

SERD | Development of elementary school teachers' attitudes to the only children scale

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Abstract

The present study aims to develop a scale assessing elementary teachers' attitudes towards the only children because there is no scale which addresses to measure teacher attitudes related to birth order. Totally 429 elementary school teachers participated the study. Preliminary analysis indicated that the data is convenient to Exploratory Factor Analysis. Rotated Factor Analysis with Varimax Rotation was conducted and three factors were extracted. These factors were named as Positive Characteristics, Negative Characteristics, Personal Characteristics of Only Children. Cronbach Alpha Coefficient of these scales .79 and .70 and overall internal reliability of the scale is .70. After the factor analysis and reliability analysis it was found that the Scale of Elementary School Teachers' Attitudes towards the Only Children is reliable and useful to assess the teachers' attitudes.

Keywords: Only children, attitude, primary school children, survey research

Introduction

Education is very complex process. In educational attainment there are a lot of variables influencing students' achievement. Cultural settings, family environment, socioeconomic level of families, teachers' skills on instruction, schools' educational infrastructure can be considered among those variables. The family environment is one of the most important factors having impact on the student achievement level. The birth order can be viewed as a factor related to family environment, which influences the educational academic achievement, children' behaviours, the relation between their parents and teachers (McLoyd, 1998). Moreover, family structure, family size and birth order are important predictors of educational achievement (Retherford & Sewell, 1991).

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Francis Galton first developed concept of the birth then it received huge attention. The first person who theoretically devised birth order is Alfred Adler. Alfred Adler addressed it according to psychoanalytical perspective (Freese, Powell, & Steelman, 1999). According to Adler sibling type consists of five sections as the first-born, the second child, the middle child, the youngest child and the only child. Each position has different psychological characteristics (Adler, 1958; Shulman & Mosak, 1977). The first-born children differ from other siblings because they experience a trauma by coming of their brother or sister. Therefore, they view themselves as if they were dethroned by the coming of next brother or sister (Adler, 1958). In other words the first-born children don't have any rival for family interest in early years of his life but they have to compete with newly born sister or brother for family interest after. As a result of the competition, they possibly experience of dethronement. This dethronement orients the first-born children to imitate their parents, identify and obey rules. This obeying makes them more conservative, supportive of existing authorities and punitive. Also in the literature it was found that the first-born children are pessimist, defeatist, jealous, conservative, curious, aggressive, dependent to their adults, more vulnerable to stress and social pressures (Bayer, 1966). The middle siblings never have such an experience of monopoly. The youngest siblings have never such an experience of dethronement (Adams, 1972).

"The only children" are another sibling types identified by Adler (1958). They don't have compete with any sibling for family interest. The only children's positions in their parents' eyes are similar to the oldest siblings' positions in their early years of life in terms of parent attention and interest (Adler, 1958). Two views about the only children exist. The first view puts forwards that this kind of sibling is different from other types of sibling and the only children are oriented in the way of their adults. As a result of this orientation, it can be said that they reflect their parents' characteristics (Worcester & Guilford, 1930). The second view suggests that the only children are not adult-oriented, rather they are self-centered and ego-driven. Their parents attach such considerable attention to them that they tend to see his social world as revolving around themselves (Adams, 1972).

The only children have never such an experience of dethronement that the only children are deprived from impetus of socialization process by coming of the next brother or sister. On the

one hand they are brought up either over-strictly or over-indulged by his parents. Being reared over-strictly makes them too dependent not self-reliant. They are indecisive when parental domination, orientation, and pressure disappear. On the other hand the only children who are excessively indulged don't internalize the rules and expectations of parents. In this case what parents must do is to use reward and punishment evenly. Should the parents behave in this way; the only child can internalize the expectations and rules of his parents. If the parents do whatever the only children demand, they become self-indulgent and are deprived from the experience of autonomy and self-reliance (Eckstein, 2000; Rosen, 1961).

The only children have never a rival and tend to be curious rather than competitive but they may be such nurtured and pampered very well that they never incline to share. The only child is generally fond off their pleasure and become charming. Social behaviours mainly focus on pleasing not competing (Shulman & Mosak, 1977). Furthermore the only children have been described as being socially isolated, uncooperative and intolerant relatively to the first-born children (Bayer, 1966).

