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Turkish parental involvement scale: validity and reliability studies

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Abstract

In this study it was aimed to develop a Turkish Parental Involvement scale for the first stage of primary schools. For this reason, both national and international literature was examined, which was coupled with the views of school shareholders. Resulting trial scale was subjected to statistical validity and reliability analyses in a pilot study with 618 parents. Based on the findings from the study, acceptable levels of reliability and validity proofs were obtained. Thus, it was concluded that Turkish Parental Involvement Scale (TPIS) is a reliable and valid, which can be used to define the roles and levels of parental involvement at primary school.

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1. Introduction

Family constitutes a primary and remarkable socio-educational milieu for children (Shearer, 2006; Ulusavaş, 1992). Parents, especially the mothers, are the first and natural teachers of the children (Gürşimşek, 2003; West et al. 1998). Although this teaching role is taken over by the primary school teachers, parents' supportive role in children's education does not, and should not, end? In Turkey, common responsibilities attributed to that role of the parents include attending teacher-parent meetings (Demirbulak, 2000), financially supporting the school (Aslanargun, 2007; Çelenk, 2003), and monitoring the child at home for homework purposes (Kotaman, 2008). However, the literature defines a much larger scope of parental involvement: as stressed by the constructivist approach parents should get actively involved in their children's education even by participating the class when necessary (Woolley et al., 2004), they should constantly trace the progress their children make in cooperation with the teacher (Aslanargun, 2007; Çelenk, 2003; Erdem & Şimşek, 2009), they should prepare a favorable environment both physically and emotionally to facilitate learning at home (Aslanargun, 2007; Epstein, 1995, 2001, 2004, 2005; Epstein et al., 2002; MoNE, 2008a), they should have encouraging communication with the child (Bakker & Denessen, 2007; Shearer, 2006) or even help them set short and long terms goals about their education and future career (Epstein, 2004).

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This innovative approach to parental involvement is stressed in the United Nations' 2001 project called No Child Left Behind (Epstein, 2004). Similarly, the current program at primary level highlights the need for parental involvement based on the justification that parental involvement implies better school achievement (MoNE, 2008a; MoNE, 2008b). Both national and international literature has reported significant findings concerning how important parental involvement is in terms of successful implementation of curricula. Greenwood & Hickman's (1991, p. 279) review of the parental involvement literature reveals some positive contribution of parental involvement such as "higher academic achievement,"... "students' sense of well being",... "higher school attendance",... "student and parents' perception of classroom and school climate",... "positive students attitudes and behaviours",... "student readiness to do homework"... "increased student time spent with parents"... "better student grades"... "higher educational aspirations"... and "parent satisfaction with teachers". Kotaman (2008) reported that active parental involvement has various positive effects on many aspects of education including improving students' behavioral and social adaptation, decreasing the discipline problems at school, increased school success, and more attendance to school. Shearer (2006) stresses the agreement in the literature about the association between active parental involvement practices by families –regardless of their socio-economical or educational levels- and positive schooling outputs including better grades, more favorable attitudes towards school, less drop-out rates, more attendance. Similarly, Epstein (2004) adds to these favorable academic results some other positive results related with discipline including a decrease in rates of crimes, violence and vandalism in school. Şimşek and Tanaydın (2002) argues that an effective parent-teacher collaboration, which is an integral part of parental involvement, is critical in terms of diagnosing students' skills and talents, providing education in accordance with their potentials, and being successful academically, emotionally and socially.

Since the issue of parental involvement poses a new multidisciplinary area of research, there seems to be a need for standardized instruments to define the involvement roles of the parents and to measure the level of parental involvement especially during the first stages of primary education. In this respect, the present study intended to develop a Turkish parental involvement scale for the first stage of primary education, meeting the acceptable validity and reliability requirements.

2. Method

This study mainly aimed at developing and testing the statistical validity and reliability proofs of Turkish Parental Involvement Scale (TPIS) for the first stage of primary schools. To this end, validity studies comprised content, face, and construct validity (exploratory and confirmatory factor analyses). Reliability of the scores obtained with the scale was tested using internal consistency coefficient, test-retest reliability coefficient, and equivalent-forms reliability coefficient. Both reliability and validity studies were done using the data obtained from a representative group of parents residing in Malatya province. A total of 618 parents (250 fathers and 368 mothers) were accessed through their children attending the 1-5 grades of 10 schools selected from districts with different socio-economical levels.

