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56. Sayı Hakemleri

Relationship between Learning Strategies and Goal Orientations: A Multilevel Analysis

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Abstract

Problem Statement: Motivation plays an important role in explaining students' academic achievement. In an effort to explain students' purposes for learning and the reasons they engage in a learning activity, different achievement goal models (dichotomous, trichotomous, and 2x2) have been proposed over time. The present study aimed to extend previous research by employing the most recent model—2x2 achievement goal framework—using multilevel analysis techniques at the high school level.

Purpose of the Study: The purpose of this study was to examine the relationship between Turkish high school students' learning strategies and their goal orientations in a chemistry course using multilevel analysis. Learning strategies included rehearsal, elaboration, organization, critical thinking, and metacognitive self-regulation, while goal orientations consisted of performance-approach, performance-avoidance, mastery-approach, and mastery-avoidance goals.

Method: A total of 1157 (620 females, 537 males) high school students coming from 50 classrooms (classroom size ranged from 14 to 33) participated in the study. Learning strategies were assessed by the Cognitive and Metacognitive Strategies Scale. Students' goal orientations were measured by the Goal Orientation Scale based on the 2x2 achievement goal framework. Since students were nested in classrooms, a multilevel approach as a statistical technique was employed. For each strategy type, a Hierarchical Linear Modeling analysis was run. Students' cognitive and metacognitive strategies

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were predicted with student-level predictors, namely four achievement goals.

Findings and Results: The findings revealed the same pattern for all strategy types: performance-approach and mastery-approach goals positively predicted students' learning strategies, with higher beta coefficients for the mastery-approach goals. For example, the variation in elaboration strategy was explained more by the mastery-approach goals (β = .42) than the performance-approach goals (β = .17).

Conclusions and Recomendations: Results showed that performance-approach and mastery-approach goals significantly predicted students' learning strategies. In contrast to the literature which relates mastery type goals to deeper level strategies, in the current study performance-approach goals were also linked to strategy use. This result can be attributed to the grade-focused evaluation practices and the dominance of nationwide exams in the Turkish educational context. Teachers can promote the use of mastery-goals by helping students develop new skills, creating challenging activities, avoiding comparisons among students, and giving control of learning over to students. The present study can be extended by including variables such as classroom goal structure, personal characteristics, and academic achievement.

Keywords: Achievement goals, learning strategies, cognitive and metacognitive strategies, Hierarchical Linear Modeling (HLM) analysis, chemistry education

Introduction

This study aimed at exploring the relationship between high school students' motivational beliefs and cognitive learning strategies regarding chemistry class. Motivation is an important construct to explain students' academic achievement (Pintrich & Schunk, 2002). Pintrich and Schunk (2002) define motivation as "the process whereby goal-directed activity is instigated and sustained" (p. 5). Motivated students engage in difficult tasks, expend higher effort, and persist more when they encounter obstacles, resulting in an increase in their academic achievement. Researchers propose different theories in order to explain student motivation. Among these, the achievement goal theory (AGT) is one of the most commonly studied, which explains why students engage in a learning activity (Elliot, 1999).

The AGT has been revised many times as empirical evidence comes to light. In the initial studies, students' goal orientations were classified mainly in two categories: mastery goals versus performance goals. While mastery goals focus on task mastery, development of competency, challenge, and curiosity, performance goals focus on grades, rewards or approval from others (Ames, 1992). Mastery goals are associated with more adaptive learning outcomes such as persistence in the event

of failure, choosing challenging tasks, using deep-processing strategies, and intrinsic motivation (Dweck & Leggett, 1988; Harackiewicz, Barron, Tauer, Carter, & Elliot, 2000; Kaplan & Midgley, 1997; Meece, Blumenfeld, & Hoyle, 1988; Pintrich & De Groot, 1990) whereas performance goals are linked to grades and other extrinsic rewards (Ames, 1992; Dweck & Leggett, 1988; Harackiewicz et al., 2000; Jagacinski & Nicholls, 1987). Although the dichotomous framework revealed consistent results for mastery goals, the findings for performance goals were inconsistent. Elliot and his colleagues, therefore, proposed a trichotomous framework keeping mastery goals in the original form and dividing performance goals into two categories: performance-approach goals and performance-avoidance goals. They found empirical evidence to support their suggestion (Elliot, 1999; Elliot & Church, 1997; Elliot & Harackiewicz, 1996). Recently, Elliot and McGregor (2001) have drawn attention to the fact that mastery goals studied in the dichotomous and trichotomous frameworks are not the combination of mastery-approach and mastery-avoidance goals; rather they reflect only mastery-approach goals. Consequently, Elliot and McGregor (2001) have proposed the 2x2 achievement goal framework in which they define mastery goals in terms of approach and avoidance aspects.

In this framework, goal constructs are defined in two dimensions according to (a) *definition of competence (*performance versus mastery) and (b) *valence of competence* (approach versus avoidance). Accordingly, Elliot and McGregor (2001) propose four constructs explaining students' goal orientations: performance-approach, performance-avoidance, mastery-approach, and mastery-avoidance. Performance-approach goals are defined in terms of normative standards where competence is positively valenced. Students with performance-approach goals give importance to doing better than others or getting grades that are higher than their peers' grades. Likewise, performance-avoidance goal is defined in terms of normative standards but negatively valenced. Not getting lower grades than classmates or not failing in the exams are important for these students. The mastery-approach goal, on the other hand, is defined related to absolute or interpersonal standards and positively valenced. Mastery-approach goals include developing new skills or mastering new tasks. Finally, mastery-avoidance goals are also defined with respect to absolute or interpersonal standards and are negatively valenced. For these students, avoiding misunderstanding is quite important. Although there is still a debate on the definition of achievement goals (Hulleman, Schrager, Bodmann, & Harackiewicz, 2010), in line with the revisions in the theory, the present study was guided by the 2x2 achievement goal framework.

Recent studies have provided empirical evidence for the 2x2 framework (Bartels & Magun-Jackson, 2009; Conroy & Elliot, 2004; Cury, Elliot, Da Fonseca, & Moller, 2006; Kadioglu, Uzuntiryaki, & Capa-Aydin, 2009, 2011; Van Yperen, 2006). For example, Cury, Elliot, Da Fonseca, and Moller (2006) and Van Yperen (2006) investigated whether goal orientations with similar characteristics in terms of definition or valence of competence were associated with similar achievement-related constructs. In the former study, researchers explained the relationship between each type of goal orientation and implicit theories of ability (entity theory and incremental theory). Regarding the definition of competence, they found that performance-oriented goals were associated with entity theory while mastery-

oriented goals were associated with incremental theory. With respect to the valence of competence, approach-type goals were positively related to perceived competence while avoidance-type goals were negatively linked. In a similar vein, the latter study, Van Yperen (2006), concluded that mastery-approach goals were associated with only positively valenced variables like the need for achievement and interest while performance-avoidance goals were linked only to negatively valenced variables like socially prescribed perfection and amotivation. Moreover, performance-approach goals were linked to both positively and negatively valenced variables whereas mastery-avoidance goals showed low scores in both positively and negatively valenced variables. Kadioglu, Uzuntiryaki, and Capa-Aydin (2009, 2011) also found empirical evidence for the 2x2 achievement goal framework: All of the goal orientation variables, except for the performance-avoidance goals, were linked to higher level learning strategies and more sophisticated epistemological beliefs.

In the current study, we investigated the 2x2 framework in association with strategy use. Students' cognitive strategies are divided into two general categories: low-level (surface level) strategies versus high-level (deep processing) strategies (VanderStoep & Pintrich, 2008). While surface level strategies include rehearsal strategy, deep processing strategies consist of strategies such as elaboration and organization. Rehearsal strategies are used for simple tasks such as memorizing items; students repeat the information several times until they memorize it. These strategies simply help students encode new information; students do not need to connect new information with their existing knowledge. On the other hand, deep processing strategies require higher levels of cognition and help conceptual understanding. For example, elaboration strategies such as paraphrasing and creating analogies help students connect new information with existing knowledge. Likewise, organization strategies require connecting different parts of course material together for learning such as clustering and outlining. Generally, mastery goals are linked to deeper processing strategies such as elaboration strategy, while, performance goals are associated with surface level strategies (Elliot, McGregor, & Gable, 1999; Elliot & McGregor, 2001; Harackiewicz et al., 2000; Yumusak, Sungur, & Cakiroglu, 2007). For instance, Yumusak, Sungur, and Cakiroglu (2007) run canonical analysis in order to test the relationship between students' motivational beliefs and their strategy use. They found positive associations among mastery goals and elaboration and organization strategies while no significant relationship was found for rehearsal strategies. Harackiewicz et al. (2000) also revealed that mastery goals significantly predicted deep-processing strategies while performance goals predicted surface level strategies.

