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EFFECTS OF CONTINGENCY MANAGEMENT ON SEPARATION ANXIETY DISORDER AMONG SECONDARY SCHOOL STUDENTS IN ORLU EDUCATION ZONE OF IMO STATE

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ABSTRACT

The study determined the effects of contingency management on the separation anxiety disorder among secondary school students in Orlu Education Zone 1 of Imo State. The study was guided by two research questions and two null hypotheses tested at 0.05 level of significance. The study employed quasi experimental research design, involving pre-test, post-test treatments and control groups. The area of the study was at Orlu Educational Zone 1 of Imo State. The population of the study consisted of 28,956 junior secondary school students and the sample size was of 65 students with separation anxiety disorder drawn from public secondary schools in Orlu Educational Zone 1. The students with separation anxiety disorder were first identified using Separation Anxiety Disorder Identification Rating Scale (SADIRS). Two instruments were used for data collection which were validated. The reliability of the instruments was established using Cronbach Alpha with coefficient of 0.89 which dim high for the study. The data collected were analysed using mean and standard deviation the mean gained and mean lost score were used to ascertain the effect of treatments. Mean and standard deviation were employed to answer research questions. The null hypotheses were tested using analysis of covariance (ANCOVA) and observed probability value (P-Value) at the set probability value of 0.05 level of significance. The study found that contingency management significantly reduced separation anxiety disorder among the students. Contingency management proved beneficial and can serve as a supplementary approach, providing a comprehensive strategy for managing separation anxiety. Based on these findings, the study recommended that the positive impact of Contingency Management Technique (CMT) on reducing separation anxiety disorder suggested that schools should incorporate CMT into their

behavioural management systems. Developing a consistent reinforcement system that rewards positive behaviour could help create a supportive and structured learning environment. Schools should train teachers and counsellors in CMT, emphasizing the importance of consistency and positive reinforcement to enhance student outcomes.

Keywords: Contingency Management, Separation Anxiety Disorder, Anxiety Disorder, Desensitization

Introduction

Education is the foundation for individual and societal advancement, equipping learners with intellectual, emotional, and practical tools needed for life. It facilitates social inclusion, reduces poverty, and fosters innovation and national development. Among the tiers of formal education, secondary school plays a pivotal transitional role, bridging primary education and tertiary education. It is during this period that adolescents acquire specialized skills, consolidate foundational knowledge, and undergo critical psycho-social development. The Nigerian National Policy on Education emphasizes secondary education as a platform for preparing individuals for useful living and higher education. However, adolescence is also a vulnerable stage; emotional disorders, particularly anxiety-related conditions, begin to emerge, potentially disrupting academic and social development. Despite the recognized importance of secondary education, a considerable number of students experience mental health challenges such as Separation Anxiety Disorder (SAD), which hampers optimal school participation and performance (Walkup, et. al., 2023).

Separation Anxiety Disorder (SAD) is a psychological condition characterized by excessive fear or anxiety concerning separation from those to whom an individual is emotionally attached. According to the Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-5), SAD is marked by intense distress when anticipating or experiencing separation from home or major attachment figures (American Psychiatric Association, 2013). Fakunmoju (2023) defined SAD as a childhood disorder where students feel a persistent, unrealistic fear of being separated from a parent or caregiver, often resulting in school refusal or psychosomatic symptoms. Both definitions underscore a dysfunction in emotional regulation that disrupts learning and social integration, especially in junior secondary school students newly transitioning from the protective family environment to a more demanding school setting.

Untreated Separation Anxiety Disorder (SAD) is associated with poor academic performance, increased school absenteeism, social difficulties, and later development of more severe psychopathologies such as depression and other anxiety disorders (Costello, et. al., 2019). Socially, they may avoid peer interactions, which are essential for adolescent development. Psychologically, SAD can evolve into generalized anxiety disorder, depression, or

panic disorders. Studies have indicated that a significant proportion of junior secondary school students in Nigeria show clinical signs of separation anxiety disorder, contributing to increased school absenteeism rates (Olowookere, Adegoke, & Owoaje, 2020). These implications highlight an urgent need for effective intervention strategies. One such promising intervention is contingency management, which offers structured behavioral reinforcement for positive coping responses, thereby mitigating the progression and impact of SAD.

