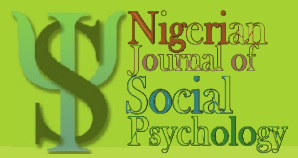


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# Relationship between Sex and Somatic Symptom Disorder among Adolescents in Secondary Schools in Delta State: Implications for Counselling.

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## **Abstract**

*Somatic symptom disorder has been a significant challenge among adolescents in secondary schools; however, there has been low awareness of sex relationships. This study, therefore, investigated the relationship between sex and somatic symptoms disorder among adolescents in secondary schools in Delta State. A research question was raised, and a corresponding null hypothesis was and a corresponding null hypothesis was also formulated to guide the study. The study employed a cross-sectional survey research design. The population of this study is 10,560 students in junior and senior secondary class II (JS II and SS II) from the fifty-two secondary schools in Ika North Local Government Area of Delta State as of the 2019/2020 academic session. A sample size of 600 students comprising three hundred (300) males and three (300) females was selected from 10 schools using the multi-stage sampling procedure. The research instrument for this study was the Adolescents Somatic Symptom Scale (ASSS), which was designed by Ebigbo (2016) and was adapted for use in this study. The researcher employed the Cronbach Alpha reliability method, and a reliability coefficient of 0.70 was obtained. Three test experts in Measurement and Evaluation revalidated the instrument, and the null hypothesis was tested at a 0.05 level of significance using the chi-square distribution. The study's findings show that Sex is not significantly related to somatic symptoms disorder. Based on the discovery, the researcher made the following recommendations, among others, that counsellors and psychologists should ensure early identification, intervention, treatment, and follow-up to avoid a resulting high risk of the disorder.*

**Keywords:** *Somatic symptom disorder, sex, adolescents, students, secondary schools.*

## **Introduction**

Adolescence, a transitional period from childhood to adulthood aimed at preparing the individual for adult roles, is the secondary school age. It is a period of development usually marked by growth spurts and secondary sexual characteristics, particularly from 11 to 13 years of age. It, and spans through the teen years and terminates at 18 to 19 years of age with the completion of the development process (Stehlik, 2018). These students undergo comprehensive psychological, physical, personality, and emotional changes at this time. They observe bodily changes like growth and changes in the organs as early signs of maturation directly related to reproduction. Each of these periods has its characteristics and set of challenges and tasks to be mastered (Hu et al., 2019). Therefore, they experience difficulties in accepting and coping with sexual drives and developed physique tensions. Establishing themselves as independent individuals with adaptation to a more extensive social network of secondary school, depending on their life experience, could lead to significant potential psychological disturbances when the immune system is compromised. Thus, adaptation failure could manifest as somatic symptom disorder in adolescents at this stage (Malas et al., 2017). Furthermore, this age group is exposed to childhood adversity, such as neglect, sexual or physical abuse, chronic poverty, marital

conflict, parental death, and other traumatic events, yet, they internalize their feelings. Therefore, somatic symptoms may be the body's way of communicating and are described as altered expressions of emotional distress by adolescents who cannot express their emotional states.

Students in secondary schools are in the age range noted as adolescents who often express health concerns that seem to have no medical basis. These students consistently report being sick and frequently visit various clinics for symptoms such as vomiting, fainting, fatigue, indigestion, headache, stomach ache, back pains, and other physical complaints. They may also visit traditional healing homes and even prayer houses to assess health care since they are still sick. Still, but they may only achieve temporary relief as there is no organic dysfunction. Somatic symptom disorder (SSD) is associated with a significant functional and emotional disability but may have unsatisfactory physical examinations or laboratory investigations (Henningsen, 2018). The students' irregularity at school, class skipping, and likely poor academic performances due to their search for a lasting cure could be of great concern to the teachers and parents. Older persons, females, widowed and divorced individuals, persons of low socioeconomic status, and low educational levels significantly report SSD (Abdolmohammadi et al., 2018). The high cost of treatment and overuse of medical resources is also quite demoralizing. Even though Wu et al. (2023) twins' study revealed a 7% to 21% genetic contribution to somatic symptom disorder and the rest attributed to environmental factors, its pathophysiology is still unknown.

