BIOPSYCHOSOCIAL PROBLEMS AND ACADEMIC PERFORMANCE OF STUDENTS IN SELECTED SENIOR HIGH SCHOOLS IN ACCRA.

Bubune Malik
African University College of Communications (AUCC)

Bernard Ayisi
Intellect Business & Project Consult: email addresses

Abstract

This study explores the impact of biopsychosocial issues on academic performance among Senior High School students in Accra. Recognizing that academic challenges often stem from biological, psychological, and social factors, the research aimed to identify specific problems affecting student performance and how these can be managed. Utilizing a survey method, the study involved 200 students from four different schools, examining their views on the relationship between these biopsychosocial problems and academic outcomes. Findings indicated that drug abuse, particularly of substances like weed and cocaine, significantly contributes to poor academic performance, while stress also detracts from students' success. The study advocates for the employment of counsellors at all educational levels to address these challenges effectively and enhance academic achievement.

1.1 Background to the Study

Education is widely seen as essential for success in life. While its importance is well-established, factors influencing one's ability to receive education—such as genetics, social, psychological, financial, emotional, and biological aspects—can vary. The success of an educational institution depends on students' performance in both academic and non-academic areas. Yusuf (2012) emphasizes that performance should be measured not just by test scores, but also by students' ability to apply knowledge and acquire survival skills. Academic achievement includes the ability to learn, recall, and communicate knowledge, as noted by Suleman et al. (2012). Unsatisfactory academic performance has been attributed to various factors both globally and in Ghana (Yahaya et al., 2009; Boncquet et al., 2020). The concept of biopsychosocial problems has gained

significant attention in recent years, leading to the development of models to better understand these issues. One such model, the biopsychosocial model, was revised by Taukeni (2019) to emphasize the interdisciplinary connection between biological, psychological, and socio-environmental factors.

As a result of COVID-19 and its associated impact on education, it is crucial to understand the link between kids' biopsychosocial issues and their academic performance. There are some disadvantages, such as musculoskeletal disorders (Sirajudeen et al., 2018), computer vision syndrome (Reddy et al., 2013; Noreen et al., 2016), social isolation (Beccaria, 2013), loss of family interaction (Lee & Martin, 2017; Beccaria, 2013), burnout syndrome (Pavlakis & Kaitelidou, 2012), and poor academic performance (Pavlakis & Kaitelidou, 2012; Jaggars & Xu, 2016). Therefore, this current study seeks knowledge on the relationship between students' biopsychosocial problems and academic performance in selected senior high schools in Accra. Education is a crucial tool for transforming both individuals and the nation by providing essential skills, values, knowledge, and competencies needed for personal and societal development (Asiyai, 2012). Secondary education plays a critical role in preparing students for professional life and guiding them toward suitable career paths. Despite the benefits of education and the push for all children to complete secondary school, challenges remain. While many studies focus on problems caused by students (Kumpulainen et al., 1999; Lundy & Firebaugh, 2005; Porter et al., 2009), few explore the challenges students face in school.

Also, the majority of studies that were able to look into students' concerns either looked into a specific issue or had nothing to do with academic performance. In addition, studies that looked at the several problems (biological, psychological, and social) senior high students face and their relationship with their academic performance in Ghana (Adatsi, 2013), were also conducted before

the COVID-19 pandemic hence, there might be new gaps in recent times. This study therefore seeks to investigate the relationship between students' biopsychosocial problems and academic performance in selected senior high schools in Accra. The objectives that guided the study include identifying the biopsychological problems of students that influence their academic performance and identifying how these problems can be managed to improve the academic performance of students in Senior High Schools.

