

EFFECT OF SYSTEMATIC DESENSITIZATION AND CONTINGENCY MANAGEMENT ON SEPARATION ANXIETY DISORDER AMONG SECONDARY SCHOOL STUDENTS IN ORLU EDUCATION ZONE OF IMO STATE

OSUEKE, GEOGELINE NKECHI
Faculty of Education
Chukwuemeka Odumegwu Ojukwu University

&
NNAMDI OBIKEZE
Faculty of Education
Chukwuemeka Odumegwu Ojukwu University
Igbariam Campus
nnamdiobikeze@gmail.com

&
UJU ESENTI
Faculty of Education
Chukwuemeka Odumegwu Ojukwu University

Abstract

The study determined the effects of contingency management and systematic desensitization 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 was 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 is 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 and systematic desensitization 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, Systematic Desensitization, Separation Anxiety Disorder, Anxiety Disorder, Desensitization

Introduction

During the formative stages of adolescent education, the junior secondary school stage is an important developmental stage marked by increasing independence, self-identity formation, and academic transitions. Students in this age group, typically between eleven (11) and fourteen (14) years, begin to separate more fully from their primary caregivers as they get involved in social, emotional, and academic discipline beyond the family setting. However, for some students, this separation process does not occur smoothly. Instead, it becomes associated with excessive anxiety, emotional distress, and academic emotional instability. These

students struggle to stay in school independently or are troubled by fears when separated from attachment figures. This emotional and psychological difficulty in managing separation transitions, when intense and persistent, leads to what is clinically known as separation anxiety disorder (SAD).

Separation Anxiety Disorder (SAD) as defined by the Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-5) is a condition characterized by excessive fear or anxiety concerning separation from those to whom the individual is attached, and this fear is developmentally inappropriate (American Psychiatric Association, 2013). It manifests through various symptoms such as repeated complaints of physical symptoms (e.g., headaches, nausea), refusal to go to school, fear of being alone, nightmares involving separation themes, and constant worry about harm befalling caregivers. In junior secondary school students, SAD can lead to chronic absenteeism, poor classroom engagement, and underperformance in academic tasks due to emotional distress.

In Nigeria, and particularly in Imo State, the occurrence of SAD among adolescents has drawn increasing attention from educators, psychologists, and policymakers. A study conducted by Ekechukwu and Isiguzo (2019) in southeastern Nigeria reported that up to 18% of junior secondary students displayed moderate to severe signs of separation anxiety. Ogunlade, et. al., (2025) presented anecdotal reports that SAD is one of the underlying causes of school refusal and prolonged absenteeism. Separation anxiety disorder was most commonly reported among primary school children, with a prevalence of 14%. These students often show tearfulness, clinginess, or psychosomatic complaints in response to school attendance, especially after breaks or holidays.

The dangers of untreated separation anxiety disorder in secondary school students are far-reaching. SAD significantly hampers the student's ability to build autonomy, an essential developmental goal of adolescence. More so, it disrupts academic progress due to frequent school refusal or inability to concentrate. In addition, it can lead to comorbid mental health issues such as depression, generalized anxiety disorder, and social phobia. Moreover, the emotional burden placed on both the student and their caregivers often leads to strained family relationships and increased school dropouts. If not addressed early and appropriately, SAD may persist into adulthood, affecting occupational performance and interpersonal functioning (Assinor, 2023).

It is within this context that systematic desensitization becomes highly relevant as an intervention. Systematic desensitization is defined as a behavioral therapy technique used to reduce anxiety responses through gradual exposure to the feared object or situation while practicing relaxation techniques as Wolpe stated in 1958. The central idea is that an individual cannot be anxious and relaxed simultaneously. Through structured sessions involving the construction of an anxiety hierarchy, the student is exposed incrementally to anxiety-provoking stimuli (e.g., attending school without a parent), while simultaneously engaging in deep relaxation strategies. Over time, the individual learns to manage and eventually extinguish the anxiety response.

