

Impact of dialectic behaviour therapy and assertiveness training on the mental health of socially stressed senior secondary students

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Abstract

Social stress resulting from substance abuse is a growing global concern. It is linked to mental health with psychosocial challenges faced by a large number of the populace in Nigeria. It is worrisome, especially among students in senior secondary schools in Port-Harcourt Metropolis. Thus, this research examined 'Dialectic Behaviour Therapy and Assertiveness Training' in managing psychosocial mental health problems of senior secondary school students who abuse substances in the Port-Harcourt metropolis. Tests before and after the study had a population of 9.650 students and employed quasi-experimental procedures. For the study, a 75-student sample from senior secondary school 2, comprised of 37 males and 38 females, was selected utilizing a multistage selection approach. Car, Relax, Alone, Forget, Family/Friends Trouble, Edinburg Mental well-being scale, and Social Phobia Inventory were the instruments utilized to collect the data. Findings revealed significant differences in the psychosocial problems of adolescents in senior secondary schools because of the interventions, however, dialectic behaviour therapy made more impact in the reduction of adolescents' social stress though both treatments had a significant impact.

Keywords: Assertiveness training, dialectic behaviour therapy, mental health, social stress, substance abuse.

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1. Introduction

We live in a society that is full of occurrences that could stress any individual (Uzunboylu & Akçamete, 2020). It is so worrisome because the academic body of the entire nation is bedevilled with incessant closures and problems the government has not been able to address. The senior secondary school student who in time past would look forward to moving on to university may not be so enthusiastic because of university strikes every year. Adebayo (2016) stated that in recent times the scale of social ills in society has become so worrisome that people begin to question whether anything left at all that Nigeria as a nation can be proud of. These social ills among adolescent secondary school students manifest in diverse forms which can be seen in the increase of cases of bullying, gangsterism, truancy, youth restiveness, substance abuse, and many other vices which have taken their tolls on the academic and social pursuit of the children and youth. Thus, making mostly secondary schools and tertiary institutions turn out youth who cannot hold their own in society.

Social stress may have various causes and could have mental health effects on people differently (Halladay et al., 2022; Zając et al., 2023). One such could be an abuse of substances and mental health concerns which are often intertwined (Alalwan et al., 2023). It could negatively affect health-enhancing behaviour and increase people's risk of illness and injury. Stress is a response that occurs in the body when a change is encountered. It is a feeling that threatens one's relationships, affects the individual's sense of belonging, and can affect self-esteem. It can be related to physical and psychological strain. Social stress is also a mental health problem that can be caused by substance abuse because long-term use of substances can also lead to stressful situations and can aggravate aggressive behaviour that could affect relationships with others in schools as well as the social environment (Abate et al., 2021; Adesida et al., 2022; Drozdova et al., 2022).

Social stress is a burden that affects individuals as well as communities where people reside. Senior secondary school students could begin to abuse substances because of stressors in life, but the abuse of substances could also enhance social stress among them which could make them display various forms of negative behaviour. Stress could be harmful, making people vulnerable and very resilient. Wood and Bhatnagar (2015) showed that various causes enable the capacity to withstand or to recover quickly from difficulties or vulnerability and being able to resist is just not the opposite of the possibility of being attacked physically or emotionally since some processes are separate withstanding difficulties among vulnerable individuals. The effect of substance abuse could also adversely impact the stress level of other family members' health and may result in psychological or physical disarray. Studies have also proved that when individuals share homes with people who abuse substances, there could be an increase in the cases of mental and physical disarray (Ólafsdóttir et al., 2018; Rabie et al., 2020; Spoth et al., 2022).

United Nations International Drug Control Programme (1995) posited that the result of taking drugs may not necessarily be to boost friendship or self-acknowledgment, the effect of taking drugs could make an individual behave indifferently and psychologically removed. Such persons could have problems establishing friendships and become increasingly isolated socially, physically, and emotionally. They also concluded that the mental health burden of social stress on the individual, school, and society is enormous which could lead to various forms of criminal activities. Socially stressed individuals often do not want to communicate with others. Newcomb and Locke (2005) observed that violent, erratic, or paranoid behaviour may arise from substance abuse. It has resulted in mental health problems that have led to drowning, car crashes, falls, burns, sex abuse, and many other problems which have become a burden of social stress on society. The consumption of alcohol to reduce social stress often leads to alcoholism in individuals (Thomas et al., 2003).

