

The Effect of Motivation for Learning Among High School Students and Undergraduate Students—A Comparative Study

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Abstract

The current study was designed to identify if and to what extent differences in motivation exist between high school students, for whom school is mandatory, and undergraduate students in tertiary institutions, who make an active choice to study in an academic institution. This study also explores whether and to what extent motivation affects the achievements of these two groups of learners, and whether motivation is related to their personal, family, and socio-economic background and gender. To examine these questions, 121 participants responded to a 22-item questionnaire on motivation for learning. Findings show that undergraduate students are more highly motivated for learning compared to high school students. Associations were found between learners' personal and academic background and their motivation: Motivation increases with age and as grade average increases. A significant difference was, however, found in motivation levels between learners with average socio-economic status and learners with above-average socio-economic status. No gender effects in learners' motivation were found. Findings of the study shed light on the significance of motivation in high school, which is a significant period in youngsters' lives. High school is a scholastic space that also has the potential to strengthen motivation for learning in the future, in academic studies, as both education systems – high school and academic education – affect each other.

Keywords: motivation, learning, high school students, undergraduate students, achievements

1. Introduction

1.1 Motivation as a Key Driver of Teaching and Learning

Motivation is one of several mental mechanisms underlying human action. Motivation is the forces that drives a person and propels them to achieve their goals and behave in a certain way in a given situation. Motivation affects the path an individual chooses and the goals they set for themselves (Beck, 2021). For years researchers have studied various types of motivation, how they manifest and affect human behaviors, aspirations, and abilities.

Two types of motivation have been found - extrinsic and intrinsic- based on self-directed learning theory or self-determination theory, which describes extrinsic and intrinsic motivation as two poles of a continuum that reflects the extent to which actions are perceived as being autonomous and significant (Mulang, 2021). Research has identified behavioral motivations originating from extrinsic motivation, and motives of intrinsic motivation, and motivations located on various points on the continuum between these two poles (Mulang, 2021).

Motivation has a key role in teaching and learning and is one of the most significant topics in educational processes, especially in our era of learner-centered teaching (STEM) (Kaniel, 2006). High school and undergraduate students are highly motivated to learn, due to their desire to attain high achievements on their matriculation exams and undergraduate exams. Both groups of learners have a similar goal and their motivation to succeed in their studies and earn high grades is also similar (Notov, 2019).

The aim of the current study is to examine whether and to what extent differences in the levels of motivation for learning exist between high school students, for whom learning is mandatory, and undergraduate students, who chose to continue to post-secondary studies. Furthermore, whether and to what extent motivation affects the achievements of high school students and undergraduate students, and is motivation associated with personal, family, and social background factors, and gender. To examine this research question, we sampled 120

individuals who completed a motivation for learning survey.

The contribution of this study lies in its focus on motivation during high school, which is a significant formative period in one's life. High school is a learning space that is capable of strengthening learners' motivation, including their motivation for post-secondary studies, as the high school and the academic

1.2 Review of Literature

What is Motivation?

Motivation is movement. It is also a concept that describes motives of behavior. Motivation theories try to explain processes that motivate the individual to take action and perform certain behaviors. Researchers found that motivation is essential for meaningful learning and for achievements in challenging tasks. Motivation is an important condition of admission to and success in academic studies and employment, no less important than knowledge and grades (Kaplan & Asor, 2001).

The concept of motivation refers to the desire to invest time and effort in a specific activity, even if it entails difficulties and failure, and exacts a high toll. According to this definition, motivation is an internal mental entity whose strength can be assessed in various ways, such as perseverance and effort despite failure, fulfillment of one's obligations, and others (Asor, 2005).

Motives are the reasons that cause people to behave in a certain way in a certain situation. Motivations exist as part of individuals' goal structure and beliefs about the importance of various issues. Motivations also determine the path that an individual will take and the goals they define for themselves (Filchenfeld, 2003).

Kaplan and Asor (2001) argued that motivation is associated with the overall behavior within which the individual chooses between alternative goals and means that can be controlled and directed for the sake of a specific goal. These researchers define three dimensions of motivated behavior: direction, intensity, and quality. Direction refers to the choice that an individual makes when they select an action to perform consistently even when the individual encounters difficulties or alternative actions emerge, or to persevere in a task and perform certain actions even when they are not mandatory. Intensity is the degree of effort that an individual invests in a certain activity. The quality of an activity distinguishes between behaviors of different motivational character. Three main processes underlying high quality motivation for learning can be proposed: high self-perceived learning ability; a sense of confidence, relatedness and belonging; and a sense of meaningfulness. When these three processes exist, a student's motivation will be high and of high quality (Kaplan & Asor, 2001).