The only children usually have high IQ, conversational abilities and their character traits which his adults demand him to have (Adams, 1972; Eckstein, 2000). In addition the only children are so smarter than other types of siblings that they can score the highest on intellectual performance tests. This fact can be explained the depletion theory. According to the depletion theory, as the family size increases, the intellectual abilities of siblings decrease so the first view suggests that the only children are so smarter than other types of siblings that they can score the highest on intellectual performance tests (Zajonc & Mullaney, 1997). This phenomenon can be interpreted through economic view. The only children receive more financial support from their families and also their families prepare more financial resources for them. Further they can be allocated disproportionate amount of financial resources by their family.

Even though the characteristics of the only children have been defined with respect to personality traits, academic achievement, school attendance, intelligence, family environment (Adam, 1972; Bayer, 1966; Blake, 1989; Breland, 1974; Ginsberg, 1998; Lou & Treiman, 2008; Rosen, 1961; Shulman & Mosak, 1977; Zajonc & Markus, 1975; Zajonc & Mullaney,

1997) there is no study aiming to measure the elementary school teacher attitude towards the only children. The scale will allow to define what elementary school teacher think about the only children and how they behave them in educational settings. Besides, the scale will enable determining more complete characteristics of the only children who study primary school based on elementary school teachers' evaluations.

Method

Design of the Study

According to Habermas (1972), social sciences have three purposes: predicting and controlling variables (i), understanding and interpreting phenomenon under their natural settings (ii), and empowering human (iii). The first purpose emphasizes quantitative research tradition while the second one highlights qualitative research traditions. The latter is about critical theory. The present study was designed in survey research, one of the quantitative research because of the fact that elementary teachers' attitudes toward the only children is aimed to determine, predict, and assess.

Research Participants

In the present study it is so impossible to list all of the research participants in the research population and randomly assign them into the sample that convenience sampling was employed. As result of the convenience sampling 429 elementary school teachers who work in Corum, Istanbul, Artvin, Samsun, Ordu, Sanliurfa, Zonguldak, Eskisehir and Malatya were included. 159 of them are female elementary school teachers while 270 of them are male elementary primary school teachers.

The scale was developed within five steps. In the first step the item pool was constituted by the researcher according to Adlerian birth order theory. The researcher had read '*Birth Order and Evolutionary Psychology: A-Meta Analytic Overview*' (Sulloway, 1995), '*Birth Order and*

Academic Primogeniture' (Altus , 1965), *'Birth Order and College Attendance*' (Bayer, 1966), *'Birth Order*' (Sulloway, 1999) and determined 51 items. In the second phase the scale was investigated by the linguistic expert and field expert. After the expert investigation it was decided that no item was discarded and the necessary corrections were made. In the third step the items were inserted into five rating scale such as *'Strongly Disagree*', *'Disagree*', *'No Idea*', *'Agree*', and *'Strongly Agree*' on initial draft of the scale. In the fourth step the initial draft of the scale was applied on 429 elementary school In the 5th step factor analysis was conducted to define the structural validity and dimensions.

Findings

First z-test score was computed in order to find the outliers and as a result of z-test score, three participants were excluded from the database. The independent t-test between 27 % of highest group's score and 27 % of the lowest group's score was carried out to determine what extent each item is sufficient to measure the participants' attitudes. Besides the correlation between the item and the sum of the items was computed to define what extent the items measure similar behaviours or attitudes (see Table 1).

Table 1. Results of The Independent T-Test of the Highest 27 % and the Lowest 27 % Group and Correlation Coefficient Between the Sum of the Items and the Item

| Items | The Independent T-Test Results of the Highest 27 % Group and the Lowest 27 % Group | The Correlation Between the Item and the Sum of the Items |
|--------|--|---|
| Item 1 | .000 | .276 |
| Item 2 | .003 | .057 |
| Item 3 | .000 | .262 |
| Item 4 | .000 | .393 |
| Item 5 | .000 | .267 |
| Item 6 | .000 | .217 |
| Item 7 | .009 | .072 |
| Item 8 | .000 | .446 |
| Item 9 | .000 | .241 |