In the context of junior secondary schools, systematic desensitization has proven effective in treating school-related phobias, including SAD. School counselors in urban areas of Nigeria have reported reductions in school refusal behavior among students exposed to desensitization techniques (Oseko, et. al., 2024). For instance, Yusuf (2019) emphasized that students in the desensitization group showed a statistically significant decrease in separation anxiety after the 8-week program. Furthermore, interventions in other parts of Nigeria, such as Lagos and Enugu, have recorded similar outcomes, reinforcing its applicability in the southeastern education.

Systematic desensitization affects SAD by helping students reframe their fear-based thinking around separation. Through repeated, controlled exposure to the school environment and gradual detachment from the caregiver, the student develops coping mechanisms and a sense of mastery over anxiety. More importantly, when supported by school personnel, the student is less likely to regress into avoidance behaviors. Ohatianet *al.* (2020) investigated the effect of systematic desensitization combined with school-based support on students' anxiety in Edo State. Their quasi-experimental study found that structured desensitization, when supplemented by counselor and teacher involvement, led to significantly greater reductions in anxiety compared to use of desensitization alone.

The necessity of addressing SAD in junior secondary schools in Imo State using systematic desensitization cannot be overemphasized. Given the cultural context where emotional dependency on family is deeply ingrained, transitioning from home to school autonomy can be particularly difficult. Unfortunately, many schools in Orlu Zone suffer from inadequate structured psychological services or trained personnel to recognize and address anxiety disorders. As a result, many cases of SAD go undetected, misinterpreted as stubbornness or laziness. Implementing systematic desensitization in school programs offers a low-cost, effective, and replicable solution to reducing school-based anxiety and promoting emotional resilience among adolescents. Yet, systematic desensitization alone may not suffice. Another potent behavioral technique worth integrating is contingency management.

Contingency Management (CM) is a behavioral therapy approach rooted in operant conditioning principles. This evidence-based intervention promotes desired behaviors by providing immediate and tangible rewards or consequences contingent upon their performance. By systematically reinforcing positive behaviors and applying consequences for undesired ones, CM effectively increases the likelihood of positive behavior change and reduces the occurrence of negative behavior. This structured framework has been widely recognized for its efficacy in various fields, including addiction treatment, mental health care, and behavioral modification programs (Eremie&Anumiri, 2024).

Within the junior secondary school setting in Orlu Education Zone, contingency management has been selectively applied, particularly by guidance counselors and behavior specialists. In 2023, a pilot project across three public secondary schools in Orlu used a point-based reward system to encourage school attendance among students diagnosed with SAD. According to the Abdulrazak, et. al., (2025), students who consistently attended school without demonstrating anxiety behaviors earned points redeemable for small privileges such as being a class prefect for a day or choosing recreational activities. Within three months, school attendance improved by 40% among the targeted group, and anxiety complaints reduced.

More so, in Nigeria, contingency management has shown promise in school settings to promote discipline, attendance, and emotional adjustment. Okafor, et. al., (2024) found a significant reduction in aggressive behaviors post-intervention, demonstrating how structured rewards can support better emotional regulation in adolescents. This showed that students exposed to structured reward systems showed statistically significant improvements in emotional regulation and classroom participation. The logic is simple yet effective: positive reinforcement increases the probability that desirable behavior will occur again. In the case of SAD, this could include independent school attendance, participation in group work, or engaging in teacher-student interactions without fear or distress.

Contingency management affects SAD by reinforcing the student's success in facing feared situations and reducing reliance on avoidance behaviors. Rather than punishing anxiety-induced behavior, it rewards incremental steps toward independence. For example, a student who enters the school gate without parental accompaniment might be praised or allowed to choose their classroom chore. Over time, these reinforcements help to build the student's intrinsic motivation and self-confidence. When applied systematically and consistently, the behavior change is not only maintained but internalized.

