

Effect of Cognitive Behavioral Therapy on Academic Burnout of Gifted Students with Learning Disabilities

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ABSTRACT:

The impact of academic burnout on gifted students with learning disabilities (G/LD students) can be devastating due to their perfectionistic tendencies, emotional sensitivities, self-imposed academic standards, and lack of support from their teachers. This study aimed to examine the effectiveness of cognitive behavioral therapy (CBT) in addressing academic burnout in G/LD students. The study utilized a randomized trial design, with a CBT group (n=47) and a waiting-list control group (n=47). The CBT intervention for burnout (CBI-B) consisted of 16 sessions lasting 40 minutes each, given twice a week over eight weeks. Data analysis was conducted using a 2 x 3 mixed design, considering Group (CBT vs. Control) as a between-groups factor and Time (pre-test vs. post-test vs. follow-up) as the within-groups factor. The results indicated that CBT significantly reduced academic burnout in G/LD students. Given the impact of academic burnout on educational outcomes, future CBT research should aim to include a more diverse population of students with special needs.

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INTRODUCTION

Academic burnout is a challenge that learners encounter regardless of their level of education, location, or educational type. Slivar (2001) described burnout as the emotional state of students who feel mentally and physically exhausted due to workload. The term “burnout” refers to a condition characterized by changes in psychological conditions like tiredness, weariness, and mental exhaustion (Ezenwaji et al., 2019a; May et al., 2015; Salme-la-Aro & Read, 2017; Subon & Sigie, 2016). Academic burnout in children is a phenomenon caused by their daily academic activities. It is the psycho-emotional state of children who experience mental and physical exhaustion due to increased academic-related learning needs. Children’s burnout arises from repetitive tasks, excessive workloads, inability to control oneself, excessive stress, inconsistent rules, conflicting rules, and non-recognition, among others (Aypay, 2011; Khani et al., 2018).

Gifted students with learning disabilities (G/LD students) are characterized by their remarkable exceptional abilities or talents, which enable them to perform at elevated levels; nonetheless, they encounter difficulties in specific academic pursuits as a result of their learning disabilities (Beckmann & Minnaert, 2018; Brody, & Mills, 1997). G/LD students are fast thinkers, quick to comprehend, have outstanding memory abilities, and can easily acquire and recall information quickly (Huhn, 2023; Phillips & Lindsay, 2006; Toffalini et al., 2017). Despite their unique talents, these children experience stress due to the pressure associated with daily academic work, leading to burnout (Rollins, 2020). Previous studies showed that G/LD students are more prone to suffering from burnout due to their heightened emotional sensitivities and self-imposed academic goals (Dansinger, 1998; Harrison & Van Haneghan, 2011; Lamont, 2012). G/LD students could be at greater risk of developing anxiety disorders and burnout than their peers due to attributes often connected with giftedness, including perfectionistic tendencies, emotional intelligence, and asynchronous development (Dirkes, 1983; Lamont, 2012; Robertson et al., 2011; Zeidner & Matthews, 2017). The mental health and challenges of G/LD students are often overlooked by school authorities because of the assumption that they have high abilities (Henry, 2021). Therefore, most programs aim to improve the academic performance of underachievers. Robertson et al. (2011) revealed that a report released by the National Association for G/LD students in 2009 showed significant drawbacks that hinder the education of G/LD students.

The burnout of G/LD students should not be underrated because it has devastating implications. Academic burnout significantly hinders G/LD students from excelling across different subjects (Akbari et al., 2022; Clevenger, 2022). Also, emotional exhaustion is a core stress consequence of burnout in these students. Rahmati (2015) argued that emotional exhaustion is the stage of emotional drain and the feeling of depletion of one’s emotional resources. Clevenger (2022) emphasized that G/LD students’ burnout is linked to intrinsic and extrinsic factors. Some of the extrinsic factors, as noted by Clevenger (2022), are perfectionism and self-handicapping. Self-handicapping entails any action, choice, or achievement that increases the opportunity to excuse failure and accept credit for success. Hence, when children attribute their academic failure to external factors, they exhibit self-handicapping strategies. This can be manifested when children claim to have test anxiety, illness, procrastination, and always blame their teachers (Alodat et al., 2020). These children employ these strategies to maintain and raise positive self-esteem and enhance their self-image in others. Self-handicapping is associated with negative consequences like poor ability to adjust, negative coping techniques, and poor learning habits.