Although the associations between students' goal orientations and learning strategies were frequently studied in literature, this study aimed to extend previous works in three ways: (1) clarifying the conceptualization of the 2x2 achievement goal framework which takes mastery-avoidance goals into account; (2) employing multilevel analysis as opposed to previous studies using single level statistical models; (3) studying with high school students, in contrast to most of the earlier studies conducted with undergraduate students. Accordingly, the purpose of this study was to examine the relationship between Turkish high school students' learning strategies and their goal orientations in the chemistry course using multilevel analysis. Learning strategies included rehearsal, elaboration, organization,

critical thinking, and metacognitive self-regulation; while, goal orientations consisted of four types of goals (performance-approach, performance-avoidance, mastery-approach, and mastery-avoidance).

Method

Research Design

This study was designed based on correlational research as a type of quantitative research methodology (Fraenkel, Wallen, & Hyun, 2012). The relationship between high school students' learning strategies and their goal orientations were studied for the purpose of prediction. Although the data was collected from the students enrolling in the chemistry courses, there was no manipulation of the studied variables. Since students were clustered within classrooms, a multilevel approach was followed rather than running a single-level multiple regression analysis (Bickel, 2007). Each learning strategy was predicted with four achievement goals.

Research Context: High Schools in Turkey

There are sixteen kinds of high schools defined by the Ministry of National Education (MoNE) in Turkey; even this number can be increased considering specific kinds of vocational high schools. These schools fall into the categories of *general* and *vocational* according to the programs they follow. Vocational high schools aim to train individuals for a profession while general high schools prepare students for higher education. General high schools can be further classified into nine categories (MoNE, 2011). The students from three school types (state, Anatolian, and private high schools), which represent the highest ratio in the general high school population, participated in the present study. All three schools follow the same chemistry curriculum offered by MoNE.

State and Anatolian high schools are funded by the government whereas private schools are financed by students' families. Students at Anatolian and private high schools improve their skills in at least one foreign language, usually English as a second language and German as a third. Private schools differ from government high schools in terms of academic and social opportunities depending on the financial status of the school. Generally, private school students have more social activities (artistic, sportive etc.) than other school types. In addition, regarding the chemistry course, students have a better laboratory facility and other opportunities like science fairs (Erdogan, 2002). On the other hand, students at government high schools very seldom conduct experiments in chemistry laboratories; generally instruction is guided by algorithmic problems rather than conceptual understanding.

One of the most salient features of the Turkish educational system is that students are required to take nationwide exams when they transfer from one education level to the other, and they can be admitted to their desired schools if they attain a minimum required score for that particular school. For example, in order to attend Anatolian high schools, students must score high on a nationwide examination called

the Level Determination Examination. This examination includes four topics, namely social sciences, mathematics, natural science and Turkish literature. Similarly, students wanting to pursue higher education must take two nationwide examinations, the University Entrance Examinations (namely YGS and LYS) when they graduate from high school. In addition to their YGS and LYS scores, students' high school grade point averages (GPA) are also taken into account for entry into university. The number of students entering their desired university is very low; consequently, the competition is very high among students. Students believe that if they can attend a respected high school (like the Anatolian high schools), they will be better prepared for the YGS and LYS.

Research Sample

Because we run multilevel regression analysis in this study, we defined the sample size for both the student level and the classroom level. Maas and Hox (2005) suggest that about 50 cases at the classroom level can be accepted for unbiased estimation. In total, there were 1157 students enrolling in the chemistry course at the student level and 50 classrooms at the classroom level in the present study. The students were from different grade levels: 468 ninth (246 females, 222 males), 355 tenth (184 females, 171 males), and 334 eleventh (190 females, 144 males) graders. The age of the students ranged between 14 and 17 (M=15.22) for ninth graders, between 15 and 18 (M=16.07) for tenth graders and between 15 and 18 (M=16.94) for eleventh graders. Table 1 presents the frequencies of the students participating in the study in terms of school types, grade level, and gender. At classroom level, while classroom size ranged from 14 to 33 in state schools (M=27.91), it was between 13 and 29 (M=24.25) for Anatolian high schools and between 12 and 19 (M=14.93) for private schools (see Table 1).

Table 1

Frequencies at Student and Classroom Levels with Respect to School Type, Grade Level, and Gender

School	Grade	School	Number of Classes	Number of Students	Number of Females	Number of Males
State	9th	School 1	4	93	55	38
		School 2	4	127	70	57
	10th	School 1	4	119	64	55
		School 2	4	116	67	49
	11th	School 1	4	101	64	37
		School 2	3	86	49	37
	Total		23	642	369	273
Anatolian	9th	School 1	5	138	62	76
	10th	School 1	4	76	40	36
	11th	School 1	3	77	45	32
	Total		12	291	147	144
Private	9th	School 2	4	65	35	30
		School 3	3	45	24	21
	10th	School 2	1	13	6	7
		School 3	2	31	7	24
	11th	School 1	2	33	20	13
		School 2	1	13	5	8
		School 3	2	24	7	17
	Total		15	224	104	120
	Grand Total		50	1157	620	537

Research Instruments and Procedure

Goal orientation scale. This scale was administered to determine the type of goals students pursue while studying for the chemistry course. It was developed by Elliot and McGregor (2001) based on the 2x2 achievement goal framework. The scale was translated and adapted to Turkish culture by Senler and Sungur (2007) for elementary school students and piloted with high school students by Kadioglu, Uzuntiryaki, & Capa-Aydin (2009). It included 12 five-point Likert-type items

ranging from 1 (never) to 5 (always) and four subscales as mastery-approach, mastery-avoidance, performance-approach, and performance-avoidance.

Cognitive and metacognitive strategies scale. The cognitive and metacognitive strategies section of the Motivated Strategies for Learning Questionnaire (Pintrich, Smith, Garcia, & McKeachie, 1991) was used to measure learning strategies students employ in the chemistry course. The scale was translated and adapted into Turkish by Sungur (2004). It was a seven-point rating scale ranging from 1 (not at all true for me) to 7 (very true for me). The instrument was composed of 31 items and five dimensions, including rehearsal, elaboration, organization, critical thinking, and metacognitive self-regulation.

Procedure. This study was conducted in six high schools (two state schools, one Anatolian high school, and three private schools) chosen randomly in Ankara in Turkey. The instruments were employed with the help of a cooperative teacher from each school. Students completed them during class hours. It took approximately 20 minutes to complete the instruments. Students were informed of the confidentiality of the results: The data would be examined only by the researchers for this study and the school administration or their chemistry teachers would not see the data. Additionally, students' names or any information distinguishing their identity was not collected.

Validity and Reliability

Goal orientation scale. Confirmatory Factor Analysis (CFA) was performed to test the factorial validity of the scale using Mplus statistical package 5.2 (Muthén & Muthén, 1998-2010). The $\chi 2/df$ ratio, Root Mean Square Error of Approximation (RMSEA), Standardized Root Mean Square Residual (SRMR), Comparative Fit Index (CFI), and Non-Normed Fit Index (NNFI) were used as goodness-of-fit indices. For χ^2/df ratio the values were less than 5, for SRMR the values were less than .05, and for CFI and NNFI the values were above .90 and were accepted as showing a good fit with the data (Jöreskog & Sörbom, 1993; Kline, 2005). For RMSEA, values less than .05 indicate good model data fit, values between .05 and .08 indicate mediocre fit, and values greater than .10 indicate poor fit (Browne & Cudeck, 1993). In the present study, the findings indicated a good model fit for the scale with the following fit indices: χ^2/df (220.915/48)=4.60, RMSEA=.055 (90% CI=.048, .063), SRMR=.045, CFI=.96, and NNFI=.94. The Cronbach's alpha coefficients for the subscales of the Goal Orientation Scale together with 95% confidence intervals are depicted in Table 2.

Table 2

Cronbach Alpha Reliability Coefficients and 95% Confidence Intervals for the Subscales of the Goal Orientation Scale

Subscale	Reliability coefficients	95% Confidence Interval	
		Lower Bound	Lower Bound
Performance-approach	.80	.78	.82
Performance-avoidance	.71	.68	.74
Mastery-approach	.83	.81	.84
Mastery-avoidance	.78	.76	.80

Cognitive and metacognitive strategies scale. CFA was run to examine how well the items in the scale fit with the five-factor model for our data. The analysis yielded the following fit indices: χ^2/df (1616.499/424)=3.81, RMSEA=.049 (90% CI=.046, .051), SRMR=.049, CFI=.89, and NNFI=.87, which indicated a good fit with the data. The reliability coefficients along with 95% confidence intervals are displayed in Table 3.