It is imperative that separation anxiety disorder among junior secondary school students in Orlu Zone is controlled using contingency management strategies. Beyond psychological theory, this approach is pragmatic and culturally adaptable. In communities where tangible reinforcement (such as gifts or tokens) is a significant motivator, especially among children from low-income backgrounds, contingency management becomes a culturally relevant intervention. Moreover, it empowers teachers and caregivers to become part of the therapeutic process, thus extending psychological support beyond clinical settings into everyday classroom environments.

The theoretical foundation for using systematic desensitization and contingency management to control SAD is grounded in social learning and classical conditioning theories. Albert Bandura social learning theory (1977) underpins contingency management because it suggests that children can learn appropriate separation behaviors by observing peers being positively reinforced for adaptive behaviors. This theory is applicable when a student sees a classmate being rewarded for attending school calmly, they are more likely to imitate that behavior. Similarly, Ivan Pavlov's classical conditioning theory (1927) supports the systematic desensitization that is deeply rooted in classical conditioning. Pavlov's work explains how anxious responses

can become associated with previously neutral stimuli (like school), and how they can be unlearned through counterconditioning. systematic desensitization helps the student re-learn to associate school with calm rather than anxiety. Together, these theories offer a strong empirical and conceptual basis for combining these two techniques in managing SAD.

This research on the effects of systematic desensitization and contingency management on separation anxiety disorder among junior secondary school students in Orlu Education Zone is both timely and necessary from personal observations. Firstly, despite the rising awareness of mental health challenges in schools, SAD remains under-diagnosed and under-treated in Nigeria. More so, Orlu Education Zone, with its mix of rural and semi-urban schools, represents a microcosm of the larger southeastern Nigerian education system, making it ideal for intervention research. Furthermore, the emotional distress caused by SAD contributes significantly to student absenteeism, a factor that has been linked to poor performance in standardized assessments in Imo State. Additionally, both systematic desensitization and contingency management are cost-effective, evidence-based methods that can be implemented by school counselors and teachers with basic training.

Statement of the Problem

Separation anxiety disorder (SAD) is a serious issue among students who find it difficult to separate from parents or caregivers when going to school. This emotional difficulty often causes fear, worry, and physical symptoms like illness, which negatively affect their learning. Some students display aggressive behavior, such as fighting family members or withdrawing from social interactions, especially around school resumption periods. Others refuse to eat or frequently visit doctors with symptoms that vanish when they stay home. These students may have nightmares, experience distress when leaving their parents, and perform poorly in school. Despite its seriousness, SAD is rarely studied until it leads to school refusal. This study explores whether systematic desensitization and contingency management can effectively treat SAD among junior secondary students in Orlu Education Zone I of Imo State.

Purpose of the Study

The main purpose of the study was to examine the effect of systematic desensitization and contingency management on the separation anxiety disorder among secondary school students in Orlu Education Zone I of Imo state. Specifically, the study sought to:

1. Determine the effect of systematic desensitization on separation anxiety disorder among junior secondary school (JSS1) students in Orlu Education Zone I.
2. Examine the effect of contingency management on separation anxiety disorder among junior secondary school (JSS1) students in Orlu Education Zone I.

Research Questions

The study was guided by the following research questions:

1. What is the effect of systematic desensitization 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 is the effect 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?

Hypotheses

The following null hypotheses were formulated and were tested at 0.05 level of significance.

H₀₁:There is no significance difference on the effect of systematic desensitization on separation anxiety disorder among junior secondary school (JSS 1) students in Orlu Education Zone 1 when compared with those exposed to conventional counselling using pre- test and post- test mean score.

H₀₂: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.

METHODS

The study adopted a quasi-experimental research design. The rationale 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 comprised 65 JSS1 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 areas that were 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 contains 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 Likert 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 instrument for pre-test was also used for post-test by first reshuffling the items. This was done in order to ensure that students did not memorize 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 coefficient. 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.