The consumption of substances may attract social acceptance from peers, but in the long run, could lead to social stress and other vices. Other social predictors for the abuse of substances could be the environment the adolescents grow from. Some may include communities that are not stable

with lower levels of unemployment. In their study, Whitesell et al. (2013) concluded that abuse of substances among adolescents could bring about social stress to the individual and the community in the adolescent resides because they are often related to individuals or groups involved in perpetrating deviant behaviour which may be associated with abnormal friendship related problems which may include, bullying and popularity in gangs within the environment they live. Ayodele et al. (2018), agreed that it has personal and social consequences for society.

Their view supports other research into epidemiological studies as revealed in the reports that despite the drug laws and plans to reduce it, the weight that drug abuse carries is growing more among the younger population, secondary school students included. Substance abuse is exposing these senior secondary school students to various forms of social stress and debilitating conditions. Therefore, Jatau et al. (2021) concluded tight measures of keeping interventions should be hurriedly put in place to reduce the increasing weight of the burden of substance abuse in Nigeria.

United Nations Reports (2013) the research on substance abuse puts enormous social stress on the health of the masses in countries around the globe such that it is hampering effective progress and smooth functioning. The global cost is immeasurable because many countries have not been able to measure the cost of substance abuse on health, public safety, crime, productivity, and governance in their nations. The drugs that are most commonly reported and for which individuals receive much of the treatment in societies are Heroin, cannabis, and cocaine. The cost of these treatments alone for about 4.5 million people is estimated to be a global cost of \$35 billion annually. Social stress no doubt is a mental health concern and could be aggravated by the abuse of substances by the senior secondary school student whose mental development is undergoing a rapid developmental process.

Dialectic behaviour therapy can bring people's acceptable balance with social and other changes in focus. It could enable individuals to build lives that are worth living through 'bio-social dialectical paradigm and strategies of validation, radical genuineness, skills training and group work'. Dialectic behaviour therapy treatment can bring out the client's strength and network support that naturally occurs to create change. Cooper and Parson (2009) opined that dialectic behaviour therapy treatment could model character, provide reassurance, give advice, provide protection, support, and care, use persuasion, assertiveness skills, use negotiation skills, deal with hostility, aggression, and violence, empower and teach individuals how to relate in their environment. Dialectic behaviour therapy, therefore, teaches people to co-exist peacefully and productively.

Nnadi et al. (2020), in their work, reported that assertiveness training could reduce social withdrawal behaviour among adolescents. Manesh et al. (2015) agreed that social stress could cause social avoidance, negative feelings of social interactions, and distress but assertiveness training skills aid the reduction of social anxiety, changes expectations, beliefs, and attitude, and build positive evaluation among individuals. Adolescents who are not socially assertive could be prone to substance abuse but assertive skills could also deter others from taking advantage of another person.

The degree to which substance abuse is influencing the mental health of adolescent secondary school students in Port Harcourt Metropolis and the social stress accompanying it is becoming overwhelming. It has become a regular subject of discussion in various households and a vital problem confronting students. This behaviour has the potential to cause massive negative impacts like bullying, stealing and fighting, and many other delinquent characteristics on the lives and future of the youths if they are not managed. The direct and indirect burden of treatment, management, and prevention of consequences of substance abuse on the economic development of the state if properly valued could be alarming.

1.1. Purpose of study

Various studies have been carried out by researchers on the prevalence of challenges of substance abuse and its social effects on society. However, there are no widely known empirical

studies about the mental health of adolescent secondary school students and how stressed they are in Rivers State. The research, therefore, was conducted to discover the impact of mental health challenges in adolescent senior secondary school students who abuse substances and are socially stressed using dialectical behaviour therapy and assertiveness training. The following questions served as the study's guide.

- i. How much will the post-test mean scores differ from the pre-test mean scores of students in senior secondary school students who have mental health challenges and abuse substances as a result of the application of dialectic behaviour therapy, assertiveness training, and the control group?
- ii. What will be the extent of difference in the post-test mean scores of social stresses in students in senior secondary schools who have mental health challenges and abuse substances due to gender as a result of the experimental conditions?

