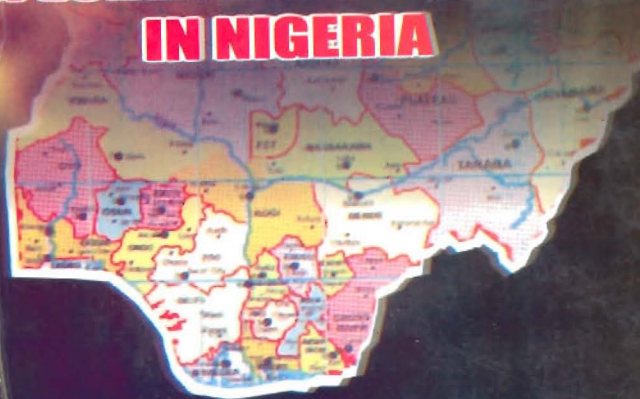


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Chapter 45

COGNITIVE-BEHAVIOURAL MODIFICATION STRATEGIES IN BOOSTING SELF-CONCEPT OF STUDENTS WITH CEREBRAL PALSY

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Introduction

The importance of having a positive, well-adjusted self-concept by an individual cannot be underrated. However, the attainment of this may be difficult for an individual regardless of whether he/she is disabled or not. It is also a known fact that cerebral palsy may, in itself, affect the formation of someone's personality. Self-concept can be defined as the perception one has of oneself with regards to different facets of that perception (i.e cognitive and emotional) that vary in importance during the person's life facet (the evolutionary and temporal), influenced by social interaction which in turn, is conditioned by the fact that the person belongs to certain social groups (Lazar and Menaldino, 1995). According to Burns (1990), a number of basic factors contribute towards the formation of a person's self-concept. These are.

- Body image
- Language
- The acquisition of a sexual identity and the role of gender
- The interpretation of information received from the surrounding environment; how others see one.
- Educational practice

A person's self-concept will gradually be reformulated during different stages of development, increasing on its degree of organization, complexity, consistency and stability. The observation is that of an evolution that ranges from a self-concept based on physical appearance, to a whole system of beliefs that appear in adolescence and a single sense of self discovery. This process continues developing during the person's entire life (Alexander, 1996.)

Cerebral palsy which is one factor that could affect the formation of someone's personality is a term used to describe the motor impairment resulting from brain damage in the young child regardless of the cause of the damage or its effect on the child. Cerebral palsy is not synonymous with disease or illness. It is the description of a physical impairment that affects movement. The movement problems vary from barely noticeable to extremely severe. No two individuals with cerebral palsy are the same. It is as individual as people themselves (Clark, James, and Lily. 1996). Cerebral palsy is most frequently the result of failure of a part of the brain to develop before birth or in early childhood period.

This is sometimes because of a blocked blood vessel, complications in labour, extreme prematurity or illness just after birth. Infections during pregnancy, or infancy and early childhood, for example meningitis or encephalitis, can also cause cerebral palsy. Occasionally, it is due to an inherited disorder (Fisk, Pontefract, and Rituo 1994).

The main effect of cerebral palsy is difficulty in movement. Many people with cerebral palsy are hardly affected, others have problems walking, feeding, talking or using their hands. Some individuals are unable to sit up without support and need constant enabling. Sometimes other parts of the brain are also affected resulting in sight, hearing, perception and learning difficulties. Between a quarter and a third of children and adolescents and about a tenth of adults are also affected by epilepsy (Gerkart, 2001).

People with cerebral palsy often have difficulty controlling their movement and facial expressions. This does not necessarily mean that their mental abilities are in anyway impaired. Some are of higher than average intelligence while some have moderate or severe learning difficulties. Most people without cerebral palsy, are of average intelligence (Gilbert, and Vinters, 1987).

Cerebral palsy may be classified by the type of movement problem (such as spastic or athetoid cerebral palsy or by body parts involved (hemiplegia, diplegia and quadriplagia). Spasticity refers to inability of a muscle to relax, while athetosis refers to inability to control the movement of a muscle. Infants who at first are hypotonic wherein they are very floppy may later develop spasticity ('O' Brien, 1992).

Hemiplegia is cerebral palsy that involves one arm and one leg on the same side of the body, whereas with diplegia the primary involvement is both legs. Quadriplegia refers to a pattern involving all four extremes as well as trunk and neck muscles. Another frequently used classification is ataxia which means balance and coordination problems. The motor disability of a child with cerebral palsy varies greatly from one child to another, thus generalization about children with cerebral palsy can only have meaning within the context of the sub-group described above. For this reason sub-groups will be used in this paper whenever results and outcome expectations are discussed.

