



# Students' Perception of Deficit Needs and Academic Performance of Senior High School Students

Henry Yaw Acheampong<sup>1</sup>, Samuel Obed Amoah<sup>1</sup>, Francis Britwum<sup>2</sup>

<sup>1</sup>Department of Education Studies, St. Monica's College of Education, Mampong, Ghana

<sup>2</sup>Department of Education and Psychology, University of Cape Coast, Cape Coast, Ghana

## Email address:

henryacheampongyaw@gmail.com (H. Y. Acheampong), samuelobedamoah12@gmail.com (S. O. Amoah),

francisbritwum@gmail.com (F. Britwum)

## To cite this article:

Henry Yaw Acheampong, Samuel Obed Amoah, Francis Britwum. Students' Perception of Deficit Needs and Academic Performance of Senior High School Students. *American Journal of Education and Information Technology*. Vol. 5, No. 2, 2021, pp. 118-128.

doi: 10.11648/j.ajeit.20210502.19

**Received:** December 5, 2021; **Accepted:** December 21, 2021; **Published:** December 29, 2021

---

**Abstract:** Education has been used by Ghana's successive governments to accelerate national development policies and programs. However, it has been recognized that the type and quality of the educational system inherited from the colonial era does not meet the country's needs. This led the study to examine the relationship between students' perception of deficit needs and academic performance of senior high school students. Correlational design was employed in the study. Stratified and simple random sampling techniques were employed to sample 290 second year students. Pearson Product Moment Correlation was used to analyze the data. The study revealed that physiological needs have a statistically significant positive but low relationship with academic performance ( $r=0.132$ ,  $p=0.025$ ). The results revealed that there is no statistically significant correlation between safety needs and academic performance of the students ( $r=0.054$ ,  $p=0.361$ ). There was a low but significant relationship between love/belonging needs and academic performance ( $r=0.177$ ,  $p=0.003$ ). The study again showed that esteem needs predicted academic performance of students more than any other deficit need ( $\beta=.173$ ,  $t=2.309$ , sig. 0.022). The study recommended that school authorities should place much emphasis on the physiological needs like food, water, rest, ventilated classroom etc. of students to help improve their academic performance. The study again recommended that more room be created to foster student-teacher relationship and student-student relationship for students to have a sense of belongingness. In order to do this, teachers can adopt group work and other teaching strategies that encourage students to work together.

**Keywords:** Perception, Deficit Needs, Academic Performance, SHS

---

## 1. Introduction

Everyone has the right to education, according to Article 26 of the United Nations (UN) General Assembly Declaration on Human Rights. As a result, education has become increasingly important on national agenda, resulting in thoughtful metamorphoses and reforms among states around the world in recent decades [1].

Education has been used by Ghana's successive governments to accelerate national development policies and programs. However, it has been recognized that the type and quality of the educational system inherited from the colonial era does not meet the country's needs or address critical development and equity issues [2, 3]. It is discovered in a

study that the relationship between education and economic growth is not linear and that there is a lack of a systematic relationship between education and development, especially in Sub-Saharan Africa [4].

As a result, various education review committees have been established to reform the educational system in order to meet the required content and context in order to meet the country's needs [5]. Popular among these reform committees include; Kwapong review committee-1966, Dzobo Committee- 1974 and Anamuah-Mansah Committee-2007 [6].

Meeting students' needs has become critical in improving students' academic performance. Maslow defined these needs as "things that motivate human behaviour." Through motivation, needs are directly related to learning [7]. It has been suggested that the more students are satisfied with their

needs, the greater their motivation and, as a result, the more learning they will experience [8]. Students reach their full learning potential when all levels of Maslow's Hierarchy of Needs are met [7]. This is because, according to Maslow's Hierarchy of needs theory, each learner has needs that must be satisfied in order to enhance learning. As a student progresses up on the hierarchy, his or her motivation improves, and as a result, the student learns more. It was found in a study that some students from impoverished families are able to excel academically despite the challenges [9]. The purpose of learning should be self-actualization, and education should be centered on self-development as postulated by [10],

A family's socioeconomic status has a direct impact on how students meet their needs [11]. This is because students from a stable financial background are more likely to have access to basic necessities, and vice versa. More so, well-to-do families are likely to meet all the needs of their wards in school. Socioeconomic disempowerment has in its part interfered with the ability of households to meet basic human needs of their wards in school [9].

Rural schools have also been observed to have low learning quality, as measured by learning outcomes [12, 13]. In addition to the lack of resources in these schools, the majority of the students come from impoverished homes where their basic needs are unlikely to be met. It is suggested in a study that students from low socioeconomic backgrounds are more likely to be exposed to socially therapeutic values and activities rather than intellectually demanding values and activities, and that their schools' efforts to improve performance will be diverted away from academic goals [14].

Progressive educators, on the other hand, argued that students care about school when school also care about them, and that students work hard to improve their performance in environments where they feel safe, connected, and have a common purpose [15]. Improving the social and emotional atmosphere of schools, as well as their social and emotional soundness, benefits the schools' academic mission in a variety of ways [16]. Satisfying students' demands has the effect of not just improving performance but also increasing their learning capacity. More importantly, with the emphasis on feedback and standardized testing in schools, need satisfaction plays a vital part in both intellectual and social development [17]. As a result, meeting the needs of students has been identified as one of the tools that provides a unique entry point for students and other school personnel to improve their performance, social, and learning environments. It was necessary to conduct a study on the relationship between students' perceptions of needs and academic performance among Senior High Students in the Techiman North District in order to address these concerns.

## 2. Statement of the Problem

Students have a variety of requirements that must be met [18]. Physiological, safety, love/belonging, and esteem requirements are all listed under the deficiency needs,

according to Maslow [19]. According to studies, these demands should be met through motivation in order to help students achieve in their academic pursuits [19, 21]. Other studies, on the other hand, have claimed that a number of students with special needs flourish [22, 23]. These conflicting data raise the question of whether or not satiation of wants plays a role in students' academic performance, and if so, how do they connect to performance.