1.2. Research hypotheses

H1- Social stress and mental health problems do not significantly differ among students in senior secondary schools exposed to dialectic behaviour therapy and assertiveness training and the control group.

H2- Social stress on mental health challenges may not significantly differ among students in senior secondary schools exposed to dialectic behaviour therapy and assertiveness training and the control group due to gender.

2. Materials and methods

The research design used in this study was a pre-test, post-test quasi-experimental design. The groups were three; dialectic behaviour therapy, assertiveness training, and a control group.

2.1. Participants

The research was made up of a population was 9,600 students from 17 public schools in 13 zones of the metropolis. The research process was broken into various stages. A multi-stage sampling procedure was used to choose 3 schools from the 17 in the metropolis using simple random sampling. The population from the selected schools was 1,680 where instruments were administered.

The first baseline instrument, Car, Relax, Alone, Forget, Family/Friends Trouble (CRAFFT) was administered. Students identified as having abused substances were 205 and Warwick. A second baseline test, Edinburg Mental well-being scale (WEMWBS) was administered to the 205 students to ascertain their mental health status. Students who scored above average were 75. Simple random sampling was applied. 25 students were assigned to dialectic behaviour therapy treatment for 6 weeks, 24 students to assertiveness training treatment, and 26 students to the control group for 6 weeks. All groups received a post-test after the treatment.

2.2. Data collection instruments

Instruments used in the study for the collection of data:

- CRAFFT
- WEMWBS
- Social Phobia Inventory (SPIN).

2.2.1. Car, Relax, Alone, Forget, Family/Friends Trouble

Knight et al. (2016) developed the CRAFFT instrument in Boston Massachusetts, USA. It is relevant in the screening of substance abuse among adolescents. It is permitted to be self-administered and can be used as a tool for interviews. It has an internal consistency Cronbach's $\alpha = 0.65-0.85$ and 12 items which are answered in 'Yes' or 'No'.

2.2.2. Warwick Edinburg Mental Well-being Scale

Warwick Medical School developed the WEMWBS. The instrument consists of 14 items that are positively worded to assess people’s mental well-being. It is an acceptable instrument to be used for teenagers over 13 years and has Cronbach’s alpha of 0.87.

2.2.3. Social Phobia Inventory

The Psychiatry and Behavioural Sciences at Duke University in the USA created the SPIN. It consists of 17 items that address social phobia-related physiological symptoms as well as dread and avoidance. Each response is given a numerical value ranging from least intense to most intense, with the responses being ‘Not at all to extremely’. It has been examined and found to have strong internal consistency and test-retest reliability. It is a reliable screening measurement, with an internal consistency range of 0.87–0.94. Table 1 displays the test–retest reliability coefficient of the research instrument ($N = 30$).

Table 1
Test-Retest Reliability Coefficient of the Research Instrument (N = 30)

Instrument	N	No. of statement	Reliability coefficient
4 SPIN	30	17	0.78

3. Results

3.1. Hypothesis 1

Social stress and mental health problems do not significantly differ among students in senior secondary schools exposed to dialectic behaviour therapy and assertiveness training and the control group.

Table 2
Description of Mean, Standard Deviation (SD), and Mean Difference in Social Stress Due to Experimental Conditions

Experimental groups	N	Pre-test		Post-test		Mean difference
		Mean	SD	Mean	SD	
Dialectic behaviour therapy	25	56.32	2.85	39.52	3.84	-16.80
Assertiveness training	26	57.92	3.20	43.35	5.31	-14.58
Control group	24	57.71	3.14	59.54	2.11	1.83
Total	75	57.32	3.11	47.25	9.50	-10.07

The social stress means for participants in the DBT, AST, and control groups at pre-test was 56.32, 57.92, and 57.71, respectively, according to the analysis of Table 2. The social stress means for DBT, AST, and control group decreased to 39.52, 43.35, and 59.54, respectively, at the post-test. The DBT group experienced a greater decline (-16.8) than the AST group (-14.58). The control group, however, experienced a minuscule 1.83 gain. To determine the significant difference in the mean, an analysis of covariance was done. Table 3 in the section below shows the analysis of the outcome.