2.1.1. Initial form of TPIS

In order to prepare an initial form of the scale first the relevant literature (Aslanargun, 2007; Barton & Coley, 2007; Coleman et al. 2006; Çelenk, 2003; Dearing et al., 2004; Desforjes & Abouchaar, 2003; Epstein, 1995, 2001, 2004, 2005; Erdem & Şimşek, 2009; Harris & Goodall, 2008; James & Partee, 2003; Kotoman, 2008; Sheldon & Van Voorhis, 2004; Solloway & Girouard, 2004) was reviewed. In addition to the literature review, interviews were conducted with ten primary class teachers, three principals, and fifteen parents from different socio-educational backgrounds about the importance of and best practices regarding effective parental involvement. Quotations from the relevant literature and interview texts were recorded into Nvivo 8 qualitative data analysis software program for content analysis. The content analysis was mainly based on coding and classifying parental involvement practices under relevant thematic categories. This initial qualitative content analysis process revealed a preliminary form of the TPIS which included 102 items. Next, the form was submitted to twelve scholars with PhDs in educational sciences (Curriculum and Instruction, Educational Administration, and Guidance and Counseling) to grade individual items from "5-Very suitable" to "1-Must be discarded" to judge the whether the items suits best to the purpose of the study. Also they are asked to make comments about the items and make their contributions when

necessary. After the expert consultation, 88 items which commonly had scores more than “3-suitable with minor revision” were selected for the pilot study. The form was lastly subjected to an examination to check its clarity in Turkish by an expert from Turkish Language Teaching department. The resulting format of TPIS scale was 5-point Likert response set ranging from *always* to *never* (“5 = Always”, “4 = Usually”, “3 = Sometimes”, “2 = Seldom”, “1 = Never”). A total of 900 copies of the scale were sent to the parents through students between 1-5 grades. Only 689 of the forms returned. After blank or inaccurately filled forms were discarded 618 forms were considered for further analyses including construct validity and reliability.

3. Findings & Results

3.1.1. Validity Studies

As explained above, proofs regarding the content and face validity of the scale were based on detailed content analyses of the literature and interviews with the school stakeholders coupled with a systematized expert review process. In terms of construct validity, first the data from pilot study were analyzed for normality, which revealed Skewness and Kurtosis values under 1.00 for all items. Next, the suitability of the data for factor analysis was tested with Kaiser-Mayer-Olkin’s Measure (KMO) of Sampling Adequacy Test and Bartlett's Test of Sphericity, which proved appropriate (Kaiser Meyer Olkin = .955, Bartlett's Test of Sphericity= 18664,145, df= 1431, p= .000) (Pallant, 2005). Following an initial exploratory factor analysis (EFA) using the principal components analysis with varimax rotation method, those items with “.40” or less factor loading and those which took high factor loadings in more than one factor were discarded (Çeçen, 2006, p. 105; Stevens, 1996). Repeated analysis revealed an 8-factor structure with 54 items, which explained the 59,514 % of the total variance. The factor loadings of the items ranged between .787 and .441, and item-total correlation coefficients .781 and .305. Values below .3 indicate that the item is measuring something different from the scale as a whole, so the corrected item-total correlation should be above .3 (Pallant 2005, p. 92).

After the EFA, confirmatory factor analysis (CFA) was conducted to confirm whether 8-factor structure of the scale is appropriate or not. The initial results of the CFA were in agreement with the 8-factor structure of the scale. Yet, after the items with high error covariance and high correlation with other subscales as suggested by modification indices were discarded, the final form of the scale included 39 items under 8-factor structure with following goodness of fit indexes: $\chi^2=1334.85$, $df=636$ ($\chi^2/df=2.09$), GFI=.90, AGFI=.88, NNFI=.92, CFI=.93, RMSEA=.042, RMR=.057, SRMR=.043. According to conventions a model is regarded as perfect if the “ χ^2/df ” ratio is 2 or less, and a rate over 2 up to 5 makes the model-data fit acceptable (Şimşek, 2007). GFI, AGFI, NNFI, and CFI values higher than “.95” indicate a perfect fit while values higher than “.90” indicates an acceptable fit (Brown, 2006; Şimşek, 2007). As for the RMSEA, RMR, and SRMR indicators, values under “.05” indicates a perfect model-data fit and values under “.08” means an acceptable model-data fit (Brown, 2006; McDonald & Moon-Ho, 2002; Şimşek, 2007). Based on the content analysis of the items in each factor, the subscales are named and scores as follows:

