

**Original Article**

**Effect of the Education Which is Offered in Accordance with Bandura's Social Learning Theory on Children's Health Locus of Control, Perceptions and Behaviors**

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**Abstract**

**Objective:** This research was performed to identify the effect of education, which is offered in accordance with Bandura's social learning theory, on children's health locus of control, perceptions and behaviors.

**Material & Method:** The research was performed as pre-test & post-test and in quasi-experimental design. Research sample was comprised of a total of 269 students who were enrolled at schools selected by lot when the research was performed and who agreed to participate in the study. Children who agreed to take part in the research were randomly selected and categorized as one experimental group and one control group. The research was completed with the participation of 158 students in experimental group and 111 students in control group. Introductory survey form, Children's Health Locus of Control Scale and Children's Health Perceptions & Healthy Lifestyle Behaviors Scale were utilized in the research. The delivery of education which was prepared on the basis of social learning theory took six weeks and it was offered in eight sessions. Each session lasted approximately 40 minutes.

**Findings:** In the wake of this educational endeavor, it was found that the health locus of control and health perceptions & behaviors of children who were in experimental group were enhanced. It was discerned that there was no statistically significant difference in the mean of pre-test scores obtained by participants of experimental group and control group from Children's Health Locus of Control Scale and Children's Health Perceptions & Healthy Lifestyle Behaviors Scale.

**Result:** It was ascertained that the education delivered on the basis of Bandura's social learning theory was effective in enhancing children's health locus of control and health perceptions & behaviors.

**Key Words:** Bandura social learning theory, Health locus of control, Health perception & behavior, Child

**Introduction**

The child population drops at a growing rate in the world. It is important that attempts to enhance the development of shrinking young population be made in order to promote social development and to create a healthy society (World Health Organization, 2015). As social

skills and cognitive capacity are developed as of 6 years of age, children aged above 6 years can manage their own health behaviors. Moreover, by observing their peers and social environments, children aged above 6 years can get to learn patterns as to how they should behave and implement these behavioral patterns (O'Rourke,

2005). Environmental factor is a crucial element affecting the child. Environmental factor can be influenced by the change in child himself/herself (Bredablik, Meland, & Lydersen, 2008). Under today's conditions, children can be confronted with dangerous stimulants, and can accordingly adopt unhealthy behaviors. This situation highlights the need for combating various health risks likely to come into existence (Gobina, Zaborskis, Pudule, Kalnins, & Villerusa, 2008).

It is essential for a child to adopt health-promoting practices so that he/she can be a member of the society which he/she lives in and can get an elevated awareness about being part of this society (Bektas & Ozturk, 2008). Developing and reinforcing children's health skills and transforming these skills into practice in different settings are important issues on which the focus should be placed during schooling period (Gaspar, 2010). Children who fail to assume the responsibility for their own health and do not have the capability to administer their own healthcare are likely to be challenged with various physiological and psychological problems (Torsheim & Wold, 2001). Children's perception of health is a key factor for developing and controlling health behaviors which are learnt by them at social and cognitive levels (Bredablik, Meland, & Lydersen, 2008). The family, peers, environment, teachers and approaches which are introduced in the learning process play a big role in the adoption of positive health behaviors by children. Bandura's social learning theory defines the effect of social factors on the learning process of children. The theory is concentrated on understanding, predicting, reshaping or changing behaviors (Bandura, & Hall, 2018). As per social learning theory, the child can control and then can reshape his/her behaviors as a response to reactions expressed by others against the stimulating effect of his/her behaviors (Demirbas, & Yagbasan, 2005). Social learning theory is primarily cognition-based and it is found to be effective for children (O'Connor et al., 2013). Through social learning theory, health conditions conceived by children can be changed positively and health risks which are likely to develop can be lowered. As a matter of fact, permanent learning by children is ensured along with education offered to children, and positive healthcare outcomes are obtained in the long run according to social learning theory (Demirbas, & Yagbasan, 2005; Gaspar, 2010).

Childhood period is the most ideal time for endowing children with certain behavioral changes (Gurbuz, 2006). Through Bandura's social learning theory, children's success in managing their own healthcare can be increased. Thus, children are helped to adopt behaviors likely to enhance their health positively.

This research was performed in order to identify the effect of education, which is offered on the basis of Bandura's social learning theory, on children's health locus of control, perceptions and behaviors and to make contribution to the literature.

### Material & Method

**Research Type:** This research was performed as pre-test & post-test and in quasi-experimental design.

**Research Venue & Period :** Research was carried out from March 2018 to December 2019 at Elif Sireli, İbrahim ISık primary affiliated with the Provincial Directorate of the Ministry of National Education of Turkey in downtown Malatya.

