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Examining of adaptability of academic optimism scale into Turkish language

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Abstract

The purpose of this study was to examine the adaptability of Academic Optimism Scales for School and Teacher Forms(AOS), which was developed by Hoy, et al. (2006–2009), to Turkish language. The study was conducted with three different participant groups in the academic years of 2009–2011. The results showed that test-retest reliability coefficients are high and internal consistency coefficients are low for Turkish versions of AOS Forms. Confirmatory factor analyses indicated that theoretical structure is not sufficient in explaining the covariances among the items. Exploratory factor analyses revealed that a pattern-matched theoretical structure cannot be obtained.

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1. Introduction

While saying “Teachers, the new generation will be your masterpiece.” Gazi Mustafa Kemal Atatürk, who is the founder of our republic, indicates the importance of teachers in the educational system. The characteristics of the teachers such as friendliness, sympathy, and tolerance play important role in the success of their students (Akyıldız, 1996; Demirtaş, 1997; Celep, 2000). In addition to these characteristics, Hoy, Tarter, and Woolfolk-Hoy (2006) asserted that teachers have to believe in the success of their students, reflect this belief to the students and their parents, and encourage the students for being successful. In other words, teachers are required to be optimist in academic settings.

Academic optimism can be defined as teacher’s trust in parents and students about the academic studies, self-efficacy to overcome the difficulties and academic emphasis on getting the students to success at school studies (Hoy, Tarter, & Woolfolk-Hoy, 2006). Academic optimism has an important role for the school success, and conceptual roots of this structure evolved from Bandura’s social cognitive theory, Coleman’s social capital theory, Seligman’s learned optimism study and empirical studies of Hoy, et al. on culture and climate of school (Beard, 2008; Hoy, 2002; Hoy & Miskel, 2008; Hoy, Tarter, & Woolfolk-Hoy, 2006; McGuigan & Hoy, 2006).

Academic optimism is discussed in two levels as; teacher and school. Teacher level is comprised of three parts. Namely, sense of self-efficacy, trust in student and parents, and academic emphasis. School level contains also three dimensions such as collective self-efficacy, faculty’s trust in parents and teachers, and academic emphasis. For the measurement of academic optimism, Academic Optimism Scales (AOS) for Schools and Teachers Forms that were

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developed by Hoy, et al. (2006-2009) are used. The purpose of the study was to adapt these scales into Turkish.

2. Method

2.1. Participants

2.1.1. Linguistic Equivalence

This study was conducted with 50 senior students (21 men (% 42), 29 women) who are attending Division of English Language Teaching at Gazi University. To examine the linguistic equivalence, Turkish and English versions of AOS were administered to participants in the fall semester of the academic year 2009-2010 in sequential courses.

2.1.2. Factor Analyses and Internal Consistency of AOS

Participants of the study were elementary school teachers of 2009-2011 academic years in the province located in the middle Black Sea area, which is called Kastamonu. As seen in Table 1, AOS for Schools and Teachers Forms were administered to a group consisted of almost the same teachers in three different times. Confirmatory and exploratory factor analyses were performed on the data obtained from these groups. Internal consistency coefficients were calculated as well. Furthermore, Pearson correlations were calculated on the data to find out the convergent and discriminant validity of the measures. Administrations were carried out in the schools having more than 15 teachers for each.

Table 1: Demographic characteristics of the Elementary School Teachers

| Elementary Teachers | 1 st Study 2009-2010 | | 2 nd Study 2010-2011 | | 3 rd Study 2010-2011 | |
|---------------------|------------------------------------|--------|------------------------------------|--------|------------------------------------|--------|
| | Male | Female | Male | Female | Male | Female |
| Gender | 350 | 300 | 115 | 109 | 341 | 312 |
| Seniority | 3-28 | | 8-36 | | 3-38 | |

The results of confirmatory factor analyses on the data obtained from the 1st study group showed that the measures of goodness-of-fit related to theoretical model were under the acceptable limits. We thought that participant motivation would be a reason for these results. Therefore, we repeated the study with almost the same group at this stage.

