Effects of a language education intervention on social participation among emerging adults with autism

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Abstract

Objective: This study aimed to examine the effects of a language education intervention (LEI) on social participation among emerging adults with autism.

Methods: This randomized clinical trial involved 86 emerging adults who had low social participation, as assessed by the Social Participation Questionnaire. Participants completed an LEI comprising cognitive, adaptive and rational thinking training to improve their ability to take part in social events. Repeated measures analysis of variance was used to analyse the data.

Results: The results indicated a significant increase in social participation among emerging adults who were exposed to the LEI compared with their counterparts in a wait list control group.

Conclusion: Language and speech institutions and hospitals should adopt the LEI procedures discussed in this research to help their autistic patients increase their participation in social activities.

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Introduction
Social participation among individuals with autism is now a global concern that requires urgent attention because of the increasing incidence of autism in adults. Recent studies indicate a high prevalence of autism in emerging adults, among whom poor social participation is a particular problem. Autistic adults may experience social isolation, have no close friends and fail to participate in community activities. Social participation among such individuals is predicted by cognitive abilities, adaptive skills and irrational thoughts. Because autistic adults exhibit below-average cognitive functioning, adaptive coping and rational thinking, they may find it difficult to increase their involvement in social activities. It is therefore necessary to investigate the effects of intervention programs targeted at enhancing the cognitive, adaptive and rational thinking competencies of adults with autism.

One problem is that previous studies have failed to clarify whether educative interventions can effectively increase social participation in the autistic adult population. To address this gap, the current study tested the effects of a language education intervention (LEI) on social participation among emerging adults with autism. The LEI is a behavioural educative intervention program based on cognitive, adaptive and rational emotive principles. Underlying the program is a medical philosophy that considers disturbances to emerge from faulty beliefs about social activities, which is the core of rational emotive therapy. This type of therapeutic approach assumes that an individual has irrational thoughts that may prevent him/her from exercising the freedom to live life. The study focused on individuals in the developmental stage of emerging adulthood, a stage between adolescence and full-fledged adulthood. During the LEI, emerging adults received cognitive, adaptive and rational thinking training to improve their ability to take part in social events. Thus, the objective of the study was to determine the effects of a language education intervention on social participation among emerging adults with autism. Hypothesis which states that: “there will be no significant effects of a language education intervention on social participation among emerging adults with autism” was tested.

Methods
Ethical considerations
We adhered to the ethical principles of the Declaration of Helsinki and the guidelines of the Faculty of Education at the University of Nigeria, Nsukka, Nigeria. We also complied with the regulations of the UMIN Clinical Trials Registry (UMIN000035599). The study was approved by the research and ethics committee of the Department of Art Education, Faculty of Education, University of Nigeria.

Participants
We recruited 86 autistic emerging adults from southeastern Nigeria and divided them into a treatment group and a wait
list control group. Following Reifman et al., we defined emerging adults as individuals aged between 18 and 25 years. Using observations in the participants’ medical reports, we ensured that participants met the Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition, Text Revision (DSM-IV-TR) criteria for autism spectrum disorders, as recommended by Seltzer et al. and Lord et al. The other inclusion criteria were demonstrating low social participation, as ascertained using the Social Participation Questionnaire (SPQ); showing a willingness to participate in the research, as signified by a signed informed consent form; being available to attend all intervention sessions; and having English as their primary language. We used numbered containers to assign participants to the two groups and kept track of attendance. No cases of illiteracy were observed.

Procedures

This was a pre-test/post-test group randomized trial in which participants were randomly allocated to the treatment and wait list control groups. Participants in the treatment group were exposed to a 14-week LEI, whereas those in the wait list control group did not receive any language development training within the aforementioned period. Both groups underwent three SPQ-based assessments: before the intervention, after the intervention and after follow-up. The SPQ, which we developed and submitted for validation by experts, comprises several subdomains, such as collective motive, social motive, reward motive, identification with older people, willingness to participate in social activities and willingness to maintain friendships, in line with measures used in previous studies. The SPQ comprises 26 items rated on a four-point scale ranging from 4 (‘strongly agree’) to 1 (‘strongly disagree’) and has an internal consistency coefficient of 0.79. Examples of items from the questionnaire are ‘attending church or special interest group meetings’, ‘participating in recreational activities’, ‘forming meaningful relationships in new settings’ and ‘sustaining friendships’. A high SPQ score ranges from 78 to 104 (indicating low social participation) and a low score ranges from 26 to 77 (suggesting high social participation). We used repeated measures analysis of variance to analyse the data. SPSS version 22.0 was used for all analyses (SPSS Inc., Chicago, IL, USA). The analysts were blinded and did not take part in the intervention and assessment procedures.