Motivation is a theoretical concept that refers to the urges, motives, and actions of an individual, and describes how individuals respond to a need and takes various actions to achieve their goals. In recent decades, the role of motivation in learning and in the process of adjustment to learning, such as attitudes toward learning, and dealing with problems and failure, has gained increasing recognition. In the educational sphere, motivation for learning is a variable that explains the degree to which a student shows interest and exerts effort to achieve goals (Beck, 2021).

Grew (2017) defined motivation as an individual's desire to invest resources in a specific behavior. Self-direction theory states that individuals have three inherent needs: a need for autonomy, a need for self-efficacy, and a need for belonging. Self-direction theory locates the sources of motivation on a spectrum that ranges from intrinsic to extrinsic factors.

Types of motivation: Extrinsic and intrinsic

In the research literature we found a distinction between extrinsic and intrinsic motivation, including studies that focus on a combination of both.

Intrinsic motivation – Deci and Ryan (1991) argued that intrinsic motivation is an inherent part of individuals and constitutes the urge to engage in activity based on desire and enjoyment. Intrinsic motivation is a motivational action that stems from the individual, and engagement is entirely voluntary. A behavior is independent when regulation is a choice and the individual feels that reason for the action they take comes from inside themselves. Intrinsic motivation causes an individual to engage in an activity that he wants to engage in and frequently this will cause the individual to develop expertise (Brophy, 1999).

Recent studies linked motivation, based on self-direction, and various educational outcomes in the age range from the early years of elementary school to college. Several of these studies found that students, including students in tertiary institutions, with stronger self-directed motivation attained higher learning achievements than students with less self-directed motivation. Furthermore, students who reported that they were intrinsically motivated to study for an exam displayed greater conceptual understanding than students who studied the

material simply to pass the exam. Researchers also measured intrinsic motivation for specific subjects such as mathematics and reading in elementary and junior high school and found a statistically significant correlation between intrinsic motivation and achievements in these subjects (Daoust et al., 1998).

Asor (2005) noted that intrinsic motivation concerns investment of effort based on enjoyment and interest. When something internal motivates the child to act in a certain way, to learn something, the child will invest effort in this activity because it yields pleasure and interests them. When a child is engaged in an activity that is intrinsically motivated, the child is attentive and focused on the task and therefore can perform it in the best possible manner. For example, a child devotes little thought to the implications of their performance on their self-esteem or social status. When a child shows willingness to invest in a task due to interest or enjoyment, the child's creativity increases and negative emotions such as anxiety, pressure, anger, and others dissipate. Intrinsic motivation generates many benefits on a broad range of issues: it creates a very positive emotional experience, it constitutes a means of identity-building, it promotes deep, creative learning, it promotes consideration of others and a sense of belonging to school, and finally it constitutes a means of coping constructively with a sense of emptiness, free time, and peer pressure.

Extrinsic motivation – Extrinsic motivation originates from external factors that propel the individual to engage in activities as a means of achieving a goal. Extrinsically motivated behaviors are instrumental by nature, they are not performed out of a sense of interest but rather due to the belief that they are instrumental in achieving distinct outcomes. Four types of extrinsic motivations have been identified: external regulation, introjected regulation, identification, and integrated regulation (Mulang, 2021).

Deci and Ryan (1991) argued that while intrinsic motivation describes a situation in which the individual performs an activity out of a pure sense of enjoyment, extrinsic motivation may be at various levels of internalization. At the most external level are behaviors that an individual performs because an external power clearly controls them. At a less, external level there is behaviors that an individual performs in order to meet the expectations of others who are important. At a more internal level are behaviors that an individual performs because they match the goals and values that they define as being important for them and as reflecting their identity. At the highest level of internalization are behaviors that an individual performs because they identify with the principle of that behavior.