2.1.3. Test-Retest Reliability Study

The sample included 50 elementary school teachers, who were working in Kastamonu, in 2009-2011 academic years. 25 of them were males (% 50) and 25 of them were females (% 50). Their seniorities ranged between 1 and 15 years. The scales were administered to the participants in sequential two-week intervals.

2.2. Data Collection Tools

Personal Information Questionnaire (PIQ): It was developed by the researchers. It contains items about genders and seniorities of the teachers. *Optimism Scale (OS)*: It is a four-point Likert-type scale consisting of 24 items, which was developed by Balci and Yilmaz (2002). Internal consistency (alpha) of the scale coefficient is .96. *Interpersonal Teacher Self-Efficacy Scale (ITSE)*: It was developed by Brouwers and Tomic (2001) and adapted to Turkish by Capri and Kan (2006). The scale consists of 18 items in three sub-dimensions. Internal consistency coefficients of the scale are between .80 and .93, and its items are rated on a five-point scale. *State-Trait Anger Expression Inventory (STAE)*: It was developed by Spielberger, et al. (1980-1983) and adapted to Turkish by Özer (1994). The inventory contains two different scales: Trait Anger Scale that was used in this study, which consists of 10 items. Internal consistency coefficients of the scale are between .62 and .88, and its items are rated on a four-point scale. *Shyness Scale (SS)*: It was developed by Cheek (1990) and adapted to Turkish by Güngör (2001). In the original version of scale, there are 13 items and in its Turkish version has 20 items. Internal consistency coefficients of Turkish version range between .71 and .91, and its items are rated on a five-point scale. *Academic Optimism Scale for Schools (AOS-S)*: It was developed by Hoy, et al. (2006) with the aim of measuring academic optimism at school level. In the English version of the scale, there are 12 items for collective self-efficacy, 10 items for faculty

trust in student and parents, and 8 items for academic emphasis. In the scale, items numbered 3, 4, 8, 9, 11, 12 and 22 are scored reversely. The first 22 items in the scale are scored between 1 and 6 points, the last 8 items are scored between 1 and 4 points. Internal Consistency Coefficients of English Version of Academic Optimism Scale for Schools are; .79 for teacher’s trust, .75 for academic emphasis and .72 for collective self-efficacy (Beard, Hoy, & Woolfolk-Hoy, 2009). *Academic Optimism Scale for Elementary School Teachers (AOS-T)*: It was developed by Hoy, et al. (2009) with the aim of measuring academic optimism level at individual level. The scale consists of 11 items. In the English version of the scale, there are 3 items for teacher sense of self-efficacy, 4 items for trust in students and parents, 4 items for academic emphasis. The 11th item of the scale is scored reversely. The first 3 items in the scale are rated between 1 and 9 points and the last 8 items are rated between 1 and 5 points. Internal consistency coefficients of English version of Academic Optimism Scale for Teacher are .73 for teacher sense of self-efficacy, .79 for trust in student and parents, .71 for academic emphasis (Beard, Hoy, & Woolfolk-Hoy, 2009). Increase in the scores indicates high level optimism, while getting low scores show a pessimistic point of view.

2.3. Data Collection

All participants voluntarily attended to this study; Implementations were performed during the class hours for students and during the lunchtimes and breaks for the teachers. Consents have been obtained prior to the implementations.

2.4. Data Analysis

Collected data for Turkish and English versions of AOS for School and Teacher forms were examined by using Spearman rho Coefficient. Pearson correlation coefficient was calculated for test-retest reliability and convergent and discriminant validities. Cronbach alpha coefficients were calculated for the subscales, stratified alpha was employed for the whole scales. Confirmatory and exploratory factor analyses were utilized for construct validity. Parallel analysis technique was used for determining the number of factors. In the study, the probability of a type I error was accepted as .05. Factor 8.02 and AMOS 18 packages were used for the analyses.