Despite the fact that there has been a lot of research on need satisfaction, few studies have looked at students' needs in regard to Maslow's Hierarchy of Needs theory [24-26]. Moreover, the few studies identified dwelt more on the needs of schools and teachers and how they can affect the teaching and learning processes but not much attention has been channeled to what really the need of students are in relation to their academic performance especially in the Techiman North District [27].

Furthermore, literature suggests that practically all the studies conducted on needs assessment in regard to Maslow's theory measured need using the old version of Maslow's theory [11, 28]. To give new understanding to the phenomenon, the researcher used the updated version and specifically the first 4 levels that Maslow referred to as deficit needs (physiological, safety, belongingness and love and esteem needs) to assess students' perception of needs in relation to their academic performance. The reason for selecting the four levels for the study was reached on the assertion that few people will ever reach the last four levels on the Maslow's hierarchy [11]. Hence it was prudent to consider the first four levels that all individuals can realize. It is against this background that this study aims to fill the gap in the literature by investigating into the relationship between students' perception of needs and their academic performance in the Techiman North District. However, the instrument was also validated to suit the Ghanaian context.

## 3. Hypotheses

1.  $H_0$ : There is no significant relationship between students' perception of physiological needs and academic performance.
2.  $H_0$ : There is no significant relationship between the perception of safety needs and academic performance.
3.  $H_0$ : There is no significant relationship between the perception of love and belonging needs and academic performance.
4.  $H_0$ : There is no significant relationship between the perception of esteem needs and academic performance.

## 4. Person Centered Theory

Carl Rogers proposed this idea, which highlights the importance of interrelationships and how people interact with one another as social creatures. Genuineness, empathy, unconditional positive regard, self-concept, and freedom of expression are among the theory's foundational concepts. Similarly, it is asserted that empathy,

congruency/genuineness, and unconditional positive regard are three essential and sufficient conditions for learning enhancement [29]. Following that, students' academic performance can be linked to the level of empathy, genuineness, and unconditional positive regard they receive from their surrounding environment, which includes their home, school, and church. It is also noted that Carl Rogers principles of education include freedom of self-expression, teacher's unconditional positive regard, and the use of discovery learning method [30].

Positive self-esteem and positive self-image are two aspects of positive self-regard that indicate the ideal that a person associate with himself or herself. When we display what is expected in our society, society provides us with what we need; as a result, an individual governs his or her behaviour based on what garners acceptance and good regard from others, rather than what is personally rewarding [31, 32]. This leads to conditional positive regard, which can lead to inaccuracies in one's self-concept and general personality. As a result, student's self-concept incorporates the values and needs of others.

Conditional positive regard, on the other hand, refers to the affection and acceptance shown to an individual in exchange for certain behaviours. As long as conditions are established for children from low-income families, there is the prospect of positive regard, which is associated with an unfriendly learning environment that has a detrimental impact on their self-concept development. Following this, instructors should treat all students equally, be consistent in their actions, and demonstrate their affection for their students, regardless of their social standing, sex, or academic performance. With this, issues such as socio-economic background, academic performance, disciplinary behaviour, tribe, gender, and age must not be used as the basis for determining the conditions of positive regard.

Educators who understand Rogers' concept of conditions of worth, proposes that people reject their genuine selves in order to be accepted by others and inspire students to believe in themselves. They are encouraged to value individual differences and to see that others will accept them if they first develop positive self-images. Children whose parents are warm, caring, supporting, and full of respect for their children's viewpoints have high self-esteem and a positive self-concept, according to evidence [33]. It is found that students with a positive self-concept perform better than students with a negative self-concept [34]. It is critical for educators to remember that a good self-concept is critical for increasing educational quality, and that instructors may play a significant role in this regard.

In the case of the present study, the person-centered theory is essential by helping to explore perception of needs especially self-esteem which facilitates or debilitates against one's academic performance. Because this theory states that persons with a positive self-concept have a better probability of succeeding academically, it will be useful in determining whether Roger's Person-Centered theory holds true in the context of SHS students in the Techiman North District. It

also cautions that teachers must treat all students equally, regardless of their social class, sex, or academic endowments, and it is influenced by this principle as to whether teachers at the various SHS in the Techiman North District should behave similarly or otherwise.

## 5. Conceptual Review

### 5.1. Psychological Needs

Physiological requirements are the most fundamental requirements of human life. Food, housing, sleep, water, sex, and other necessities are among them. Students who are unable to achieve these basic physiological demands are more likely to remain in circumstances that give less motivation and restricted resources for academic work, according to research [9]. Parents or guardians of students who are failing to satisfy their physiological demands are more likely to acquire books, calculators, computers, and other learning materials that will help them learn or provide them with high-quality childcare [35].

### 5.2. Safety Needs

People now work to meet their requirements for safety, security, protection, stability, and freedom from dread and anxiety, as well as for structure and limitations in their life, after their physiological needs have been met [36]. People experience safety when they know they will not be harmed physically, mentally, or emotionally. When people's fears and anxieties are minimal, they have a sense of safety. So, how does this apply to students in the classroom? Many things can have an impact on school safety. Students' views of school safety can be harmed by the presence of gangs and drug users [36]. Traits such as violence, bullying, and a bad teacher-student connection among others in an attempt to examine why pupils feel uncomfortable at school [37]. The way school administrators handle security surveillance and other preventative measures might affect kids' feelings of safety in their classrooms [36]. Smaller enrollment schools are more likely to generate sentiments of safety than bigger enrolment schools [38].

