that by becoming a teacher, they can correct what they believe are flaws in the system. Some may actually have had difficulty in math as students because, in their opinion, of unskilled teacher(s) and becoming a mathematics teacher offers both a remedial experience and a chance to show how to teach “properly” and prevent other students from experiencing the heartache and frustration they did.

Certainly, some of the most important motivations for choosing to teach mathematics are love and interest in mathematics and the exhilaration involved in stepping up to the great challenge of teaching it. This is especially true for mathematics teachers in post-elementary and higher-level classes. Finally, the

shortage of qualified math teachers may possibly increase one's attraction to the profession as finding employment will be relatively easy (Watt et al., 2007).

### 3. Research Questions

The purpose of the study was to discover and compare the reasons/motivations that mathematics teachers gave for choosing this profession. The following research questions were compiled:

- 1) What do mathematics teachers report regarding their motives for choosing this profession that?
- 2) Are there differences in the motives based on gender? If so, what are they?
- 3) Are there differences in the motives depending on seniority (novice—up to 5 years' experience; veteran—more than 5 years' experience)? If so, what are they?
- 4) Are there differences in the motives between elementary and post-elementary teachers? If so, what are they?

### 4. Methodology

#### 4.1. Study Population

The study population comprised 60 mathematics teachers from different sectors of the population divided as follows: male (n = 19)/female (n = 41); novice (n = 32)/veteran (n = 28); elementary (n = 26)/post-elementary (n = 34). The participants were recruited using the “snowball” method (the researcher invites a small number of teachers to participate [“first circle”], and then these participants approach their colleagues and encourage them to participate) (Wikipedia, 2022).

#### 4.2. Procedure

##### *Data collection and tools*

The study was both quantitative (questionnaires, n = 60) and qualitative (interviews, n = 12). See **Table 2**.

**Quantitative tool.** Each participant was given a questionnaire with 64 statements compiled from the literature regarding motives for choosing to teach mathematics and asked to rate the extent to which each statement was appropriate

**Table 2.** Segmentation of the research population.

Segmentation by...	Research tool	Interviews (n = 12)	Questionnaires (n = 60)
Gender		Women—8; Men—4	Women—41; Men—19
Seniority		Novice—6; Veteran—6	Novice—32; Veteran—28
Type of school		Elementary—5; Post-elementary—7	Elementary—26; Post-elementary—34

for them. Sample statements: “In high school I excelled in mathematics studies”, “I am critical of the way mathematics is taught in schools”, “I am interested in contributing to the future generation of the country”. The statements were rated on a Likert scale of 1 - 5. Cronbach’s alpha for the various indices of the questionnaire was 0.71 - 0.76 (the most important statements are presented in this article).

**Qualitative tool.** Twelve participants were randomly chosen to undergo semi-structured interviews (one per participant) to determine their reasons for choosing to teach mathematics, experience in teaching, sense of mission, consideration of convenience (occupational and economic), how much they enjoyed teaching, what other professions they may have considered, and more. Because the interviews were semi-structured, it sometimes revolved around topics that were not initially planned.

#### *Data Analysis*

**Quantitative analysis:** The statements were first rated for the entire population of participants according to the average score for each statement (i.e., the overall degree of agreement with each statement). Next, the statements were rated based on, gender, seniority and type of school.

**Qualitative analysis:** The interviews were transcribed and divided into statements that were classified categories.

## 5. Findings

### 5.1. Quantitative Findings

#### 1) Influence of various motives for choosing to teach mathematics – overall

The average scores for each statement based on the responses of all the participants are shown in **Table 3**.

**Table 3** shows that the most agreed upon reason for choosing to teach mathematics was the challenge involved in teaching the subject. Altruistic motives (2, 3, 6, 8, 9) also scored high.

#### 2) Comparisons based on variables

We compared the differences in the scores based on gender, seniority (up to five years teaching experience/over five years), and type of school (elementary/post-elementary). Statements for which there is a significant difference between groups ( $p < 0.05$ ) are presented in **Tables 4-6**, respectively.

### 5.2. Qualitative Findings

Below we present a comparative analysis of the statements collected from the 12 interviews regarding the reasons for choosing to become a mathematics teacher.