Combining extrinsic and intrinsic motivation - Self-direction theory presents extrinsic and intrinsic motivation as two poles of a continuum of the extent to which activities are considered autonomous and significant, and not as two dichotomous concepts. For example, some motives of behavior are at the extrinsic motivation pole, others are at the intrinsic motivation pole, and yet others on various points on the continuum between these two poles. Self-direction theories argue that the more a motivation is considered to be more intrinsic, the higher the quality of the motivation. Therefore when a student's basic needs for autonomy and efficacy are satisfied, the student will perceive the motivations for their behavior as coming from inside themselves, and will be intrinsically motivated to take action. Furthermore, support for the three basic needs will cause the student to internalize behaviors that were initially performed as a result of purely extrinsic motivation (Kaplan & Asor, 2001).

Intrinsic and extrinsic motivations are typically separated. Students that are intrinsically motivated to study will devote more time, study better, and enjoy the process more than students who are extrinsically motivated. It has been found that intrinsic and extrinsic motivations are two contrasting forms, where behaviors motivated by an external source are perceived as being non-self-directed. It quickly emerges, however, that the terms intrinsic motivation and extrinsic motivation are insufficient to describe the diversity of motivations that a student may have. Motivation increases when a student is aware that they are making progress in their studies. The more they work on their tasks and become more skilled, they acquire a sense of self-efficacy.

The literature notes that extrinsically motivated performance is characterized by an investment of less effort and a focus on simple tasks, in contrast to intrinsically motivated performance that is characterized by the investment of extensive effort and adoption of complex and challenging tasks (Filchenfeld, 2003).

Motivation Theories:

Theories of motivation offer explanations for the processes that cause students to persevere and invest effort in their studies as well as in social engagement and assistance to others. These theories also try to explain the factors that lead to a high quality of investment of effort in learning and in social engagement – both from the perspective of the student's feelings and from the perspective of the learning outcomes. Differences in the perceived goals of school necessarily affect a school's definition of the desired motivation, and on the ways that are proposed to encourage motivation of students and teachers (Brophy, 1999).

The topic of motivation emerged as early as the era of Plato and Aristotle. Plato believed that an individual's psyche has three components—physical, emotional, and logical—that are related to each other in a hierarchical order. Aristotle, Plato's student, confirmed this opinion by changing the terms of motivation. According to Aristotle, physical and emotional elements in an individual's body affect and motivate growth and physical relaxation, which create sensory experiences such as enjoyment and pain. These two experiences are the basis for irrational and impulsive motivation (Mulang, 2021).

Interest in motivational processes waned in the 1960s in response to the cognitive revolution: Cognitive processes gained prominence in psychology in general, and specifically in educational psychology. Only in the mid-1970s were motivation theories reinstated in research, and the field of motivation developed in the 1980s to the point where, in 1992, a leading US social psychologist declared that the concept of motivation has returned (Pervin, 1992). In recent decades, recognition of the motivational processes' major role in students' academic success and other adaptive processes, such as emotions toward learning and toward school, coping with challenges and failure, and constructive behaviors in general (Kaplan & Asor, 2001).

The behavioral theory of motivation, developed by Skinner (1968), focuses on the frequency of behavior, and emphasizes environment as a source of motivation. This theory assumes that motivation varies according to reinforcement and punishment that characterize any situation and focuses on the motivational processes for specific actions. Advocates of this approach argue that the individual is fundamentally motivated to seek out positive experiences and avoid negative experiences. Motivation or behavior in a specific direction and at a specific intensity stem from an individual's history of experiences of positive and negative reinforcements. Behavior that leads to a positive experience and reinforcement will tend to appear more frequently, while behavior that leads to a negative experience and punishment will tend to appear less frequently. Kaplan and Asor (2001) argue that the principles of behavioral theory may be effectively used to influence a student's motivation in a certain situation. Furthermore, the theory's emphasis on environment gives the educator absolute control to shape their students' behavior.