Table 3

Cronbach Alpha Reliability Coefficients and 95% Confidence Intervals for the Subscales of Cognitive and Metacognitive Strategies Scale

Subscale	Reliability coefficients	95% Confidence Interval	
		Lower Bound	Lower Bound
Rehearsal	.74	.72	.76
Elaboration	.77	.75	.79
Organization	.68	.65	.71
Critical thinking	.78	.76	.80
Metacognitive self-regulation	.82	.81	.84

Data Analysis

Generally, the data collected from educational settings are multilevel in nature: Students are clustered within classrooms and the classroom environment (teacher's messages about learning, or peers' perceptions), which affects how students perceive learning and achievement related outcomes. That's why rather than running a single-

level ordinary least squares (OLS) regression analysis to predict student's learning strategies, a multilevel approach (namely, hierarchical linear modeling (HLM) analysis) is a statistically better approach at predicting students' learning strategies via their goal orientations (Bickel, 2007). Thus, in this study, HLM analysis was used to consider the students clustered within the classrooms. Additionally, the variance on the dependent variable was divided into two parts: within-classroom variance (the variation on dependent variables among the students in the same classroom) and between classroom variance (the variation on dependent variables among classrooms). Initially, unconditional models were run and interclass correlation coefficient (ICC) was calculated to test the accuracy of multilevel analysis for each dependent variable: namely, rehearsal, elaboration, organization, critical thinking, and metacognitive self-regulation. Then, five different HLM analyses using IBM SPSS version 20 were run for each dependent variable. The independent variables (students' goal orientation types: performance-approach, performance-avoidance, mastery-approach, and mastery-avoidance goals) were measured at student level. Before conducting the HLM analyses, means and standard deviations for all variables and canonical correlations among variable sets were calculated as descriptive data using IBM SPSS 20.

Results

Descriptive Statistics

The means and standard deviations for each variable are given in Table 4. High values for the mean scores indicated that students used those learning strategies and goal orientations more often. When mean scores for the learning strategies were examined, they were found to be close to each other and a little higher than the midpoint of the 7 point Likert type scale, indicating that students were not using cognitive and metacognitive strategies very often. It was found that students were using the metacognitive self-regulation strategy most frequently (M=4.63) and critical thinking strategy (M=4.09) least frequently. On the other hand, for the goal orientation types, the mean scores varied from 3.08 to 4.04, above the midpoint of the five-point scale: Students were found to employ mastery-avoidance goals least frequently and mastery-approach goals most frequently.

Table 4

Means and Standard Deviations for All Variables in the Study

Subscale	M	SD
Rehearsal	4.52	1.43
Elaboration	4.49	1.30
Organization	4.53	1.38
Critical thinking	4.09	1.33
Metacognitive self-regulation	4.63	1.08
Performance-approach	3.57	1.05
Performance-avoidance	3.14	1.10
Mastery-approach	4.04	.94
Mastery-avoidance	3.08	1.04

The relationship between two variable sets (learning strategy and goal orientation variables) was also examined. Each variable set represented a canonical variate: *learning strategy variate* versus *goal orientation variate*. Results of the canonical correlation analysis revealed only one significant canonical variate pair (see Table 5). The canonical correlation coefficient between two canonical variates was found to be .58 accounting for 34% of overlapping variance. The first canonical variate (learning strategy) and the second canonical variate (goal orientation) accounted for 69% and 35% of the variance, respectively. When the canonical loadings were examined, the values greater than .30 were accepted as meaningful (Tabachnick & Fidell, 1996). All of the learning strategy types were positively correlated with the first canonical variate; Elaboration strategy made the highest contribution (r_s=.97). On the other hand, performance-approach, mastery-approach and mastery-avoidance goals were positively associated with the second canonical variate, while performance-avoidance goals made no significant contribution to the second covariate with the canonical loading of .19 less than .30. Mastery-approach goals (r_s=.97) accounted for the highest proportion of variance in the second canonical variate.

Table 5

Correlations, standardized canonical coefficients, canonical correlations, percentage of variance and redundancies between self-regulatory learning strategy and goal orientation variables

	First Canonical Variate	
	Correlations	Coefficients
Self-regulatory learning strategy variables		
Rehearsal	.81	.16
Elaboration	.97	.60
Organization	.72	.07
Critical thinking	.75	.06
Metacognitive self-regulation	.87	.22
Percentage of variance	.69	
Redundancy	.23	
Goal Orientation variables		
Performance-approach	.56	.30
Performance-avoidance	.19	-.12
Mastery-approach	.97	.87
Mastery-avoidance	.31	.03
Percentage of variance	.35	
Redundancy	.12	
Canonical correlation	.58	

HLM Analysis

In an effort to examine the relationship between students' motivational beliefs and their cognitive learning strategies regarding chemistry class, HLM analysis was run. As a preliminary analysis, interclass correlation coefficient (ICC) which examines the variance of dependent variable attributed to the variation between classrooms was calculated for each strategy type to understand whether multilevel analysis (HLM analysis) or single-level analysis (OLS regression analysis) was more appropriate to analyze the data. For this purpose, five different unconditional models were run for each dependent variable. The between-classroom and within-classroom variances are given in Table 6. For example, ICC was found to be .073 for rehearsal strategy, indicating that 7.3% of the total variance on rehearsal strategy was

explained by the between-classroom variance and the remaining 92.7% was explained by the within-classroom variance. Results indicated that the ICCs ranged from .062 for critical thinking strategy to .13 for metacognitive self-regulation strategy. As a result, most of the variances in the dependent variables were attributed to the within-classroom variance (indicating dependency of observations) and the multilevel analysis was better method for analyzing the nested data than the single-level analysis.

Table 6

Between and Within-Classroom Variances for Each Dependent Variable

Dependent Variable	ICC (between-classroom variance)	Within-classroom variance
1. Rehearsal	.073	.927
2. Elaboration	.121	.879
3. Organization	.107	.893
4. Crit. Think.	.062	.938
5. Metac. self-reg.	.131	.869

As the main analysis, conditional models were tested by adding student-level predictors (performance-approach, performance-avoidance, mastery-approach, and mastery-avoidance goals) to the unconditioned models. Five separate HLM analyses were run for each learning strategy type. Results of the final models for each dependent variable are presented in Table 7. The findings revealed the same pattern for all of the dependent variables: performance-approach goals and mastery-approach goals were significantly associated with each learning strategy type with the greater beta coefficients for the mastery-approach goals. For example, the variation in elaboration strategy was explained more by the mastery-approach goals (β=.42) than the performance-approach goals (β=.17). On the other hand, no statistically significant relationship was found between all dependent variables and mastery-avoidance and performance-avoidance goals.

Table 7

Goal Orientation Types as Predictors of Learning Strategies

Dependent Variable	Predictors	β Coefficient	SE	t
Rehearsal	Intercept	.01	.04	.19
	Performance approach	.16	.04	3.94*
	Performance avoidance	.05	.04	1.13
	Mastery approach	.29	.04	7.95*
	Mastery avoidance	.06	.04	1.51
Elaboration	Intercept	-.01	.04	-.30
	Performance approach	.17	.04	4.52*
	Performance avoidance	-.05	.03	-1.43
	Mastery approach	.42	.04	10.88*
	Mastery avoidance	-.04	.04	-1.19
Organization	Intercept	-.01	.04	-.21
	Performance approach	.11	.04	3.06*
	Performance avoidance	-.01	.04	-.07
	Mastery approach	.39	.04	10.95*
	Mastery avoidance	.01	.03	.07
Critical thinking	Intercept	-.01	.04	-.19
	Performance approach	.15	.04	4.21*
	Performance avoidance	-.05	.04	-1.33
	Mastery approach	.35	.05	7.86*
	Mastery avoidance	.01	.04	.16
Metacognitive self-regulation	Intercept	-.02	.04	-.42
	Performance approach	.14	.04	3.88*
	Performance avoidance	-.05	.03	-1.37
	Mastery approach	.47	.04	13.27*
	Mastery avoidance	-.01	.03	-.26

Note. β coefficients represent standardized scores.
Number of students=1157; number of classrooms=50.
*. Significant at α=.05

Discussion and Conclusion

In this study, we investigated the relationship between the learning strategies and goal orientations among Turkish high school students taking chemistry courses. Students' goal orientations were used to predict their learning strategies utilizing multilevel regression models (HLM analysis). Descriptive statistics showed that metacognitive self-regulation strategies and mastery-approach goals were used most frequently. In addition, canonical correlation analysis revealed that students who set mastery goals more frequently used all of the self-regulatory learning strategies more frequently while studying for the course supporting the findings of previous studies (e.g., Ames & Archer, 1988; Kadioglu, Uzuntiryaki, & Capa-Aydin, 2009; Kaplan & Midgley, 1997; Pintrich, 1999). This indicated that students who set interpersonal standards for learning and give importance to developing new skills were aware of and had more control on their cognition and used strategies such as planning, monitoring and regulating more frequently while studying for the chemistry course.