#### *Love of mathematics*

Ten of the twelve teachers reported that their main reason for choosing to engage in teaching mathematics was, among other things, their love for mathematics and their desire to engage in a field in which they had been successful. Most

**Table 3.** Level of influence (mean and standard deviation) of motives for teaching mathematics. Statements are listed in order from highest to lowest scores. (Shown only are statements that scored more than 3.00) Legend: A—Altruistic, I—Intrinsic, X—Extrinsic.

Rank	Statement	Type	M	SD
1	I chose to teach mathematics because mathematics is a challenging subject.	I	4.37	0.74
2	I chose teaching out of a desire to impart knowledge to students.	A	4.27	0.95
3	I chose teaching out of a desire to influence the next generation.	A	4.22	1.09
4	I chose teaching because teaching allows one to be an educational figure.	I	4.18	1.03
5	I chose to teach mathematics due to my attraction to STEM subjects and my success in studying mathematics.	I	4.15	1.15
6	I chose teaching because teaching is a mission and calling.	A	4	1.09
7	I chose teaching because teaching is interesting and varied.	I	3.97	1.16
8	I chose to teach mathematics out of a desire to make students successful in mathematics and thereby open up a stable employment horizon for them in the future.	A	3.97	1.19
9	I chose teaching out of a desire to give students a sense of security.	A	3.93	1.27
10	I chose teaching because it is a profession that can have an impact on the development of the student's personality.	A	3.88	1.37
11	I chose teaching out of a desire to act and make changes.	A	3.85	1.16
12	I chose teaching because teaching allows expression of the love of teaching.	I	3.83	1.24
13	I chose teaching out of a desire to impart learning strategies to students.	A	3.77	1.23
14	I chose teaching due to a previous positive teaching/leadership experience.	I	3.72	1.39
15	I chose teaching out of a desire to work with young people.	I	3.67	1.2
16	I chose teaching out of a desire to shape the future of the country and a desire to contribute to the country.	A	3.42	1.24
17	I chose teaching because the schedule is suitable for mothers due to the structure of the work week and holidays.	E	3.37	1.4
18	I chose teaching because there are many vacations.	E	3.33	1.28



## Continued

19	I chose to teach mathematics because teaching mathematics is considered a prestigious profession	I	3.33	1.4
20	I chose teaching because it is a suitable profession for women/men: In my opinion, female teachers choose teaching because it is suitable for women.	E	3.32	1.44
21	I chose to teach mathematics because society respects math.	I	3.22	1.51
22	I chose teaching because I disagree with accepted teaching and learning methods and want to change them.	A	3.1	1.22

**Table 4.** Motives in choosing to teach mathematics which show a significant difference based on gender.

Statement	Men N = 19		Women N = 41		<i>p</i>
	M	SD	M	SD	
I chose teaching out of a desire to impart learning strategies to students.	3.00	1.41	4.12	0.95	0.00
I chose teaching due to a desire to create an affirmative experience.	3.53	1.47	2.46	1.55	0.01
I chose teaching because teaching is a mission and calling.	3.53	1.17	4.22	0.99	0.03

**Table 5.** Motives in choosing to teach mathematics which show a significant difference based on seniority.

Statement	Up to 5 years N = 32		Over 5 years N = 28		<i>p</i>
	M	SD	M	SD	
I chose teaching out of a desire to give students a sense of security.	3.56	1.41	4.36	0.95	0.01
I chose teaching because teaching allows expression of the love of teaching.	3.50	1.30	4.21	1.07	0.02
I chose teaching because it is a profession that can make an impact on the development of the student's personality.	3.53	1.59	4.29	0.94	0.03

**Table 6.** Motives in choosing to teach mathematics which show a significant difference based on type of school (elementary or post-elementary).

Statement	Elementary N = 26		Post-elementary N = 34		<i>p</i>
	M	SD	M	SD	
I chose teaching because obtaining a teaching degree is not difficult.	2.46	1.21	1.62	1.04	0.01

**Continued**

I chose teaching because it has a suitable schedule for children due to the structure of the work week and the holidays.	2.88	1.34	3.74	1.36	0.02
I chose to teach mathematics because students respect mathematics and therefore it is easy to teach it.	3.27	1.28	2.56	1.31	0.04

of them did well in mathematics high school and loved the subject. Their tendency to prefer STEM subjects together with intrinsic and altruistic motives led them to choose to become mathematics teachers.