Perfectionism is the most common trait seen in G/LD students. Alodat et al. (2020) argued that perfectionism is the tendency to set extremely high standards in which total success or failure exists as a result. Clevenger identified two categories of perfectionism: adaptive and maladaptive. Children with adaptive perfectionism strive to achieve their set goals healthily with little or no distress. In contrast, children with maladaptive perfectionism are uncertain of their actions, worry about making mistakes, and are dissatisfied. This can manifest in several ways, such as children continuously checking and rechecking their work, demonstrating dissatisfaction, questioning their work, and being overly concerned about their errors (Alodat et al., 2020).

The extrinsic cause of burnout in children is redundancy, also known as boredom. Boredom is a vital factor that positively correlates with student stress and is often linked to burnout (Dumitrache et al., 2021; Sulea et al., 2015). The absence of challenging events or learning activities has been identified as the most common cause of boredom in the classroom (Nett et al., 2010; Yan et al., 2021). G/LD students always want the opportunity to control their learning (Fetzer, 2000). When they feel they are not in control of their learning, they begin to experience boredom, leading to disengagement in-class activities and resulting in low performance (Akbari et al., 2022; Pavri & Monda-Amaya, 2000).

Furthermore, parental engagement is another significant factor in the extrinsic causes of burnout in children. Clevenger (2022) argued that children's home life plays a vital role in their classroom behavior, outlook, and motivation. Children from supportive and inspiring families tend to intensify their motivation for their talents, whereas children from families that see their children as adults or provide them with excessive attention have a greater tendency to experience coping difficulties and an overall underperforming attitude (Mudrak & Zabrodska, 2015). Children from authoritarian parents with high expectations tend to exhibit a fear of failure and a sense of self-worth related to their expected goals (Neumeister, 2004). The direct effect of burnout reflects on their achievement, while the indirect impact manifests as depression due to the high risk of burnout and the increasing demands of school on children (Fiorilli et al., 2017). Burnout is associated with multiple mental impacts, such as stress, sleep disturbances, and less satisfaction in life (Gerber et al., 2015). Those who are experiencing burnout syndrome may encounter a greater likelihood of developing anxiety and depression in the absence of appropriate therapeutic intervention (Lechuga-Gómez & Álvarez-García, 2021). Due to these effects on G/LD students' future education goals, there is a need to eliminate the consequences associated with academic burnout at an earlier stage through intervention programs such as Cognitive Behavioral Therapy (CBT).

Cognitive Behavioral Therapy has shown promising results in alleviating psychological problems among school children (David et al., 2018). CBT combines cognitive and behavioral strategies and has practical support for treating stress, burnout, and anxiety (Cully & Teten, 2008; David et al., 2018; Onuigbo et al., 2020). The users of CBT rely on the philosophy that emotions are difficult to alter directly, so they focus on altering thoughts and behaviors underlying the disturbed emotions. CBT has many approaches that can be used to treat cognitive and behavioral problems, including exposure, cognitive restructuring, solution-focused, and problem-focused approaches (Dozois et al., 2019). These categories of CBT can be used in the treatment of problems such as burnout among children in primary school. Literature shows that CBT is a successful treatment for a variety of mental disorders, including depression, stress disorder, and chronic fatigue syndrome (Bisson et al., 2007; Clark, 2011; Palmer & Gyllensten, 2008). CBT interventions yield immediate results and are brief and time-limited (Onyechi et al., 2016; Otu et al., 2022). CBT emphasizes that individual thought is the source of feelings and behavior, not

external stimuli, making it a goal-oriented therapy. CBT interventions hold that individual thinking and beliefs are the primary source of perception of stressful conditions (Ogbuanyan et al., 2017); hence, CBT helps individuals have more positive thoughts about stressful phenomena to live a stress-free life and can reduce post-trauma symptoms in students (Amedu, 2023). Since academic stress is a significant source of burnout among children, CBT could help in treating burnout among G/LD students.

