

A Predictor Of Quality Of Life Of The Mainstreamed Elementary Students: Cognitive Errors

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The aim of this study is to examine the cognitive errors as predictor of quality of life of mainstreamed elementary students. Quality of life is the degree of well-being felt by an individual. The functional deficiencies, which occur due to physical, cognitive, sensory, emotional disorders, affect the quality of life of the individuals. In this study, it is aimed to analyze the cognitive errors as the predictor of the quality of life of the mainstreamed students. The sample of the research was composed of 117 mainstreamed students (46 of the students are female and 71 of the students are male) selected by random sampling method who attend from first to fifth classes of a school under the control of Ministry of National Education in the academic year of 2007-2008 in Turkey, Samsun. The students were evaluated by the Children's Negative Cognitive Errors Questionnaire and Quality of Life Inventory for Children. The results of multiple regression analyses indicated that cognitive errors predict quality of life of the mainstreamed elementary students. The results of the Pearson product-moment correlation coefficient showed that cognitive errors were related to quality of life of the mainstreamed elementary students. Future studies are needed to replicate these results. Moreover, the relation between cognitive errors and quality of life were examined by self-report measures. In the future studies, different methods such as interview or observation could be used.

The mainstreaming approach in education, which means that the students with disabilities are educated in general education schools with their peers, has been extensively accepted over the last 30 years. Students with disabilities have been educated with their peers who are not disabled in general education schools in many countries (Sucuoğlu & Özokcu, 2005). The separate education environment causes the students with disabilities to be alienated from the society and have trouble in adaptation (Yıkmaş, 2006). The functional deficiencies which occur due to physical, cognitive, sensory, emotional disorders affect the quality of life of disabled children (Fellinger, Holzinger, Dobner, Gerich, Lehner, Lenz et al., 2005; Fellinger, Holzinger, Gerich & Goldberg, 2007; Rosenbaum, 2008). The research conducted by Davis and Lombardi (1996) showed that the quality of life of the students attending a special education setting is lower than those who have general education. The main objective of the mainstreaming in education, which should be started from the preschool period, is to integrate the students with disorders with their peers academically and socially; to meet their social and emotional requirements, to help self identity development, to make it easy to live in the society as independent and productive individuals (Darca, 1992; Sucuoglu & Ozokcu, 2005) and thus to improve their quality of life.

Quality of life is defined as the emotional and personal answer (reaction) to the difference, that is perceived between the activities the person can still do and the activities the person wants to do (Oguz, Dursun & Dursun, 2004). This includes not only the personal state of health but also the personal state of being good (Altıparmak, 2006). Bowling defines that the quality of life is the satisfactory social situation within the limits of the physical capacity of the individual (Altıparmak, 2006). It is affected by the state of health, spiritual situation, social relations, the level of independency, personal beliefs of the person and the society's attitude to the person with disabilities (Voll, 2001; Uğuz, Dursun, Kaya & Çilli, 2006). On this issue Beck (1967) developed a cognitive model, which explains how individuals form own behaviors.

According to the cognitive model, the thoughts and beliefs of individuals' about the environment, the future and self form their behaviors (Beck, 1967). Emotional and behavioral problems are not only determined by exterior reality, but also by the improper and unrealistic commends of the individual.

The most noteworthy cognitive variants are the dysfunctional schemes and errors (Leung & Poon, 2001). Schemes are the cognitive structures in the mind and the content of these structures is composed of the core beliefs. Under the core beliefs there are intermediate beliefs which finds expression with automatic thoughts, but more resistant to change. These intermediate beliefs are the strict belief systems composed of rules, commands, demands and musts. Automatic thoughts are the expression of the individual about himself and the environment and his inner monologues. These thoughts, which do not come from a rationalistic and systematic thought system, flow rapidly on certain situations in the minds of the individuals. They are formed spontaneously by clinging to the thought. The individual is not aware of these thoughts mostly. Only the feeling resulting from the thought stands in the forefront (Beck, 2001). These permanent schemes, which there is not, enough data about their reality constitutes cognitive distortions and errors. These errors include selective abstraction, mislabeling, overgeneralization, magnification and minimizing, personalizing, dichotomous thinking (Ucak-Simsek, 2003). Cognitive errors are the thoughts which make the adaptation of the individual both to himself and to his environment difficult and which cause both psychic and physical ailments (Leitenberg, Yost & Carrol-Wilson, 1986; Deal & Williams, 1988; Thurber, Crow, Thurber & Woffington, 1990; Johnson, Johnson & Petzel, 1992; Liau, Barriga & Gibbs, 1998; Epkins, 1998).