***Desire to be in the company of people***

Some teachers reported that they chose teaching (not necessarily mathematics) due to their desire to be in the company of like-minded people. While they would have been able to successfully engage in other roles, it was important for them to have a job that would include regular contact with others. For example:

I could not imagine myself sitting in an office, even if it involves a high salary and prestige. I need the connection to people. I knew that the job that most involved contact with people would be teaching. That is mainly what made me choose teaching.

***Desire to be in the company of young people***

Five of the twelve teachers emphasized that their desire to be in the company of children or young people was a factor that made them choose teaching, stating that although there are other jobs that involve teamwork and require communication skills, they particularly wanted to work in the company of young people. Four emphasized that being in the company of children is accompanied by “*many smiles and pleasant experiences*” and that children have a certain special naivety. Three added that they want to be in the company of children because it makes them feel as if they are returning, over and over again, to the world of their childhood and thus they will stay young forever. An example:

I think children are magic. There is no substitute for coming to work in the morning and having a child run up to you and say, “Good morning, teacher”. Children are different than adults, and I want to work with children.

***Desire to contribute to society***

Nine of the interviewees stated that they chose teaching out of a desire, among other things, to contribute to society. They explained that by contributing to the development of children, they were shaping the next generation of adults and imparting to them social values, behavioral norms, an education that will be useful for them in the future, and the passion to grow and for self-fulfillment. In effect, they are ensuring that the next generation will have values and capabilities and be able to thrive economically. They also stated that, by teaching, they are contributing to the development of the country.

The desire to contribute to society is also what made them choose mathematics in particular, because they wish to establish a strong mathematical foundation in their students and encourage more individuals to focus on STEM subjects, which are so important to the development of society.

An example of this desire to contribute to society, the country, and the future generation is expressed by the following:

If I were a doctor, I would work in the health system. If I were an economist, I would contribute to the economy. But I chose to be a teacher because in 20 years I want there to be people who will worry about developing medicine, the economy, security, hi-tech, and thus ensure that the country will continue to progress.

#### ***Desire to contribute to the individual***

Seven teachers indicated that one of the reasons they chose teaching was a desire to contribute to students. They wanted to pursue a profession that would allow them to see the child and his world. Teaching allows them to nurture students in a holistic social, emotional, educational, and, sometimes, family-oriented way. They expressed a desire to impart to students a sense of confidence in mathematics, which is considered a difficult subject. They also feel that by giving students a proper foundation in mathematics, they are opening up for them a future of stable employment. Some examples: “*Every year, I start out with 30 [rough] diamonds. Over the course of the year, I polish them carefully and at the end of the year, I look, and I see that my diamonds are now sparkling brilliantly*”; “*I teach middle school. I invest a lot to instill in my students a good, strong basis in mathematics so that they will be able to later study mathematics at an advanced level and succeed in the future.*”

#### ***Social or family tradition***

Two veteran teachers indicated that they had chosen teaching because this is what is acceptable in their family and society. Because they had a real aptitude in STEM subjects and had done well in mathematics in high school, they chose to teach math. These teachers pointed out that in some societies, it is still usual to think that women should engage in “nurturing” professions such as nursing, caring for the elderly, or working with children (i.e., teacher or preschool teacher). They also stated that these considerations are not as dominant today as a reason that young women choose to become teachers. For example:

I have been a teacher for 43 years. Then, times were different. In high school, I excelled in mathematics and physics and wanted to apply to study physics at university, but my mother told me I needed to be a teacher. How could a mother have a job that would require prolonged absences from home? Today I see young women being encouraged to engage in the engineering and science professions.

#### ***Convenience when registering for studies***

Two teachers indicated that they applied to teachers college because it was

close to home, had favorable admission conditions, and offered a degree that is not as difficult as the science subjects to earn.

I started studying engineering and was a mother of three children. I studied five days a week, travelling back and forth each day from the south to the center of the country. At the end of the day, I had to prepare assignments, plus care for the children and manage the day-to-day functioning of the house. In addition to all this, there was also the financial challenge. My husband worked, but I could not, due to my studies. We were a young couple and needed a financial boost for the mortgage. We agreed that it could not continue like this. I have always loved children, so at the end of my first year at university, I applied to a college close to home for a teaching degree. I now studied three or four days a week and the studies were easier. In retrospect, I'm glad it happened, because I really enjoy my job as a teacher.