In contrast, Maslow's humanistic theory of the hierarchy of needs (1954) stresses the meaning of behavior for the individual. This theory argues that the source of motivation lies in the individual's inherent needs and assumes that motivation varies as needs are satisfied across situations. The theory focuses on the most general motivational processes such as self-esteem and realization of one's potential. Self-determination theory is based on the humanistic approach and assumes that there are three inherent needs that underlie human behavior: a need for autonomy, a need for competence, and a need for relatedness and belonging. According to this theory, when these needs are satisfied, the individual will become more deeply and qualitatively engaged in the activities in which they are involved, while when the denial of these needs reduces the quality of motivation and sometimes its intensity as well. For example, this theory argues that when students feel that the teacher is forcing them to learn things that are unrelated to their authentic tendencies, plans, or values, the quality of their motivation for learning will be low. Needs satisfaction depends on many factors, including the child's family situation and their parent's educational approach, their peers and their values, and the educational practices conventionally used in the school (Deci et al., 1991).

Recent theories tend to recognize that an individual's motivation in different situations is influenced by a combination of the individual's personal traits and the features of their environment (Kaplan & Asor, 2001). One of the most dominant approaches, at least until the 1970s, argued that motivation for a specific action in a given situation is influenced mainly by individual long-term motives. For example, this approach argues that the motivation to invest extensive effort in studying for an exam derives its intensity from the individual's psychological need for achievement. McClelland (1961), one of the leaders of this approach, argued that this need is not a conscious one; it is shaped in a child's early years and experiences in a family or group and in the culture in which they were raised, and this need defines the individual's personal tendency to make an effort to achieve success.

Kaplan and Asor (2001) argued that the processes that lead a specific student to act in a specific way in the classroom are very complex and almost always are influenced by interactions between the student's traits, the broad social context, and the specific situation in which the student performs the behavior. Each motivation theory sheds light on a specific aspect of these processes and how they are affected by participants' beliefs and values related to the goals of the educational process and the nature of human beings and society.

On motivation for learning and self-efficacy:

Self-efficacy is a person's ability to assess their capacity to organize and execute actions that are necessary to achieve specific performance attainments. Self-efficacy beliefs can predict a variety of outcomes including

learning outcomes. Bandura (1977) hypothesized that self-efficacy affects the choice of one's actions, effort, and perseverance. Individuals with high self-efficacy will work harder or persevere longer when they encounter challenges, compared to others who question their own abilities.

Self-efficacy theory assumes that individuals acquire information to assess their efficacy on the basis of the performative achievements, experiences, forms of persuasion, and physiological measures but it is important to remember that self-efficacy is not the single factor that affects behavior, nor it is necessarily the most important factor, because an individual's behavior is the result of multiple variables. Goal setting is also considered an important cognitive process that affects motivation. Students who set goals for themselves will experience a primary sense of self-efficacy in attaining the goal, and may acquire a commitment to achieve that goal. Self-efficacy proves that the more learners observe their progress toward a goal, they see that they become more skilled. Feedback given to students on their progress toward a goal also increases self-efficacy. Heightened self-efficacy increases motivation and improves the development of both individual and interpersonal skills (Shank, 2001).

In school, self-efficacy has a more complex impact on the results of motivation because of the learning that takes place. For example, the selection of actions is not an appropriate measure of motivation for learning because students do not typically choose whether to participate in learning activities in school. Although choice is significant in a limited array of conditions (leisure activities, for example), it represents a narrow focus for motivation due to the fact that the choices available to learners are typically restricted (Brophy, 1999).

About motivation for learning in high school and colleges students:

Motivation that occurs from motivation for learning is the individual's emotional orientation to the learning process. In students, this process is characterized by a broad spectrum of emotions that can be organized into two categories: motivation that promotes learning and consolidates positive emotions such as enjoyment, curiosity, satisfaction, desire to succeed, and negative emotions such as fear, stress, and difficulty (Notov, 2019). Maehr and Kaplan (2000) argued that a person subjectively assesses their learning challenges in terms of the time and the effort they believe will be needed to complete the task. Expression of positive emotions such as interest, curiosity, and joy will contribute to the performance of the task, while the expression of negative emotions will inhibit such performance.

Meaningful learning is characterized by a student's emotional involvement, and it entails an interaction between the learner and their environment, which contributes to the learner's personal growth and professional competence. The learner's interest and desires are the factors that lead learners to exhibit flexibility and problem solving, more efficient knowledge acquisition, and a strong sense of self-esteem and social responsibility (Mulang, 2021).