The researchers showed that the cognitive structure gains invariability with the increasing age and that the most important alterations happen up to the age of 12. The childhood period is considered to be the critical period in terms of the research about the factors causing the negative cognitive structure development (Gotlib, Lewinsohn, Seeley, Rohde & Redner, 1993; Garber & Flynn, 2001). The difference of the adaptation behaviors of the individuals with disabilities is stemmed not only from the self-inability, but also the attitude and the reactions of the environment towards this inability. In connection to this, it is derived from individual's thinking of self and acquired deficiencies. Investigation of the relations between the quality of life of the students with disabilities in mainstreamed primary classrooms and their cognitive errors, is seen as an important issue to be searched Öztürk (2006). It is a prime responsibility of special educators and psychological advisers to determine life quality of disable students and examining factors affecting their life qualities and using obtained data to strengthen their spiritual and emotional health. The researchers display the relation between the quality of life and the cognitive errors, which is thought to be one of the important determinants of the quality of life. This is very important for determining preventive interventions and for preparing the regulations oriented to improve the quality of life. For this reason, in this study, the researchers will analyze the cognitive errors as the predictor of the quality of life of the mainstreamed students. Answers will be sought to the questions as follows:

1. Is there a significant relation between the quality of life and cognitive errors of the mainstreamed students?
2. Are the cognitive errors of the mainstreamed students a significant predictor of quality of life?

Method

Participants and Instruments

The sample of the research is composed of 117 mainstreamed students selected by random sampling method who attend from first to fifth classes of a school in Samsun (a city located on the Black Sea coast of Turkey) under the control of the Ministry of National Education in the academic year of 2007-2008. Forty-six of the students are female and 71 of the students are male. The average age of the students is 10.21 ($S= 1.00$).

In this study, two tools were used for data gathering. Children's Negative Cognitive Error Questionnaire was used for determining the cognitive errors of the students and the Health Related Quality of Life Scale (Kid-KINDL) were used for determining the level of quality of life. The structure and contents of these tools are explained below.

Children's Negative Cognitive Error Questionnaire

Children's Negative Cognitive Error Questionnaire was used to evaluate the cognitive distortion of children developed by Leitenberg et al (1986) and adapted to Turkish by Karakaya, Coşkun, Ağaoğlu, Öç, Çakin-Memik, Şişmanlar, et al. (2007). Validity and reliability of the scales were carried out in three elementary schools. The students were given The Children's Negative Cognitive Errors Questionnaire (CNCEQ), Children's Depression Scale, State- Trait Anxiety Inventory for Children

(STAIC), and Coopersmith Self-Esteem Inventory. The CNCEQ was re-administered to the students seven days after its first administration. In the reliability analysis, the Cronbach's alpha coefficient was calculated as 0.82 and 0.79. Test-retest reliability of the total score was 0.87. In comparing the CNCEQ to CDI, SAIC, TAIC, and SEI, correlations were $r = 0.77$, $r = 0.57$, $r = 0.50$, and $r = -0.65$, respectively ($p < 0.001$). As a result of the factor analysis three factors, which were called catastrophizing, personalizing, and selective abstraction and whose self-value is bigger than one were obtained (Karakaya, Coşkun, Ağaoğlu, Öç, Çakin-Memik, Şişmanlar, et al., 2007).

Health Related Quality of Life Scale (Kid-KINDL)

Kid-Kindl is a general-purpose quality of life scale developed for children, comprised of 24 articles and six dimensions (physical well-being, emotional well-being, self-esteem, family, friend and school). Using the multitrait/multi-item analysis program (MAP) item-internal consistency and item discriminate validity was calculated to confirm the instrument structure. Likert Scaling assumptions were tested. A confirmatory factor analysis (CFA) was applied as well. After the amendment of unsatisfactory two items the Kid-KINDL was applied to a separate random selection of 84 children and the analyses were repeated. Cronbach α was 0.35 – 0.78 before and 0.54-0.78 after the amendment. MAP-scaling success was 60-100% before and 90-100% after the amendment. CFA confirmed the Kid-KINDL structure for the original version (RMSEA=0.077) less than for the modified one (RMSEA=0.059) although for the latter sample size rather small. Floor effects were negligible, ceiling effects were up to 19% (Eser, Yüksel, Baydur et al., 2008).

Procedure

Measurement tools were used in the class by the researchers. After the data gathering process was concluded, the gathered data was used in proper statistical processes in computer. Using SPSS did the analysis of the data. As a statistical analysis method Pearson correlation coefficient and linear regression analysis were used. Pearson correlation coefficient analysis is mainly used to examine the relations between variables. In this study relations between quality of life, which is the constant variable, and cognitive errors were analyzed through Pearson correlation coefficient analysis. Linear regression analysis is used to predict dependent variable on the basis of two or more variables that are related to dependent variable (Büyüköztürk, 2002).

Results

In this study, results revealed that the quality of life of the mainstreamed students was negatively correlated with the catastrophizing ($r = -.47$, $p < .01$), personalizing ($r = -.48$, $p < .01$), and the selective abstraction ($r = -.49$, $p < .01$) (Table 1).