1.1 The Biopsychosocial Effects on Students' Performance

Highly motivated learners are those who have a strong desire to learn, put forth greater effort, and are encouraged to do so. Internal and external motivators are among them (Widjaja & Chen, 2017). 85.88 per cent of students in an online course at the Urban Public University in the Southwest of the United States said they were more motivated by external reasons like earning participation points and finishing the course. Only a few pupils, however, were sincerely driven by a desire to broaden their knowledge and learn something new (Lee & Martin, 2017). On the other side, a study at Midwestern University looked into how students' participation in discussions influenced intrinsic motivation. Students are more likely to participate in class discussions if they find the class enjoyable, interesting, and valuable (Xie et al., 2006), while (El-Seoud et al., 2014) stated that, self-motivation is one of the most important factors in students' learning success stress is another factor that has been linked to student learning and academic performance in several studies. Ninety per cent of first-year students in an Open University of Crypus distance learning program were stressed and nervous, primarily due to course requirements and time constraints (Pavlakis & Kaitelidou, 2012). The majority of distance education students at the University of Cape Coast in Ghana were anxious because of their heavy academic workload, frequent tests, and financial and family issues (Kwaah & Essilfie, 2017).

Data collected from 96 students who participate in class activities shows that they are anxious about computers, and the internet, conversing in virtual groups, and taking online tests. They were worried about computer technical elements (26 students), being the centre of attention (19 students), feeling ashamed for not understanding the language (8 students), and having anxiety symptoms like sweaty hands and tremors before assessments (10 students) (Nazime & Huseyin, 2010).

Ineffective communication between students and tutors, lack of supervision from tutors, and lack of connection between students and faculty administration generated concern among distance learning students at Allama Iqbal Open University (Ajmal & Ahmad, 2019). Their concerns are primarily about technology, course requirements, and personal issues (Devaney, 2010). Additionally, throughout one academic semester, emotional alterations were detected among adult learners participating in an educational program at a Malaysian higher education institute. It has been reported that they experienced negative emotions while using technology in the classroom. They were concerned and unsure where their submitted assignments went after pressing the "submit" button due to a lack of technological skills (Ch'ng, 2019).

As a result, before enrolling in any class, students should have the essential computer abilities to overcome these problems (El-Seoud et al., 2014). Burnout syndrome is defined as a person's mental and physical weariness as a result of continuous and excessive stress. Burnout syndrome is associated with unpleasant feelings and low self-esteem. Over one-third of the students had a high level of burnout, 35.6 per cent had a high level of emotional weariness, 25.5 per cent had a high level of depersonalization, and 45.1 per cent reported a lack of personal accomplishments (Pavlakis & Kaitelidou, 2012). Students with poor social and physical ties to their friends and educators will have difficulty with their academics, will be confused about how they are progressing, and may

experience loneliness as a result of their lack of social connectedness (Beccaria, 2013; Narayanan & Selvanathan, 2016). The lecturers' friendly demeanour, dependability, promptness, and immediacy are important factors in fostering a sense of community in learning classes. Some pupils believe they have less of a need to interact with their peers. They do not take the initiative to interact with one another, although they agree that talking with their peers helps them find solutions to questions and relieves bad emotions (Angelaki & Mavroidis, 2013).

The majority of pupils stated that limited connections with their peers made learning hard for them (Alibak et al., 2019). Others believe that e-learning relieves the limits of academic relationships by allowing them to converse via asynchronous written correspondence. As a result, students are more likely to experience less interference from their instructors and less pressure to respond to their queries (Bettinger et al., 2017), and believe that e-learning is a good way to avoid their educators' interaction (Bettinger et al., 2017). To Alshahrani et al., (2017), the loss of face-to-face interaction between educators and students is not a concern for e-learning, according to marketing students at a large Australian university. However, other students have stated that e-learning has caused them to lose enthusiasm, become bored, and have difficulty working in groups, which could be related to a lack of connections with their classmates (Loh et al., 2016). Some students, particularly older students with family and career responsibilities, may see flexibility and convenience as a benefit of distant learning. As a result, people profit from distance learning because they can still seek a degree without having to attend classes on campus (Lee & Martin, 2017). Students can also attend lessons from anywhere at any time during the day, which may help them better distribute their time and energy (Bettinger et al., 2017). Furthermore, even though both students and educators were in various locations and only used electronic equipment, presenting or discussing clinical situations in the radiology department was simple (Pinto et al., 2011).