A systematic review by Clevenger (2022) on burnout of G/LD students found that classroom environment and treatment received during school years greatly impact burnout rates. Intrinsic factors like perfectionism, self-efficacy, self-handicapping, and extrinsic factors like boredom and parental involvement contributed to their burnout. The frustration and fatigue experienced by these students in school affect various aspects of their lives. Clevenger's work focused on G/LD students at the secondary school level, exploring causes, challenges, and potential solutions. However, our study utilizes a randomized CBT trial to address burnout in G/LD students in primary schools. Essawy (2019) used CBT in a randomized controlled trial to treat G/LD students showing symptom improvement. This study differs from Essawy's in that it specifically targets burnout in G/LD students in Southeast Nigeria. Similarly, Alkhazaleh (2020) examined the effects of a CBT intervention program on school adjustment of gifted students, finding that CBT effectively enhanced school adjustment. Alkhazaleh's study concentrated on school adjustment, while the current research addresses academic burnout in G/LD students within the Nigerian context.

Previous studies have been conducted in Nigeria regarding academic burnout. A study by Okwaraji and Aguwa (2015) focused on burnout, psychological distress, and job satisfaction among teachers in Enugu state. The results indicated prevalent burnout among teachers, with emotional exhaustion at 40%, depersonalization at 39.4%, reduced personal accomplishment at 36.8%, psychological distress at 32.9%, and job satisfaction at 39.6%. Similarly, Otu et al. (2022) studied the effectiveness of CBT on stress among primary school pupils in Nigeria. Their randomized trial showed that CBT significantly reduced stress among primary school pupils. While this study is related to CBT and primary school pupils, the current research focuses on the effect of CBT on G/LD students experiencing burnout. Also, Oloidi et al. (2022) conducted a randomized trial to examine the efficacy of online Rational Emotive Behavioral Therapy (online REBT) on academic burnout among undergrad-

uate history students. The findings revealed that online REBT reduced academic burnout significantly and maintained this reduction among Nigerian history undergraduates. Ozoemena et al. (2021) conducted a cross-sectional study to explore psychological distress, burnout, and coping strategies among Nigerian primary school teachers. Their survey research revealed that 69.9% experienced psychological distress and 36% experienced burnout. The study recommended addressing psychological distress and burnout among primary school teachers. Lastly, Nwabuko et al. (2020) investigated the impact of Rational-Emotive Adult Education Intervention (REAEI) on burnout among Nigerian primary school teachers in the South-east zone. They found that 27% of the sample population displayed burnout symptoms, and REAEI alleviated burnout among Nigerian primary school teachers. Most studies conducted in Nigeria on burnout were survey studies and did not specifically focus on G/LD students experiencing academic burnout. Also, CBT interventions were used to address stress among primary school pupils, academic burnout among undergraduate students, and burnout among Nigerian primary school teachers. This highlights a significant gap in the literature regarding the effectiveness of intervention programs for treating academic burnout in G/LD students in Nigeria.

This study is anchored on the Cognitive Appraisal Theory by Lazarus and Folkman (1984) and the theory of multiple intelligences proposed by Gardner (1983; 1993; 1999). The cognitive appraisal theory suggests that how children perceive stressful events (primary appraisal) and their ability to cope with these situations (secondary appraisal) significantly affect the onset and persistence of stress. The secondary appraisal is influenced by the individual's coping skills, perception of stress, and emotional responses. Thus, this theory is relevant to this study, which focuses on CBT intervention for burnout in G/LD students. The study also relates to Gardner's theory of multiple intelligences (Gardner, 1983; 1993; 1999), which moves away from a single-faceted approach to a multi-dimensional concept. According to Page (2006), this theory posits that each individual possesses eight types of intelligence that can be developed to a high level. When children begin formal education, educators' teaching methods may favor specific intelligence over others, shaping their learning preferences. Gardner's emphasis on developing a child's strengths aligns with the principles of gifted education. Some G/LD students may require varying levels of support from internal and external factors to reach their full potential. In this study, CBT intervention addresses burnout in G/LD students in alignment with Gardner's

theoretical exposition. This study aimed to examine the effectiveness of cognitive behavioral therapy (CBT) in addressing the issue of academic burnout in G/LD students in Nigeria.