### 5.3. Love/Belongingness Needs

The person's desire for love and/or belongingness is described in the third rung of the hierarchy (Love/Belongingness Need). The need to be loved by others or to belong to a group characterizes this level of needs. At this level, the individual's needs are directed toward forming relationships or ensuring his or her social well-being. These connections might be made with a single person or a group of people. It might be anyone's personal family, a club, a class, a team, or even a gang [39]. This social need is especially high in younger people, and it has the power to trump the need for protection, as proven by children who cling to violent parents, a condition known as "Stockholm syndrome" [39]. Individuals can scarcely create and sustain emotionally-significant interrelationships like intimacy, friendship, and

interactions with family members if they lack the component of love/belongingness requirement [40]. Human beings need a sense of belonging and acceptance, whether it comes from major social groups, religious groups, or local social relationships like family, friends, and confidants [9]. Students will have a sound mind to grasp and integrate whatever they are taught if they feel like they belong and are appreciated at school. This will improve their academic achievement.

#### 5.4. *Esteem Needs*

Every human being has a need for self-respect and self-esteem, which Maslow divided into two categories: lower and higher esteem needs [39]. The lower esteem need is concerned with others' respect, the need for status, fame, recognition, attention, and prestige, all of which have an impact on an individual's psychological and mental well-being, as well as academic success. The higher esteem need, on the other hand, is concerned with self-respect, competence, independence, and liberty. If these needs are not met, children can acquire inferiority complexes, become weak, and helpless. Meanwhile, these are not the only good recipes for academic brilliance, but they do suggest that if these needs are satisfied in addition to physiological and safety needs, academic performance can be greatly improved. It is worth noting, however, that esteem requires assistance in order to favorably or negatively influence an individual's self-concept [9].

## 6. Methodology

### 6.1. *Research Design*

The descriptive survey was used to conduct this research. "The descriptive survey entails gathering data in order to test hypotheses or answer research questions concerning the current status of the subject of study," according to [41]. It also describes and forecasts occurrences without affecting the variables that determine the phenomenon [42]. Descriptive survey primarily focuses on describing, observing, and documenting characteristics of a situation as it occurs [43]. Descriptive survey design entailed gathering information on one or more cohorts or groups of people, most likely on the basis of their uniqueness, views, character, or prior occurrence or understanding, through inquiries and pictorially presenting their responses [44].

A descriptive survey is concerned with describing, recording, assessing, and reporting situations that exist or existed [45]. Descriptive surveys are commonly used to acquire data useful in evaluating current practices and forming the foundation for choices [46]. The descriptive survey was chosen as the best method for conducting this study since it provided the researcher with a lot of data from a large sample [47]. Descriptive survey design aids in the identification of trends in attitudes and behaviors, as well as the generalization of research findings [48]. The descriptive survey is also suited for performing this study since descriptive research involves describing, recording, evaluating, and interpreting existing conditions, and the

information gained from descriptive research can be valuable or useful in diagnosing a situation.

### 6.2. *Population*

There are five Public and one Private SHS all making six SHS in the Techiman North District. The study targeted the SHS students from the five public Senior High Schools in the District. The target population was 3,669 SHS students. Senior High school students were selected for the study because their age bracket usually coincides with the adolescence period where their quest for material things and peer influence are always on the ascendency [49]. The accessible population for the study was the second-year students in the five public SHS totaling 1,171 students. The choice for this year group was because apart from the third-year students who had gained some level of experience at the school but were busy preparing for their WASSCE examination, the second years were the next batch of students who have stayed longer in the schools and possibly have been confronted with need problems which might result in a high or a low academic performance. Records from the District Education Directorate further indicated that there were 579 boys and 592 girls' second year students in the five Public Senior High Schools selected for the study.

### 6.3. *Sample and Sampling Procedure*

To test the theoretical expectation of any relationship, a wide range of variables of interest are required as far as possible [50]. However, it was impossible to engage all the second year SHS students in the Techiman North District to solicit their views on the phenomenon considering the timeline of the study. The study therefore restricted itself to a representative portion of the accessible population. Two probability sampling techniques were employed in the selection process namely; stratified sampling technique and simple random sampling technique. Stratified sampling technique was used to segregate the schools and gender within the schools into strata so the large numbers could easily be worked on.

Using table for sampling size determination as a guide, a sample of 290 students was selected using the simple random sampling technique [51]. In using the simple random sampling technique specifically, the lottery method, YES and NO inscriptions were written on pieces of paper and then kept in a bowl. In the bowl, they were mixed thoroughly after which the students were made to hand pick them in turns. The number of YES inscriptions was equal to the number of boys and girls to be selected from each school as the table has directed and the rest were for NO inscriptions [51]. At each school, the boys were subjected to the exercise before the girls. After determining the number of boys and girls in each school, they were put together as the representative sample of the school. As a student picked from the bowl, the paper was replaced with a fresh sheet with no inscription so as to maintain the credibility of the probability. This exercise continued for all the boys and girls in the schools. After the picking exercise was done, the sheets were then opened and

the number of students with YES inscriptions was selected as the sample for the study. In view of this and taking the actual

population into consideration, the table below indicates how the respondents were distributed.

**Table 1.** Sample Distribution of the Students.

Schools	Population		Total	Sample Population		Total
	Boys	Girls		Boys	Girls	
Guakro Effah SHS	48	48	96	12	12	24
Krobo Day SHS	110	186	296	27	46	73
Tuobodom SHS & Tech.	183	138	321	45	34	79
St. Francis Seminary /SHS	29	23	52	7	6	13
Akumfi Ameyaw SHS	209	197	406	52	49	101
Total	579	592	1,171	143	147	290

Source: Techiman North District Education Directorate (2018)

**6.4. Data Collection Instrument**

The Five Needs Satisfaction Measure Scale (FNSMS) by with reliability coefficient of 0.87 was adapted to collect data for the study [52]. Since the questionnaire was adapted, some useful modifications were made to render it more suitable for the context of the new study. The original 60-item scale was summarized to 48-item scale. Under the Physiological needs, items on the original scale focusing on “the quality of air I breathe every day” and “the amount of sex I am having” were excluded because they had no link with educational needs and the rest were modified to fit in the current study. On the safety needs, items like “how secure I am from disasters”, “the protection that the police provide for me”, “how safe I am from destructive terrorist acts” and “how safe I am from acts of

war” were also excluded because they did not have any relevance in the context of this study. Again, students test scores were used to assess their academic performance.