RESULTS

Research Question Two: What is the effect 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

Group	n	Pre-Test \underline{X} \underline{SD}		Post-Test \underline{X} \underline{SD}		Mean Gain/Loss
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 is the effect of systematic desensitization 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 2: Summary Table for the Mean and Standard Deviation of Rating Scores on Separation Anxiety Disorder of Students Exposed to Systematic Desensitization Technique (SDT) and Control

Group	n	Pre-Test \underline{X} \underline{SD}		Post-Test \underline{X} \underline{SD}		Mean Gain/Loss
SDT	25	44.64	5.57	29.92	3.34	-14.72
Control	21	45.95	3.46	51.29	3.94	5.34

Table 2 showed that students exposed to Systematic Desensitization Technique (SDT) had a substantial decrease in their separation anxiety disorder mean scores from 44.64 (pre-test) to 29.92 (post-test). 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 14.72 among those treated with SDT and 5.34 increase in separation anxiety disorder among the control ground. This suggests that SDT significantly reduces separation anxiety disorder among students.

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	Significant
Treatment	1914.088	1	1914.088	1206.221	.000	
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 effect of systematic desensitization on separation anxiety disorder among secondary school (JSS 1) students in Orlu Education Zone of Imo State using pre- test and post- test mean score.

Table 3: Summary of ANCOVA on the Main Effects of Systematic Desensitization on Separation Anxiety Among JSS 1 Students

Source of Variation	Sum of Squares	df	Mean Square	F	p	Remark
Pre_Test	490.141	1	490.141	244.173	.000	Significant
Treatment	4602.736	1	4602.736	2292.942	.000	
Gender	.083	1	.083	.041	.840	
Treatment * Gender	.610	1	.610	.304	.584	
Error	82.301	41	2.007			
Total	78193.000	46				

The ANCOVA results in Table 3 indicated a significant treatment effect, $F(1,41) = 2292.942$, $p < .000$, suggesting that SDT had a significant impact on reducing separation anxiety disorder compared to the control group. Thus, the null hypothesis was rejected. Therefore, there is significant difference in the effect of systematic desensitization on separation anxiety disorder among secondary school (JSS 1) students in Orlu Education Zone of Imo State using pre-test and post-test mean scores.

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.

More so, the finding research question two and hypothesis two revealed that students exposed to the Systematic Desensitization Technique (SDT) showed a significant reduction in their separation anxiety disorder, whereas the control group exhibited an increase in anxiety levels. The hypothesis testing confirmed a significant treatment effect, indicating that SDT significantly reduces separation anxiety disorder compared to the control group. This finding suggested that systematic desensitization is an effective intervention for reducing separation anxiety disorder among junior secondary school students. For schools, incorporating SDT into their mental health and counselling programs could provide an evidence-based method for addressing anxiety-related issues. Students can benefit from reduced anxiety levels, leading to better academic performance and overall well-being. Counsellors and educators should consider training in SDT techniques to implement them effectively in their interventions.

This result is consistent with Satyakam, et. al. (2013), who found that systematic desensitization significantly reduced test anxiety among students. Similar findings were reported by Nash (2019), indicating the effectiveness of systematic desensitization in various contexts and reinforcing the applicability of SDT in educational settings. Additionally, Yusuf (2019) demonstrated the benefits of systematic desensitization in reducing generalized anxiety disorder, further supporting its use in managing different forms of anxiety.

Conclusion

The study concluded that both systematic desensitization and contingency management significantly reduced separation anxiety disorder among the students, with systematic desensitization showing greater effectiveness. These results underscore the potential of these therapeutic techniques to enhance the mental health and academic performance of students. More so, systematic desensitization and 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. Given the significant reduction in separation anxiety disorder observed in students exposed to the Systematic Desensitization Technique (SDT), it is recommended that schools in Orlu Education Zone I and beyond integrate SDT into their counselling programs. Training school counsellors and psychologists in SDT will enable them to effectively administer this technique, providing students with structured support to manage anxiety. Schools should allocate resources and time for professional development to ensure staff are well-equipped to implement SDT.

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