Even though having time flexibility is a plus, some students have struggled to balance study time with family time, which has a severe influence on their academic performance and may drive them to drop out (Lee & Martin, 2017; Beccaria, 2013). Disciplined students are more likely to forget their timetables (Bettinger et al., 2017). As a result, academic staff should be more aware of students' time limits, and those with family or employment obligations should be given more consideration (Beccaria, 2013).

1.2 Empirical Review

The academic performance of primary school students with behavioural issues was compared to that of their controls in a study done by Akpan et al., (2010). According to the findings, while 26.5 per cent and 12.9 per cent of students with behavioural issues had high and bad academic performance, 38.6 per cent and 9.1 per cent of students without such disorders had high and poor academic performance. The difference in overall academic performance was statistically significant, with the mean scores of the students with behavioural issues being lower in four core areas than the controls. Academic underachievement was found to be 12.9 per cent among students with behavioural issues and 9.1 per cent among the controls (Akpan et al., 2010). When compared to children whose higher levels of behaviour difficulties were restricted to either age 6 or age 11, children with greater levels of behaviour problems beginning at the start of school and ending at age 11 showed worse math and reading competence at age 17 (Breslau, Breslau, Miller & Raykov, 2011).

Lane et al. (2008), conducted a study to describe the academic, social, and behavioural performance of elementary and secondary students with EBD receiving services in a self-contained school for students with serious behaviour problems, with a focus on how school adjustment and problem behaviour patterns predict academic performance. On reading, math, and written

expression assessments, the elementary and secondary groups' performance was considerably below the 25th percentile. In other words, the study found that the groups had below-average academic achievement. They also had a much higher absence rate, as well as a higher rate of unfavourable narrative comments and disciplinary contacts than the norm. Agbakpe et al. (2011), used 500 randomly selected Senior High School students to evaluate the association between substance usage, study behavior, and academic achievement using a 45-item validated instrument, Study Habits Inventory (SHI). Alcohol was found to be the most widely used substance, with male students using it more frequently than female students using prescription painkillers. Cocaine was recognized as the substance most commonly abused by female pupils. Substance abuse was present in 30.8 per cent of the sample. Substance addiction harms academic performance and study habits. When compared to students who did not use substances, students who used substances had poor study habits and fared badly in school. It was found that to reduce student substance usage, school officials should educate students about the dangers of drug use and implement well-defined, comprehensive, and practical drug-control programs.

Kumpulainen et al. (1999), looked at the link between psychological deviance and school achievement in 8-year-olds. The Rutter Parent Questionnaire (RA2), the Rutter Teacher Questionnaire (RB2), and the Children's Depression Inventory (CDI) were used to examine 5813 children in Stage 1 (CDI). The Isle of Wight Interview was used to interview a subset of these children (n = 424) in Stage 2. In Stage 1, the number of children classified as low achievers (LAs) was higher than the number of children classified as average (NAs) or high achievers (HAs) (HAs). They also had greater psychiatric symptoms and were more likely than other youngsters to score above the cutoff. Two-thirds of students receiving special education in Stage 2 had a psychological illness. When compared to children without psychiatric illnesses, a child with a psychiatric

disorder had a 3.1-fold higher chance of receiving extra tutoring or special schooling. When compared to children without psychiatric illnesses, depressed children and children with attention deficit disorders received the most extra tutoring (4.8-fold). Attention deficit disorders (6.2-fold), anxiety (3.1-fold), and oppositional/conduct disorders were the disorders with the highest likelihood of receiving special education (2.8-fold).