Results of HLM analysis supported the findings of canonical correlations: only approach-type of goals (namely, performance-approach and mastery-approach) significantly predicted students' learning strategies. Students studying in order to receive higher grades than peers and for understanding the topic were expected to use cognitive and metacognitive strategies more often. In contrast to the literature which relates mastery goals to deeper level strategies like elaboration (Elliot, McGregor, & Gable, 1999; Elliot & McGregor, 2001; Harackiewicz, et al., 2000; Yumusak, Sungur, & Cakiroglu, 2007), in the current study, performance-approach goals were also linked to strategy use. This result can be attributed to the common evaluation practices in the Turkish educational context such as grade focused evaluation, dominance of nationwide exams, addition of high school GPA scores to calculate final YGS scores, etc. From this point of view, therefore, contribution of performance-approach goals to the HLM model was not surprising. Still, in this study, mastery-approach goals made a higher contribution to the prediction of learning strategies than performance-approach goals.

Avoidance-oriented goals, on the other hand, were not significant predictors of learning strategies. Indeed, it appeared that avoidance goals were less frequently used among the students in the study. Related literature clearly states that the goal orientations which students possess are affected by classroom practices, the messages their teachers send and/or the messages coming from peers (Meece, Anderman, & Anderman, 2006; Urdan, 2004; Wolters, 2004). For example, if the teacher continually mentions the detrimental consequences of getting low grades or the students getting poor grades are accepted as dumb by the peers, students in those classrooms are expected to set performance-avoidance goals for themselves. Therefore, we would need to know more about classroom environment (i.e., classroom goal structures). In the further studies, classroom practices can be observed or classroom goal structures can be investigated in order to have a better understanding of the phenomena.

This study has some limitations. First of all, the data in this study were gathered through self-report measurement in one shot from different schools and grade levels.

Although the present study provided us with empirical evidence for the relationship between goal orientations and learning strategies, it is not clear whether students keep their goals or strategies throughout their learning process and whether they set the same goals and utilize the same strategies in different learning contexts. Secondly, it should be kept in mind that the present study is correlational in nature; therefore, it is not possible to make causal explanations for the results.

In spite of these limitations, the current study contributes to the literature by employing the 2x2 framework and analyzing the data considering students nested in classrooms. The present study has some suggestions for both practice and research. Considering the role of mastery-approach goals on the learning strategies, teachers can create tasks that require some degree of challenge, help students gain new skills, give students some degree of control over their learning process, and present opportunities to make their own decisions about the process or product of their learning. Teachers also need to evaluate the students' progress without making comparisons and with emphasizing self-referenced standards as also stated by Ames (1992). Thereby, teachers can help students set mastery-approach types of goals, support the use of higher order strategies, and enhance their learning. This study provided evidence that performance-approach goals can also support student's learning. However, how these two types of goals work together remained unclear: focusing only on mastery-approach goals may not be helpful in every context or for all students. Therefore, teachers should critique their classroom practices and make the necessary adjustments in the classroom goal structures based on their students' needs.

Researchers can extend the present study by investigating classroom goal structures to understand the interaction between classroom goals and students' personal goal orientations. Classroom goals can be measured through classroom observations or by getting teachers' or students' personal interpretations through questionnaires. In addition, in this study, we considered chemistry as a context. Future studies can investigate goal structure and learning strategies in different courses. Moreover, school-related variables like school size, school type, average SES of the school, percentage of students enrolling in university in their first year, etc. can be included with the analysis as classroom level predictors. Furthermore, structural equation models can be employed to test the direct and indirect paths among goal orientation variables, their relationship with classroom goal structure, personal characteristics and/or academic achievement. In addition, experimental studies can be employed to understand the effect of the classroom environment on students' goal orientation types and, in turn, their learning process. Finally, a qualitative approach can also be conducted to understand how students decide to utilize a particular goal orientation type and how they regulate their goals based on their own learning progress and/or the requirements of the classroom tasks.

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Öğrenme Stratejileri ve Hedef Yönelimleri Arasındaki İlişki: Çok Düzeyli Veri Analizi

Atıf:

Özet

Problem Durumu: Öğrencilerin akademik başarılarını açıklamada motivasyon önemli bir yer tutar. Motivasyon hedefe yönelik çaba ve çalışmayı başlatan ve devam ettiren süreç olarak tanımlanmaktadır. Motivasyonu yüksek olan öğrenciler zorlayıcı görevleri seçer, daha çok çaba harcar ve engellerle karşılaştıklarında vazgeçmezler; bunun sonucunda da daha başarılı olurlar. İlgili alanyazında motivasyonu açıklayan farklı teorilere rastlanmaktadır. Öğrencilerin bir öğrenme sürecine neden katıldığını, öğrenmenin amacını ve gerekçelerini açıklayan Başarı Hedefleri Kuramı (*Achievement Goal Theory*) bunlardan en yaygın kullanılanıdır.

Başarı Hedefleri Kuramı zaman içinde birkaç kez gözden geçirilmiştir. İlk çalışmalar ikili modele (performansa yönelik ve öğrenmeye yönelik hedefler) göre yapılmıştır. Performansa yönelik hedeflere sahip öğrenciler başarıyı başkalarına göre değerlendirirken, öğrenmeye yönelik hedefleri olan öğrenciler beceri geliştirmeye önem vermektedir. Ampirik çalışmaların sonucunda zaman içinde üçlü model (öğrenmeye yönelik, performans-yaklaşma, performans-kaçınma hedefler) ortaya atılmıştır. Daha sonra, performans-yaklaşma, performans-kaçınma, öğrenme-yaklaşma ve öğrenme-kaçınma hedeflerini içeren dörtlü bir model ortaya atılmış ve bu model 2x2 Başarı Hedefleri Yapısı (2x2 Achievement Goal Framework) olarak isimlendirilmiştir. Bu modelde hedef yönelimleri tanımlanırken yeterliğin tanımı ve değerliği dikkate alınmıştır. İlgili alanyazında, hedef yönelimlerini açıklamak için en uygun modelin hangisi olduğu üzerine tartışmalar sürmektedir. İkili ve üçlü modele dayalı pek çok çalışmaya rastlanırken, dört boyutlu yapıyı araştıran az sayıda çalışma yer almaktadır. Bu çalışma, önceki çalışmalarda kullanılan tek düzeyli istatistiksel analiz yöntemlerinin aksine iç içe geçmiş veri yapısını dikkate alan çok düzeyli analiz yöntemi içerdiğinden önceki çalışmaları genişletmeyi hedeflemektedir.

Araştırmanın Amacı: Bu çalışmanın amacı, Türkiye'deki lise öğrencilerinin kimya dersi çalışırken kullandıkları öğrenme stratejileri ile sahip oldukları hedef yönelimleri arasındaki ilişkiyi çok düzeyli analiz yöntemi kullanarak incelemektir.

Araştırmanın Yöntemi: Toplanan verinin yapısı iki düzeyli (öğrenci ve sınıf düzeyi) olduğundan, örneklem her iki düzey için ayrı ayrı tanımlanmıştır. Örneklemi 50 sınıftan 1157 (620 kız, 537 erkek) öğrenci oluşturmaktadır. Öğrenci düzeyini kimya dersi alan 468 dokuzuncu, 355 onuncu ve 334 onbirinci sınıf öğencisi oluşturmaktadır. Sınıf düzeyinde altı farklı liseden toplam 50 sınıf yer almaktadır. Sınıflardaki öğrenci sayısı 14 ile 33 arasında değişmektedir.