Contingency management is a behavioral intervention approach grounded in operant conditioning, where specific rewards or consequences are used to reinforce desired behaviors. According to Kazdin (2017), contingency management involves systematically applying reinforcements such as praise, privileges, or tangible rewards to increase adaptive behaviors. Skinner in 1953 similarly emphasized that behaviors followed by positive outcomes are more likely to recur, forming the basis of contingency-based interventions. In the context of separation anxiety, contingency management seeks to reduce avoidance behaviors (e.g., refusing to attend school) and replace them with positive, goal-directed behaviors by using consistent and meaningful reinforcements. This therapeutic strategy aligns with cognitive-behavioral goals of restructuring maladaptive emotional patterns through observable behavioral changes.

The application of contingency management among junior secondary school students has shown promising outcomes in reducing symptoms of separation anxiety compared to conventional counseling approaches. While traditional counseling methods often rely on verbal expression, introspection, and empathetic listening, contingency management offers immediate, tangible reinforcements that are more relatable for younger adolescents. For instance, meta-analytic and controlled trials have shown that junior secondary students exposed to contingency-based psychosocial interventions (e.g., token systems, privileges) typically exhibit ~45–50 % reductions in school refusal and increased attendance—significantly outperforming conventional counseling approaches (Maynard et al., 2019). This outcome suggests that behaviorally anchored strategies may be more impactful in addressing anxiety-related school behaviors in early adolescence.

Additionally, the effect of contingency management appears to vary by gender. Studies show that female students often exhibit higher levels of emotional attachment and are more likely to report symptoms of separation anxiety (Arbel, et. al., 2024). The implies that female students often exhibit higher levels of emotional attachment and are more likely to report symptoms of separation anxiety. However, when exposed to contingency management, both male and female students showed significant reductions in anxiety symptoms. Yet, females responded more favorably, possibly due to their higher sensitivity to emotional reinforcements. A comparative analysis by Kang et. al., (2018) revealed that while female students typically report greater improvements in anxiety symptomatology—

with reductions ranging from approximately 40–50%—compared to male counterparts, who show more modest gains around 25–35% following intervention, female adolescents experienced significantly larger reductions in anxiety symptoms post-intervention compared to males (girls: average 42% reduction; boys: average 28% reduction; $p < .05$) (Kennedy & Morris, 2019). These gender differences underscore the need to tailor behavioral interventions to individual emotional needs, making contingency management a versatile tool in addressing SAD in diverse student populations.

The need for this study on the effect of contingency management on separation anxiety disorder among junior secondary school (JSS 1) students in Orlu Education Zone I is both timely and critical. Students in this region often face socio-economic and emotional challenges, including parental migration, displacement, and poor school infrastructure, which exacerbate emotional insecurities and anxiety disorders. Students, especially those affected by parenteral displacement or attending schools with poor infrastructure, often experience elevated emotional insecurity and anxiety. For example, displaced children in Nigeria exhibited high rates of stress symptoms (Salami et al., 2020), while overcrowded and under-resourced classrooms have been linked to student withdrawal and stress (JENA, 2021). Additionally, multiple school closures and kidnappings due to insurgent activity in Northern Nigeria have significantly disrupted education and heightened anxiety among learners. Moreover, conventional counseling services are often under-resourced, lacking structured interventions suitable for adolescent behavioral conditions. Investigating how contingency management compares with existing interventions in a culturally contextualized and empirically driven manner can inform policy and practice. Therefore, this study seeks to contribute to psychological well-being and academic retention of students who are vulnerable to school-related anxiety in this formative stage of education.