In a cross-sectional self-administered questionnaire-based study, Abdulghani et al. (2012), investigated the prevalence of sleep disorders among medical students and whether there is any association between sleep problems and academic performance. As a result, first-, second, and third-year medical students were chosen to complete the Epworth Sleepiness Scale (ESS), with academic success measured by grade point average. According to the findings, 36.6 per cent of respondents had aberrant sleeping patterns, with a statistically significant rise in female students. Sleeping for 6-10 hours per day was linked to normal ESS scores and academic grades of 3.75. It was discovered that abnormal ESS scores were linked to lower academic attainment.

Another study conducted by Turner, Thompson, Huber and Arif (2012), looked at the link between depression and academic achievement in students at a big North Carolina urban university. Even after adjusting for age, sex, year in school, race/ethnicity, substance use, and level of credit card debt, students in the second, third, and fourth quartiles of depressive symptomatology had increased, though statistically non-significant, odds of having a worse cumulative grade average. Another study undertaken by Yousefi et al. (2010), which included 400 students (200 males and 200 girls) aged 15 to 19, looked into the relationship between age, depression, and academic achievement among teenagers. The Beck Depression Inventory (21-item BDI) was utilized to collect data, and the results revealed that 27.5 per cent of boys and 31.5 per cent of girls were depressed, with depression and academic achievement being substantially linked.

A study by Al-Qaisy (2011) to determine the influence of mood disorders, particularly anxiety and depression, on academic achievement among a group of students at Jordan's Tafila Technical University. It also looked at the relationship between gender and the severity of depression and anxiety. Two measurements were administered to a random sample of 200 students from various university faculties (one measures the level of anxiety and the other measures the level of depression). Females were more nervous than males, while males were more depressive than females, according to the study's findings. Furthermore, the findings revealed a positive association between achievement and anxiety, but a negative relationship between achievement and depression. In addition, the study found a link between student anxiety and academic achievement. This revealed that the higher the pupils' academic achievement is when they have a medium level of concern.

1.3 Theoretical Framework

Critical theory is employed in this study to better understand the nature of the problems associated with students' poor performance. The respondents are human beings who need to be freed from the circumstances that appear to enslave them, and critical theory prescribes the type of behaviour that a democratic society is believed to entail (Basit, 2010). Critical theory "provides the descriptive and normative underpinnings for social inquiry aimed at minimizing domination and promoting freedom in all its forms," according to the approach (Stanford Encyclopaedia, 2005, p.1). This appears to imply that disempowered people are empowered by critical theory. Teachers have been blamed for poor student academic achievement in this regard because they are required to subject children to all sorts of assessments. Even though students' performance is impacted by a multitude of circumstances over which some teachers have little control, they face "inequality"

and "discrimination." As a result, critical theory aims to promote freedom and democracy for the benefit of individuals and society as a whole (Basit, 2010).

With these perspectives, the study uses a critical lens to examine teachers' and students' perspectives on falling performance. The goal of critical theory is to study viewpoints and common meanings, as well as provide insights into contexts such as schools and classrooms (Wellington, 2000, p.16). By getting to know the social world and viewing it through the eyes of the people being studied, critical educators aim to learn what is significant or relevant to people (Neuman, 1997). Critical theory was used because those who have an impact on students' achievement face challenges related to the expectations of parents and the general public, but the problem may extend beyond the teachers, necessitating the casting of a wider net if problems such as students' biopsychosocial problems are to be addressed.

1.4 Methodology

This study employed a descriptive survey research design. Descriptive research is dedicated to the gathering of information about prevalent conditions or situations for description and interpretation (Aggarwal, 2008). This type of research method does not simply gather and tabulate facts but includes appropriate analyses, interpretation, comparisons, and identification of trends and relationships (Salaria, 2012). Descriptive survey research design is a method of collecting information through interviews or administering a questionnaire to a sample of individuals (Orodho, 2003). Descriptive research is a study designed to depict the respondents accurately. More simply put, descriptive research is all about describing people who take part in the study (Kowalczyk, 2018). The design, therefore, involved collecting data from selected samples through the administration of a set of questionnaires on the relationship between students' biopsychosocial problems and academic performance in selected senior high schools in Accra. To this end, the