#### ***Positive teaching experience and passion for teaching***

Nine of the twelve teachers expressed that they had always had a burning desire to teach, mostly due to a previous positive experience. They noted that they had the aptitude to engage in professions that might be more lucrative and prestigious, but they could not come to terms with the fact that they would have to give up their burning desire to teach. Some teachers pointed out that this is especially true in teaching mathematics, which they especially like to teach. For example:

While I was pursuing my degree in electrical engineering, I helped fund my studies by giving private and group lessons to tutor mathematics. In the fourth year of my degree, I was studying in the evenings and tutoring two study groups at the intermediate level (four study units) for matriculation. I loved what I did, so I continued teaching even after completing my engineering degree. Later I completed my teaching certificate and today I am "just" a math teacher.

#### ***Disappointment in previous occupation***

One teacher noted that he had previously worked in the high-tech industry but transferred to teaching due to his disappointment in that field: the many hours on the job left him no time to spend with his family. He quit that job despite the great financial reward. He also noted that he had difficulty dealing with computers and numbers all day, and he wanted to work with people. His reasons:

I felt like the kids were growing up without me. All those years, I was just working and putting money into an account. I felt it had no meaning. Even when I was on vacation with my family, I spent most of my time on the phone involved in work.

#### ***Prestige***

Two teachers explained that they chose to teach mathematics because of the prestigious aura that accompanies the profession. Society respects mathematics and therefore mathematics teachers are valued in society. They had an aptitude for math and due to their fondness for children and the desire to engage in teaching, they rejected working in technology and chose to teach mathematics. In addition, they claimed that teaching is prestigious in itself—even without the connection to mathematics—because they see the teacher as a scholar who loves people. One also mentioned that he had chosen a profession that is not financially rewarding out of a desire to contribute to society and because teachers are perceived as being more ethical. This image adds prestige to teaching and that is why they chose it.

#### ***Job security***

Three teachers indicated that they chose teaching due to the demand for teachers, in particular for mathematics teachers, and therefore the relative ease in finding employment. They also noted that teachers usually find a job near their place of residence. This job security, among other things, made them choose teaching.

#### ***Love of mathematics***

All the twelve interviewees stated that they chose to become mathematics teachers, among other things, out of their *love for the discipline of mathematics* and a desire to engage in teaching a subject in which they were successful in high school and which led them to love the subject. This, together with their inclination towards STEM subjects, led them to choose to become mathematics teachers.

One interviewee wanted to clarify why he specifically chose to teach mathematics, and then compared mathematics with other subjects:

Biology is stories, theories. Maybe yes, maybe no. The only thing that is “for sure” is that it is “maybe”. Physics, too, is stories. One time they think one way and then some professor comes and changes the formula. What discipline never changes? Mathematics! In mathematics, there are new things, but the formula always has one specific solution. There’s the formula for squares, okay? Does  $b^2 - 4ac$  means anything to you? If there is a formula, there is a solution! Maximum, someone can come and suggest another way, perhaps more elegant, but the solution to the equation will be the same! What does this mean? It means that mathematics is true. It is not a description of something else, it is a language in itself... I have always loved mathematics, formulas, integrals. I understood it intuitively and then I realized that I loved it because it is the language of the world.

This feeling, one way or another, was echoed by most of the participants. They pointed out that mathematics is a special subject with characteristics—order, regularity, consistency, logic, etc.—that do not exist in other subjects. This is what made them love mathematics. By choosing to teach mathematics they are engaged daily in a field of knowledge that they love. This is what gives them the

motivation for their work.

## 6. Discussion and Conclusions

Numerous studies have examined why teachers choose to be teachers, but not many focus on the mathematics teacher in particular. In this study, we presented statements, some regarding teaching in general and some regarding teaching mathematics in particular to mathematics teachers to investigate the reasons, both in the population in general and then based on the three variables of gender, experience, and age of students (type of school) that these individuals chose to teach (in general) and to teach mathematics in particular.

Following is a summary and discussions of the statements that the participants ranked highest (score above 3.0) as their reasons for choosing to teach (in general) and to teach mathematics in particular. The results regarding teaching in general corroborate previous studies (detailed below); the results regarding teaching mathematics in particular are novel due to the dearth of studies on the subject.