Veri toplama aracı olarak öğrencilerin kimya dersi çalışırken kullandıkları öğrenme stratejilerini (tekrarlama, ayrıntılandırma, örgütleme, eleştirel düşünme ve bilişüstü özdüzenleme) ölçmek için Bilişsel ve Bilişüstü Stratejiler Anketi ve sahip oldukları hedef yönelimlerini (performans-yaklaşma, performans-kaçınma, öğrenme-yaklaşma ve öğrenme-kaçınma hedefler) belirlemek için Hedef Yönelimi Anketi kullanılmıştır. Doğrulayıcı faktör analizleri sonucunda elde edilen uyum indeksleri değerleri Bilişsel ve Bilişüstü Stratejiler Anketi için $\chi2/df$ (1616,499/424) = 3,81, RMSEA = 0,049 (90% CI =0,046, 0,051), SRMR= 0,049, CFI = 0,89, NNFI = 0,87 ve Hedef Yönelimi Anketi için $\chi2/df$ (220,915/48) = 4,60, RMSEA = 0,055 (90% CI =0,048, 0,063), SRMR = 0,045, CFI = 0,96, NNFI = 0,94 olarak bulunmuştur. Sonuçlar her iki anket için verinin modelle iyi derecede uyum sağladığını göstermektedir. Cronbach alfa iç güvenirlik katsayısı Bilişsel ve Bilişüstü Stratejiler Anketi için 0,68 ile 0,82; Hedef Yönelimi Anketi için 0,71 ile 0,83 değerleri arasındadır.

Çalışmada öğrencilerin sınıflara kümelendiği gözönünde bulundurularak çok düzeyli veri analizi yöntemlerinden Hiyerarşik Lineer Modelleme (HLM) kullanılmıştır. Her bir öğrenme stratejisi için ayrı ayrı beş farklı HLM yapılmıştır. Analizlerde bağımlı değişken öğrenme stratejileri (tekrarlama, ayrıntılandırma, örgütleme, eleştirel düşünme ve bilişüstü özdüzenleme), bağımsız değişken hedef yönelimleridir (performans-yaklaşma, performans-kaçınma, öğrenme-yaklaşma ve öğrenme-kaçınma hedefler).

Araştımanın Bulguları: Her bir değişkene ait ortalama ve standart sapma değerleri incelendiğinde; öğrencilerin en yaygın bilişüstü özdüzenleme stratejisini, en seyrek eleştirel düşünme stratejisini kullandığı bulunmuştur. Bununla birlikte, öğrenciler en çok öğrenme-yaklaşma, en az öğrenme-kaçınma hedeflerine yönelmektedir. Kanonik korelasyon sonuçlarına göre ise öğrenme stratejisi değişken setindeki tüm bilişsel ve bilişüstü stratejiler, hedef yönelimi değişken setindeki performans-kaçınma hedefleri dışındaki tüm hedeflerle ilişkilidir. Kanonik korelasyon katsayısı 0,58 olarak bulunmuştur.

HLM öncesinde, bağımsız değişkenlerin yer almadığı *koşulsuz model* incelenmiş, ICC (gruplararası varyans) değerleri 0,062 (eleştirel düşünme) ile 0,131 (bilişüstü özdüzenleme) arasında bulunmuştur. Buna göre bağımlı aynı sınıftan toplanan veriler tamemen bağımsız olmadığından verilerin analizinde tek düzeyli basit doğrusal regresyon analizi yerine çok düzeyli HLM analizi yapmak daha uygundur. HLM sonuçlarına göre, her bir bağımlı değişken için aynı sonuç bulunmuş, öğrencilerin kullandıkları öğrenme stratejilerini kestirmede performans-yaklaşma ve öğrenme-yaklaşma hedefleri anlamlı katkıda bulunmuş, öğrenme-yaklaşma hedeflerinin daha çok varyansı açıkladığı görülmüştür. Örneğin, eleştirel düşünme

becerisi için varyansın % 42'si öğrenme-yaklaşma (β = 0,42) hedefleri ile açıklanırken, % 17'si performans-yaklaşma (β = 0,17) hedefleri tarafından açıklanmaktadır.

Araştırmanın Sonuçları ve Önerileri: Bu çalışmada, lise öğrencilerinin kimya dersine çalışırken kullandıkları öğrenme stratejileri ile sahip oldukları hedef yönelimleri arasındaki ilişki çok düzeyli veri yapısı dikkate alınarak araştırılmıştır. Betimsel analizlerin sonucunda en yüksek ilişki öğrenme-yaklaşma hedefleri ile bilişüstü özdüzenleme stratejileri arasında bulunmuştur. Bu sonuçlar yeni beceri geliştirmeye önem veren öğrencilerin, bilişsel farkındalıklarının yüksek olduğunu ve bu öğrencilerin kimya dersine çalışırken plan yapma, çalışmalarını izleme ver düzenleme stratejilerini sıklıkla kullandıklarını göstermektedir. HLM sonuçları da bunu desteklemiş, yaklaşım odaklı hedeflerin öğrenme stratejilerini tahmin etmede anlamlı katkı sağladığını ortaya koymuştur. İlgili alanyazın derin öğrenme stratejileri ile öğrenme-yaklaşma hedefleri arasında bir ilişkiyi ortaya koymaktadır. Oysa bu çalışmada performans-yaklaşma hedefleri de strateji kullanımıyla ilişkilendirilmiştir. Bu durumu açıklamada Türkiye'deki sınav odaklı değerlendirme sisteminin etkili olduğu düşünülmektedir. Sınıf içi not odaklı değerlendirmelerin ağırlıklı olması, kademeler arası geçişlerde ulusal sınavların kullanılması, ortaöğretim not ortalamasının YGS notuna katkısı düşünüldüğünde bu sonuç şaşırtıcı değildir. Bu çalışmada, alanyazına paralel olarak öğrenme odaklı hedeflerin daha yüksek katkı sağladığı bulunmuştur. Bu nedenle, öğretmenler yeni becerilerin geliştirilmesi üzerinde durarak, belli zorluk derecesinde aktiviteler geliştirerek, öğrenciler arasında karşılaştırma yapmaktan kaçınarak ve öğrencilere belli derecede otorite vererek öğrencilerini öğrenme hedeflerini kullanmaya yönlendirebilirler. İleriki çalışmalarda mevcut değişkenlere sınıfiçi hedef yapısı, öğrencilerin kişilik özellikleri ve akademik başarı gibi değişkenler eklenebilir.

Anahtar Kelimeler: Başarı hedefleri, öğrenme stratejileri, bilişsel ve bilişüstü stratejiler, Hiyerarşik Lineer Modelleme (HLM), kimya eğitimi

The Relationship between Communication Competence and Organizational Conflict:

A Study on Heads of Educational Supervisors

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Abstract

Problem Statement: Since conflict is an organizational phenomenon, its comparison between other organizational variables to find possible associations has been an important research motive. Relevant researchers have found significant correlations between conflict handling strategies of principals of different genders and school culture, emotional intelligence and conflict management styles, teachers' self-efficacy beliefs and conflict solution styles. Considering the rapid development of communication and the need for organizations to change, an increase in individual differences among organization members has become inevitable today. This also causes increased conflicts among organization members who are constantly interacting with each other. Poor communication underlies the interpersonal conflicts. The degree of interpersonal communication significantly determines the organizational performance and information transmission. Each educational organization, like other organizations, is composed of people with different personalities, perceptions, attitudes, value judgments, personal goals, and expectations. Individual differences can cause problems. The solutions to these problems seem to be closely associated with the communication competence of organization members.

Purpose of Study: This study investigates the relationship between communication competences and organizational conflict levels of heads of educational supervisors, and the extent to which communication competence predicts organizational conflict.

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Methods: This associational study was conducted on 217 educational supervisors working in head departments of educational supervisors in eight cities of Turkey. Data were collected using the "Communication Competences Scale" and "Organizational Conflict Scale."

Findings and Results: Results indicated that heads of educational supervisors *mostly* exhibit communication competences including the components of empathy, social relaxation and support behaviors. Educational supervisors also stated that they *sometimes* experience organizational conflict including the components of intergroup, between groups and personal conflict in their head departments. A negative moderate level of correlation was found between communication competence and organizational conflict levels of heads of educational supervisors. In addition, communication competence was found to predict organizational conflict significantly. Additionally, it was found that empathy competence, one of the communication competences, is a significant predictor of intergroup and personal conflict, and support competence is a significant predictor of within group conflict. It was also found that social relaxation competence as one of the components of communication competence is not a significant predictor of any of the components of organizational conflict.

Conclusions and Recommendations: This study provides new insight into the effects of communication competence on conflict management in educational organizations and is of value to educational leaders, managers, and other conflict management specialists.

Keywords: Educational supervisors, Communication competence, Organizational conflict.

Introduction

One way of authenticating the quality of the teachers and school programs is through the evaluation process. Thus, supervision's first priority is to oversee the efficiency and effectiveness of the school community. This process can sometimes be threatening, depersonalizing, and humiliating since it places individuals in superior versus inferior roles. When it comes to supervisory teams, for the head of the team and other members of the team, positional authority seems to be more important than an authority based on competence.