study was non-experimental which implies that all-natural variables were not manipulated and thus, results will manifest in a natural setting (Shuttleworth, 2020). Students selected for the exercise were allowed to respond to questions without input from the researchers. Specifically, the study was a survey since it was conducted in more than one (1) senior high school (SHS) which falls under the senior high school category of the education sector. The study was conducted in some selected Senior High Schools in Accra. The research scope was further narrowed down to Accra Central in the Korle-Klottey district with Osu being the district's capital (All Districts, 2018). This study area comprises a substantial number of senior high schools in the Greater Accra region hence, it served the researchers well in terms of providing senior high schools required for the study. Selected senior high schools for the research included: St. Mary's Senior High School, O'Reilly Senior High School, Wesley Grammar Senior High School and Kinbu Senior High School. The study focused on senior high school students from classes 1-3.

The total population of students in these selected schools was over 500 and this was so since, some of the students were on vacation as per the new academic schedule for senior high schools. Therefore, the researchers selected a total of 200 students from the four (4) schools. In perspective, fifty (50) students were selected from each school where twenty (20) students each were selected from SHS1 and SHS2 respectively whereas, ten (10) students were selected from SHS3. This sequence was repeated in all the schools and this amounted to a total of two-hundred (200) students which represented the study's sample size.

According to White (2005), sampling is the process of selecting samples (units/elements) from a sample frame for a study. The sampling technique employed in this study was the non-probability sampling. Non-probability sampling, in the words of Neuman (2006), is a mixed methods sampling technique that does not necessarily strive for representativeness, but rather, respondents are

selected based on their "relevance to the research topic". In this study, the purposive, also known as the judgmental sampling strategy was employed. Purposive sampling, according to Creswell (2014), is a process of selecting respondents based on their relevance to the subject of study. Purposive sampling is based on the judgment of the researcher. The researchers selected respondents who were deemed as persons with the required knowledge and expertise (having adequate and useful information) concerning the topic of discussion (White, 2005). Neuman (2006), also added that, if the purpose of a researcher is to obtain a deeper understanding of an issue through an in-depth investigation, then the purposive sampling technique is the appropriate strategy to employ. The researchers sought to select students with a history of biopsychosocial problems with the help of the teachers in the selected schools; hence purposive sampling was best suited for this exercise. Data was collected through the questionnaire administered to the respondents (SHS students) made up of mainly closed-ended questions and a few open-ended questions. The set of questions in the questionnaire was carefully structured incorporating sections for bio-data and other questions to ascertain the relationship between students' biopsychosocial problems and academic performance in selected senior high schools in Accra. Data was collected, coded and analyzed using the Microsoft Excel Software. For a better interpretation of the data, statistical analysis such as frequencies, pie charts, percentages and tables were employed to make meaning out of the data gathered.

1.5 Findings and Discussion

This section outlined a presentation of the analysis obtained from the responses given by the respondents on the; Relationship Between Students' Biopsychosocial Problems and Academic Performance in Selected Senior High Schools in the Accra Metropolis. The analysis results were

obtained through Microsoft Excel and the presentation was done in the form of tables and charts with the description of its content.

1.5.1 RQ1: Biopsychosocial problems and academic performance

Table 1: Biopsychosocial Problems and Academic Performance

Statement	SA	A	N	SD	D	Total	%
Students who take alcohol churn out poor academic performances	100 (50)	70 (35)	2 (1)	8 (4)	20 (10)	**200**	**100**
Drug abuse such as weed and cocaine leads to poor academic performance	150 (75)	50 (25)	-	-	-	**200**	**100**
Students with poor social and physical ties to their friends and educators will have difficulty with their academics	70 (35)	60 (30)	20 (10)	20 (10)	30 (15)	**200**	**100**
Students' lack of participation in discussions limits intrinsic motivation and this leads to poor academic performance	80 (30)	50 (25)	16 (8)	18 (9)	36 (18)	**200**	**100**
Students classified as dumb or unintelligent by teachers are unable to raise their academic performances	80 (35)	70 (55)	20 (10)	10 (5)	20 (10)	**200**	**100**
Students who are stressed outperform poorly academically	120 (60)	80 (40)	-	-	-	**200**	**100**