Table 1. (Continued)

| Items | The Independent T-Test Results of the Highest 27 % Group and the Lowest 27 % Group | The Correlation Between the Item and the Sum of the Items |
|---------|--|---|
| Item 10 | .000 | .466 |
| Item 11 | .000 | .348 |
| Item 12 | .000 | .330 |
| Item 13 | .000 | .195 |
| Item 14 | .000 | .430 |
| Item 15 | .000 | .265 |
| Item 16 | .001 | .175 |
| Item 17 | .000 | .432 |
| Item 18 | .171 | .003 |
| Item 19 | .000 | .338 |
| Item 20 | .000 | .355 |
| Item 21 | .000 | .426 |
| Item 22 | .000 | .243 |
| Item 23 | .000 | .328 |
| Item 24 | .000 | .354 |
| Item 25 | .000 | .207 |
| Item 26 | .000 | .369 |
| Item 27 | .684 | .059 |
| Item 28 | .000 | .179 |
| Item 29 | .000 | .427 |
| Item 30 | .145 | -.125 |
| Item 31 | .000 | .357 |
| Item 32 | .000 | .395 |
| Item 33 | .000 | .281 |
| Item 34 | .000 | .376 |
| Item 35 | .000 | .437 |
| Item 36 | .000 | .357 |
| Item 37 | .000 | .580 |
| Item 38 | .000 | .419 |
| Item 39 | .034 | -.119 |
| Item 40 | .000 | .363 |

Table 1. (Continued)

| Items | The Independent T-Test Results of the Highest 27 % Group and the Lowest 27 % Group | The Correlation Between the Item and the Sum of the Items |
|---------|--|---|
| Item 41 | .000 | .323 |
| Item 42 | .000 | .382 |
| Item 43 | .000 | .489 |
| Item 44 | .000 | .342 |
| Item 45 | .000 | .385 |
| Item 46 | .000 | .247 |
| Item 47 | .000 | .347 |
| Item 48 | .000 | .259 |
| Item 49 | .003 | .067 |
| Item 50 | .002 | -.158 |
| Item 51 | .000 | .080 |

As it can be seen from Table 1, item 1, item 2, item 3, item 5, item 6, item 7, item 9, item 13, item 15, item 16, item 18, item 22, item 25, item 27, item 28, item 30, item 33, item 39, item 46, item 48, item 49, item 50 and item 51, totally 23 items, were excluded from the scale due to insufficient item-total correlation. Besides when the Table 1 is investigated, it can be discovered that item 18, item 27 and item 30 don't differentiate the highest 27 % group from the lowest 27 % group (Henson, 2006). Item 4, item 8, item 10, item 11, item 12, item 14, item 17, item 19, item 20, item 21, item 23, item 24, item 26, item 29, item 31, item 32, item 34, item 35, item 36, item 37, item 38, item 40, item 41, item 42, item 43, item 44, item 45, item 47 have such correlation coefficient enough that they were decided to remain on the scale. After item analysis based on correlation and the independent item analysis, 23 items were discarded and 28 items remained on the scale.

Totally 23 items were discarded from the draft of the scale due to the lack of correlation coefficient and discerning the highest group from the lowest group, 28 items were included to the factor analysis. As result of initial factor analysis KMO coefficient was found as .75 and KMO coefficient is adequate for sampling (Henson, 2006). Barlett's Test of Sphericity was

significant (1573.33, $p < 0.001$). The item was rotated through varimax rotation. As a result of the rotation it was observed that item 4, item 8, item 10, item 11, item 14, item 19, item 21, item 23, item 29, item 37, item 35, item 36, item 41, item 42, and item 45 were discarded because these items came under two factors.