Table 3
ANCOVA for Social Stress Due to Treatment Conditions

Source	Sum of squares	Df	Mean square	F	Sig.
Corrected model	5,549.421	3	1,849.807	116.560	0.000
Intercept	248.842	1	248.842	15.680	0.000
Covariate	33.317	1	33.317	2.099	0.152
Group	5,329.484	2	2,664.742	167.911	0.000
Error	1,126.766	71	15.870		
Total	174,142.000	75			
Corrected total	6,676.187	74			

As a result of the experimental settings, a significant difference of 167.911 *F*-calculated values was found, according to the ANCOVA results. Given 2 and 71 degrees of freedom and a 0.05 level of significance, it was noted that the *F*-calculated value was higher than the 3.13 critical value. The results and conclusion showed that there is a significant difference in social stress among senior secondary school students with mental health issues and substance addiction when exposed to DBT, AST, and the control group, rejecting the null hypothesis. To demonstrate the important pair, a second analysis was conducted; the results are shown in Table 4.

Table 4
Pair-Wise Analysis of Social Stress Based on Treatment Groups

(I) Experimental group	(J) Experimental group	Mean difference (I-J)	Sig.
Dialectic behaviour therapy	Assertiveness training	-3.471 ^a	0.003
	Control group	-19.714 ^a	0.000
Assertiveness training	Dialectic behaviour therapy	3.471 ^a	0.003
	Control group	-16.243 ^a	0.000
Control group	Dialectic behaviour therapy	19.714 ^a	0.000
	Assertiveness training	16.243 ^a	0.000

Based on estimated marginal means.

^a The mean difference is significant at the 0.05 level.

Figures from Table 3 show that DBT when paired with AST ($t = -3.471, p < 0.05$) as well as control group ($t = -19.714, p < 0.05$) was significant. Also, the pair of assertiveness training and control group ($t = -16.243, p < 0.05$) was also significant.

3.2. Hypothesis 2

Social stress on mental health challenges may not significantly differ among students in senior secondary schools exposed to dialectic behaviour therapy and assertiveness training and the control group due to gender.

Table 5
Descriptive Analysis of Social Stress Based on Experimental Groups and Gender

Experimental group	Gender	N	Pre-test		Post-test		Mean difference
			Mean	Std. deviation	Mean	Std. deviation	
Dialectic behaviour therapy	Female	14	56.79	2.15	39.50	3.88	-17.29
	Male	11	55.73	3.58	39.55	3.98	-16.18
	Total	25	56.32	2.85	39.52	3.84	-16.80
Assertiveness training	Female	12	58.00	3.41	43.33	4.68	-14.67
	Male	14	57.86	3.13	43.36	5.97	-14.50
	Total	26	57.92	3.20	43.35	5.31	-14.58
Control group	Female	12	58.08	3.32	60.58	1.98	2.50
	Male	12	57.33	3.06	58.50	1.73	1.17
	Total	24	57.71	3.14	59.54	2.11	1.83
Total	Female	38	57.58	2.96	47.37	9.91	-10.21
	Male	37	57.05	3.28	47.14	9.19	-9.92
	Total	75	57.32	3.11	47.25	9.50	-10.07

Table 5 analysis reveals that at pre-test, female participants had social stress mean values of 56.79, 58, and 58.08 for dialectic behaviour therapy, assertiveness training, and the control group respectively. Their male counterpart had mean values of 55.73, 57.86, and 57.33 47.08 for DBT, AT, and control group, respectively.

The female participants' mean value for DBT dropped to 39.5 at the post-test, AT to 43.33 and the control group rose to 60.58. Similarly, the male counterpart violent behaviour mean value dropped to 39.55, 46.36, and 58.5 for DBT, AT, and control group.

The DBT group's female and male participants saw the greatest decreases in social stress compared to the other groups, as evidenced by the mean differences. In addition, an analysis of covariance was calculated to identify any significant mean differences. The analysis's findings are presented in Table 6.