Bursalıoğlu (1994, p. 129) defines inspection (evaluation) as a method of controlling behavior for the public good. He also sees inspection as one of the most frequently used regulatory mechanisms to ensure cohesiveness in the educational system. Inspection can also be defined as the process of monitoring whether organizational acts are in line with the goals, principles and rules agreed upon. The main goal of inspection is to detect to what extent the organizational goals have been

achieved, to take precautions for better outcomes and to improve the processes used (Aydın, 2000, p. 11).

One important unit of the Turkish Educational System, the Head Department of Educational Supervisors, has important roles in executing the inspectional duties as a part of the schools' administration process (Article I, Law No 5984, published in Official Gazette dated 13.06.2010 and numbered 27610). The duties of the educational supervisors were specified in Law No 5984 as follows:

> Educational supervisors' and deputy inspectors' fields of assignment include the services of guiding, in-service training, supervision, inspection, assessment, examination, research and investigation of organized and extensive education institutions of all types and levels, except for the guidance and inspection of directorates of national education in provinces and districts and the secondary education institutions, and the analysis and investigation of teachers working in these institutions regarding their subject fields.

As legally specified, the heads of educational supervisors are assigned to inspect, assess, examine, and investigate the institutions and to guide and train the staff on service.

Highlighting different role classifications of educational inspectors based on variables in role construction, Başar (2000, p. 39) distinguishes the supervisors' roles as leadership, administration, guidance, help, training, research and investigation under three scopes: duty, process and behavior. Like other professionals, educational supervisors are expected to be competent in performing their roles.

Competency: To Phillips (1983), defining competency is like climbing an oily post and when you think you have finished, it slips out of your hands. Phillips (1983) defines competence as anything required by the job definition or communication goal however it is measured under certain circumstances. Competence is one's belief in accomplishing a job and is a must in motivating that person. Competence can be observed through behaviors and classified according to situational positions.

Spitzberg (1983) compares his views on competence with those of McCroskey. Spitzberg states that McCroskey distinguishes competence from skill, performance and productivity and it is held in three traditional behavioral domains: psychomotor, affective and cognitive. Spitzberg reports that McCroskey describes competence as knowledge. To Spitzberg (1983), the distinction between motivation, knowledge and competence is important, for "performance" can be enhanced or restricted by any or all of these. The independence of motivation, knowledge and competence has been highlighted in many researches. Competence is not naturally inherent in one's behaviors but can be a produced result of an event. In other words, one's competence should be handled in a certain context.

The term "competence" has different definitions which can be categorized as theoretical and operational. Theoretical definitions describe competence as the existence or absence of qualifications to perform a role considering it a potential,

whereas operational definitions refer to competence as the ability to perform a task at a certain place and a required time as the vivid indicator of that potential (Başar, 2000, p. 97-98).

Başar (2000) groups supervisor competences with regard to some fields including course inspection, institution inspection, research and investigation. Taymaz (1982, p. 4) stressed that inspectors' fields of competences can be categorized under six distinctions, including administration, leadership, guidance, teaching, research expertise, and investigation. One competence commonly required for all of the competences classified above seems to be communication competence.

Communication competence: To Rickheit, Strohner and Vorwerg (2008, p.18), the term communication competence was used by Dell Hymes in 1969 to stress knowledge of grammar rules rather than spoken communication competence. They cite that Wiemann (1977) and Spitzberg ve Cupach (1984, 1989) contributed significantly to the expansion of the scope of communication competence. In Wiemann's (1977) study, it was emphasized that communication competence approaches can be handled under three groups: t-group, social skill, and self-expression. Wiemann (1977, p. 198) defines communication competence as "the ability of an interactant to choose among available communicative behaviors in order that he (she) may successfully accomplish his (her) own interpersonal goals during an encounter while maintaining the face and line of his (her) fellow interactants within the constraints of the situation." Wiemann states that communication competence is a combination of five basic skills including affiliation/support, social relaxation, empathy, behavioral flexibility and interaction management. Rubin and Martin (1994) handle interpersonal communication competence under such categories as self-disclosure, empathy, social relaxation, assertiveness, interaction management, altercentrism, expressiveness, supportiveness, immediacy and environmental control. Hoy and Miskel (2010, p. 347) consider communication competence as a set of skills and researches one interactant possesses. In this regard, people with communication competence are expected to be able to send messages, listen to feedback, and provide feedback well.

Blatt and Benz (1993) also found that support and empathy competences are related to students' respect for teacher, and other-focusedness is strongly associated with the items in the students' teacher evaluation scale. In addition to this, competences in social relaxation, interaction management, self-disclosure, and assertiveness dimensions were found to be slightly associated with the items in the students' teacher evaluation scale. It was also emphasized that empathy and supportiveness were basic components of communication competence.

Myers and Kassing (1998) reported that seniors' communication competences are a significant predictor of juniors' organization perception, and juniors with a high level of organizational identity perception judge their seniors as more competent in communication and more participative in interaction than the juniors with moderate and low levels of organizational identity perception. It was also reported that principals' communication competences are strongly correlated with effective

leadership skills (Sophie, 2004). Johns (1997) found that effective educational leadership is highly correlated with competences regarding starting communication, listening, sending and waiting for feedback, and public affairs. Şimşek (2003) reported a strong positive correlation between principals' communication competences and the sound culture of schools (Şimşek, 2003). Contrary to these findings, no correlation between inspectors' communication competences and effective inspection was reported (Craig, 2000).

Smith (2004), comparing the communication strategies of principals in high and low SES schools, found that principals working in schools in low SES milieu generally use their communication strategies to manipulate the school staff, whereas those in schools in upper SES milieu use their communication strategies for problem solving, critical thinking, enhancing and introducing the student personality and performance. No significant association was found between primary school principals' interpersonal communication competence, organizational conflict and school climate, but a significant correlation was found between primary school principals' interpersonal communication competence and interpersonal conflict (Tabor, 2001). A research on technical and office staff working in the field of communication technologies revealed that workers with high performance are more motivated compared with low performing workers to adapt to communication and have more empathic communication competence (Payne, 2005).

Organizational conflict: Organizational conflict is defined in different ways. Conflict is mainly caused by parties' perception of conflict, opposition, contrast, prevention and presence of two or more groups with seemingly non-compatible goals and interests (Aydın, 2000, p. 292). Conflict is an attempt of one party to neutralize the efforts of another (Robbins, 1994, p. 220). Organizational conflict is the state of interaction between workers and clusters with irreconcilable differences or non-compatible characters. The conflict behavior of interacting people is a reaction to events and contradictions affecting their cognitive and affective strengths (Başaran, 2004, p. 323). However the conflict is defined, it is composed of certain elements such as disagreement, opposition and disharmony. Conflict is an inevitable phenomenon in social lives where people interact (Bursalıoğlu, 2002; Karip, 2003; Şimşek, Akgemci, Çelik, 2001). An organization without any conflict is dead. In living and functioning organizations, the presence of conflict is inevitable and natural (Açıkalın, 1998, p. 107).

Types of Organizational Conflict: To Rahim (2000, p. 20), types of conflicts can be classified according to sources of conflict and the organizational levels in which they arise. Types of conflicts according to sources of conflict are emotional conflict, task conflict, conflict of interest, value conflict, goal conflict, realistic and unrealistic conflict, institutionalized and non-institutionalized conflict, punitive conflict, causeless conflict and misattributed conflict, and displaced conflict. Conflicts classified according to organizational levels in which they arise are intrapersonal, interpersonal, intragroup, and intergroup conflicts (Rahim, 2001, p.33).

Intrapersonal conflict: Intrapersonal conflict is tension experienced within the individual due to actual or perceived pressures from incompatible goals or expectations (Schermerhorn, Hunt, Osborb & Uhl-Bien, 2010, 233). Intrapersonal conflicts emerge when organization members are asked to perform tasks incompatible with their expertise, experience, interests, goals and values (Rahim, 2001, p.23). It is the kind of conflict people experience when they face two controversial situations—either negative or positive—and cannot decide between the two (Kırel, 1996, p. 212). When someone undertakes conflicting and opposing roles and is obliged to choose between these roles, intrapersonal conflict can occur (Karip, 2003, p.24).

Interpersonal conflict: Interpersonal conflict occurs between hierarchical levels, units or organization members with similar ranks (Rahim, 2001, p. 23). It is the kind of conflict between two or more people. These conflicts emerge when there are differences between goals, attitudes, values and behaviors (Kırel, 1996, p. 212, Başaran 2004, p. 327). Interpersonal conflict occurs between two or more individuals who are in opposition with one another. It may be substantive, emotional, or both. Interpersonal conflict often arises in the performance evaluation process (Schermerhorn, Hunt, Osborb & Uhl-Bien, 2010, p. 233). The conflicts caused by personal incompatibility or disagreement among command-staff managers with senior-junior conflicts can be said to be common types of interpersonal conflicts in organizations. In addition, lack of harmony among workers and differences in the views, ideas and interests among managers-chiefs-officers can be examples of interpersonal conflicts (Eren, 2000, p.535).