**6.5. Pre-Testing and Reliability of the Instrument**

To ensure the reliability of the Five Needs Satisfaction Measure Scale, it was pre- tested using 100 students at Kwarteng Ankomah SHS in the Techiman Municipality using test-retest method within a period of two weeks intervals. The instrument was first administered on July 3, 2018. Exactly two weeks after, ie July 17, 2018 the instrument was again administered to the same students who responded to them. The table below shows the reliability coefficient of the subscales.

**Table 2.** Internal Consistency Measures of Subscales in the Four Needs Satisfaction Measure.

Subscale	Internal Consistency Reliability	Test-retest Reliability (Two weeks interval)
Physiological Needs	.75	.8
Safety Needs	.65	.65
Love/Belonging Needs	.8	.7
Esteem Needs	.85	.9
Overall Scale	.76	

Source: Field Data 2018

**6.6. Validation of the Scale**

The scale was finally validated. The validation was done using the Confirmatory Factor Analysis (CFA) and covariance-based Structural Equation Model (SEM). This type of SEM is very efficacious in performing a CFA. Thus, for the purpose of this study, a previous discovered scale was adapted and validated using CFA. Items, which had low factor loadings (thus, below.30) were discarded before the final data collection [53]. In addition, convergent validity was assessed using AVE of.50 or more [54]. The discriminant validity was assessed using a criterion, which states that the square roots of AVEs should be greater than the correlation among the dimensions [54]. The CFA validation are described below.

**6.7. Confirmatory Factor Analysis on Needs Satisfaction (NS) Scale**

This section presents the results on the needs satisfaction

scale. The details of the CFA are presented in Tables 3 and 4.

**Table 3.** Item loadings, AVE, and Composite Reliability of NS.

Dimensions	Items	Loadings	AVE	CR
Physiological Needs	NS16	.291*	.12	.62
	NS15	.070*		
	NS14	.461		
	NS13	.632		
	NS12	.453		
	NS11	.021*		
	NS10	-.061*		
	NS9	.362		
	NS8	.370		
	NS7	.492		
	NS6	.167*		
Safety Needs	NS5	.172*	.16	.75
	NS33	.434		
	NS32	.364		
	NS31	.603		
	NS30	.497		
	NS29	.594		

Dimensions	Items	Loadings	AVE	CR
Love and Belonging Needs	NS28	.542	.20	.66
	NS27	.297*		
	NS26	.133*		
	NS25	.050*		
	NS24	.069*		
	NS23	.394		
	NS22	.598		
	NS21	.317		
	NS20	.329		
	NS19	.442		
	NS18	.210*		
	NS17	-.186*		
	NS41	.521		
	NS40	.468		
	NS39	.636		
	NS38	.407		
	NS37	.467		
NS36	.351			
NS35	.312			
NS34	.368			
Esteem Needs	NS51	.563	.32	.82
	NS50	.524		
	NS49	.449		
	NS48	.293*		
	NS47	.613		
	NS46	.606		
	NS45	.651		
	NS44	.631		
	NS43	.646		
	NS42	.638		

As shown in Table 3, item NS5, NS6, NS10, NS11, NS15, NS16, NS17, NS18, NS24, NS25, NS26, NS27 and NS48 had factor loadings below .30, therefore, these items were discarded. These were the only items discarded since they had a factor loading below the recommended loading of .30 [53]. From Table 3, all the Average Variance Extraction (AVE) for the various dimensions were lesser than .50, hence the dimensions lack convergent validity. In addition, convergent validity was assessed using AVE [54]. It can also be released that all the Composite Reliability (CR) were all above .50 which shows that there is a higher reliability of the dimensions.

Table 4. Discriminant Validity (NS).

Variable	PN	SN	LN	EN
Physiological Needs	(.35)*			
Safety Needs	.61	(.4)*		
Love and Belonging Needs	.65	.78	(.45)*	
Esteem Needs	.51	.79	.82	(.56)*

\*Values in parenthesis are square roots of AVEs

The results showed that the correlation between Physiological Needs and Safety Needs (.61) and the respective dimensions were greater than the square roots of AVEs. Based on this, it was concluded that discriminant validity was not established. In all, 34 items were retained for the final data collection. Figure 1 shows the hypothesised model.