### 6.1. Motives: Overall Population

Overall, the number one reason given by the participants for choosing to teach mathematics was the challenge involved (1, see **Table 3**). This is an interesting finding since other studies regarding why teachers choose to teach, but which do not focus on mathematics teachers in particular, did not find that love of the discipline was a major factor in choosing the profession. (This was also the top reason given when the data were examined based on gender and type of school. Post-elementary mathematics teachers in particular stated that their love and interest in mathematics and the great challenge involved in teaching it were considerations in choosing the profession.

**Altruistic reasons.** Altruistic reasons that scored high (above 3.0) included wanting to help others and wanting to make changes. In the former category area desire to impart knowledge to students (2), a desire to influence the next generation (3), a desire to impart learning strategies to children (13), a desire to help students in mathematics studies and open up a stable employment horizon for them in the future (8), a desire to give students a sense of security (9), because it can influence the students' development and personality (10), and a desire to contribute to the country (16).

All these were supported by the interviews that discovered that one of the main reasons the participants chose to teach mathematics was their desire to contribute to the individual and to society. These findings are also consistent with studies that found that teachers (not necessarily mathematics) named the altruistic motives of contribution to the individual and the country as a reason to become teachers (Arnon et al., 2015; Atemnkeng et al., 2020; Fokkens-Bruinsma, 2012).

With respect to (8), in the interviews, teachers noted that a student who gra-

duates from the education system with a strong mathematical background will have an advantage in the job world. This is another novel finding offered by this study, since it is unique to the population of mathematics teacher.

Another interesting motive that received a high score is the motive “mission and calling” (6). This is an altruistic reason, as similar to what was found in previous studies, altruistic motives are a major motivator when choosing the profession of teaching (Atemnkeng et al., 2020).

Other altruistic reasons relate to wanting to make changes in the “system” and include a desire to make changes (11) and a desire to change present teaching methods (22). These motives stem from a critical attitude toward the educational system and the hope to change the system from within. This finding is consistent with that reported in the literature: some teachers have an altruistic desire to be involved in teaching to help create a better education system that will enable equal opportunities and learning conditions appropriate and tailored to students (Akpochafo, 2020).

**Intrinsic reasons.** A number of intrinsic factors—both regarding teaching in general and teaching mathematics in particular—scored high. In the first category, these include the status conferred upon someone who is an educational figure (4), the varied nature of teaching, which makes it interesting (7), their love of teaching (12), previous positive experiences in a teaching role (14), and a desire to work with young people (15). With respect to mathematics in particular, these include the participant’s aptitude in STEM subjects and success in studying mathematics in school (5) (also supported in interviews), the prestige that teaching mathematics has (19), and the respect that society has for mathematics (21). This suggests that a positive attitude to mathematics as a very prominent motive in choosing to teach mathematics. Again, the latter reasons are novel findings because previous studies do not focus on teaching mathematics teachers per se.

These motives are also consistent with previous studies in which teachers reported that their motivations were based on the benefit that teaching brings and essential aspects of the role such as enjoyment of teaching (7), love of the subject (5), and the ability to express personal qualities like creativity, patience, leadership ability, etc. (12) (Watt et al., 2007).

Intrinsic motives stemming from the nature of teaching have been reported to be central in choosing a teaching career (Arnon et al., 2015). This is exemplified by the findings in some of the interviews where teachers stated that they wanted to become teachers because they wanted to be in the company of people, particularly young people, and that they enjoyed the experience of the school environment. They emphasized that this was not necessarily a desire to contribute to the children; rather, it was from their own personal enjoyment of being in the company of young people. This finding is novel to this study: previous studies have suggested that the individual’s desire to be with children was a result of an altruistic desire to contribute to students (Akpochafo, 2020), whereas this study found that this was also a result of the intrinsic motivation of the personal en-

joyment obtained being with young people.

**Extrinsic motives.** Altruistic and intrinsic motives considerably headed the list of motives, yet a number of extrinsic motives also offered significant motives. These include a comfortable schedule and structure of the work week (17), and the number of vacations (18). These findings are also consistent with previous studies that found that teachers reported choosing this profession in part because of the many vacations during the year that allow them to spend more time with their own children (Balyer & Özcan, 2014). Nevertheless, the results indicate that the level of influence that these extrinsic motives have on choosing to teach is not as high as others.