Intragroup conflict: This kind of conflict occurs when group members or subgroup members experience conflict initiating situations such as disagreements in goals, tasks or procedures. Moreover, intragroup conflicts can emerge as a result of disagreements and tensions between group members and group leaders (Rahim, 2001, p. 23-24).

Intergroup conflict: Intergroup conflict occurs between teams, perhaps those competing for scarce resources or rewards, and perhaps those whose members have emotional problems with one another. Intergroup conflict is quite common in organizations, and can make the coordination and integration of task activities very difficult (Schermerhorn, Hunt, Osborb & Uhl-Bien, 2010, 233). This type of conflict is also known as interdepartmental conflict and resembles the conflicts between departments or groups in an organization (Rahim, 2001, p. 24). Conflicts between elementary teachers and subject teachers are examples of intergroup conflicts (Karip, 2003, p. 25). Intergroup conflicts can be distinguished as vertical conflict, horizontal conflict, staff-manager conflict and conflicts based on differences (Hellriegel, Slocum & Woodman, 1995, p. 439).

Since conflict is an organizational phenomenon, its comparison among other organizational variables to find possible associations has been an important research motive (Gümüşeli, 1994; Özmen, 1997; Polat, 2004; Türnüklü, 2002; Yıldırım, 2003). Relevant researchers have found significant correlations among conflict handling

strategies of principals of different genders and school culture (Blackburn, 2002), emotional intelligence and conflict management styles (Atay, 2002; Lee, 2003), teachers' self-efficacy beliefs and conflict solution styles (Roberts, 1997).

Considering the rapid development of communication and the need for organizations to change, an increase in individual differences among organization members has become inevitable today. This also causes increased conflicts among organization members who are constantly interacting with each other (Karip, 2003, 1). Poor communication underlies these interpersonal conflicts. The degree of interpersonal communication significantly determines the organizational performance and information transmission (Robbins, 1994, p. 141). As cited in Payne (2005), communication competence and skills in an organization are associated with such organizational outputs as vertical mobility, administrational performance, leadership skills, worker commitment, job performance, and senior acceptance. Each educational organization, like other organizations, is composed of people with different personalities, perceptions, attitudes, value judgments, personal goals, and expectations. Individual differences can cause problems. Solutions to the problems seem to be closely associated with the communication competence that organization members have.

In the Turkish educational system, supervisory tasks are carried out through counselling and the supervisory department of national ministry. This department has a head of educational supervisory which consists of head supervisors, supervisors and vice-supervisors. According to the ministry regulations, the heads are chosen and assigned among supervisors. Also, there are a lot of tasks that a head faces in their daily routine which necessitate communication competencies. When administration, organization and supervision tasks are taken into account, it is mandatory that a head has healthy communication skills. Communication competence is also used by the head in mentoring and guiding the supervisors to prepare for the profession. Presiding in meetings, organizing and coordinating commissions and delegating tasks are all daily routine tasks a head encounters often, which all demand competency in communication. So far, there has been no research for this group in the literature. This research is the first to supply invaluable data for the heads of educational supervisors.

The purpose of this study was to examine the relationship between organizational conflict levels and communication competence of the heads of educational supervisors according to the views of educational supervisors working under head supervisors. Accordingly, the following questions were answered in this study:

1. What is the communication competence ("empathy", "social relaxation" and "support") level of heads of educational supervisors according to the views of educational supervisors?

2. What is the level of organizational conflict ("intragroup conflict," "intergroup conflict" and "personal conflict") in the department where educational supervisors work?

3. Does the communication competence level of heads of educational supervisors significantly predict the level of organizational conflict?

4. Do the components of communication competence (empathy, social relaxation and support) among heads of educational supervisors significantly predict intragroup conflict, intergroup conflict, and personal and total conflict levels in their organization?

The study facilitates understanding of how to unbundle the linkage between communication competence and conflict management in educational supervisory departments, along with making contributions to conflict theory. It also provides new insight into the effects of communication competence on conflict management in educational organizations and is of value to organizational leaders, managers, and other conflict management specialists.

Method

This is a relational descriptive survey conducted on educational supervisors working in head departments of educational supervisors in eight cities of Turkey. In correlational research, researchers attempt to determine whether a relationship exists between two (or more) quantitative variables (Fraenkel, Wallen & Hyun, 2012). Linear regression analysis and comparisons of correlations were utilized to examine relationships between communication competence and conflict management.

Research group

One of the non-random sampling methods, purposive sampling, was chosen since on occasion, based on previous knowledge of a population and the specific purpose of the research, researchers use their personal judgment when they need to select a sample (Fraenkel et al., 2012).

A total of 446 educational supervisors working in head departments of educational supervisors in the following Turkish cities, Adıyaman, Diyarbakır, Hatay, Kayseri, Malatya, Kahramanmaraş, Tokat and Şanlıurfa Provincial Directorates of National Education were sent the instrument during the 2010–2011 school year. However, only 217 educational supervisors (14 women and 203 men) responded to the instrument, which were evaluated in this study. Among these participating educational supervisors, 171 had undergraduate and 46 had postgraduate degrees. The distribution of participating educational supervisors according to provinces and response rates is presented in Table 1.

Table 1

Distribution of Participating Educational Supervisors According to Provinces and Response Rates

Cities	Total number of Educational supervisors	Number of participating Educational supervisors	Response rate
Adıyaman	43	28	65%
Diyarbakır	48	22	46%
Hatay	57	37	65%
Kayseri	58	22	38%
Malatya	55	33	60%
Kahramanmaraş	60	27	45%
Tokat	35	24	69%
Şanlıurfa	90	24	27%
Total	**446**	**217**	**49%**

Research Instruments and Procedures

In order to collect data about communication competence levels of heads of educational supervisors and levels of organizational conflict based on educational supervisors' views, I used the Turkish adaptations (Topluer, 2008) of "*Communication Competence Scale-CCS*" originally developed by Wiemann (1977) and "*Rahim Organizational Conflict Inventory; ROCI-I*" originally developed by Rahim (1983).

Communication Competence Scale-CCS: The 5-point (Always-Never) Likert type scale with 36 items was adapted into Turkish by Topluer (2008) using data obtained from 255 teachers working in Malatya, Elazığ and Adıyaman city centers. The exploratory factor analysis revealed a three-factor structure where items 6, 30, 8, 10 and 20 were discarded due to low factor loadings. The factors were named "**empathy**" (17 items)**, "social relaxation"** (7 items) and **"support"** (7 items). Items 4, 8, 9 and 24 in the *support* factor need to be reverse coded. The internal consistency coefficients (Cronbach's alpha) estimated for each factor of CCS and for the overall scale were high (α=.96 for empathy, α=.87 for social relaxation, α=.86 for support factor, and α=.96 for overall scale (Topluer, 2008). For the present study, the internal consistency coefficients were estimated α=.97 for empathy, α=.90 for social relaxation, α=.74 for support factor, and α=.97 for overall CCS. In the interpretation of the scale points, minimum and maximum points are taken into account. For instance, from the 17-item empathy factor, there can be produced a minimum of 17 points and a maximum of 85 points (17x5). To interpret this range, the following intervals are used: 0-17 never, 18-34 rarely, 35-51 sometimes, 52-68 generally and 69-85 always.

Rahim Organizational Conflict Inventory (ROCI-I): ROCI-I developed by Rahim (1983) is composed of 24 items under three factors (personal conflict, intragroup conflict and intergroup conflict). It is a five-point Likert-type instrument.

To test the construct validity of ROCI-I, factor analysis was done using data obtained from 255 teachers. As a result of the analysis, the 22nd item was discarded

because of low factor loading. The resulting scale contained nine items in the **intragroup conflict** factor**,** eight items in the **intergroup conflict** factor, and six items in the intrapersonal conflict factor. The items 2, 3, 7, 9, 14, 15 and 20 *intergroup conflict* factor and items 4, 8, 12, 16, and 22 (*original item no 23*) in *intrapersonal conflict* factor are reversed items. The increase in the scores from ROCI-I in general and factors indicates increased organizational conflict. The internal consistency coefficients (Cronbach's alpha) were found to be .85 for *intrapersonal conflict* factor, .85 for intragroup conflict, and .55 for intergroup conflict. The internal consistency coefficient was estimated .81 for the entire inventory (Topluer, 2008). For the present study, the internal consistency coefficients were estimated α=.78 for personal conflict, α=.86 for intragroup conflict, α=.70 for intergroup conflict, and α=.84 for overall ROCI-I.