LQ5 – LQ51=questionnaire items

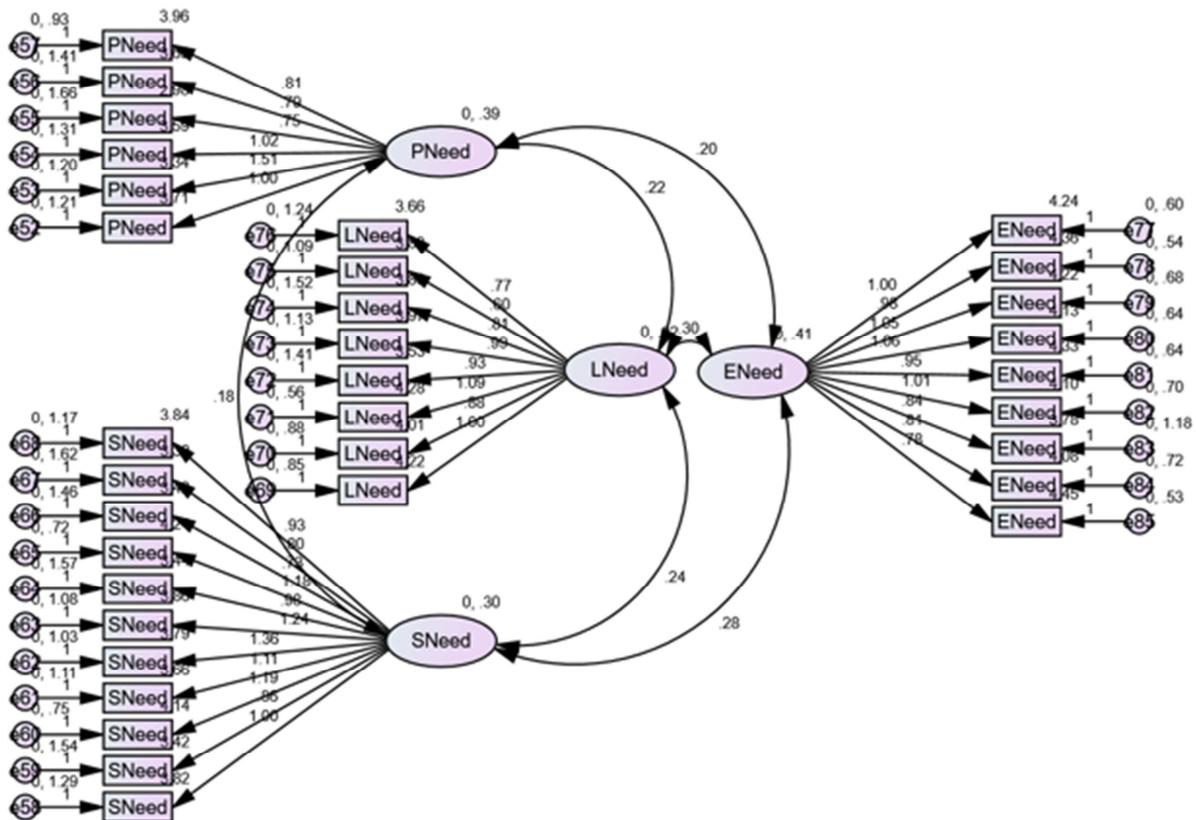


Figure 1. Needs Satisfactory Scale.

**6.8. Model Fit Indices for the Measurement Model (NS)**

To test whether the hypothesized model fits the data collected, the model fit indices were assessed. Further, the model (with the 34- items) was determined using NFI, TLI, CFI, among others were estimated. For the evaluation of the model fit indices for the models, the following threshold or cut-off points were utilized: Chi-square ( $p > 0.05$ ), CMIN/DF (2 or 3), CFI ( $> 0.90$ ), NFI ( $> 0.90$ ), IFI ( $> 0.90$ ), TLI ( $> 0.90$ ) and RMSEA ( $\leq 0.08$ ) [55-57] respectively (See Table 5). The model fit indices are shown in Table 5.

*Table 5. Goodness of Fit Indices for ASE Scale.*

Fit Indices	Estimates	Recommended Threshold
Chi-square ( $\chi^2$ )	1194.147, $p < 0.000$	$> .05$
CMIN/DF	2.292	$\leq 2$ or 3
Comparative Fit Index (CFI)	.719	$\geq .90$
Normed Fit Index (NFI)	.600	$\geq .90$
Incremental Fit Index (IFI)	.727	$\geq .90$
Tucker-Lewis Index (TLI)	.679	$\geq .90$
Root Mean Square Error of Approximation (RMSEA)	.067	$\leq .08$

As presented in Table 5, the chi-square ( $\chi^2$ )=0, implies that there is no difference between the expected data and the actual data. Based on the criteria it was only the CMIN/DF

*Table 6. Relationship between students' perceptions of physiological needs and academic performance.*

Variables		Students' Perceptions of Physiological Needs	Academic Performance
Students' Perceptions of Physiological Needs	Pearson Correlation	1	0.132*
	Sig. (2-tailed)		0.025
	N	290	290
Physiological Needs	Pearson Correlation	0.132*	1
	Sig. (2-tailed)	0.025	
	N	290	290

\*Significant  $p < 0.05$  (2-tailed)

Table 6 presents the Pearson product moment correlation coefficient of students' perception of physiological need and the academic performance of the students. The result shows that psychological needs have a statistically significant positive but low relationship with academic performance ( $r = 0.132$ ,  $p = 0.025$ ). From the analysis, the results therefore suggest that students' perception have low association with their physiological need. Based on the results, the null hypothesis that there is no significant relationship between students' perception of physiological needs and academic performance is rejected.

*Table 7. Relationship between students' perception of safety needs and academic performance.*

Variables		Perception of Safety Needs	Academic Performance
Perception of Safety Needs	Pearson Correlation	1	0.054
	Sig. (2-tailed)		0.361
	N	290	290
Academic Performance	Pearson Correlation	0.054	1
	Sig. (2-tailed)	0.361	
	N	290	290

\*Significant  $p < 0.05$  (2-tailed)

and RMSEA fit indicator that showed a good fit with a value of 2.292 and .067 respectively [56]. Although the CMIN/DF and RMSEA fit indicator showed a good fit, it failed to meet the standards by the selected researchers. It is concluded that almost all the model fit indicators for the items model showed that the data did not fit the hypothesized model. This could be as a result of model misspecification, or perhaps, lack of discriminant validity [58].

**6.9. Data Analysis**

In hypotheses 1, 2, 3, and 4, Pearson Product Moment Correlation was used to test these hypotheses. This was because, each of the independent variables was continuous in nature and the dependent variable was also continuous.

**7. Findings**

**7.1. Research Hypothesis 1**

H0: There is no significant relationship between students' perception of physiological needs and academic performance.

To assess the relationship between physiological needs of students and their academic performance, Pearson product moment correlation was used. The result is presented in Table 6.

**7.2. Hypothesis 2**

H0: There is no significant relationship between the perception of safety needs and students' academic performance.

Hypothesis two sought to examine the relationship between the perception of safety needs and students' academic performance. Pearson product moment correlation was used. The result is presented in Table 7.