Statement of the Problem

Ideally, secondary school students—particularly those in junior classes—should adapt seamlessly to the academic and emotional environment of school life, forming healthy attachments and displaying regular attendance and participation. However, in the Orlu Education Zone I, many JSS1 students face acute emotional disturbances rooted in separation anxiety disorder (SAD), which manifests as school refusal, somatic complaints, and heightened emotional dependence. Contributing factors include socio-economic instability, poor parental presence due to migration, and substandard school infrastructure, all of which exacerbate emotional insecurity. Although counselling services exist, conventional counselling has not sufficiently mitigated SAD symptoms among these students. This persistent gap necessitates the exploration of more effective therapeutic interventions such as contingency management—a structured behavioural approach that uses reinforcement strategies to reduce maladaptive behaviour. Hence, this study seeks to determine the effectiveness of

contingency management in reducing SAD among JSS1 students in Orlu Education Zone I, where the emotional and psychological stability of learners is critical for educational success and long-term development.

Purpose of the Study

The purpose of the study was to examine the effect of systematic desensitisation on separation anxiety disorder among JSS1 students in Orlu Education Zone I. Specifically, this study sought to:

1. Examine the effect of contingency management on separation anxiety disorder among junior secondary school (JSS1) students in Orlu Education Zone I
2. Find out the effect of contingency management on separation anxiety disorder of male and female junior secondary school (JSS 1) students in Orlu Education Zone 1 when compared with those exposed to conventional counselling the pre- test and post- test mean score

Research Questions

1. What are the effects of contingency management on separation anxiety disorder among junior secondary school (JSS 1) students in Orlu Education Zone I when compared with those exposed to conventional counselling using pre -test and post-test mean score?
2. What are the effects of contingency management on separation anxiety disorder of male and female junior secondary school (JSS 1) students in Orlu Education Zone 1 when compared with those exposed to conventional counselling the pre- test and post- test mean score?

Hypotheses

The study tested the following null hypotheses at 0.05 level of significant.

$H_0$1: There is no significance difference on the effect of contingency management on separation anxiety disorder among junior secondary school (JSS 1) students in Orlu Education Zone I when compare with those exposed to conventional counselling using the using pre- test and post -test mean score.

$H_0$2: There is no significance difference on the effect of contingency management on separation anxiety disorder of male and female junior secondary school (JSS 1) students in Orlu Education zone 1 when compared with those exposed to conventional counselling using their pre- test and post- test mean score.

Methods

The study adopted a quasi-experimental research design. The rational for adopting this design was that the study established cause and effect relationship between the variables and it involved intact classes. The population of the study consisted of 28,956 Junior Secondary School (JSS1) students in the 95 co-education schools in Orlu Education Zone I of Imo State. The sample for this study comprised65JSS1 students (19 in Contingency Management Technique (CMT) group, while 21 in the control group) JSS 1 students with separation anxiety disorder. A simple random sampling

technique was used to select three local government areas, out of Eight local government areas that made up the zone. The students with separation anxiety disorder were first identified using Separation Anxiety Disorder Identification Rating Scale (SADIRS). A stratified random sampling technique was used to select three schools from three local government area that was having the highest numbers of students with separation anxiety disorder. Intact classes of the sampled schools were used for this study. School I served as experimental group I, School II served as experimental group II, while School III served as a control group. The schools were assigned randomly. Two instruments were used for data collection. The first instrument was Ten items rating scale titled "Separation Anxiety Disorder Identification Rating Scale (SADIRS)". This instrument was developed by the researcher and was used for the identification of the students with separation anxiety disorder. The rating scale has two Sections A and B. Section A contain information on the Bio data of the respondents, while section B deals with items designed to collect vital information from each respondent on the separation anxiety disorder state of the students. The rating scale was structured on a four point Like scale of measurement. The responses are Always (A), Often (O), Sometime(S), Never(N). The scores for each statement were totaled at the end and written under the four columns against where the score was inscribed. The total scores portray the students' separation anxiety disorder. A student who scored 20 and above was considered as having separation anxiety disorder. The second instrument Separation Anxiety Disorder Questioning Rating Scale (SADQRS) served as the post-test. The instruments for pre-test were also used for post-test by first reshuffling the items. This was done in order to ensure that students did not memorise their responses in the pre-test. The Separation Anxiety Disorder Questioning Rating Scale (SADQRS) was trial tested on a single administration on a representative Sample of 30 JSS 1 students (15 males and 15 females) randomly selected from two public secondary schools in Owerri Education Zone. The responses were collated to determine the internal consistency of the items of the instrument. This was done using Cronbach Alpha reliability co-efficient. The value of 0.89 for SADQRS was obtained. This reliability coefficient was considered high enough for the instrument to serve as instrument for data collection. The data collected using the Separation Anxiety Disorder Rating Scale (SADIRS) administered to the students in both the experimental and control groups were analyzed by the researcher to determine the mean scores. The mean gain and mean loss scores were used to ascertain the effects of the treatments. Mean and standard deviation were employed to answer the research questions. The null hypotheses were tested using Analysis of Covariance (ANCOVA) and observed probability value (p-value) at the set probability value of 0.05.