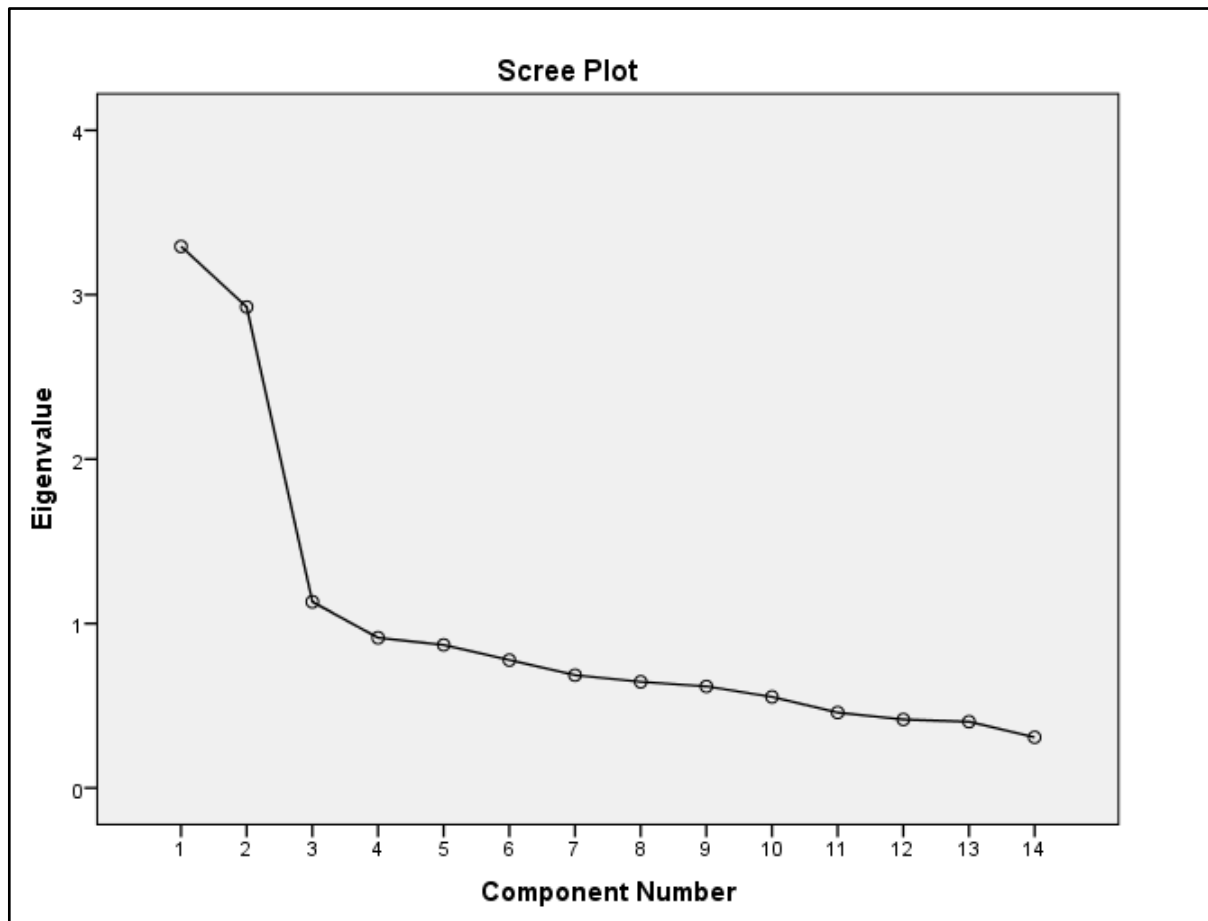


Figure 1. Graph of Eigenvalues

Inflexion point is crucial in decision of how many factors are there. The exact number of factor is at the point where inflexion finishes (Field, 2000). When Figure 1 is examined, it can be seen that inflexion finishes at the point of seventh component. However this finding is not enough yet.

Eigenvalue developed by Kaiser Meyer Olkin, is the most important indicator about factor retention. Eigenvalue must be higher than 1.00 (Henson, 2006). It was found that there three

factors whose eigenvalue is higher than 1.00. Those three factors explain 53 % of total variance. This score is sufficient (Kline, 1994). As a result of findings from both Figure 1 and Table 2, the construct with 13 items has three dimensions. Three factors explain 53 % of total variance.