MATERIALS AND METHODS

Ethics Statements

This study was approved by the Department of Educational Foundations' Research Ethics Committee [No: REC/UNN/EDF/2018/00078] and strictly followed the American Psychological Association for Human Research guidelines. All participants, parents, and schools filled out and signed assent and consent forms. The study was registered on OSF Registries (<https://osf.io/v7wkz>).

Study Design and Sample

The study utilized a randomized controlled trial with a pre-test and post-test research design. This design was chosen because Garg (2016) highlighted that randomization ensures equal chances for children meeting inclusion criteria to be allocated to either the control or experimental group, minimizing biases in selection and allocation.

Primary five pupils classified as G/LD students were selected for the study using purposeful sampling to identify participants experiencing academic burnout in Enugu and Anambra States, Southeast Nigeria. GPower version 3.1 was used to determine a sample size with a probability level 0.05, resulting in 94 eligible participants. Through Saghaei's (2004) random allocation software, 47 pupils were assigned to the intervention group and 47 to the waiting-list group.

Data Collection

Data collection utilized the Academic Burnout Scale, adapted based on the dimensions of the Elementary School Student Burnout Scale Grades 6-8 (ESSBS) developed by Aypay (2011). The scale, with a 4-point Likert scale, assessed four dimensions of academic burnout: school-related activities (12 items), family-related activities (5 items), inadequacy in school (4 items), and loss of interest in school (5 items). The Comprehensive High School Student Burnout Inventory (CHSBI) by Khani et al. (2018) was also used to measure academic burnout among G/LD students with 17 items on a 6-point Likert scale.

Intervention Program

All primary school teachers and therapists involved in the intervention received one month of biweekly brief-

ings before the program began. The program consisted of eight sessions where teachers and therapists were briefed on the study aims and eligibility criteria and signed consent forms. Using random allocation, G/LD students were assigned to either a control or experimental group. The intervention program was held twice a week from 2-3 pm, with the experimental group receiving CBT intervention while the waiting-list group received standard classroom instruction. Data was collected at the end of the program with a follow-up test twelve weeks later.

The CBT intervention for burnout (CBI-B) consisted of 16 sessions lasting 40 minutes each, given twice a week over eight weeks. The experimental group received CBT techniques, including psychoeducation, relaxation techniques, cognitive restructuring, social skill training, and time management. Four cognitive behavioral therapists delivered the program, while external assessors monitored the implementation of the treatment and control conditions.

Data Analysis

Data analysis was conducted using JASP statistical software and SPSS version 22, utilizing a 2 x 3 mixed design considering Group (CBT vs. Control) as a between-groups factor and Time (pre-test vs. post-test vs. follow-up) as the within-groups factor. Preliminary analysis included Pearson product-moment correlation, Cronbach Alpha reliability estimates, Levene's Equality of Variance test, and Sphericity tests. Demographic variables were analyzed using frequency and percentage, and Holm's post-hoc tests were conducted.

RESULTS

The demographic data in Table 1 for selected participants includes gender, location, and age. In the CBT

group, male participants comprised 28.7% while female participants comprised 21.3%. In the waiting list group, male participants accounted for 27.7%, while female participants accounted for 22.3%. The chi-square value, $\chi^2=.043$; $p=.835$, indicated no significant difference in male and female responses in both the CBT and waiting groups. Out of the 94 participants selected for the study, 19.1% in the CBT group were rural residents, while 30.9% were from urban areas. Similarly, in the Waiting group, 21.3% were from rural areas, while 28.7% were from urban areas. The chi-square value, $\chi^2=.177$; $p=.674$, showed no significant difference between the CBT and waiting groups. Finally, the mean age of the participants in the CBT group was 9.66 ± 1.76 years, while in the waiting group, it was 9.81 ± 1.67 with no significant difference, $\chi^2= 5.257$; $p=.385$.