3. Findings and Discussion

3.1. The Results of Linguistic Equivalence

At first, Academic Optimism Scales were translated into Turkish by the researchers. Two academicians, who were the students of Woolfolk-Hoy during their doctoral process and having good command, and knowledge about academic optimism, were asked to evaluate items of the scale. Furthermore, Turkish and English versions of the scales were administered to 50 senior students attended to Division of English Language Teaching. The associations between the items of English and Turkish versions were examined via calculating the Spearman rho coefficient for each item. For School Form, the correlations are between .43 and 1.00; for Teacher Form correlations were between .58 and .99. Pearson correlation coefficients for the total scores between English and Turkish versions were .91 and .89 respectively.

3.2. The Results of Reliability Analysis for School and Teacher Forms

Table 2: Internal Consistency and Test-Retest Reliability Coefficients for AOS School and Teacher Forms

| Forms | AOS Sub-dimensions | Item Numb. | Test re-test Coefficients | Study Groups (Administrations) Cronbach Alpha Coefficients | | |
|---------|-----------------------------|------------|---------------------------|--|-----------------|-----------------|
| | | | | 1 st | 2 nd | 3 rd |
| School | Collective Self-Efficacy | 12 | .86 | .42 | .46 | .06 |
| | Trust in Parent and Student | 10 | .96 | .46 | .21 | -.12 |
| | Academic Emphasis | 8 | .95 | .50 | .25 | .00 |
| | Total | 30 | .92 | .63 | .56 | .04 |
| Teacher | Self-Efficacy | 3 | .93 | .40 | .64 | -.08 |
| | Trust in Parent and Student | 4 | .80 | .23 | .39 | -.03 |
| | Academic Emphasis | 4 | .92 | .26 | .15 | .12 |

| | | | | | |
|-------|----|-----|-----|-----|-----|
| Total | 11 | .82 | .47 | .55 | .02 |
|-------|----|-----|-----|-----|-----|

As seen in Table 2, test-retest reliability coefficients were high, while internal consistency coefficients (Cronbach Alpha) were considered to be low. This result can be interpreted in the way that the number of the factors and item – factor relations could be different in our culture. It also means that, theoretically predicted factors couldn't explain the relations in the data set obtained from Turkish versions.

3.3. The Results of Construct Validity Studies for AOS School and Teacher Forms

In Table 3, most of the coefficients were under the acceptable level. Although some coefficients were high for Teacher Form, the warnings like “covariance matrix was not recognized as positive” and “negative variance was obtained” during the analysis. Consequently, it might be said that theoretically predicted three-dimensional structures were not confirmed by the data obtained from Turkish version of the scales.

Table 3: The Results of Confirmatory Factor Analysis for AOS for School and Teacher Forms

| Theoretical Model | | χ^2 | df | χ^2/df | CFI | GFI | AGFI | RMSEA |
|-------------------|-----------------|----------|-----|-------------|-----|-----|------|-------|
| School Form | 1 st | 1615.82 | 402 | 4.02 | .50 | .86 | .84 | .07 |
| | 2 nd | 1462.71 | 402 | 3.64 | .16 | .68 | .63 | .11 |
| | 3 rd | 580.52 | 402 | 1.44 | .11 | .94 | .94 | .03 |
| Teacher Form | 1 st | 128.51 | 41 | 3.13 | .71 | .97 | .94 | .06 |
| | 2 nd | 48.96 | 41 | 1.19 | .94 | .96 | .94 | .03 |
| | 3 rd | 58.00 | 41 | 1.41 | .56 | .98 | .97 | .03 |

Since the measures of goodness-of-fit were low, regression weight for each item was not given. Considering these results, exploratory factor analyses were carried out on the data which confirmatory factor analyses were previously performed. In determining the number of factors in these analyses, parallel analysis method was used. However, it was seen that the number of factors and item-factor relations varied, which are neither interpretable nor consistent with the theoretical structure.