**Research Population & Sample:** Research population was composed of all children aged 6-12 years and enrolled at primary schools affiliated with the Provincial Directorate of the Ministry of National Education of Turkey in downtown Malatya. Research sample was comprised of a total of 269 students who studied at schools selected by lot when the research was performed and who agreed to participate in the study.

**Collection of Data:** As data collection instruments in the research, a 5-item introductory survey form which was created by researchers upon the review of literature, Children's Health Locus of Control Scale and Children's Health Perceptions and Healthy Lifestyle Behaviors Scale were used in the research. Data were collected by researchers through face-to-face interviews with children and each interview took 40 minutes on average.

### Data Collection Instruments

**Introductory Survey Form:** The form included a total of 5 questions for revealing the descriptive characteristics of students such as age, gender, grade year and parents' education levels.

**Children's Health Locus of Control Scale:** The scale was developed by Guy Parcel in 1978 in

order to offer an evaluation on self-management of health by school children. Its validity and reliability tests in Turkish were performed by Gurbuz in 2005. The scale is composed of 20 items with options, either Yes or No. The answer 'Yes' is scored as 2 points for scale items focused on internal locus of control whereas it is scored as 1 point for scale items focused on external locus of control. If both 'Yes' and 'No' options are selected or left blank simultaneously for an item, then the item is scored as 1.5 points. The 2nd, 9th, 11th, 16th, 19th and 20th items focus on the internal health locus of control in the scale. The higher score to be obtained from the scale demonstrates that the individual has high level of internal locus of control in terms of health management. Cronbach's Alfa coefficient as the measure of internal consistency was found as .91 for the scale whereas it was found as .69 for this research.

**Children's Health Perceptions and Healthy Lifestyle Behaviors Scale::** The scale which was developed by Walker, Sechrist and Pender (1987) evaluates health perceptions and health behaviors of school-age children. The scale whose validity and reliability tests in Turkish were carried out in 2005 by Gurbuz contains 51 items. In the scale which offers three options, options 'never', 'sometimes' and 'always' are successively scored as 1 point, 2 points and 3 points. The lowest score obtained from the scale is 51 whereas the highest score is 163. The high score obtained from the scale indicates that the child has healthy behaviors. Cronbach's Alfa coefficient as the measure of internal consistency was found as .84 for the scale whereas it was found as .81 for this research.

**Application and Utilization of Data Collection Instruments:** The research was performed on children studying at Elif Sireli and İbrahim İSık primary schools affiliated with the Provincial Directorate of the Ministry of National Education of Turkey in downtown Malatya. Firstly, introductory survey form, Children's Health Locus of Control Scale and Children's Health Perceptions & Healthy Lifestyle Behaviors Scale were applied to experimental and control groups, and so pre-test data were collected. The education which was prepared on the basis of Bandura's social learning theory was delivered to children for four weeks after a week following the application of pre-test. Education was offered on self-fulfillment and social support in the first week, on stress and coping with it in the second

week, on nourishment and safety in the third week and on hygienic habits & healthcare responsibility in the fourth week. In order to reinforce the understanding of lessons learnt, homework assignments were given to children, and banners with cartoons outlining the lessons learnt were prepared and posted on walls of classrooms by researchers. Experimental and control groups were selected from different schools in order to prevent children from affecting each other. One school, namely, İbrahim İSık primary schools, were selected for the experimental group while one school, that is, Elif Sireli primary school was selected for control group. Each week, the education was delivered to children for 40 minutes at the school hour approved by the school administration, and homework assignments were checked and discussed.

In order to collect post-test data, Children's Health Locus of Control Scale and Children's Health Perceptions & Healthy Lifestyle Behaviors Scale were applied both to experimental group and control group after one week following the completion of the delivery of education. However, as most children in control group refused to answer survey questions, evaluation on post-test data could not be made on account of the insufficiency of data for control group. Material to be applied: The learning manual which was prepared by researchers on the basis of Bandura's social learning theory was utilized as the material to be applied.

**Evaluation of Data:** Statistical analysis of research data was performed via SPSS 22.0 (Statistical Package for Social Science) software. Numbers, percentages, means, dependent samples t-test and independent samples t-test were used in the analysis of data.

**Ethical Principles of the Research:** For the research, ethical approval was received from Ethics Committee of Scientific Researches and Publications for Health Sciences at Inonu University and written permit was obtained from the Provincial Directorate of the Ministry of National Education of Turkey in Malatya. Participants were provided with information on the purpose and plan of the research and as to where the research data would be utilized. Researchers met principles of 'Respect for Human Dignity', 'Respect for Personal Autonomy' and 'Privacy and Protection of Privacy'.