Source: Fieldwork, 2024

Table 1 shows that all 200 respondents, or 100%, agreed or strongly agreed that stress and drug misuse, including using cocaine and marijuana, contribute to subpar academic performance. This demonstrates that stress and drug usage are the main biopsychosocial problems impacting Accra's senior high school students. Drug misuse has a detrimental effect on academic performance since it leads to mental instability and a concentration on unrelated tasks. Stressed-out students also find it difficult to study, which affects their performance on tests and exams. Research backs up the

idea that stress and academic achievement are related. For instance, the Open University of Cyprus's distance learning program saw 90% of first-year students indicate stress from time limits and course demands (Pavlakis & Kaitelidou, 2012). Likewise, a large number of University of Cape Coast distance learners in Ghana experienced anxiety related to heavy workloads, tests, financial pressures, and family issues (Kwaah & Essilfie, 2017).

Furthermore, 170 out of 200 respondents (85%) agreed or strongly agreed that drinking alcohol impairs academic performance. This implies that drinking alcohol is yet another serious biopsychosocial issue impacting Accra's senior high school kids. Students who drink less alcohol are less able to concentrate, understand what they are learning, and retain crucial academic information like schedules. 150 respondents, or 75%, agreed with the statement that "Students classified as dumb or unintelligent by teachers are unable to raise their academic performances." This demonstrates how inadequate teaching practices and a lack of basic communication skills play a part in low academic achievement. Teachers who make disparaging comments to their students, like labelling them "dumb," can demoralize and demotivate them. Studies indicate that students are more likely to participate in worthwhile, entertaining, and interactive classes (Xie et al., 2006). According to El-Seoud et al. (2014), self-motivation is also essential for academic performance.

Effective teachers tend to produce successful students, while ineffective teachers are a major factor in failure, according to Afe (2001). Instructors are essential in inspiring pupils, and rewarding effort with praise raises participation (Xie et al., 2006). Teachers have a role in motivating and helping troubled pupils in addition to teaching. As information providers, they are essential to the academic development of students. Teachers who fail in this role contribute to students' biopsychosocial problems, a significant issue in Accra's senior high schools.

Table 1 also shows that 130 respondents representing 65% strongly agreed and agreed with the statements; “Students' lack of participation in discussions limits intrinsic motivation and this leads to poor academic performance” and “Students with poor social and physical ties to their friends and educators will have difficulty with their academics” respectively. This confirms that anti-social students are likely to perform poorly in academics due to their nature. Also, it can be implied that getting involved in class activities has the potential of jogging one’s memory as such activities are easy to recollect in comparison with what was learnt from a book. The literature revealed that students' interest in participating in class discussions is enhanced by the user-friendly and well-structured classrooms, which also facilitate additional tasks such as quotation and voting (Xie et al., 2006). It is, therefore, important to have open discussions with colleagues and ask questions as this has been proven to be academically helpful. Also, Students with poor social and physical ties to their friends and educators will have difficulty with their academics, will be confused about how they are progressing, and may experience loneliness as a result of their lack of social connectedness (Beccaria, 2013; Narayanan & Selvanathan, 2016).

1.5.2 RQ2: **Managing students’ biopsychosocial problems**

This section of the study sought to proffer how students’ biopsychosocial problems can be managed to improve academic performance in senior high schools. This exercise was aided by the respondents selected from the senior high schools in Accra. The result of this exercise is presented in Figure 1. Questions asked were open-ended hence, results were grouped into sub-themes and presented in the chart. The results were also discussed with their implications.