Some preliminary tests conducted on the dataset included the Pearson product-moment correlation, Cronbach's Alpha reliability estimates, Levene's test of Equality of Variance, regression slope, and sphericity. The internal consistency of the instruments was established using Cronbach's Alpha. The ESSBS and CHSBI instruments had internal consistency coefficients of .801 and .870, respectively, indicating reliability. Furthermore, the temporary stability of the ESSBS and CHSBI instruments was established using Pearson correlation, which yielded .884 and .987, respectively. Additionally, for the ESSBS instrument, Levene's equality test of variance assumptions was not violated at times one and two, $F= 3.368$; $p=.070$ and $F=0.420$; $p = .519$. At time 3, the assumption was violated, $F=72.473$; $p < .001$. The assumption of Levene's test of equality of variance was violated for CHSBI instruments at time 1, $F= 11.256$; $p < .001$; time 2, $F=30.032$; $p < .001$ and at time 3, $F=33.510$; $p < .001$. The assumption of Mauchly's test of sphericity was violated for both ESSBS and CHSBI instruments. Mauchly's

Table 1. Demographic characteristics of the participants.

Characteristics	CBT group N (%)	Waiting N (%)	χ^2	Significance
Gender			.043 ^a	.835
Male	27(28.7%)	26(27.7%)		
Female	20(21.3%)	21(22.3%)		
Location			.177 ^a	.674
Rural	18(19.1%)	20(21.3%)		
Urban	29(30.9%)	27(28.7%)		
Age	9.66 1.76	9.81 1.67	5.257	.385