Eshel (2010) noted that according to one approach, university faculty believes that they are responsible for their students' motivation in higher education, and therefore they usually impose this responsibility on students. In a perfect world, high school graduates come to the college campus ready to absorb knowledge, will come early to class and ply their professors will questions that will drive learning in the correct direction. Usually, however, this is not the case. Eshel argued that university faculty must assume the responsibility for their students' motivation because there are things that they do or refrain from doing that cause students' enthusiasm to wane. Eshel proposed three ways to improve motivation: to promote the value of the topic in the students' eyes, to increase students' self-confidence, and to improve the classroom climate. In this way, he states, it is possible to promote students' learning. Notov (2019) added that the professor's goal is to design a course so that learning is a meaningful process for each student. The findings of Notov's study showed that students' who experienced meaningful learning in a course also experienced processes that promoted learning in which their emotional experience was positive and was expressed in emotions such as curiosity, interest, creativity, criticism, and enthusiasm.

Furthermore, it was found that when college students were permitted to select their assignments and determine the time allotted to each assignment, their intrinsic motivation was stronger than students for whom the assignments and their duration were predetermined. Similar findings were found among high school students (Sasy, 2016). Other studies showed that when people are asked to perform an interesting activity in an unfamiliar manner, they experience a sense of discomfort from the task or the manner of its performance, and their motivation decreases (Koestner et al., 1984).

Motivating high school and college students is different, in view of the fact that college students are older and come "prepared" for academic studies. It was found that motivating students in school for learning is influenced not only by students' experiences in school but also by their lifestyle at home. It was found that parental style

with respect to support of autonomy versus involvement and control affects students' self-regulation in their scholastic's attainments (Mulang, 2021).

Students manage to create beliefs about their own competence in two ways: First, students use grades and teachers' feedback to assess their abilities. They also perform comparisons: They compare their own performance to the performance of other students in order to assess their own competencies in a specific subject. Students may judge their abilities to be higher when their success is greater than others' success (Chung & Chang, 2017). Cohen et al. (2014) argued that the relationship between a student and their teacher can motivate the student. In their study they found that the majority of students reported feeling closer to teachers who were their friends on Facebook and to teachers who talked to them about personal issues and not only school-related issues. They found that students' learning motivation was significantly affected by the intensity of the relationship of students and teachers on Facebook.

Gruzd et al. (2012) argued that students expect to receive rewards for their behavior, and incentives can be transformed and obtained from internal sources. Although students may not be autonomous, the acquisition of achievement-related motivation or the transformation of motivation into needs for self-development in the learning process can trigger efficient internalization of motivation. Students with an essential learning motivation have no need for incentives. They can make independent decisions and gain a sense of enjoyment and achievement from the learning process. According to this study, in learning students' internal areas of interest can be combined with external rewards granted by teachers or parents, to create motivation for learning.

Combining learning and motivation:

Many define learning as the acquisition, extension, or improvement of knowledge, understanding, competencies, or skills. In this manner we can describe learning as change, progress, and growth in any field (Kaniel, 2006). Significant learning is a conscious, informed, individual process in which the learner structures their knowledge independently and within social relations. Several principles co-exist in meaningful learning including the learner's engagement in learning. The learning process is more fruitful when the learner is actively involved in the learning process and shows curiosity, initiative, and motivation for learning, which includes diverse dimensions of experience (Sasy, 2016).

Learning is accompanied by an interesting emotional and cognitive experience that challenges the learner. The relevance of learning and the materials that are studied are linked to the learner's existing knowledge base. The learner views the material as being interesting and as contributing to their personal and moral growth. The studied material is considered to be important for the individual and for society. The learning process invites in-depth understanding, encourages academic and social achievements, excellence, realization of individual potential, and cognitive development (Sasy, 2016).

Filchenfeld (2003) argued that a learner will attain a scholastic achievement on the condition that they are motivated to learn. Students' motivation for scholastic achievements also includes a preference for high standard performance, and consistent willingness to invest effort to achieve that standard. To do so, learners must feel that the investment of their efforts in this field will yield an appropriate return. If the learner feels that efforts in another subject will yield greater gains, they may prefer to investment their efforts in that subject, especially when success is not considered within their control. To achieve a high standard of performance in a subject, the teacher must cultivate students' intrinsic motivation by explaining to the students that high achievements are in their hands and their responsibility. Motivation for learning is influenced by various factors. Katz (2004) stated that motivation for learning is driven by personal motives such as the psychological need for achievement and achievement-related success, and is also influenced by the individual's self-image. Motivation for learning is affected by self-image and identity, and this researcher argued for a positive correlation between motivation for learning and self-image and self-esteem.