During the interviews, it was possible to delve deeper into some of the extrinsic considerations that motivated the teachers. Some are worth discussing even though they did not rate high enough to be included in **Table 3**. For example, we found that although salaries are not high, job security as a result of tenure and the teacher shortage, especially for mathematics teachers, made it highly probable that they would find work. These findings are consistent with previous studies (Sahin, 2010; Claeys, 2011) that found that despite the low salary, favorable employment conditions (a shorter work week than usual in the economy, the possibility of early retirement, and more) make it attractive. The vacation schedule and the short working day, also allow teachers to raise their children more easily (Watt et al., 2007). Teaching is considered an occupationally safe profession and a sense of occupational security is an extrinsic factor that influences the choice of teaching as a profession.

Also, previous studies regarding choice of the teaching profession in general have reported that teachers chose this profession for reasons of convenience with respect to learning the profession and convenience (Baker, Ismail, & Hamzah, 2014). Although these findings rank relatively low on the general list (23 - 27, not shown in the Table)<sup>1</sup>, this may be explained by the fact that the present study focused on mathematics teachers, who are a population with unique characteristics and less focused on the “convenience” of teaching.

One other extrinsic motive that ranked fairly high and was also corroborated by the interviews was the claim that in the past, and even now in certain societies and communities, women tend to turn to the teaching profession (and are even encouraged to do so) because it is an acceptable career for women in their society or family (20).

Nevertheless, the results here indicate that the level of influence that these extrinsic motives have on choosing to teach mathematics was not high.

## 6.2. Differences in Motives Based on Gender

The ranking of each of the motives for teaching mathematics were compared by

<sup>1</sup>Scores overall for lesser motives: (23) convenience due to geographical location of the educational institution (i.e. teacher’s college) ( $M = 1.83$ ,  $SD = 1.18$ ), (24) degree in teaching is not difficult ( $M = 1.98$ ,  $SD = 1.19$ ), (25) admission requirements to a college are not strict ( $M = 2.07$ ,  $SD = 1.26$ ), (26) no need to prepare mathematics lesson plans because there are ready-made textbooks ( $M = 2.1$ ,  $SD = 1.39$ ), (27) practice exercises during the lesson make teaching easier ( $M = 2.53$ ,  $SD = 1.43$ ).



gender and three statements showed significant differences (see **Table 4**). These statements had to do with teaching in general: the desire to impart knowledge and influence the next generation, and a sense of mission and calling were scored higher by women, whereas men scored higher with respect to creating an affirmative experience. These results may be attributed to the fact that many cultures assign specific, stereotypical traits to males and females. For example, a “typical” man is expected to act aggressively, demonstrate ambition, achieve success, and be competitive, domineering, and assertive. Women, on the other hand, are expected to behave gently and with compassion, to be more submissive to those around her and be more service oriented (Arar & Oplatka, 2014).

The study indicated that men were more apt to choose teaching due to a desire to create an affirmative experience. It is possible that these differences were obtained because it is not common for men to engage in teaching but nevertheless chose the profession sparsely in mathematics, out of a desire to create an affirmative experience for themselves. As one of them said “now I can even teach it”.

### 6.3. Differences in Motives Based on Seniority

A similar comparison was done for the statements based on number of years teaching. Here, three statements showed a clear significant difference (see **Table 5**) with veteran teachers scoring significantly higher the statement “the desire to give students a sense of security,” “love of teaching,” and “the desire to engage in a profession that has impact on student development” than newer teachers. These motives were intrinsic/altruistic reasons. This may be explained by the fact that the veteran teacher population are individuals who have remained in the system despite having experienced its many disadvantages. Since they are more likely to have chosen the profession due to intrinsic motives, such as a love of teaching, they are more likely to “stick it out”. Teachers who entered teaching due to other, less altruistic motives, may have retired early from the profession and therefore the results of the veteran teachers were skewed.

An interesting result (not shown in tables) is that, in general, teachers did not give a high score to the reason of “favorable admission conditions to teachers college.” However, we noticed that veteran teachers agreed with this statement more level than novice teachers (veteran:  $M = 2.39$ ,  $SD = 1.34$ ; novice:  $M = 1.78$ ,  $SD = 1.13$ ;  $p = 0.06$ ). This may be explained by the fact that, in the past, teaching had more favorable admission requirements than today and this was a factor in attracting those who are now veteran. An alternate explanation is that teachers who chose teaching due to favorable admission conditions are less likely to leave the profession.