Presentation of Results

Research Question Two: What are the effects of contingency management on separation anxiety disorder among secondary school (JSS 1) students in Orlu Education

Zone I of Imo State using pre -test and post-test mean score?

Table 1: Mean Rating Scores in Separation Anxiety of Students exposed to Contingency Management Technique (CMT) and Control

		Pre-Test		Post-Test		Mean Gain/Loss
Group	n	$\underline{X}$	SD	$\underline{X}$	SD	
CMT	19	45.63	5.37	37.16	4.09	-8.47
Control	21	45.95	3.46	51.29	3.94	5.34

As indicated in Table 1, students exposed to Contingency Management Technique (CMT) had a mean score decrease from 45.63 (pre-test) to 37.16 (post-test), while the control group's mean scores increased from 45.95 (pre-test) to 51.29 (post-test). This represents mean reduction in separation anxiety disorder of 8.47 among students exposed to CMT and 5.34 increase in separation anxiety disorder among the control ground. This suggests that CMT was better at reducing separation anxiety disorder among students compared to not receiving any treatment. This suggested that CMT effectively reduces separation anxiety disorder among students.

Research Question Two: What are the effects of contingency management on separation anxiety disorder of male and female secondary school (JSS 1) students in Orlu Education Zone of Imo State when compared using the pre- test and post- test mean score?

Table 2: Mean Separation Anxiety Rating Scores of Male and Female Students Exposed to Contingency Management Technique (CMT)

		Pre-Test		Post-Test		Mean Gain/Loss
Gender	n	$\underline{X}$	SD	$\underline{X}$	SD	
Male	10	43.60	6.00	35.80	4.69	-7.80
Female	9	47.89	3.66	38.67	2.83	-9.22

Presented in Table 2 are the mean separation anxiety rating scores of male and female students exposed to Contingency Management Technique (CMT). The table showed that both male and female students exposed to CMT experienced reductions in separation anxiety disorder. Males had a mean score decrease from 43.60 (pre-test) to 35.80 (post-test) of 7.80, while female students' mean decrease from 47.89 (pre-test) to 38.67 (post-test) was 9.22. This indicates that, although female students had slightly more reduction in separate anxiety than the male students, both benefitted from exposition to Contingency Management Technique.

Hypotheses

Hypothesis Two: There is no significance difference on the contingency management

on separation anxiety disorder among secondary school (JSS 1) students in Orlu Education Zone I of Imo state using pre- test and post -test mean score.

Table 3: Summary of ANCOVA on the Main Effects of Contingency Management on Separation Anxiety among JSS 1 Students

Source of variation	Sum of Squares	Df	Mean Square	F	*p*	Remark
Pre_Test	513.069	1	513.069	323.326	.000	
Treatment	1914.088	1	1914.088	1206.221	.000	Significant
Gender	2.877	1	2.877	1.813	.187	
Treatment* Gender	1.063	1	1.063	.670	.419	
Error	55.540	35	1.587			
Total	82079.000	40				

The ANCOVA results in Table 3 showed a significant treatment effect $F(1,35) = 1206.221$, $p < .000$), indicating that CMT significantly reduces separation anxiety disorder compared to the control group. Thus, the null hypothesis was rejected. Therefore, there is significance difference on the contingency management on separation anxiety disorder among secondary school (JSS 1) students in Orlu Education Zone I of Imo state using pre- test and post -test mean score.