Table 7 presents the Pearson product moment correlation coefficient of perception of safety needs and academic performance. The results revealed that, there is no statistically significant correlation between safety needs and academic performance of the students ( $r=0.054$ ,  $p=0.361$ ). From the analysis, it can be concluded that students' perception of their safety needs did not have any relationship with their academic performance. Based on this finding, the null hypothesis that there is no significant relationship between perception of safety needs and academic

performance of students is accepted

### 7.3. Hypothesis 3

H0: There is no significant relationship between the perception of love/belonging needs and academic performance of students.

To test this hypothesis, the Pearson product moment correlation coefficient statistic was used. The result is illustrated in Table 8 below.

**Table 8.** Correlation between perception of love/belonging needs and academic performance of students.

Variables		Perception of Love/ Belonging Needs	Academic Performance
Perception of Love/belonging Needs	Pearson Correlation	1	0.177*
	Sig. (2-tailed)		0.003
	N	290	290
Academic Performance	Pearson Correlation	0.177*	1
	Sig. (2-tailed)	0.003	
	N	290	290

\*Significant  $p<0.05$  (2-tailed)

The results as shown in Table 8 above, there is a low but a significant relationship between safety needs and academic performance of SHS students in the Techiman North District ( $r=0.177$ ,  $p=0.003$ ). From the analysis, it can be inferred that students' perception of love/belonging needs have a low positive influence with their academic performance. This implies that the null hypothesis that there is no significant relationship between the perception of love/belonging needs and academic performance of students is rejected.

### 7.4. Hypothesis 4

H0: There is no significant relationship between the perception of esteem needs and academic performance of students.

Hypothesis four assessed the relationship between the perception of esteem needs and academic performance. Pearson Product correlation was used for the analysis. The result is presented in Table 9.

**Table 9.** Correlation Matrix (Pearson) between the perception of esteem needs and academic performance of students.

Variables		Perception of Esteem Needs	Academic Performance
Perception of Esteem Needs	Pearson Correlation	1	0.199*
	Sig. (2-tailed)		0.001
	N	290	290
Academic Performance	Pearson Correlation	0.199*	1
	Sig. (2-tailed)	0.001	
	N	290	290

\* Significant  $p<0.05$  (2-tailed)

As illustrated in Table 9, the results suggest that there is a statistically significant relationship between the perception of esteem needs and academic performance of SHS students in the Techiman North District ( $r=0.199$ ,  $p=0.001$ ). As shown in the table, it can be concluded that students' perception of esteem needs has a positive relationship with the academic performance of the students. On account of this findings, the null hypothesis that there is no significant relationship between the perception of esteem needs and academic performance of students is rejected.

## 8. Discussion

Physiological demands include the requirements for food, shelter, sleep, and water, among others. Physiological needs have a statistically significant positive link with academic

achievement, according to the study's findings. This conclusion is in line with the findings of a study done by [40]. It is discovered that physiological demands were very important and remained fundamental to students' motivation to enhance their academic performance [40]. They also stated that, even if all human wants were addressed, physiological requirements would take precedence. Literature also implies that students who remained in surroundings that met their physiological demands were always motivated to learn in order to enhance their performance [9]. To further ground the current study with the empirical studies, a study shared the common idea that, more often than not, parents or guardians of students struggling to meet their physiological needs might be less likely to provide books, computers and relevant resources that enhance learning or to offer them high-standard childcare, these to a large extent can compromise

the academic performance of students and their future prospect [35].

The need for safety was found to have no correlation with academic success. According to the data, it is believed that student safety does not occur solely at school; students may be bullied before and after school, and there are more bullying incidences on the bus than in the classroom or at school [59]. This brings up a lot of different topics where pupils have to deal with safety concerns. Other than safety/security issues, it is claimed that there are other school characteristics that strive to predict academic success [60]. This is supported by the fact that many schools are security conscious while still achieving poor results. Also, in a study, it is showed how individual perceptions, and by extension individual differences, influence students' perceptions of safety needs [61]. As a result, student-specific performance in terms of safety is perceived. As a result, his findings support the current consensus that safety requirements have little bearing on performance.

The person's need for love/belongingness is described in the third tier of Maslow's hierarchy (Love/Belongingness Need). The need to be loved by others or to belong to a group characterizes this level of needs. It's not surprising, then, that the study's findings demonstrated a statistically significant and favorable association between Love/Belongingness needs and academic success. As a result, literature suggests that loving and being loved by others has a positive impact on academic performance [9]. In order to help their children, develop, parents and guardians must be adaptable, kind, and caring [36]. Evidence reveals that students who lack or are unable to meet their love/belongingness demands are unable to work in groups or, more crucially, to collaborate with their peers at school [40]. Students will have a sound mind to absorb and assimilate whatever they study when their love/belongingness requirements are met, hence improving their academic performance.

Academic performance had a substantial association with self-esteem demands, which indicated respect, recognition, attention, and prestige on the side of the pupils. This research supports the findings that student's academic prowess is influenced by their parents' esteem requirements [62]. Similarly, it was found that the need for self-esteem is favorably connected with academic performance [63]. They went on to say that students with poor self-esteem have a hard time meeting the expectations of their peers and dealing with academic stress. The development of a child's self-concept (whether good or negative) is influenced by his or her interactions with his or her parents, other family members, educators, and friends, according to [9].

## 9. Conclusion and Recommendations

The study's findings revealed a statistically significant link between physiological needs and academic performance. This is because physiological needs are critical to human survival. Without physiological needs such as food, housing, sleep, water, sex among others, it may be difficult for humans

to survive. The need for a sense of belonging/love provides children with a sound mind, allowing them to absorb and internalize whatever they are taught, resulting in improved performance. Findings of the study indicated a significant relationship between esteem needs and academic performance. This however concur with literature that the sense of esteem by people close to students such as parents, bosom friends and their involvement at school can have a positive impact on school-related outcomes.

The study recommended that that school authorities should place much emphasis on the physiological needs like food, water, rest, ventilated classroom etc. of students to help improve their academic performance. The study again recommended that more room be created to foster student-teacher relationship and student-student relationship for students to have a sense of belongingness. In order to do this, teachers can adopt group work and other teaching strategies that encourage students to work together. Further it is recommended that teachers and parents recognize and acknowledge the achievements of students. This will help boost their ego to feel that their achievement matters to others around them.