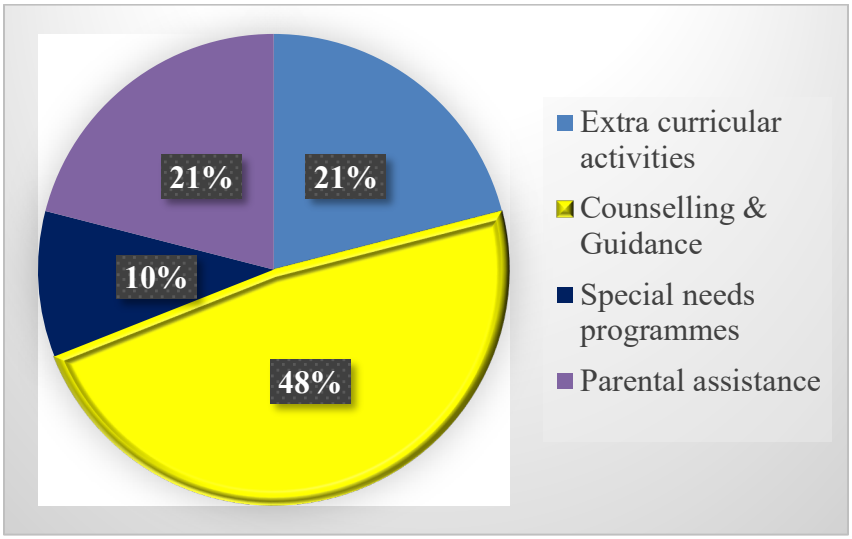


Figure 1 Improving Poor Academic Performance

Source: Fieldwork, 2024

Figure 1 presents the results from the study regarding how students' biopsychosocial problems can be managed to improve academic performance in senior high schools. It can be seen from Figure 1 that, the provision of Counselling and Guidance sessions to students was outlined as the most effective way for managing biopsychosocial problems of students as a majority of 48% of the respondents cited this theme. Furthermore, 21% of the respondents cited the introduction of extra-curricular activities and Parental assistance as possible management solutions against students' biopsychosocial problems. The literature has shown that parental involvement in a school's activities has a favourable impact on children's academic progress and the school's success over time (Halsey, 2004; Christie, 2005). The remainder of 10% of the respondents also cited that the introduction of Special needs programmes will help improve students' academic performance. From the results, it can be gathered that the biopsychosocial problems of students that influence their poor academic performance can be effectively managed through Counselling and Guidance sessions with affected students. The findings also indicate that most senior high schools in Accra do not offer extracurricular activities, which can lead to students becoming disengaged or "dull."

Depressed students, in particular, could benefit from these activities, but their absence leaves them without an outlet, worsening their condition. Additionally, the study suggests that parents play a crucial role in supporting their children's academic success by helping with homework and investing time in their development. By doing so, parents can detect negative behaviours like smoking and alcoholism early, making intervention easier. Special needs programs are also recommended to provide extra support for students facing biopsychosocial problems, ensuring they receive the attention necessary to overcome these challenges.

5.2 Conclusion

According to the study's findings, stress and drug usage are the main biopsychosocial issues causing senior high school pupils in Accra to perform poorly academically. Drug misuse causes mental instability and diverts students' attention from their academic obligations; stress also makes it difficult for them to study, which makes them more likely to fail tests and exams. Another important factor influencing pupils' final WASSCE scores and chances of getting into university is alcohol usage.

Students with mental instability struggle to process academic knowledge and perform poorly as a result. The study emphasizes how cognitive skills—which are essential for academic success—are impacted by biopsychosocial issues. Academic difficulties often result from students' delayed cognitive development, which is caused by biopsychosocial issues. Academic achievement and biopsychosocial issues are negatively correlated.

Lastly, the study indicates that counselling and guidance sessions may be used to handle these problems. Some children in Accra's schools are mentally disengaged and depressed due to the

absence of extracurricular activities, which could assist reduce depression and increase student engagement.

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