Self-Concept and Cerebral Palsy

It has been observed that young people with cerebral palsy showed positive relationship between severity of injury and changes of motor-sensory skills, communications, and intellectual functioning (Patrick and Hostler, 1998). In turn, modifications in motor-sensory skills, communication patterns and cognitive skills could affect impulse control and the way an individual manages his anger and frustration. These neuro-behavioural changes can facilitate depressive episodes with the accompanying lack of motivation to undertake many life tasks or to engage in necessary

social relations. Since decreased motor coordination is commonly associated with cerebral palsy, this physical aspect of disability may be particularly important for adolescents who are very concerned with body image (Lazar and Menaldino 1995).

A child's competence and self-concept are strongly affected by experiences in the family circle. In adolescence, the move toward independence becomes a powerful driving force. However, an individual who is coping with cerebral palsy effects and activities of daily living is likely to feel disempowered, threatened and vulnerable. Identity issues may also be aggravated as a result of injury. The concept of identity includes self-confidence, self-esteem, and a sense of how one is perceived by others. At onset of cerebral palsy, these perceptions may tend to be negative. For an adolescent who is coping with the effects of cerebral palsy and who may be less self-assured there is additional difficulty in resolving questions emerging from maintaining self-esteem. Combined with these issues of identity are the daily challenges of satisfying the need for companionship and peer support. Because of mental and behaviour deficits associated with cerebral palsy, social inclinations become frustrating or unrealistic. The individual may have trouble with the skills required to maintain group relations and may even become a stranger to cordial good relationship. The cognitive dysfunction resulting from cerebral palsy can drastically change an individual's learning ability, especially in the academic domains.

Cognitive-Behaviour Modification strategies and Students with Cerebral Palsy

Psychological approaches and in particular, cognitive and behavioural strategies could be used to manage the self concept of students with cerebral palsy. It has three main phases, which has been used for the management of pain, anger, anxiety. (Meichenbaum and Turk, 1976). The first phase of the training is the educational phase in which participants will be provided with an explanatory scheme or conceptual framework. Next is a

rehearsal phase, in which participants are exposed to a variety of cognitive and behavioural techniques for coping with pain based on conceptual framework, (for example relaxation and deep breathing, distractions imagery strategies and self-instructional training including coping self-statements or self-talk). Subjects are however, to choose the coping with techniques they wish to employ. The final phase is an application phase in which subjects are given an opportunity to test out their newly-acquired skills either by imagery-rehearsal and role playing or by exposure to an actual experimental pain stressor. This paper therefore focuses on how cognitive-behaviour modification strategies can be used to boost the self-concept of individual students with cerebral palsy.

Hypotheses

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

- (i) There will be no significant difference in the level of self-concept of Students with Cerebral Palsy (male and female) exposed to cognitive-behaviour modification strategies.
- (ii) There will be no significant difference in the level of self-concept of students with mild and severe cerebral palsy treated with cognitive behaviour modification strategies.

METHOD:

Design

Pre-post experimental study was adopted for this study.

Participants

The sample for this study consists of twenty-six purposively selected cerebral palsied students of Federal College of Education (Sp) Oyo. The sample includes 18 males and 8 females ranging in age between 19 and 27 years with a mean age of 23 years. 2 of the participants have speech defect, 8 are confined to wheel chairs, 6 use crutches and the remaining 10 are ambulatory. 15 have severe while 11 have mild cerebral palsy. 17 of the participants are Christians while 9 are Muslims.

Instrument:

The instrument used to collect data for this study was a self-concept questionnaire designed by the researchers. The instrument consists of 25 – items; it is a self-rating instrument with 5 – likert rating point ranging from 'most like me' 5 and 'most unlike me' – 1 .. 2, 'like me', 3, not sure and 4 unlike me. The reliability of the instrument was established using test-retest method. The scores on the test of instrument yielded 0.67 correlation coefficient.

Procedure and Treatment

The subjects participated in six sessions of one hour duration per week. The pre-test questionnaire was administered to the participants before the session commenced. A contract was then made between the researchers and the participants such as agreeing on the venue, and time of meeting for the next six weeks.

During the first session, the treatment rationale and therapy procedures were outlined and participants received practice in imagining situation.

The second session witnessed the identification of emotional responsiveness in individual participants. The researchers and the participants discussed personal problems, negative and irrelevant thoughts which are known to affect the participants' self-concept. In this session, participants' self statements were assessed on the problem. Such self-statements were considered from the type of attributions. To whom does the participants' attribute the problem? Is it self, significant others, teachers, peers, parents or forces beyond control? The researcher also considered the referents of the target behaviour. Is the referent covert involving cognitive aspects or overt involving motor activities?