For many centuries, medical practitioners have recognized somatic symptom disorder and given it several overlapping names, which were sometimes inter-changeable, all seeking recognition of a relationship between the body and the person's mind (Agarwal et al., 2019). Hysteria, hypochondria's psychosomatic disorder, conversion, functional disorder, conversion hysteria, somatization disorder, somatoform, psychogenesis, and medically unexplained symptoms were used to describe the symptoms (Maggio et al., 2020). Ballering et al. (2021) define somatic symptom disorders as "a group of disorders, all of which fit the definition of physical symptoms similar to those observed in physical disease or injury for which there is no identifiable physical cause"; hence, they saw it as a diagnosis of exclusion. The eleventh Edition of the International Statistical Classification of Disease and Related Health Problems (ICD-11), defines somatic symptom disorder as the existence of bodily symptoms which are distressing to the individual and excessive attention geared toward the symptoms which may be made manifest by continued contact with medical healthcare givers (World Health Organization, 2018). In addition, Somatic symptom disorder is all worrisome or recurrent bodily symptoms that do not have a recognized medical illness explanation but may trigger healthcare behaviour as in somatizing conditions (American Psychiatric Association, 2013).

Data from the World Health Organization 1997, suggested that somatic symptoms may be generalized into four main types: pain, cardiac, neurological, and gastrointestinal somatic symptoms and also characterized by hypersensitivity to the bodily sensations, which is seen as a physical ailment (D'Souza & Hooten, 2021). SSD is reported to be associated more with emotional regulation and brain functions than with the focused area of the body or mind. Most students with the disorder meet the criteria of having at least one co-morbid psychiatric disorder like depression, anxiety, or personality disorder, among others, with a co-morbidity chance of 44-94% of cases seen and co-existing than occurring singularly (Cozzi & Barbi, 2018). Research has also shown that this disorder is most likely to be associated with suicide tendencies, particularly when major depression or anxiety disorders co-exist, and may also be

linked to disruptive behaviour disorder, mostly in teenage boys who tend to score high on scales of neuroticism personality trait (Torres et al., 2021).

Somatic symptom disorder could be influenced by school type, student age, student sex, parental socioeconomic status, among others, but student sex is the focus of this study. Sex is the physical differences between males and females, assigned at birth based on physiological characteristics like chromosome composition and genitals. In most studies, girls have been found to report symptoms at higher rates during adolescence than boys, especially pain in the abdomen. This suggests that biological factors are differently involved in the aetiology of somatizing individuals (Lowe et al., 2021). Morabito et al. (2021) observed that girls' somatic complaints were strongly associated with headaches, musculoskeletal pains with anxiety disorders and stomach aches, and oppositional defiant disorder with attention-deficit hyperactivity disorder for boys, while musculoskeletal pains were associated with depression in both girls and boys. They concluded that girls' pain is often said to be psychological, but boys' pain is more frequently thought to be physical. Ballering et al. (2021) reported several contributory factors implicated by sex. These include innate differences in somatic perception and prevalence; differences in symptom labelling, description, and reporting; the socialization process, which leads to differences in the readiness to acknowledge and disclose discomfort; the difference in the incidence of abuse and violence; and the differences in the prevalence of anxiety and depressive disorders.

Ballering et al. (2023) also asserted that females report more somatic complaints since they tend to have a lower threshold for environmental stressors compared to males, but this was challenged by the Atasoy et al. (2022) study on gender-specific somatic symptom burden (SSB) and mortality risk in the general population in the region of Augsburg. Five thousand, six hundred and seventy-nine women and five thousand, eight hundred and sixty-one males aged 25-74 years from the population-based MONICA/KORA Cohort. SSB was examined using the Somatic Symptom Scale-8, and the men with a high risk of SSB were 48%, while the women had 22%. The finding revealed that an increasing SSB is an independent risk factor in men but not in women. Vesterling et al. (2023) carried out a study on Psychosomatic Symptoms among School children to determine the weekly prevalence of bodily and psychological symptoms among school children in Ireland, adopting a cross-sectional study approach, with data presented from the 2006 Irish Health Behaviour in school-aged children survey, comprising a nationally representative sample of school children aged 11-17 years with a sample size of 9,969 students, a response rate of 63% of schools and 83% of students in classes within the school as its sampling units. The result showed that the symptom prevalence was 47.5% but higher among girls (17.8% - 43.8%) than boys (10.7% - 42.3%) and was higher among older children of both genders.