Saada (2007) posited that motivation for learning is attributed to various aspects such as readiness for the task, interest in scholastic tasks, freedom of choice, degree of engagement, and investment in personal proclivities. Brophy (1999) argued that the features of a field of learning or activity must match the learner's pre-existing knowledge and experience such that it generates interest in the acquisition of new knowledge. This occurs when the area is sufficiently familiar to the learner, which allows the learner to identify it as a learning opportunity that is sufficiently appealing to spark the learner's interest in continued study. Furthermore, he argued that teachers can help students begin to recognize the potential of their own learning. Teachers can encourage their students' motivation, and this will transform the learning experience in school into a significant experience for students, not only in a cognitive sense but also in a motivational sense.

Practical teaching strategies can be developed by combining current teaching practices with the benefits of

digital learning in order to achieve effective teaching and increased motivation. Quite a number of teachers combine a variety of techniques in school to help their students learn, such as a combination of formal teaching and teaching based on digital technology. Teachers have the responsibility of making teaching more effective. Students can learn through technologies and the media, and this may increase students' joy in learning and may cultivate a new generation with rational, creative communication skills and critical reasoning skills. It was found that online learning can, like frontal learning, increase self-efficacy and motivation for good, in-depth learning (Lin et al., 2017).

1.3 Study Hypotheses

The current study examined differences in levels of motivation for learning of students in high school and tertiary education using a motivation for learning questionnaire. In view of the literature review, the aim of the study is to examine the effect of motivation for learning among high school students and students in tertiary education working toward an undergraduate degree. This study seeks to examine the *differences, if any, in motivation for learning between high school students, for whom school is mandatory, and undergraduate students who chose to study in an academic institution*. Furthermore, does motivation affect their academic achievements and if so to what degree, and is motivation related to students' gender and personal, socio-economic, and family background. Accordingly we formulated five research hypotheses: (1) Undergraduate students will have higher motivation for learning compared to high school students; (2) Motivation for learning will be associated with age and grade average; (3) Socio-economic status and type of education will be correlated with motivation for learning; (4) Students with high socio-economic status will show stronger motivation for learning than students with low socio-economic status; (5) Differences in motivation for learning will be found between men and women.

2. Method

2.1 Participant Characteristics

Participants in this study were 121 individuals between age 15 and 44. Of these, 55 (45.5%) were high school students and 66 (54.5%) were undergraduate students. Participants included 72 women (59%) and 49 men (41%). The average age of female participants is 22.6 (SD = 6.01), and the average age of male participants is 20 (SD = 4.85). Of the female participants, 26 were high school students and 46 (64%) were undergraduate students; of the male participants, 29 were high school students and 20 were undergraduate students. The majority of female participants (76.5%) had average socio-economic status, and the majority of male participants (58%) had average socio-economic status. The majority of participants lives in central Israel and constitutes 33% of the research population.

2.2 Sampling Procedures

The questionnaire was distributed online to undergraduate and high school students through Google Forms, using the snowball method. The researchers wished to reach as large a target audience as possible. A total of 121 participants responded to the questionnaire.

2.3 Measures

The questionnaire comprises 22 items that assess motivation for learning of high school and undergraduate students. Items are rated on a scale from 1 (*do not agree*) to 4 (*strongly agree*). Scores were calculated as the mean of item ratings. Cronbach alpha 0.845.

3. Results

To test the hypothesis that undergraduates students will have stronger motivation for learning compared to high school students, we conducted an independent t-test and found statistically significant differences between the groups, $t_{(104)} = -3.9$; $p < .05$, where undergraduate students had stronger motivation ($M = 3.17$, $SD = 0.38$) than high school students ($M = 2.86$, $SD = 0.46$). This hypothesis was confirmed.

To test the hypothesis that a positive association will be found between age and grade average and motivation for learning, we calculated Spearman's correlation coefficient and found an association between age and motivation for learning ($r_s = 0.37$, $p < .05$), such that motivation for learning increases with age. We also found a statistically significant association between grade average and motivation for learning ($r_s = 0.38$, $p < .05$), such that students with a higher-grade average also had stronger motivation for learning. This hypothesis was also confirmed.