### 6.4. Differences in Motives Based on Type of School (Elementary or Post-Elementary)

A similar comparison was carried out based on type of school (elementary or

post-elementary) in which the respondents taught (see **Table 6**). Three statements showed a significant difference between the two groups.

Elementary school teachers gave significantly higher scores to the issue of the ease of obtaining a teacher's degree. This difference may be explained by the fact that a degree in teaching mathematics for elementary grades is significantly easier than one for post-elementary grades. In fact, obtaining a degree in teaching secondary and high school mathematics is considered even more difficult than other degrees.

Elementary school teachers also had a higher tendency to report that they chose to teach mathematics because students respect mathematics and therefore it is easy to teach. This may be explained by the fact that in higher grades, students are preparing for matriculation exams and therefore attach importance to subjects that they did not attach importance to in elementary school; in elementary school, the importance of mathematics is emphasized more and therefore teachers find it easier to teach.

On the other hand, post-elementary school teachers gave significantly higher scores regarding the fact that the structure of the work week and the abundance of vacations, making it attractive to mothers who are raising young children.

**To summarize**, this article examined "Why I chose to become a mathematics teacher?" and it is important to continue researching the reasons why people choose to be math teachers.

## Acknowledgements

The author wishes to acknowledge to Yochai Uziel-Auobi for collecting data and his contribution to the article.

## Conflicts of Interest

The author declares no conflicts of interest regarding the publication of this paper.

## References

- Akpochafo, G. (2020). Factors Influencing Undergraduates' Choice of Teaching as a career (FIT-Choice) in Nigeria. *International Journal of Education and Practice*, 8, 121-133. <https://doi.org/10.18488/journal.61.2020.81.121.133>
- Arar, K., & Oplatka, I. (2014). Muslim and Jewish Teachers' Conceptions of the Male School Principal's Masculinity: Insights into Cultural and Social Distinctions in Principle—Teacher Relations. *Men and Masculinities*, 17, 22-42. <https://doi.org/10.1177/1097184X13516961>
- Arnon, R., Frankel, P., & Rubin, E. (2015). Why Should I Be a Teacher? Factors That Attract and Factors That Deter in Choosing the Teaching Professions. *Dapim*, 59, 17-44. [Hebrew]
- Atemnkeng, N., Akum, F. C., Ngwokabuenui, P. Y., & Chu, A. M. (2020). Choosing Teaching as a Career: Perspective of Pre-Service Teachers in Cameroon. *Asian Journal of Education and Social Studies*, 13, 48-58. <https://doi.org/10.9734/ajess/2020/v13i130324>