In addition, Hogendoorn et al. (2023) carried out a study on the Assessment of Somatic Symptoms among Secondary School Children in disagreement from a total of 1,173 students attending a co-educational secondary school in Southeast, completed the CSI, and self-reported psychopathology measures. They comprised students of ages 11 to 16 and three 17 years old with a mean age of 13.5 (SD=1.5). The cross-sectional survey design was adapted, and descriptive statistics were used to analyze the data. The result showed that there were no sex differences between the participating students. A study was carried out at the psychiatric department of the University of Calabar by Morabito et al. (2021) on the Psychiatric Diagnoses of Patients Presenting with Functional Somatic Symptoms in a Primary Care facility at a University Teaching Hospital in Nigeria. The study population was an average of 650 patients attending clinics every week, comprising adult patients (18 years and above). It was every week

comprising adult patients (18 years and above), A cross-sectional study of a sample of 100 randomly selected patients with 41 males and 59 females. The findings revealed that more females, 13.6%, than males, 4.9%, were diagnosed with the somatic disorder. A few researchers have studied somatic symptom disorders among adolescents in secondary schools in Nigeria (Lowe et al., 2021, Atasoy et al., 2022, & Morabito et al., 2021). To the researcher's knowledge, these studies did not investigate sex as a variable among adolescents in secondary school; thus, there is a shortage of literature on somatic symptom disorder among adolescents using the variable of sex, particularly in Delta State. On this premise, the researcher decided to fill the gap by investigating somatic symptom disorders among adolescents in secondary schools in the Ika North Local Government area of Delta State.

### **Statement of the Problem**

Somatic symptom disorders remain neglected despite their functional impairment and economic burden. There is growing evidence suggesting that somatic symptom disorder is a hidden malaise that is present in large numbers worldwide but often under-diagnosed, and Nigeria is not an exception. Somatic symptom disorder is one of the most frustrating problems in medical practice for the patient who is not satisfied with the treatment given by the physician and the physician who also finds the patient very difficult to treat. This difficulty faced by some medical personnel in managing the disorder may be due to a lack of proper awareness of the condition, lack of specific training, lack of experience, lack of appropriate understanding of standard diagnostic tools, lack of skills in exploring psychological tools, and non-referral to counsellors.

Moreover, since adolescents make up a large portion of the Nigerian population, late identification, misdiagnosis, and non-treatment of this disorder at this stage might be highly disabling. It may likely lead to chronic limitation of general function, significant psychological disability, a progressive loss of interest in life, lack of social opportunities for intellectual growth, or poor outcomes in adulthood. In investigating the disorder, the researcher wonders if it is sex-related, hence this study.

### **Research Questions and Hypotheses**

The following research questions and corresponding null hypotheses were raised to guide the study.

1. Is there any relationship between sex and somatic symptom disorder among adolescents in secondary schools in Delta State?

**Ho<sub>1</sub>** There is no significant relationship between sex and somatic symptom disorder among adolescents in secondary schools in Delta State.

### **Methodology**

The study employed a cross-sectional survey research design to investigate somatic symptom disorder among adolescents in secondary schools in Ika North Local Government Area of Delta State. It sought to determine the relationship between the variables of the study (sex and somatic symptom disorder). The population of this study is 10,560 students for the 2019/2020 academic session. These comprise all junior and senior secondary class II (JS II & SS II) students from the fifty-two secondary schools in Ika North Local Government Area of Delta state. A sample size of 600 students comprising three hundred (300) males and three (300) females was selected from 10 schools using the multi-stage sampling procedure.

The research instrument for this study was the Adolescents Somatic Symptom Scale (ASSS), initially designed by Ebigbo (1981) and modified by Ebigbo et al. (2016) as a Culture Screening Scale (CSS). The researcher adapted and modified ASSS for the study to distinguish students

for attention from non-attention students. It is replicated verbatim, indicating somatic symptoms as presented by Nigerian students. The instrument was administered to twenty (20) adolescents within the population under study but outside the study sample of the study for reliability tests. The Cronbach Alpha reliability method was used to determine the consistency of the test items, and it yielded a reliability coefficient of 0.70, which shows that the instrument is reliable.

The researcher was also assisted by two research assistants whom the researcher trained. They administered the six hundred (600) questionnaires to the respondents under supervised conditions at the schools' break time and collected them back when they were completed. A total of five hundred eighty-seven (587) questionnaires were retrieved with a 98% retrieval value. The Chi-square test was used to analyze the data collected and the null hypotheses at a 0.05 level of significance.

## Result

**H<sub>01</sub>:** There is no significant relationship between Sex and Somatic Symptom Disorder among Adolescents in Secondary Schools in Delta State.