## Results

This part presented the findings of the research which was performed to identify the effect of education, which was delivered on the basis of Bandura's social learning theory, on children's health locus of control and health perceptions & behaviors. In Table 1, demographic characteristics of children in experimental and control groups were introduced. It was ascertained that, of children in experimental

group, the mean age was  $9.1+0.9$ , 52.5% were females, 56.3% were the fourth graders, 47.5% had mothers who were primary school graduates and 39.9% had fathers who were secondary school graduates. It was ascertained that, of children in control group, the mean age was  $9.9+1.0$ , 49.5% were females, 61.3% were the fourth graders, 41.4% had mothers who were primary school graduates and 48.6% had fathers who were university graduates.

**Table 1. Demographic Characteristics of Children in Experimental and Control Groups**

|                                   | Experimental (n=158) |      | Control (n=111) |      |
|-----------------------------------|----------------------|------|-----------------|------|
|                                   | n                    | %    | n               | %    |
| <b>Gender</b>                     |                      |      |                 |      |
| Female                            | 83                   | 52.5 | 55              | 49.5 |
| Male                              | 75                   | 47.5 | 56              | 50.5 |
| <b>Mother's educational level</b> |                      |      |                 |      |
| Primary education                 | 75                   | 47.5 | 46              | 41.4 |
| Secondary                         | 67                   | 42.4 | 20              | 18.0 |
| High school                       | 14                   | 8.9  | 13              | 11.7 |
| University or above               | 2                    | 1.3  | 32              | 28.8 |
| <b>Father's educational level</b> |                      |      |                 |      |
| Primary education                 | 26                   | 16.5 | 16              | 14.4 |
| Secondary                         | 63                   | 39.9 | 16              | 14.4 |
| High school                       | 45                   | 28.5 | 25              | 22.5 |
| University or above               | 24                   | 15.2 | 54              | 48.6 |
| <b>Grade</b>                      |                      |      |                 |      |
| Second                            | 20                   | 12.7 | 7               | 6.3  |
| Third                             | 49                   | 31.0 | 36              | 32.4 |
| Fourth                            | 89                   | 56.3 | 68              | 61.3 |
| <b>Age (mean+SD)</b>              | $9.1+0.9$            |      | $9.9+1.0$       |      |

**Table 2. Comparison of means of pre-test scores obtained by children in experimental and control groups from Children's Health Locus of Control Scale and Children's Health Perceptions & Healthy Lifestyle Behaviors Scale**

| Scales         | Experimental pre-test | Control pre-test | Test and Significance |      |
|----------------|-----------------------|------------------|-----------------------|------|
|                | X±SD                  | X±SD             | t                     | p    |
| <b>CHLCS</b>   | 32.70±3.39            | 32.07±3.62       | -1.471                | .142 |
| <b>CSCHPLB</b> | 122.80±11.3           | 123.26±9.85      | .342                  | .732 |

\* independent samples t-test

**Table 3. Comparison of intervention obtained by children in experimental group from Children's Health Locus of Control Scale and Children's Health Perceptions & Healthy Lifestyle Behaviors Scale in pre-test and post-test phases**

| Scales  | Experimeal Group |            |                       |      |
|---------|------------------|------------|-----------------------|------|
|         | pre-test         | post-test  | Test and Significance |      |
|         | X±SD             | X±SD       | t                     | p    |
| CHLCS   | 32.7±3.3         | 33.3±3.2   | 3.62                  | .000 |
| CSCHPLB | 122.7±11.3       | 126.1±12.5 | 2.28                  | .024 |

\* dependent samples t-test

Table 2 displayed the comparison of means of pre-test scores obtained by children in experimental and control groups from Children's Health Locus of Control Scale and Children's Health Perceptions & Healthy Lifestyle Behaviors Scale. It was discerned that the mean of pre-test scores obtained from Children's Health Locus of Control Scale by children in experimental group was 32.70±3.39 whereas the one obtained by children in control group was 32.07±3.62. It was found that there was no statistically significant difference in means of pre-test scores obtained by participants of experimental and control groups from this scale ( $p>0.05$ ).

It was discerned that the mean of pre-test scores obtained from Children's Health Perceptions and Healthy Lifestyle Behaviors Scale by children in control group was 122.80±11.3 whereas the one obtained by children in control group was 123.26±9.85. It was found that there was no statistically significant difference in means of pre-test scores obtained by participants of experimental and control groups from this scale ( $p>0.05$ ).