Table 6
ANCOVA for Social Stress Due to Treatment Conditions and Gender

Source	Sum of squares	Df	Mean square	F	Sig.
Corrected model	5,572.044	6	928.674	57.194	0.000
Intercept	253.501	1	253.501	15.612	0.000
Covariate	29.882	1	29.882	1.840	0.179
Group	5,298.810	2	2,649.405	163.167	0.000
Gender	5.239	1	5.239	0.323	0.572
Group * gender	17.804	2	8.902	0.548	0.580
Error	1,104.143	68	16.237		
Total	174,142.000	75			
Corrected total	6,676.187	74			

The study in Table 6 reveals that the difference in the effects of social stress on mental health issues among adolescents who abuse substances in the three experimental groups was estimated as an *F*-calculated value of 0.548. Given the degrees of freedom 2 and 68 at the 0.05 level of significance, the calculated *F* was less than the tabulated value of 3.15, supporting the null hypothesis. It was determined that there are no appreciable gender-related differences in the effects of social stress on mental health issues among teenagers abusing substances in the experimental groups.

4. Discussion

Social stress of senior secondary school students who have challenges with mental health as a result of substance abuse was found to significantly differ as a result of the experimental conditions. Participants were exposed to emotion regulation and distress tolerance treatment sessions which could emotionally manage social stress. The dialectic behaviour therapy group was with the highest reduction followed by the assertiveness training. The findings are in line with the findings of Karbalaee et al. (2012) where a significant decrease was observed with the training in distress tolerance and emotion regulation.

Reese et al. (2019) findings are consistent with this study because they agreed that distress tolerance in dialectic behaviour therapy skills could change an individual's mood and increase emotional stability and teach reality acceptance which could help in making decisions to stay away from substance abuse. The findings are also consistent with the conclusions of Cooper and Parson (2009) who observed that dialectic behaviour therapy could be used to model character, provide reassurance, and teach individuals how to support and care for themselves. The finding is also supported by Manesh et al. (2015) who showed that assertiveness training decreases social stress, and changes expectations, attitudes, beliefs, and positive evaluations. Manesh et al. (2015), and Adegoke (2018) agree that assertiveness training skills could aid in the reduction of social anxiety, and change expectations, and attitude.

5. Conclusion

As a result of the proceeding discussion, the conclusion was drawn as follows. The research demonstrated that dialectic behaviour therapy and assertiveness training are effective in reducing social stress in the mental health challenges of adolescents. The research also showed that there is no gender difference in social stress of senior secondary school students with mental health challenges who abuse substances.

It further revealed that dialectic behaviour therapy is a more effective treatment for mental health challenges of senior secondary school students who abuse substances than assertiveness training. Finally, the study demonstrated that a lack of assertiveness skills and poor interpersonal relationship contributes to mental health challenges of senior secondary school students who abuse substances.

6. Recommendations

Recommendations made based on the findings of the research were as follows:

1. Mental health problems are becoming a subject of great concern especially as it relates to senior secondary school students. Secondary school counsellors need to receive specialized retraining in detecting and creating detection and treatment for mental health issues in adolescents.
2. Social stress is a burden that affects individuals as well as communities. The mental health concerns and the global cost is immeasurable; therefore, assertiveness training should be added to the secondary school curriculum to reduce rising cases of substance abuse among students.
3. Rehabilitation centres that enhance healthy social activities should be built and equipped with professionals for the management of various forms of stress levels rather than allow them to cohabit with other secondary school students and become subjects of social stress in the schools and society.
4. Gender discrimination must end, and male and female adolescents should be treated equally. Preferences of sexes should be avoided when managing social stress levels of students in senior secondary schools' students.

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Appendix

How many days did you spend in the past 6 months?

		None	# of days
1	Have you ever used any tobacco or nicotine products, such as cigarettes, e-cigarettes, hookahs, or smokeless tobacco? If none, type '0'		
2	Use any other substances to get high (such as illicit drugs, prescription and over-the-counter drugs, and drugs that you sniff, inhale, or vape). When none, enter '0'		
		Yes	No
3	When you're alone (Alone), do you ever try using any kind of booze or drugs?		

WEMWBS

S/N	Items	None of the time	Rarely	Some of the time	Often	All of the time
1	I am capable of coming to my own decisions.					
2	I've been having clear thoughts.					

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SPIN

S/N	ITEMS	Not at all	A little bit	Somehow	Very much	Extremely
1	I'm uncomfortable talking to strangers because I'm worried about what they might think of me.					
2	When people are around, I am hesitant to act.					