---

## References

- [1] Organisation for Economic Co-Operation and Development (1999). *Principles of corporate governance*. Paris: OECD.
- [2] Leu, E., & Price-Rom, A. (2006). *Quality of education and teacher learning: A review of the literature*. Washington, DC: USAID Educational Quality Improvement Project, 1.
- [3] Tenye, M. (2008). Access and barriers to education for Ghanaian women and girls. *Interchange*, 39 (2), 167-184.
- [4] De Grauwe, A. (2008). *Education, Poverty and Development*. In UNESCO *International Institute for Educational Development Newsletter*, xxvi (3), 6-7.
- [5] Tagoe, M. A. (2014). Making real the dream of education for all through open schooling and open universities in Ghana. *Sage Open*, 4 (4), 1-12.
- [6] Adu-Gyamfi, S., Donkoh, W. J., & Addo, A. (2016). Educational reforms in Ghana: past and present. *Journal of Education and Human Development*, 5 (3), 158-172.
- [7] McLeod, S. A. (2007). *Maslow's hierarchy of needs*. Retrieved from <http://www.simplypsychology.org/maslow.html>.
- [8] Ololube, N. P. (2006). Teachers job satisfaction and motivation for school effectiveness: An assessment. *Essays in Education*, 18 (1), 9-19.
- [9] Chinyoka, K., & Naidu, N. (2014). Influence of home-based factors on the academic performance of girl learners from poverty-stricken families: A case of Zimbabwe. *Mediterranean Journal of Social Sciences*, 5 (6) 223.
- [10] Kiel, J. M. (1999). Reshaping Maslow's hierarchy of needs to reflect today's education and managerial philosophies. *Journal of Institutional Psychology*, 26 (3), 157-167.

- [11] Aminga, O. E. (2015). An evaluation of the influence of pupils' physiological needs satisfaction on academic performance of public primary schools in Eastern Zone of Nakuru Municipality, Kenya. *Journal of Computer Engineering (IOSR-JCE)*, 18 (2), 129-153.
- [12] Castro, J., & Rolleston, C. (2015). *Explaining the urban-rural gap in cognitive achievement in Peru: The role of early childhood environments and school influences*. Oxford Department of International Development (ODID), University of Oxford.
- [13] Chambers, R. (2014). *Rural development: Putting the last first*. London: Routledge.
- [14] Shouse, R. (1996). Academic press and sense of community: Conflict, congruence, and implications for student achievement. *Social Psychology of Education*, 1, 47-68.
- [15] Schaps, E. (2003). *The role of supportive school environments in promoting academic success*. Sacramento, CA.
- [16] Zins, J. E., Bloodworth, M. R., Weissberg, R. P., & Walberg, H. J. (2004). *The scientific base linking social and emotional learning to school success*. Building academic success on social and emotional learning: What does the research say, 3-22.
- [17] Tian, L., Tian, Q., & Huebner, E. S. (2016). School-related social support and adolescents' school-related subjective well-being: the mediating role of basic psychological needs satisfaction at school. *Social Indicators Research*, 128 (1), 105-129.
- [18] Ringwalt, C., Ennett, S. T., Vincus, A., & Simons-Rudolph, A. (2004). Students' special needs and problems as reasons for the adaptation of substance abuse prevention curricula in the nation's middle schools. *Prevention Science*, 5 (3), 197-206.
- [19] O'Connor, D., & Yballe, L. (2007). Maslow revisited: Constructing a road map of human nature. *Journal of Management Education*, 31 (6), 738-756.
- [20] Brophy, J. (2013). *Motivating students to learn*. London: Routledge.
- [21] Cheung, M. S. C. (2013). Learning English as an L2 in global context: Changing English, changing motivation. *Changing English*, 20 (4), 377-387.
- [22] Borman, G. D., & Overman, L. T. (2004). Academic resilience in Mathematics among poor and minority students. *The Elementary School Journal*, 104 (3), 177-195.
- [23] Luthar, S. S., Cicchetti, D., & Becker, B. (2000). The construct of resilience: A critical evaluation and guidelines for future work. *Child Development*, 71 (3), 543-562.
- [24] Deci, E. L., Ryan, R. M., Gagné, M., Leone, D. R., Usunov, J., & Kornazheva, B. P. (2001). Need satisfaction, motivation, and well-being in the work organizations of a former eastern bloc country: A cross-cultural study of self-determination. *Personality and Social Psychology Bulletin*, 27 (8), 930-942.
- [25] Van den Broeck, A., Vansteenkiste, M., De Witte, H., & Lens, W. (2008). Explaining the relationships between job characteristics, burnout, and engagement: The role of basic psychological need satisfaction. *Work & Stress*, 22 (3), 277-294.
- [26] Weiler, A. (2005). Information-seeking behavior in generation Y students: Motivation, critical thinking, and learning theory. *The Journal of Academic Librarianship*, 31 (1), 46-53.
- [27] Jussim, L., & Harber, K. D. (2005). Teacher expectations and self-fulfilling prophecies:
- [28] Gobin, B. A., Teeroovengadam, V., Becceea, N. B., & Teeroovengadam, V. (2012). Investigating into the Relationship between the Present Level of Tertiary Students' Needs Relative to Maslow's Hierarchy: A Case Study at the University of Mauritius. *International Journal of Learning*, 18 (11), 1-16.
- [29] O'Neil, V. (2011). *Psychology: An introduction* (3<sup>rd</sup> ed.). Cape Town: Oxford University Press.
- [30] Santrock, J. W., Marini, Z., Gallagher, T., & Pelter, Z. (2010). *Educational psychology*. (3<sup>rd</sup> Canadian Edition). New York: McGraw-Hill.
- [31] Berth, L. E. (2010). *Child development* (3<sup>rd</sup> Ed.). Boston: Allyn & Bacon.
- [32] Sprinthall, N. A., Sprinthall, R. C., & Oja, S. N., (2006). *Educational psychology: A developmental approach* (6<sup>th</sup> ed.). New York: McGraw-Hill, Inc.
- [33] Greco, L. A., & Haydes, S. C. (Eds.). (2008). *Acceptance & mindfulness treatment for children & adolescents: A practitioner's guide*. New Harbinger Publications.
- [34] Mwamwenda, T. S. (2010). Motives for choosing a career in teaching: a South African study. *Journal of Psychology in Africa*, 20 (3), 487-489.
- [35] Yeung, W. J., Linver, M. R., & Brooks-Gunn, J. (2002). How money matters for young children's development: Parental investment and family processes. *Child Development*, 73 (6), 1861-1879.
- [36] Schreck, C. J., & Miller, J. M. (2003). Sources of fear of crime at school: What is the relative contribution of disorder, individual characteristics, and school security? *Journal of School Violence*, 2 (4), 57-79.
- [37] Akiba, M. (2010). What predicts fear of school violence among US adolescents? *Teachers College Record*, 112 (1), 68-102.
- [38] Bowen, G. L., Bowen, N. K., & Richman, J. M. (2000). School size and middle school students' perceptions of the school environment. *Children & Schools*, 22 (2), 69-82.
- [39] Poston, B. (2009). Maslow's hierarchy of needs. *The Surgical Technologist*, 41 (8), 347-353.
- [40] Kenrick, D. T., Giskevicius, V., Neuberg, S. L., & Schaller, M. (2010). Renovating the pyramid of needs: Contemporary extensions built upon ancient foundations. *Perspectives on Psychological Science*, 5 (3), 292-314.
- [41] Gay, L. R. (2004). *Educational research* (4<sup>th</sup> ed/). New York: Merrill.
- [42] Amedahe, F. K. (2002). *Notes on educational research*. Unpublished lecture notes, University of Cape Coast.
- [43] Polit, D. F., & Hungler, B. P. (1995). *Nursing research: Principles and methods* (5<sup>th</sup> ed). Philadelphia: Lippincott.
- [44] Leedy, P. D., & Ormrod, J. E. (2005). *Practical research: Planning and design* (8<sup>th</sup> ed). US, NJ: Pearson Merrill Prentice Hall.