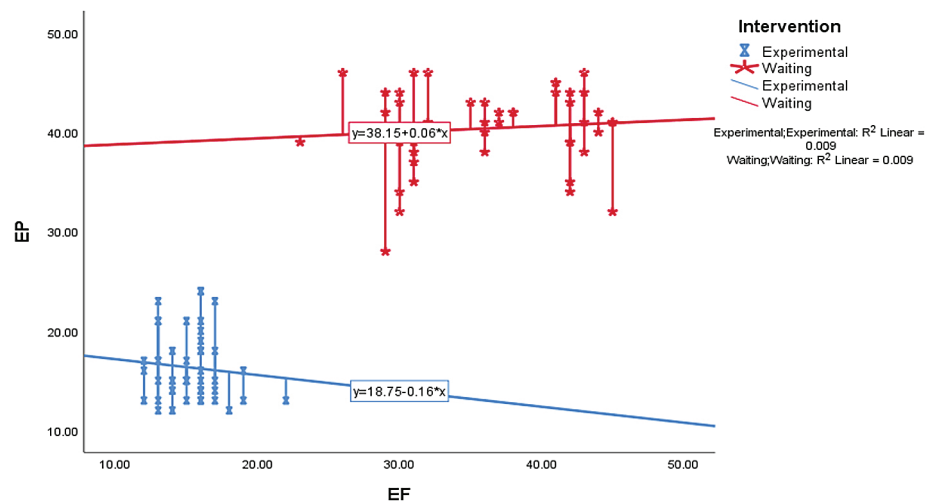


Figure 1. Regression slope as measured by ESSBS

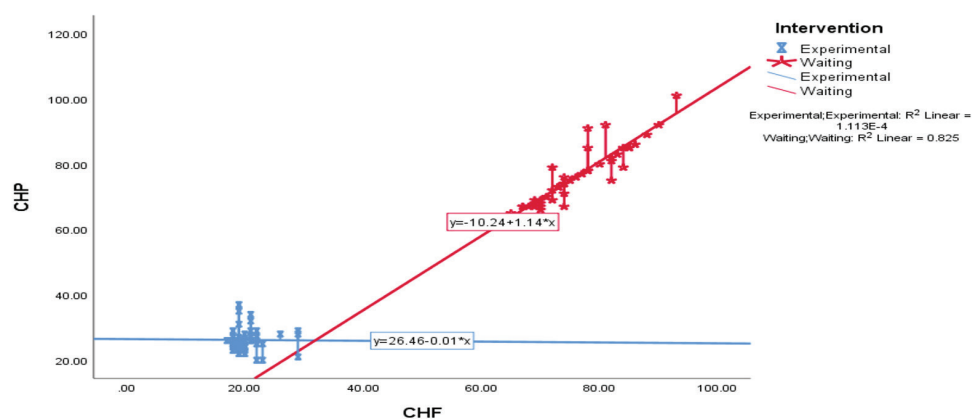


Figure 2. Regression slope as measured by CHSBI

$W = 0.607$, $p < .001$; and Mauchly's $W = 0.929$, $p = .023$; hence, Greenhouse-Geisser values were used.

Figures 1 and 2 demonstrate the homogeneity slope of academic burnout among G/LD students, as measured by ESSBS and CHSBI. The two figures violate the assumption of a regression slope, as their slopes point in different directions. This is expected, as the intervention aimed to reduce the academic burnout of G/LD students.

The data in Table 2 for the ESSBS instrument revealed that at time 1, the mean rating of participants was almost the same for CBT and Waiting Groups. The high mean ratings indicate that these G/LD students were experiencing academic burnout. At time 2, there was a noticeable difference in the mean burnout ratings of primary school pupils exposed to CBT and waiting groups. Based on time, there was a significant difference [$F(2, 92) = 857.683$; $p < .001$, $\eta^2 = 0.442$]. There was also

Table 2. Mean rating of burnout of participants as measured by ESSBS

Times	Intervention	Mean	SD	N
Time 1	CBT	45.660	2.139	47
	Waiting	45.447	3.182	47
Time 2	CBT	16.319	3.369	47
	Waiting	40.383	4.035	47
Time 3	CBT	15.255	2.016	47
	Waiting	36.106	6.076	47

Table 3. Mean rating of burnout of participants as measured by CHSBI

Times	Intervention	Mean	SD	N
Time 1	CBT	98.170	2.615	47
	Waiting	95.745	6.056	47
Time 2	CBT	26.191	3.493	47
	Waiting	76.064	8.613	47
Time 3	CBT	20.426	2.849	47
	Waiting	75.851	6.875	47

a significant difference based on intervention [$F(2, 92) = 968.405$; $p < .001$, $\eta^2 = 0.316$]. Finally, there was a significant interaction effect between intervention and time [$F(2, 92) = 320.534$; $p < .001$, $\eta^2 = 0.165$]. Due to significant differences in mean ratings of participants with respect to times and groups, a Holm's post hoc comparison was conducted. Differences were found based on time one and time two (Mean difference = 17.202, standard error = 0.521; $p < .001$); time one and time three (Mean difference = 19.872, standard error = 0.521; $p < .001$); time two and time three (Mean difference = 2.670, standard error = 0.521; $p < .001$). Furthermore, there was a difference based on the intervention (Mean difference = -14.901, standard error = 0.479; $p < .001$).

The data in Table 3 shows the mean ratings of participants as measured by the CHSBI instrument. At time 1, the mean ratings of participants in the CBT and Waiting groups were high and almost the same, indicating the presence of academic burnout. However, at time 2, there was a significant difference in the mean ratings of participants in the CBT and Waiting groups due to a potential decline in the participants' ratings in the CBT group. This decline in mean ratings was also observed at time 3. Therefore, CBT effectively reduced academic burnout among G/LD students as measured by the CHSBI. Based on time, there was a significant difference [$F(2, 92) = 3331.260$; $p < .001$, $\eta^2 = 0.503$]. There was also a significant difference based on intervention [$F(2, 92) = 1645.271$; $p < .001$, $\eta^2 = 0.296$]. Additionally, there was a significant interaction effect between intervention and time [$F(2, 92) = 1133.128$; $p < .001$, $\eta^2 = 0.171$]. Due to the significant differences in mean ratings of participants with respect to times and groups, a post-hoc comparison was conducted. Differences were found between time one and time two (Mean difference = 45.830, standard error = 0.670; $p < .001$); time one and time two (Mean difference = 48.819, standard error = 0.670; $p < .001$); and time two and time three (Mean difference = 2.989,

standard error=0.670; $p < .001$). Furthermore, based on the intervention, there was a significant mean difference of -34.291 (standard error = 0.845; $p < .001$).