In the third session, identification of unrealistic beliefs, negative self-statements and physical arousal relating to participants low self-concept were discussed.

During the fourth session, the participants were trained in the recognition of maladaptive thoughts associated with low self-concept. The participants were taught to adopt a more rational and adaptive stance towards themselves. The participants were made to realize both the cognitive and behavioural effects of the evaluation of their negative thoughts.

In the fifth session, the participants were taught modification of negative self-statements. The participants were trained on how to modify their negative self-statements by replacing them with positive self-statements. The assumption underlying this approach is that emotional disorder results at least in part from inappropriate, irrational or self-defeating thoughts or beliefs. The researcher and the participants further discussed cognition which are seen as mediating between environmental events (stimulus) and low self-concept (response).

During the sixth session the participants were trained to develop and test new things to boost their self-concept. The participants were also trained in deep muscle relaxation. The entire programme was reviewed through rehearsal, role play, relaxation and case studies. This session was an active one whereby the participants and the researchers were co-participants. The researchers briefly summarised the whole treatment package. The post test instrument was administered to the participants.

Data Analysis:

The main statistical procedure adopted for the quantification of available data is t-test. The computation was effected at alpha level of 0.05.

Results

Table 1: t-test Post-treatment Comparison of Male and Female Subjects Exposed to

Cognitive-Behaviour Modification Strategies.

Variables & categories	N	X	SD	t-obs.	t-cri	DF	Decision
Male	18	149.58	17.87	7.89	2.03	24	Reject Ho
Female	8	141.43	13.52				

From Table 1 above, the post-treatment comparison of the subjects using t-test statistics at the 0.05 alpha level showed that the predicted null hypothesis could not be supported. This is because the compared value of t-observed (7.89) is greater than the critical t-value of (2.03) with the degree of freedom of 24 at 0.05 alpha.

Table 2: t-test Post-treatment Comparison of Subjects with Mild and Severe Cerebral Palsy Exposed to Cognitive-Behaviour

Modification Strategies.

Variables & categories	N	X	SD	t-obs.	t-cri	DF	Decision
Mild	11	154.27	19.69	5.37	2.02	24	Reject Ho
Severe	15	135.09	17.83				

As presented in table 2 above, the compared post-test outcome of subjects with mild and severe cerebral palsy showed the non-support for the tested null hypothesis. The result evidently revealed that there was significant difference in the treatment outcome of subjects. This is because the compared observed t-value (5.37) is greater than the critical t-value of (2.02) at 0.05 alpha.

Discussion

In presenting the findings of this study which is basically the effects of cognitive-behaviour modification strategies on self-concept of students with cerebral palsy, a number of results and conclusions were arrived at.

The first hypothesis was rejected on the basis of the results. The results indicated that the cognitive-behaviour modification strategies had boosted the self-concept of the

subjects. More so, the findings further revealed that female students with cerebral palsy exhibited improved self-concept compared to the male subjects. The results obtained from the first hypothesis corroborated the findings of Beatty (1991) who found that the person's image of the body, orientation and mobility, specific aspects of language, the acquisition of a sexual identity, the role of gender, play interaction with their peers, and an acceptance of the impairment, can among other things, be areas of special difficulty for children with cerebral palsy unless these children are stimulated by offering them a large variety of different cognitive skills with which to create their own personal sense of identity.

The second hypothesis was rejected as there was statistical difference between the two treated categories. The findings of the results indicated that treatment was more effective with the subjects with severe cerebral palsy than the subjects with mild cerebral palsy. The results of the findings of the second hypothesis was not surprising, taken into consideration, the fact that subjects with severe cerebral palsy are faced with a unique array of behavioral and emotional reactions. The result was also in support of the findings of Patrick and Hostler (1998) who said that modification in motor-sensory skills, communication patterns and cognitive skills can affect impulse control and the way an individual manages his/her anger and frustration. To achieve some clarity in what is a complex adjustment situation therefore, it is more appropriate to promote the social dimension of self-concept, encouraging children and adolescents with cerebral palsy to feel part of their different reference groups so that they feel accepted, loved and valued.

Conclusion

Considering the fact that self-concept is multi-dimensional and hierarchies are conditioned by idiosyncratic and personal values it is of interest to promote integral, global, preventive intervention programmes from the earliest stages of development

or, at very last, individual intervention programmes designed to compensate for those areas of person's self-concept that are most in need of reinforcement.

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