- [45] Kothari, C. R. (2004). *Research methodology: Methods and techniques* (2<sup>nd</sup> ed.). New Delhi: New Age International Publishers.
- [46] Kerlinger, F. N. (1973). *Foundation of behavioral research* (2<sup>nd</sup> ed.). New York: Holt Rinalt and Winston Inc.
- [47] Fraenkel, J. R., & Wallen, N. E. (2000). *How to design and evaluate research in education*. New York: McGraw-Hill Inc.
- [48] Neuman, W. L. (2000). *Social research methods: Qualitative and quantitative approaches*. Boston: Allyn & Bacon Publishers.
- [49] National Research Council. (2002). *Community programs to promote youth development*. National Academies Press. Washington, DC.
- [50] Laguna, M., Mielniczuk, E., Razmus, W., Moriano, J. A., & Gorgievski, M. (2017). Cross-culture and gender invariance of the Warr (1990) job-related well-being measure. *Journal of Occupational and Organizational Psychology*, 90 (1), 117-125.
- [51] Krejcie, R. V., & Morgan, D. W. (1970). Determining sample size for research activities. *Educational and Psychological Measurement*, 30 (3), 607-610.
- [52] Taormina, R. J., & Gao, J. H. (2013). Maslow and the motivation hierarchy: Measuring satisfaction of the needs. *The American Journal of Psychology*, 126 (2), 155-177.
- [53] Pallent, J. (2010). *SPSS Survival Manual: A Step By Step Guide to Data Analysis Using SPSS Program* (6<sup>th</sup> ed.). London, UK: McGraw-Hill Education.
- [54] Fornell, C. G., & Larcker, D. F. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of Marketing Research*, 18 (1), 39-50.
- [55] Hair, J. F., Black, W. C., Babin, B. J., Anderson, R. E., & Tatham, R. L. (2006). *Multivariate data analysis* (6<sup>th</sup> ed.). Pearson/Prentice Hall.
- [56] Schreiber, J. B., Nora, A., Stage, F. K., Barlow, E. A., & King, J. (2006). Reporting structural equation modeling and confirmatory factor analysis results: A review. *The Journal of Educational Research*, 99 (6), 323-338.
- [57] Kline, R. B. (2013). Assessing statistical aspects of test fairness with structural equation modelling. *Educational Research and Evaluation*, 19 (2-3), 204-222.
- [58] Kline, R. B. (2011). "Convergence of structural equation modeling and multilevel modeling," in *The SAGE Handbook of Innovation in Social Research Methods*, eds M. Williams and W. Paul Vogt (London: SAGE Publications Ltd), 1-28. doi: 10.4135/9781544323077.n1.
- [59] Litz, E. W. (2005). *An analysis of bullying behaviors at EB Stanley Middle School in Abingdon, Virginia* East Tennessee State University (Published Doctoral dissertation).
- [60] Grover, A. (2015). *Student perception of school safety and how it affects their academic achievement* (Doctoral dissertation, Northwest Nazarene University).
- [61] Booren, L. M. (2007). *An Exploration of the Relationship between Students' and Teachers' Perceptions of School Safety and the Importance of Safety Strategies* (Doctoral dissertation, Washington State University).
- [62] Hill, N. E., & Taylor, L. C. (2004). Parental school involvement and children's academic achievement: Pragmatics and issues. *Current Directions in Psychological Science* 13 (4), 161-164.
- [63] Peens, A., & Pienaar, A. E. (2006). The influence of development coordination disorder (DCD) on the self-concept and anxiety of 7-9-year-old children: motor learning and development *African Journal for Physical Health Education, Recreation and Dance*, 12 (3), 310-322.