To test the hypothesis that socio-economic status and education type will be correlated with motivation for learning, we performed a two-way ANOVA and found that socio-economic status alone affects motivation for

learning ($F_{(2,115)} = 4.53$; $p < .05$), and that education affects motivation for learning ($F_{(1,115)} = 7.53$; $p < .05$), yet these variables were not correlated such that there is no interaction effect of education and socio-economic status on motivation for learning ($F_{(2,115)} = 0.21$; $p < .05$). This hypothesis was not confirmed.

To test the hypothesis that students with high socio-economic status will exhibit stronger motivation for learning than students with low or moderate socio-economic status, we performed a one-way ANOVA. Surprisingly, this analysis showed a statistically significant difference between socio-economic status and motivation only for students with average of higher socio-economic status ($F_{(2,118)} = 3.55$; $p < .05$). Findings show that the mean motivation of students with average socio-economic status is $M = 2.98$, $SD = 0.44$ while average motivation of students with high socio-economic status is $M = 3.21$, $SD = 0.39$). No statistically significant differences were found between students of average and below-average socio-economic status, or between students of above-average and below-average socio-economic status.

In a follow-up analysis, to specifically test the statistical significance between groups, we performed a t-test for independent samples and found statistically significant differences between the groups ($t_{(51.6)} = -2.6$; $p < .01$), where individuals with high socio-economic status ($M = 3.21$, $SD = 0.39$) and students with average socio-economic status ($M = 2.98$, $SD = 0.44$).

To test the hypothesis that motivations for learning of men and women will differ, we performed a t-test for independent samples and found no statistically significant difference between motivation for learning of men and women ($t_{(83.9)} = -0.53$; $p < .05$). This hypothesis was not confirmed.

4. Discussion

In the current study we conducted a comparative study to test the association and effect of motivation on learning, among high school and undergraduate students. All individuals have motivation that generally drives them to perform certain actions. On the other hand, a lack of motivation may prevent individuals from performing certain actions. Motivation is a key part of teaching and learning and can affect the learning of all students. Various researchers found that motivation is divided into intrinsic motivation and extrinsic motivation, and each drives the individual differently.

Based on the range of studies on this topic, we formulated the following research question: Will there be differences in the degree of motivation for learning of high school students and undergraduate students. We also examined whether students' motivation for learning is associated with their personal, family, socio-economic background and gender.

We hypothesized that undergraduate students will show higher levels of motivation for learning than high school students. Our findings show that undergraduate students do indeed have a stronger motivation for learning compared with high school students. The study by Blumenfeld and Marks (2001) supports our findings. In their study, they noted that as students become older, their judgment, performance, and inference skills become more realistic. Therefore, we can say that undergraduates are more mature than high school students, therefore they know how important it is to study, and therefore their motivation for learning is much higher than the motivation of high school students. Furthermore, this study found that students who select the activities in which they engage will show higher levels of motivation and will invest greater efforts in persevering and succeeding in these activities. We therefore can conclude that because students select their study program, their motivation will be stronger compared to the motivation of high school students who are obligated to study what their school offers.

We also hypothesized that age and grade average will also be associated with motivation for learning. We found an association age and motivation; such that older individuals have stronger motivation for learning. We also found a statistically significant association between grade average and motivation for learning. Therefore, this hypothesis was confirmed. We found additional sources that support the findings obtained in our study. A study by Onturk and Yildiz (2020) examined an association between examinees' age and their motivation levels, and found no significant difference in students' motivation for examinees below age 25, but students aged 25 and over showed much higher levels of motivation. Furthermore, as students' age increased, their grade average increased, as did their motivation. The researchers explained this finding by stating that students above age 25 are much more experienced and therefore their grades are higher, and these higher grades increase their motivation.

We also hypothesized that motivation for learning will be associated with socio-economic status and education type. This hypothesis was not confirmed when examined together, but when the hypothesis was split and tested separately, a statistically significant association was found between socio-economic status and motivation, and

between education type and motivation. Nonetheless we must take into account several studies whose findings are not consistent with our findings, and show evidence of this interaction effect. One example is the study by Chen et al. (2018), which examined the association between socio-economic status and motivation for language learning among elementary school pupils in China. They found a statistically significant association between parental socio-economic status and children's motivation for language learning. The higher the parents' educational attainment and socio-economic status, the more advanced their children's reading abilities. These researchers argued that parents with low incomes and low educational attainment are busier and therefore cannot give their children the resources and the time needed to study the language. The researchers added that low income and low educational attainment generally attest to more physical parental labor, longer work hours, and unstable employment. As a result, these parents invest more time and energy in their work, and less time in guiding and supporting their children's education.