Table 1
Relation between the Quality of Life and Cognitive Errors

Variable	Quality of Life
Catastrophizing	-.47*
Personalizing	-.48*
Selective Abstraction	-.49*

* $p < .01$

Results also indicated that 22% of the variance in quality of life was accounted for by scores on Catastrophizing subscale [$F(1,115) = 32.11$, $p < .001$] (Table 2). The Catastrophizing subscale predicted significantly mainstreamed students' quality of life ($t = -5.667$, $p < .001$). The scores for Personalizing accounted for 22% of the variance in quality of life [$F(1,115) = 33.81$, $p < .001$]. This subscale made significant contributions to mainstreamed students' quality of life ($t = -5.815$, $p < .001$). Selective Abstraction scores were related significantly to quality of life, accounting for 24% of the variance [$F(1,115) = 36.53$, $p < .001$]. It was found that the third subscale was a significant predictor of quality of life ($t = -6.044$, $p < .001$) (Table 2).

Table 2
Linear Regression Analysis of Cognitive Errors Scores Predicting Quality of Life

Variable	B	β	t	p	R	R ²	
Quality of Life	Catastrophizing	-.99	-.47	-5.667	.000	.47	.22
	Personalizing	-.86	-.47	-5.815	.000	.48	.22
	Selective Abstraction	-1.09	-.49	-6.044	.000	.49	.24

Discussion

Quality of life is described as the personal answer given to the physical, emotional, social impacts of disorders, which affect the personal satisfaction of individuals (Eser, Yüksel, Baydur et al., 2008). Emotional reactions of a human being depend on upon ones style of perception, recognition and interpretation of events. According to Beck's cognitive theory, (1976) there is an interaction between how a person sees himself, his environment and his future and how he feels himself and behaves to himself (Karakaya, et al., 2007). Therefore, the perception of quality of life of individuals is thought to be in relation with a way of thinking. In this research the cognitive errors as the predictors of quality of life of mainstreamed students were analyzed. Differences in cognitive structures of individuals make their reactions towards self and towards situations. Therefore attitudes of disabled individuals towards their own disabilities are constantly changing and their satisfactions become diverse. in contrast to isolating disabled persons from the society, it is thought that integrating them with members of society make their perceptions positive about themselves and their disabilities. In this way, they will be able to give positive reactions to real life. For this reason it was thought that perceptions of individuals about their own life qualities are related to their thinking styles therefore, in this study cognitive errors which is a predictor of mainstreamed students' life quality is investigated.

The results of this research showed that cognitive errors are meaningful predictors toward a quality of life for disabled persons. Furthermore, it was found out that there was a negative meaningful relation between the perception of quality of life of the mainstreamed students and the cognitive errors such as catastrophizing, personalizing, and selective abstraction. It is noted that in selective abstraction, generally individuals focus on an event in content and give meaning to the event through ignoring the more important elements of an event. Personalizing is described as relating a fact with self although it has nothing to do with the self. In personalizing, the individual thinks that he is the reason of other's negative behaviors. Catastrophizing is predicting that the future is negative without taking the realistic results into account (Beck, 1995). The research showed the differences between the behavior adaptations result from the thought that the individual developed about himself or herself and his or her disability (Öztürk, 2006). This study also shows that when cognitive errors increase the quality of life decreases as well. Additionally, studies showed that the attitudes such as humiliation, scorn, excluding from the society, pity, kidding, taking them for a fool, discrimination are the most important factors affecting the quality of life (Eser, Aydemir, Özyurt, Ayık & Tıkız, 2007). When individuals' attitudes towards environment and factors which affect their thinking taken into consideration, it can be understood that there is a negative relation between disabled individuals' cognitive errors and their life qualities.

It is recommended that in order to find out the factors related to the quality of life of students with disabilities in mainstreaming education is important in terms of taking measures and making regulations for improving their life quality. The relationship between cognitive errors and quality of life affirms the need for interventions that seek to remediate these errors. There are numerous intervention methods available, which address cognitive errors in non-disabled children and their families (Robins & Hinkley, 1989; Leung & Wong, 1998). In order to deal with negative thoughts and to develop positive thoughts of elementary students and their parents should be given psycho-educational support in mainstreamed schools. For instance, cognitive-behavioral interventions can be beneficial for mainstreamed elementary students who have cognitive errors. Thus, it is thought that it helps to improve their quality of lives if individuals with disabilities and their families are well educated in dealing with cognitive errors and related disabilities.

Future investigations can improve upon limitations of this study. First, the mainstreamed elementary students were evaluated by self-report measures in this study. Alternative sources such as interview or observation could have been used. Additionally, findings emerge from family- or teacher-rated levels or symptoms could be examined, and direct or observational measures about children's quality of life and cognitive errors could be applied for further investigations. Second, the generalizability of the present findings is limited to mainstreamed elementary students who participated in research. Future studies are needed to replicate these results. In conclusion, it is clear that cognitive errors play an important role in determining the quality of life of mainstreamed elementary students.

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