**Table 1: Chi-Square Tests of Relationship between Sex and Somatic Symptom Disorder among Adolescents in Secondary Schools in Delta State.**

	Frequency		Sex		Total
			Male	Female	
<b>Somatic Disorder</b>	No disorder	Observed	20	14	34
		Expected	16.3	17.7	34.0
	Mild Disorder	Observed	214	217	431
		Expected	207.1	223.9	431.0
	Moderate Disorder	Observed	48	74	122
		Expected	58.6	63.6	122.0
Total		Observed	282	305	587
		Expected	282.0	305.0	587.0

$\chi^2 = 5.728$ ,  $\alpha = 0.05$ ,  $df = 2$ ,  $p\text{-value} = .057$ ; *Not Significant.*

Results in Table 2 show a Chi-Square test for a significant relationship between Sex and Somatic Symptom Disorder among Adolescents in Secondary Schools in Delta State. The  $\chi^2 = 5.728$ , with a degree of freedom = 2 and a p-value = .057. It was tested at a 0.05 alpha level of significance, and the p-value was p-value greater than the alpha level. The male and female students had similar proportions of somatic symptom disorder (47.4% and 52.6%). This difference was not statistically significant. Therefore, the hypothesis that there is no significant relationship between Ssex and somatic symptom disorder among adolescents in secondary schools in Ika North Local Government Area of Delta State is retained.

## Discussion of Results

The finding of hypothesis one revealed no significant relationship between Ssex and somatic symptom disorder among secondary school students in Ika North Local Government Area of Delta State. The study reported that somatic symptom disorder was more prevalent among the older SSII (298) students than the younger JSII (289) students. The cause of this is unclear, but bearing in mind the academic workload and its accompanying stress with inadequate coping

skills, most assuredly, the number of students with the condition will continue to increase as age and class increase. This is in line with the findings of (Torres et al., 2021) and Vesterling et al. (2023), who also had a higher prevalence rate among older students of both sexes. It indicates that sex has no differential influence over the student's emotions, social and health status.

Prior research shows changing patterns in sex distribution of mental health problems, somatic disorder inclusive. The study is contrary to the finding of Atasoy et al. (2020), which revealed significantly more symptoms in males than females. This study also disagrees with the findings of Morabito et al. (2021) and Ballering et al. (2023), who reported a significantly high increase in the prevalence of female secondary school students. They posited that female secondary school students experience more frequent, numerous, and intense pain than their male counterparts. It, therefore, agrees with Hogendoorn et al. (2023) and Torres et al. (2021) studies that expunged sex differences in somatic symptom disorder among adolescents since it was not statistically significant. These studies reported that irrespective of sex, somatic symptom disorder is experienced alike.

The following finding was obtained:

There is no significant relationship between sex and somatic symptom disorder among adolescents in secondary schools in Delta State.

### **Conclusion**

In line with this study, somatic symptom disorder exist among students and adolescents in the Ika North Local Government Area of Delta State. Its existence will challenge these students' daily functioning and overall well-being, thus calling for immediate intervention to avoid the resultant effect. The study also revealed that there is no significant relationship between sex and somatic symptom disorder; therefore, all students evidence and report the disorder alike.

### **Recommendations**

From the findings of this study, the following recommendations were made:

1. Early intervention, treatment, and follow-up should be carried out to avoid the resulting high risk of somatic symptom disorder.
2. A counselling unit with qualified counsellors should be established in all secondary schools in Delta State, where somatizing students would be referred for treatment.
3. Counsellors should create awareness by organizing seminars and conferences for students, teachers, and parents on the prevalence of somatic symptom disorder.
4. Orientation programs should be organized for fresh students at the beginning of the academic session to prevent SSD by the school authority and the counsellor.

### **Implications for Counselling**

1. Counsellors should teach students stress management, emotional processing, coping skills/adaptation and the role of the counsellor to help students adjust better.
2. There is a need for counsellors to create timely awareness of somatic symptom disorder in secondary schools and encourage more functional behaviours and attitudes (like positive thinking, graded exercises, relaxation techniques, group guides and self-help) to improve the daily functioning of the students.
3. Counsellors in secondary schools should ensure that the school's timetable is well planned out to avoid overloading the students with school-related tasks and include regular exercises to reduce functional somatic symptoms.

4. Counsellors and psychologists should be greatly concerned about the behavioural acts originating from these adolescents to help them overcome the peculiarities of this stage of development.
5. Counsellors should employ counselling techniques and skills as treatment packages to assist adolescents in managing somatic symptom disorder in secondary schools.

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