Table 3. exhibited the comparison of intervention obtained by children in experimental group from Children's Health Locus of Control Scale and Children's Health Perceptions & Healthy Lifestyle Behaviors Scale in pre-test and post-test phases. It was discerned that the mean of pre-test scores obtained from Children's Health Locus of Control Scale by participants in experimental group in pre-test phase was 32.70±3.3 whereas the one obtained in post-test phase was 33.3±3.2. It was found that there was an increase in the mean of post-test scores vis-à-vis the mean of pre-test scores obtained by participants of experimental group from

Children's Health Locus of Control Scale and this difference between means of scores was statistically significant ( $p<0.00$ ).

It was discerned that the mean of pre-test scores obtained from Children's Health Perceptions & Healthy Lifestyle Behaviors Scale by participants in experimental group in pre-test phase was 122.7±11.3 whereas the one obtained in post-test phase was 126.1±12.5. It was found that there was an increase in the mean of post-test scores vis-à-vis the mean of pre-test scores obtained by participants of experimental group from Children's Health Perceptions and Healthy Lifestyle Behaviors Scale and this difference between means of scores was statistically significant ( $p<0.05$ ).

### Discussion

Health promotion education occupies an important place in the adoption of positive behaviors which will protect the health of children (Bektas & Ozturk, 2008; Breidablik, Meland, & Lydersen, 2008). Children who have the opportunity to observe the positive effects of healthy behaviors directly on their own health conditions become more interested in conducting behaviors which they decide to implement. Therefore, supporting the development of internal health locus of control is highly important to the adoption of positive health behaviors (Gurbuz, 2006). Healthy or unhealthy lifestyles are developed in early stages of life, and it gradually gets more difficult to change lifestyles later throughout the life (Inchley, & Currie, 2014). Through education to be delivered during the schooling period, it can be assured that children will assume the responsibility for their own healthcare and develop healthy lifestyle behaviors (Parcel GS, & Meyer, 1978).

In the research, it was found that the mean of pre-test scores of health locus of control and health perception & healthy lifestyle behaviors obtained by children in experimental group was akin to the one obtained by children in control group. The similarity of two groups prevents the sampling bias and is essential as it proves the effectiveness of education. It is discerned that groups are akin to each other in several studies (Demirbas, & Yagbasan, 2006; Gurel, 2014; Tabak, & Akkose, 2006).

According to social learning theory, it was found that children's health locus of control was enhanced in the wake of the delivery of education. In the study performed by Tabak and Akkose (2006), it was ascertained that the delivery of education strengthened children's internal health locus of control. Internal health locus of control forms the primary basis of responsibility assumed by individuals for their own healthcare and the management of their health (Stefanie, 2012; Tabak, & Akkose, 2006). It is asserted that children with higher internal locus of control are more interested in assuming responsibility for healthcare and more active in habits such as doing physical exercise, brushing teeth and undergoing medical examinations (Cheng & Cheung, 2016; Stefanie et al., 2012; Tabak, & Akkose, 2006). In this respect, the research finding is in a similar vein to results of other researches.

It was ascertained that children's health perceptions and healthy lifestyle behaviors were enhanced in the wake of education. It was discerned that the delivery of health-promoting education had positive effect on the adoption of healthy lifestyle behaviors by children and reduction of their anxiety levels (Bektas & Ozturk, 2008; Inchley, & Currie, 2014). Through the delivery of education on healthy lifestyle behaviors, children can be encouraged to adopt health-promoting habits.

As per Bandura's social learning theory, it was found that there was a positive change in children's health locus of control and health perceptions & behaviors in the wake of the delivery of education. It was ascertained that the delivery of education in accordance with this theory was effective in enhancing children's health locus of control and health perceptions & behaviors. It is argued that healthy lifestyle behaviors will be adopted along with the increase in internal health locus of control (Stefanie et al.,

2012; Kuwahara et al., 2004). Several studies demonstrate that teaching activities to be performed on the basis social learning theory have considerably positive effect on the development of healthy lifestyle behaviors by children (Chen et al., 2015; Gurel, 2014; Demirbas, & Yagbasan, 2006; O'Connor et al., 2013).

**Result and Recommendation:** Along with this research, children were endowed with positive outcomes in areas such as nourishment, coping with stress, adopting hygienic habits, assuming responsibility, socialization and self-expression. It is recommended that the education to be designed by using social learning theory should be offered to all age groupings of children so that children could have health locus of control and positive health perceptions & healthy behaviors.

**Limitations and Generalizability of the Research:** The limitation of the research pertains to the failure to collect post-test data from participants of control group. The research can be generalized to the population that occupied the region where the research was carried out.

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