We also hypothesized that individuals with high socio-economic status will show stronger motivation than individuals with low or moderate socio-economic status. Surprisingly, differences in motivation were found only between average and above-average socio-economic status. A follow-up study was conducted to examine this finding specifically, and its findings also supported this hypothesis. One example is a study by Akram and Ghani (2013) who found that students with average socio-economic status have lower motivation for learning compared with students from above-average socio-economic background. They explain this finding by stating that parents from a higher socio-economic class have greater ability to encourage their children and to ensure that their children's education meets their expectations and fits their children's interests. Additional support is found in Chen et al. (2018), who argued that parents from low and moderate socio-economic status find it difficult to provide for their family and have no choice but to work longer hours. In contrast, people from a high socio-economic class have more free time to develop their children's welfare.

Another hypothesis examined in our study was that motivation for learning of men and women will differ. We found no statistically significant difference between men's and women's motivation for learning. We found additional sources that support our findings. A study by Chung and Chang (2017) found no gender effects on motivation for learning. These researchers examined the association between gender and motivation in the context of learning a digital game and found no significance in the gender differences in game performance levels. The researchers believed that when learners are interested in a game, their motivation is naturally higher, irrespective of their gender. Akram and Ghani (2013) also studied gender differences in motivation for English language studies, and found no statistically significant difference between genders in their approach to or motivation for learning. They argued that gender-based discrimination no longer exists and therefore women can choose professionals that were once exclusively male professions. As a result, the motivation levels of men and women are identical because they can have similar aspirations.

The majority of studies in this field did not compare motivation for learning in high school students and undergraduate students, and rather focused either on college students or school pupils. The importance of this study stems from the fact that most of the information collected to date on motivation for learning is not up-to-date and did not focus on these variables. This topic was selected out of a desire to investigate this phenomenon and compare these two groups in order to explore whether motivation differs when students are given a chance to select the subjects they study.

5. Conclusion

All individuals are driven by motivation. It is therefore not surprising that many researchers have engaged in an in-depth study of motivation from different angles and in diverse areas of life. When a student in school or university improves their achievements and shows interest in the study materials, they appear to have motivation for learning, either intrinsic or extrinsic motivation. The difference between them is the reason that may drive the student to engage in the action that they are performing.

This study explored whether high school students and undergraduate students differ in their motivation for learning, from a perspective of gender, socio-economic status, education type, and personal background. In this study we sampled 121 participants who responded to a single questionnaire comprising 22 items on students' motivation for learning.

The first research hypothesis presented in this study is – Undergraduate students will have stronger motivation for learning compared to high school students. The answer to this question is, as we have seen in the discussion of the findings, that differences do indeed exist and students show stronger motivation for learning than do high school students. The second research hypothesis that was examined in this study is - A positive association will be found between age and grade average and motivation for learning. Here too, as the methodology and

discussion sections show, we found that age and grade average do indeed affect motivation for learning. The third hypothesis examined in this study is – There will be a correlation between socio-economic status and education type and motivation for learning. This hypothesis was not supported, and no interaction effect of these variables was found. However, when we separately analyzed education type and motivation, and socio-economic status and motivation, we found statistically significant findings. The fourth hypothesis in this study is – Individuals with high socio-economic status will show higher motivation than individuals with moderate and low socio-economic status. Surprisingly, we found that differences in motivation exist only when comparing average and above-average socio-economic levels. The fifth research hypothesis in this study is – Differences in motivation for learning will be found by gender. This hypothesis was also not supported.

Motivation varies from one person to another, and when a person chooses to engage in something specific, their motivation to succeed and persevere is higher. Support for this can be seen in our findings: Undergraduate students have stronger motivation for learning, apparently because they choose the topics they study. Our aim was to examine differences between undergraduate students and high school students, in order to enrich the existing body of knowledge on this topic and lead to future research development. Moreover, awareness of motivation for learning can encourage many people to further investigate and enrich this topic.

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