Table 1. Distribution of the items according to subscales with max and min scores

Groups	Items	Max score	Min score
Communication with teacher/school	V18 V13 V14 V9 V15 V42 V19 V28	40	8
Helping with homework	V44 V49 V45 V25 V27	25	5
Personal development	V30 V34 V41 V40 V31	25	5
Volunteering	V22 V21 V25 V24	20	4
Communication with child	V37 V38 V35 V36 V39	25	5
Enabling home settings	V54 V52 V51 V48	20	4
Supporting personality development	V6 V5 V4 V3	20	4
Supporting socio-cultural development	V1 V7 V2 V8	20	4
TOTAL		195	39

Accordingly, *communication with teacher/school* subscale includes items measuring parents’ frequency of contacting with teachers or administrators at school to exchange information about child’s progress and mutual suggestions. Items in the *helping with homework* subscale measure parents’ frequency of monitoring and feed-backing effectively the assignments, schoolwork and similar home-based activities. *Personal development* subscale

includes items about parents' self-development in order to be better involved in their children's education e.g. by reading about child development or following the new curricula. *Volunteering* subscale includes statements about voluntarily taking active part in curricular and extracurricular activities. *Communication with child* subscale is about having an encouraging and democratic communication with the child based on trust. *Enabling home setting* subscale measures parents' ability to set the home environment both physically and emotionally to facilitate child's studying. *Supporting personality development* subscale includes items about helping the child become a responsible, confident, self-reliant, questioning, researching person. Finally, *supporting socio-cultural development* subscale included items about supporting and encouraging children for partaking in social, cultural, artistic events and activities such as theatre, scouting, poetry, music and sport.

3.1.2. Reliability Studies

In order to test the internal consistency of the results obtained from TPIS, Cronbach Alpha internal consistency coefficient was estimated for the whole scale ($\alpha=.929$) and individual subscales (*Communication with teacher/school* subscale, $\alpha=.914$; *Helping with homework* subscale, $\alpha=.825$; *Personal development* subscale, $\alpha=.817$; *Volunteering* subscale, $\alpha=.810$; *Communication with child* subscale, $\alpha=.828$; *Enabling home setting* subscale, $\alpha=.807$; *Supporting personality development* subscale, $\alpha=.685$; and lastly *Supporting socio-cultural development subscale*, $\alpha=.617$, which suggests that TPIS scale has adequate internal consistency.

Second, test-retest study of the TPIS was conducted on the data gathered from 96 parents at a three-week interval. The analysis on the test-retest scores revealed a Pearson correlation coefficient of $r=.910$, which means that the instrument is reliable over time.

Finally, an equivalent-form reliability study was conducted. The equivalent-form was the Parent Involvement Questionnaire (PIQ) developed by Kotaman (2008) including 23 items exploring Turkish parents' level of involvement to their children's education. PIQ was administered to a total of 65 parents who completed the TPIS one week earlier. The total scores of both PIQ and TPIS were compared using Pearson correlation coefficient, which revealed an equivalent-form reliability coefficient of $r=.880$.

4. Conclusions and Recommendations

In this study it was aimed to develop a valid and reliable Parental Involvement scale in Turkish for the first stage of primary schools. For this reason a good amount of national and international literature was examined, and research findings were coupled with the views of school shareholders. The inputs from these sources were subjected to statistical validity and reliability analyses in a pilot study. Based on the findings from the study, acceptable levels of reliability and validity proofs were obtained. Thus, it can be concluded that Turkish Parental Involvement Scale (TPIS) is a reliable and valid scale, which can be used to define the roles e.g. communication with teacher/school, helping with homework etc. and levels of parents' involvement in their children at primary school. It is recommended that similar studies on the validity and reliability of the scale be repeated on different populations.

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