3.4. The Results of Convergent and Discriminant Validity for AOS School and Teacher Forms

Table 4: Pearson Correlation Coefficients of the Scales

| Variables | Teacher | | | | School | | | ITSE | | | | |
|-----------|--|-------------------------------|-------------------|--------------------------|--------------------------------|-------------------|----------|------|------|-----|---------|-------------|
| | Self-Efficacy | Trust in Parents and Students | Academic Emphasis | Collective Self-Efficacy | Trust for Parents and Students | Academic Emphasis | Optimism | (1) | (2) | (3) | Shyness | Trait Anger |
| Teacher | | | | | | | | | | | | |
| | Self-Efficacy | | | | | | | | | | | |
| | Trust in Parents and Students | -.23 | | | | | | | | | | |
| | Academic Emphasis | -.41 | .26 | | | | | | | | | |
| School | | | | | | | | | | | | |
| | Collective Self-Efficacy | -.08 | -.01 | .33 | | | | | | | | |
| | Trust in Parents and Students | .13 | -.12 | -.04 | -.21 | | | | | | | |
| | Academic Emphasis | -.29 | -.11 | .12 | .19 | .02 | | | | | | |
| | Optimism | -.14 | .28 | .02 | .09 | -.43* | .19 | | | | | |
| ITSE | | | | | | | | | | | | |
| | Manage student behavior in the classroom (1) | .00 | -.22 | -.21 | -.29 | -.02 | .13 | -.22 | | | | |
| | Elicit support from colleagues (2) | -.09 | .34 | .19 | -.16 | -.14 | -.22 | .03 | .11 | | | |
| | Elicit support from school principals (3) | -.00 | -.14 | -.21 | -.11 | -.10 | .01 | -.10 | .45* | .16 | | |
| | Shyness | .14 | .05 | .42* | .22 | -.08 | .06 | -.09 | -.15 | .09 | -.17 | |
| | Trait Anger | .03 | .15 | -.08 | .14 | -.18 | -.19 | .15 | -.08 | .01 | -.03 | -.20 |

In Table 4, convergent validity coefficients are presented in italic form. As seen from the table, all coefficients were not in the expected direction and magnitude. Some applications which are specific to our country may be the reason for these results. Özer (2006) reported that the number of negative personality traits in our culture is more than positive ones. Furthermore, the number of psychological counselor in our schools (1 teacher / 923 students in

2010-2011 years) is rather low (TBMM, 2011 motion), so inadequate psychological services might play some roles in that. Besides elementary teacher education programs in our universities may be revised.

4. Conclusions and Recommendations

The results showed that test-retest reliability coefficients are high and internal consistency coefficients are low for Turkish versions of AOS School and Teacher Forms. Furthermore, confirmatory factor analyses indicated that theoretical structure is not sufficient in explaining the covariances among the items in the data set. As a result of the exploratory factor analyses, a pattern-matched theoretical structure cannot be obtained. For convergent and discriminant validity studies, the correlations calculated between Turkish AOS forms and Scales of Optimism, Interpersonal Self-Efficacy, Trait Anger and Shyness were examined. Analyses showed that they were not in the expected direction and magnitude. These results revealed that validity and reliability levels of Turkish versions of AOS for School and Teacher Forms are low.

Some suggestions and recommendation might be given according to the results of the study. First of all, number of items in the Teacher Form can be increased for the aim of increasing the internal consistency coefficients. Each dimension of the scales may not have unidimensional structure; therefore the theoretical framework of these sub-dimensions may be theoretically redefined, and well-designed item pool can be formed. Furthermore, items might not be able to differentiate optimist and non-optimist, for this reason items can be restated appropriately. Finally, more concrete expressions (opportunities in this community, meaningful results etc.) might be preferred instead of general statements, to make sure that everyone can infer the same meaning while they are responding.

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