Intervention

Language education intervention. The LEI for increased social participation among emerging adults with autism spanned 28 group sessions (2 hours each) and was implemented over 14 weeks. Meetings were conducted twice a week. A 4-week follow-up was carried out 2 months after the intervention was concluded. The development of the LEI used in this study was based on cognitive, adaptive and rational emotive principles used in previous research. Therefore, the focus of the LEI was to improve the cognitive abilities, adaptive skills and rational thoughts of the participants to increase their social participation. Language education techniques, cognitive behavioural techniques, rational emotive techniques and social coping techniques that have led to positive results in previous studies were used in the present study. Using these techniques, participants were exposed to learning experiences that helped them to question irrational thoughts that had hampered their social participation, thereby strengthening their cognitive, adaptive and rational skills and facilitating their social participation. Details of the intervention have been
described in previous studies. The LEI was administered to participants in six small groups by six clinicians with training and expertise in speech-language education, language pathology, psychology, counselling and medical rehabilitation.

Results and discussion

There were 43 participants in the treatment group (14 males, 29 females) and 43 in the wait list control group (18 males, 25 females). The mean age of the treatment group was 23.36 ± 1.10 years, and that of the control group was 24.01 ± 2.80 years. Data were analysed only from participants who completed all three assessments (treatment group n = 36, control group = 34). The findings revealed no significant difference in the baseline measure of social participation between the treatment group (91.00 ± (standard deviation) 3.34) and the wait list control group (90.47 ± 2.97). The high mean value indicates that there was low social participation among the autistic emerging adults at the baseline assessment. This finding supports previous studies that found an association between poor social participation and autism disorder. The finding also supports previous research indicating that autistic adults experience social isolation and lack of close friends and do not participate in community activities.

The post-intervention assessment revealed a significant increase in social participation among autistic emerging adults in the treatment group (31.72 ± 2.16) compared with those in the wait list control group (89.21 ± 1.98), F(1,69) = 388.80, P = .000, η² = .851, R² = .849, CI = 52.19–67.17, standard error = 3.75. The findings indicate that LEI was efficacious in increasing social participation among emerging adults with autism. The results are in accord with previous evidence that individuals with autism can be helped to cope with social challenges using educative interventions. The findings also support research indicating that cognitive abilities, adaptive skills and irrational thoughts are predictors of social participation among adults with autism. Our intervention addressed the cognitive, adaptive and irrational thoughts of the autistic emerging adults to increase their social participation.

The follow-up assessment demonstrated an additional significant increase in social participation among the autistic emerging adults in the treatment group (30.11 ± 1.11) compared with those in the wait list control group (85.34 ± 2.23), F(1,69) = 384.59, P = .000, η² = .852, R² = .859, CI = 50.94–66.20, standard error = 3.82. This is further evidence that the LEI affected social participation, and supports research indicating that educative interventions can strengthen social skills in individuals with autism disorder. The current findings suggest that language-speech therapists, pathologists, educators, special teachers, counsellors and medical professionals in educational institutions, medical centres, rehabilitation centres and special schools should adopt this type of LEI to help autistic adults increase their social participation. However, additional studies are needed to determine whether the effects of this LEI on social participation among autistic individuals apply to other locations. Despite the positive findings, the study had some limitations, such as the small sample size, lack of qualitative data and inadequate participant demographic data. We therefore suggest that these limitations should be addressed in future research on the effect of LEI among autistic individuals.

Conclusion

The objective of this study was to investigate the effects of LEI on social participation among emerging adults with autism. The findings revealed that LEI was
efficacious in increasing social participation among emerging adults with autism. Therefore, we urge language-speech institutions and hospitals to adopt the LEI procedures used in the current study to help their autistic patients increase social participation. There is need for more research and policies to support the implementation of LEI in communities that may contain autistic individuals.

Declaration of conflicting interest
The authors declare that there is no conflict of interest.

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