Table 2. Exploratory Factor Analysis (EFA) Results

| Item | Factor 1 | Factor 2 | Factor 3 | Alpha If Item Deleted |
|-------------------|----------|---|----------|-----------------------|
| Item 47 | .79 | | | .67 |
| Item 40 | .72 | | | .68 |
| Item 31 | .71 | | | .68 |
| Item 24 | .67 | | | .69 |
| Item 44 | .64 | | | .68 |
| Item 20 | .61 | | | .68 |
| Item 38 | | .78 | | .67 |
| Item 43 | | .73 | | .66 |
| Item 17 | | .70 | | .67 |
| Item 26 | | .26 | | .69 |
| Item 12 | | | .81 | .70 |
| Item 34 | | | .73 | .67 |
| Item 32 | | | .62 | .68 |
| Eigenvalues: 6.35 | | Total Variance Explained: 53 % | | |
| KMO: .75 | | Barlett Test of Sphericity: $X^2 = 1573,33$; $p < 0.001$ | | |

In Rotated Component Matrix, the items come under the factor in which their factor loadings are highest and higher than .30 (Henson, 2006; Kline, 1994). These three factors, previously defined, were named based on the items measuring the different attitudes. Reliability coefficient was computed through internal consistency. Overall Cronbach Alpha coefficient of the construct with three factors was found as .71. The first factor's Cronbach Alpha coefficient is .79, the second factor's and the third factor's Cronbach Alpha coefficient are .70. The first factor was named as "*Positive Characteristics (PC)*". The second factor was named as "*Negative Characteristics (NC)*". The third factor was labelled as "*Personal*

Characteristics of the Only Children (PCOC)”. The PC dimension, the first factor, includes Item 20, Item 24, Item 31, Item 40, Item 44 and Item 47. The NC dimension consists of Item 17, Item 26, Item 38, and Item 43. The PCOC consists of Item 12, Item 32, Item 34.

Discussion and Results

Purpose of the study was to develop a scale measuring elementary school teachers' attitudes towards the only children. The development process was concluded in five stages. These stages are constituting the item pool via the Adlerian Birth Order Theory, experts' ideas, concluding the draft of the scale with 51 items, applications of the scale on 429, reliability and factor analysis.

As a result of the EFA, it was concluded that Elementary School Teachers' Attitudes to the Only Children Scale (ESTAOCS) has three factors and can yield reliable results in assessing elementary school teachers attitudes on the only children.

Elementary School Teachers' Attitudes to the Only Children Scale (ESTAOCS) can be used to assess elementary school teachers' attitudes towards the only children. In the relevant literature, the only children's characteristics related to academic achievement, personalities, and school attendance were addressed (Adam, 1972; Bayer, 1966; Blake, 1989; Breland, 1974; Ginsberg, 1998; Lou & Treiman, 2008; Rosen, 1961; Shulman & Mosak, 1977; Zajonc & Markus, 1975; Zajonc & Mullaney, 1997). The ESTAOCS enables determining the only children's characteristics based on elementary school teachers. On the other hand, the ESTAOCS can be used to compare the only children's characteristics with other sibling types through evaluations of elementary school teachers.

In the present study the EFA was conducted to explore the construct among the items related to attitudes of primary school teachers however the construct was confirmed through confirmatory factor analysis (CFA) whether it has good fit indices. In the future research, the CFA can be separately conducted.

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Appendix A

Final Form of the ESTAOCS

| The Items | SD | D | NI | A | SA |
|---|----|---|----|---|----|
| Item 12- The only children are egocentric. | | | | | |
| Item 17- The only children behave their friends threateningly. | | | | | |
| Item 20- The only children do project and performance tasks completely on time. | | | | | |
| Item 24- The only children express their thoughts and emotions in appropriate way. | | | | | |
| Item 26- The only children is the students that are not favourite in the classroom. | | | | | |
| Item 31- The only children have an active role in the learning process. | | | | | |
| Item 32- The only children boast such that they have always problem in relationship with their peers. | | | | | |
| Item 34- The only children are not inclined to share. | | | | | |
| Item 38- The only children have aggressive behaviours. | | | | | |
| Item 40- The only children have high level achievement motive. | | | | | |
| Item 43- The only children incline to bullying. | | | | | |
| Item 44- The only children are creative. | | | | | |
| Item 47- The only children are open to innovations. | | | | | |

SD: Strongly Disagree, D: Disagree, NI: No Idea, A: Agree, SA: Strongly Agree