- Avgousti, C. (2017). Choosing the Teaching Profession: Teachers' Perceptions and Factors Influencing Their Choice to Join Teaching as Profession. *Journal of Education and Practice, 8*, 219-233.
- Ayçiçek, B., & Toraman, Ç. (2020). The Predictive Role of Reasons for Choosing the Teaching Profession as a Career on the Educational Beliefs of Teachers. *International Journal of Contemporary Educational Research, 7*, 300-310.  
<https://doi.org/10.33200/ijcer.713412>
- Baker, R., Ismail, N., & Hamzah, R. (2014). Teaching as a Career Choice: A Discriminant Analysis of Factors as Perceived by Technical and Vocational Education (TVE) Student Teachers in Malaysia. *Middle-East Journal of Scientific Research, 19*, 69-75.
- Balyer, A., & Özcan, K. (2014). Choosing Teaching Profession as a Career: Students' Reasons. *International Education Studies, 7*, 104-115.  
<https://doi.org/10.5539/ies.v7n5p104>
- Çimen, L. (2016). A Study on the Prediction of the Teaching Profession Attitudes by Communication Skills and Professional Motivation. *Journal of Education and Training Studies, 4*, 21-38. <https://doi.org/10.11114/jets.v4i11.1842>
- Cochran-Smith, M. (2002). Reporting on Teacher Quality: The Politics of Politics. *Journal of Teacher Education, 53*, 379-382. <https://doi.org/10.1177/002248702237392>
- Claeys, L. (2011). Teacher Motivation to Teach and to Remain Teaching Culturally and Linguistically Diverse Students. Unpublished Doctoral Dissertation, University of Texas at San Antonio.
- Flum, Y. (1966). A Proposal to Classify the Factors That Determine the Choice of Profession. *Magemot, No. 14*, 225-228. [Hebrew]
- Fokkens-Bruinsma, M. (2012). The Factors Influencing Teaching (FIT)-Choice Scale in a Dutch Teacher Education Program. *Asia-Pacific Journal of Teacher Education, 40*, 249-269. <https://doi.org/10.1080/1359866X.2012.700043>
- Gilat, Y., & Wengrowicz, N. (2018). The Status of the Teacher in Israeli Society Today. *Dapim, 68*, 11-27. [Hebrew]
- Kambeyo, L., & Julius, L. H. (2020). Investigating the Motivating Factors That Influenced the University of Namibia First Year Undergraduate Student Teachers to Choose Teaching as Career: A Case Study. *Journal of Studies in Education, 10*, 97-109.  
<https://doi.org/10.5296/jse.v10i3.17250>
- Kılınç, A. (2012). Factors Influencing Teaching Choice in Turkey. *Asia-Pacific Journal of Teacher Education, 40*, 199-226. <https://doi.org/10.1080/1359866X.2012.700048>
- Mathew, L. (2005). *The Impact of Higher Salaries and Performance-Related Pay on Retention Rate of Graduate Teachers of Public Schools in Singapore*. Faculty of Education, Monash University.
- Mehmet, H. S., & Thomas, E. H. (2020). Parent-Child Mathematics Affect as Predictors of Children's Mathematics Achievement. *International Online Journal of Primary Education, 9*, 85-96.
- National Research Council (1993). *Measuring What Counts: A Conceptual Guide for Mathematics Assessment*. The National Academies Press.
- OECD (2018). *Teaching and Learning International Survey: Insights and Interpretations*. OECD Publishing.
- Özgül, M., & Sedat, Y. (2019). The Social Status of the Teaching Profession: A Phenomenological Study. *Journal of Teacher Education and Educators, 8*, 183-203.
- Ozsoy, G., Balci, S., Memis, A., & Ozkara, Y. (2010). Factors Affecting Pre-Service Teachers Choice of Teaching as a Profession. *Elementary Education Online, 9*, 910-921.

- Picker, S. H., & Berry, J. S. (2000). Investigating Pupils' Images of Mathematicians. *Educational Studies in Mathematics*, 43, 65-94.  
<https://doi.org/10.1023/A:1017523230758>
- Pink, D. H. (2009). *Drive: The Surprising Truth about What Motivates Us*. Riverhead Books.
- Pizarro, M., & Laborda, J. (2017). Choosing English Teaching as a Profession in Primary Education Contexts. *ENSAYOS, Revista de la Facultad de Educación de Albacete*, 32, 121-133.
- Sahin, A. E. (2010). Professional Status of Elementary Teaching in Turkey: A Delphi Study. *Teachers and Teaching: Theory and Practice*, 16, 437-459.  
<https://doi.org/10.1080/13540601003754822>
- Sayime Erben, K. (2019). Reasons for Choosing the Profession of Teacher. *Asian Journal of Education and Training*, 5, 447-453.  
<https://doi.org/10.20448/journal.522.2019.53.447.453>
- Tye, B. B., & O'Brien, L. (2002). Why Are Experienced Teachers Leaving the Profession? *Phi Delta Kappan*, 84, 24-32. <https://doi.org/10.1177/003172170208400108>
- Wikipedia (2022). *Snowball Sampling*. [https://en.wikipedia.org/wiki/Snowball\\_sampling](https://en.wikipedia.org/wiki/Snowball_sampling)
- Watt, H. M. (2012). An Introduction to Teaching Motivations in Different Countries: Comparisons Using the FIT-Choice Scale. *Asia-Pacific Journal of Teacher Education*, 40, 185-197. <https://doi.org/10.1080/1359866X.2012.700049>
- Watt, H. M., Richardson, P. W., & Pietsch, J. (2007). Choosing to Teach in the "STEM" Disciplines: Characteristics and Motivations of Science, ICT, and Mathematics Teachers. In J. Watson, & K. Beswick (Eds.), *Mathematics: Essential Research, Essential Practice* (Vol. 2, pp. 795-804). Mathematics Education Research Group of Australasia.