DISCUSSION

This study investigated the effect of CBT on G/LD students experiencing academic burnout. The results showed that CBT reduced academic burnout in G/LD students. The effectiveness of the study can be attributed to the specific techniques of CBT used, such as psychoeducation, relaxation techniques, cognitive restructuring, social skill training, and time management. The timing of these techniques played a significant role in reducing academic burnout among G/LD students. These findings align with previous research by Otu et al. (2022), which found CBT effective in reducing academic stress among students. This study also corroborates the findings of Hikmah et al. (2020), who discovered that CBT group counseling with cognitive restructuring techniques effectively reduced academic burnout in students. Through the CBT techniques utilized in this study, we observed significant reduction in academic burnout among G/LD students which aligns with other studies that also applied similar techniques for burnout treatment (e.g., Bakare et al., 2019; Eseadi et al., 2023; Ezenwaji et al., 2019b; Igbokwe et al., 2019; Ofoegbu et al., 2020; Ogbuanya et al., 2019; Ugwoke et al., 2018). This study, utilizing a randomized controlled trial design, is the first to investigate CBT's impact on G/LD students with academic burnout. All participants completed the study, ensuring data integrity. The findings of this study contribute significantly to the understanding that CBT effectively reduces academic burnout in G/LD students.

Furthermore, the finding of the current study is in agreement with a recent study by Madigan et al. (2024), which identified CBT as effective in reducing overall

burnout in students, with a notable effect size and the most compelling evidence for its effectiveness was derived from randomized controlled trials, rational emotive behavior therapy, and mindfulness-based interventions. The finding of this study also corresponds with those of another research effort, which found that a CBT program for school students effectively reduced burnout (Ulaş & Seçer, 2022). Similarly, another research also confirmed the beneficial impact of CBT on managing academic stress, whose severity could lead to burnout among students (Eneogu et al., 2024). In another study, the implementation of CBT was associated with a significant reduction in burnout symptoms, although the subjects were parents instead of students (Anclair et al., 2018). This result highlights the potential of CBT as an effective intervention for addressing burnout symptoms. As shown in previous studies, CBT demonstrates considerable potential as a practical approach to addressing academic burnout among students at various educational levels (Baratisedeh et al., 2023; Eseadi, 2022; Kiamarsi et al., 2018; McMahon, 2016).

Nevertheless, further focused research could enhance and tailor CBT strategies specifically for G/LD students at the primary school level. The practical implications of this study for primary school teachers and school management are noteworthy, as it highlights the effectiveness of CBT intervention in reducing academic burnout in G/LD students. Implementing CBT-related techniques in the classroom can help alleviate pupils' academic burnout. This study underscores the importance of psychological services in primary education, particularly for academic burnout among pupils. Despite its contributions, this study had limitations. Participants were strictly selected based on high academic burnout ratings, excluding those with mild burnout levels. Also, certain CBT techniques were not applicable due to the age of the

G/LD students in the study. Future research should include other age groups of primary school pupils experiencing academic burnout and expand the use of CBT intervention programs. Interviews and group discussions could complement quantitative results in future studies.

CONCLUSION

Academic burnout is a significant factor that hinders the achievement of the objectives of basic education at the primary school level. However, this study has shown that CBT intervention effectively reduces academic burnout in G/LD students at the primary school level. This study is unique in its focus on treating academic burnout in G/LD students at the basic education level. The findings of this study suggest that the services of therapists and psychologists are essential in basic education, especially for early treatment of psychological issues like academic burnout.

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AUTHORS' CONTRIBUTION

ARO, AOA, and CE conceived the study and were responsible for the design and development of the data analysis. ARO, AOA, and CE were responsible for data collection and analysis. ARO, AOA, and CE were responsible for data interpretation. ARO, AOA, and CE wrote and proofread the first and final drafts of the article.

DECLARATION OF INTEREST

The authors reported no potential conflict of interest.

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