Hypothesis Two: There is no significance difference on the effects contingency management on separation anxiety disorder of male and female JSS 1 students in Orlu education zone of Imo State when compared using the pre- test and post- test.

Table 4: Summary ANCOVA on Mean Differences in Separation Anxiety by Treatment (Contingency Management Technique) and Gender

MS	df_1	df_2	F_{Cal}	p	F_{Crit}	*Remark*
2.877	1	35	1.813	0.187	3.92	Not Significant

The ANCOVA results in Table 4 indicated no significant difference between male and female students' responses to CMT ($F_{(1,35)} = 1.813$, $p = .187$). Thus, the null hypothesis was accepted, indicating that CMT was equally effective for both male and female students.

Discussion of the Findings

The study revealed that students exposed to Contingency Management Technique (CMT) experienced a significant reduction in their separation anxiety disorder, while the control group's anxiety levels increased. The ANCOVA test of hypothesis supported this finding, indicating that CMT significantly reduces separation anxiety disorder compared to no intervention. This finding indicates that contingency management is also an effective technique for managing separation anxiety disorder among junior secondary school students. For educational institutions, implementing CMT can help create a positive and structured environment

that reinforces desirable behaviours and reduces anxiety. Students can benefit from a consistent reinforcement system that promotes positive behaviours and reduces anxiety symptoms. Counsellors and educators should integrate contingency management strategies into their behavioural interventions to support students with anxiety disorders.

The effectiveness of CMT aligns with the principles of operant conditioning proposed by Skinner in 1953 and supported by studies like Arbel, et. al., (2024), who found that behavioural techniques effectively reduce anxiety and improve academic performance. Kang, et. al., (2018) also supports the use of reinforcement-based interventions in educational settings to address behavioural and emotional issues. Moreover, studies by Maynard, et. al., (2015) highlight the broad applicability of contingency management across various behavioural issues.

The study revealed no significant difference in the effectiveness of CMT between male and female students, with both genders showing significant reductions in separation anxiety disorder. The hypothesis testing confirmed this finding, indicating no significant gender difference in the effectiveness of CMT. This finding suggests that CMT was equally effective for both male and female students, highlighting its flexibility as a behavioural intervention. For educational institutions, this means that CMT can be implemented universally, providing consistent reinforcement strategies that benefit all students. Students can benefit from a structured reinforcement system that supports positive behaviour and reduces anxiety, regardless of gender. Counsellors and educators can apply CMT broadly, ensuring all students have access to effective behavioural interventions. The finding of no gender difference in response to CMT was consistent with research by Salami, et. al., (2020), which supported the effectiveness of behavioural interventions across different demographic groups. Studies by Kazdin (2017) also highlighted the universal applicability of contingency management techniques, further supports the suitability of CMT as an effective method for managing separation anxiety disorder in educational settings.

Conclusion

The study concluded that contingency management significantly reduced separation anxiety disorder among the students. This result underscore the potential of these therapeutic techniques to enhance the mental health and academic performance of students. Contingency management proved beneficial and can serve as a supplementary approach, providing a comprehensive strategy for managing separation anxiety. In conclusion, contingency management are effective strategies for reducing separation anxiety disorder in secondary school students. Schools should consider integrating these techniques into their mental health programs to create supportive environments that promote students' emotional well-being and academic success.

Recommendations

Based on the findings of this study, the following recommendations were made:

1. The positive impact of Contingency Management Technique (CMT) on reducing separation anxiety disorder suggested that schools should incorporate CMT into their behavioural management systems. Developing a consistent reinforcement system that rewards positive behaviour could help create a supportive and structured learning environment. Schools should train teachers and counsellors in CMT, emphasizing the importance of consistency and positive reinforcement to enhance student outcomes.
2. Since CMT was found to be equally effective for male and female students, it is recommended that schools implement this technique without gender-specific modifications. This inclusive approach ensures that all students have equal access to effective anxiety reduction methods.

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