Data analysis

The data were analyzed using descriptive techniques and linear regression analysis. To this end, multiple and simple linear regression analyses were used to test if scores from the overall communication competence scale and its factors (independent–predicting variable) significantly predict the scores from overall organizational conflict scale and its factors (dependent-predicted variable) (Çokluk, Şekercioğlu ve Büyüköztürk, 2010).

Results

The findings on the communication competence (empathy," "social relaxation" and "support") levels of heads of educational supervisors according to the views of educational supervisors are presented in Table 2.

Table 2

Heads of Educational Supervisors' Level of Communication Competence

Communication competence	N	M	SD	Minimum	Maximum
Empathy	217	68,12	13,49	22,00	85,00
Social relaxation	217	26,80	5,78	7,00	35,00
Support	217	27,88	4,68	13,00	35,00
Total	**217**	**122,81**	**22,46**	**50,00**	**155,00**

The analysis revealed that, according to the views of educational supervisors, the empathy competence mean score of the heads of educational supervisors was *M*= 68.12, the social relaxation score was *M*=26.80, and the support competence mean score was *M*= 27.88. This finding suggests that, based on educational supervisors'

views, the heads of educational supervisors "generally" display the behaviors regarding empathy, social relaxation and support competences as the components of communication competence. The overall score for the communication competence of heads of educational supervisors according to the educational supervisors was M=122.81, which also indicates that the heads of educational supervisors "generally" display the behaviors requiring communication competence.

The findings on the level of organizational conflict ("intragroup conflict," "intergroup conflict" and "personal conflict") in the departments where educational supervisors work are presented in Table 3.

Table 3

The Level of Organizational Conflict in Head Departments of Educational Supervisors

Organizational conflict	N	M	SD	Minimum	Maximum
Intragroup conflict	217	19,02	6,17	9,00	45,00
Intergroup conflict	217	19,05	4,94	8,00	40,00
Intrapersonal conflict	217	13,29	4,32	6,00	30,00
Total	**217**	**51,38**	**11,75**	**22,00**	**93,00**

The analysis revealed that according to the views of educational supervisors, the level of organizational conflict in head departments of educational supervisors was M=19,02 for Intragroup conflict factor, M=19,05 for Intergroup conflict factor, M=13,29 for Intrapersonal conflict factor, and M=51,38 for the overall scale. This suggests educational supervisors perceive that organizational conflicts in general and intragroup conflicts, intergroup conflicts, and intrapersonal conflicts in particular are experienced "sometimes" or moderately in head departments of educational supervisors. This moderate level of conflict can be considered positive, since excessive organizational conflicts in an organization can cause deviation from goals, poor productivity, hindrance, hostility, lack of objectivity, distortion, prejudices, and aggressiveness. On the other hand, too little organizational conflict causes inertia, disharmony, reluctance, laziness, ignorance, indifference, and extravagancy (Başaran, 2004, p. 329-330).

The findings about whether communication competence levels of heads of educational supervisors significantly predicted level of organizational conflict were presented in Table 4-8.

Table 4

Simple Linear Regression Analysis Results about Whether Communication Competence Significantly Predict Organizational Conflict

Variable	B	Standard error $_B$	β	t	p	Zero r	Partial r
Constant	91,143	3,500		26,044	,000*		
Communication competence	-.324	.028	-.619	-11.549	,000*	-,619	-,619

R = .619 ; R² = .383

F=133.383; p = .000

*p< .05

The regression analysis revealed that communication competence is a significant predictor of organizational conflict (F=133.383; p=.000). The correlation between communication competence and organizational conflict was found to be negative and moderate (r=-.619). Communication competence explains about 38 % of the variance in organizational conflict (R²=.383). Thus, it can be said that as the heads of education supervisors' communication competence increases, the organizational conflict decreases significantly.

Table 5

Multiple Linear Regression Analysis Results about Whether Empathy, Social Relaxation and Support Competences Significantly Predict Intergroup Conflict

Variable	B	Standard error $_B$	β	t	p	Zero r	Partial r
Constant	32,911	1,701	-	19,346	,000*	-	-
Empathy	-,187	,061	-,509	-3,072	,002*	-,206	-,171
Social relaxation	-,093	,126	-,109	-,743	,458	-,051	-,041
Support	,049	,085	,046	,574	,567	,039	,032

R = ,580 ;   R² = ,337

F=36,029; p = .000

*p< .05

The regression analysis revealed that three types of communication competences together are significantly and moderately correlated with *intergroup conflict* (R=.580; p=.000). They together explain about 34 % of the variance in intergroup conflict

(R²=.337). Yet, t analysis about the significance of regression coefficients indicates that only *empathy competence* is a significant predictor of the *intergroup conflict* scores. The partial correlation between empathy competence and intergroup conflict was found to be negative and low (r= -.171).

Table 6

Multiple Linear Regression Analysis Results about Whether Empathy, Social Relaxation and Support Competences Significantly Predict Intragroup Conflict

Variable	B	Standard error $_B$	β	t	p	Zero r	Partial r
Constant	36,160	2,294	-	15,765	,000*	-	-
Empathy	,029	,082	,062	,349	,728	,024	,021
Social relaxation	,001	,169	,001	,003	,997	,000	,000
Support	-,685	,114	-,520	-5,983	,000*	-,379	-,360
R = ,477 ; R² = ,228							
F = 20,915; p = .000							

*p< .05

The regression analysis revealed that three types of communication competences together are significantly and moderately correlated with *intragroup conflict* (R=.477; p=.000). Together, they explain about 23 % of the variance in intergroup conflict (R²=.228). Yet, t analysis about the significance of regression coefficients indicates that only *support competence* is a significant predictor of the *intragroup conflict* scores. The partial correlation between support competence and intragroup conflict was found to be negative and moderate (r=-.360).

Table 7

Multiple Linear Regression Analysis Results about Whether Empathy, Social Relaxation and Support Competences Significantly Predict Intrapersonal Conflict

Variable	B	Standard error $_B$	β	t	p	Zero r	Partial r
Constant	24,063	1,516	-	15,874	000*	-,143	-,120
Empathy	-,114	,054	-,356	-2,106	,036*	-,143	-,120
Social relaxation	-,207	,112	-,277	-1,849	,066	-,126	-,105
Support	,091	,076	,099	1,206	,229	,082	,069
R = ,558 ; R² = ,312							
F = 32,136; p = .000							

*p< .05

The regression analysis revealed that three types of communication competences together are significantly and moderately correlated with *interpersonal conflict* (R=.558; p=.000). Together, they explain about 31 % of the variance in intergroup conflict (R^2=.312). Yet, t analysis about the significance of regression coefficients indicates that only *empathy competence* is a significant predictor of the *intrapersonal conflict* scores. The partial correlation between support competence and interpersonal conflict was found to be negative and low (r=-.120).

Discussion and Conclusions

One of the critical components of our education system is the head departments of educational supervisors which are responsible for providing feedback about the proper operation of the system and executing guidance, in-service training, supervision, inspection, assessment, research and investigation services. Head departments of educational supervisors work in every province under the affiliation of national education directorates. These units are composed of heads of educational supervisors, their deputies, educational supervisors and other officers. This study, which intended to investigate the association between the communication competences of heads of these departments and the level of organizational conflict therein, revealed that heads of educational supervisors "generally" display empathy, social relaxation and support competences, which are the components of communication competence. This finding supports the conclusions of Mulla (2008) that supervisors perceive themselves to have a higher competency level and the conclusions of John (1997) that school principals perceive themselves confident in the performance of all communication skills. Also, fewer cultural differences among supervisory teams may have contributed to this result (Smeir, 2012). A study on special education directors produced similar findings. They perceived themselves as using more compromise, solution-orientation styles and control styles (Biediger-Collins, 2000). One reason for this conclusion may be that supervisors' roles were moving from authoritative to democratic (Fehr, 2001). On the other hand, the level of intragroup conflict, intergroup conflict, intrapersonal conflict, and total organizational conflict in head departments of educational supervisors were found to occur "sometimes." As previous research findings indicate, the communication competence of the leader and its effect on communication effectiveness as evidenced by member perception of leader-member agreement, appears to be a necessary precondition for a high quality leader-member exchange relationship. (Flauto, 1999; Kinnick, 2005; Myers & Kassing, 1998; Payne, 2005).

The analysis regarding the association between communication competence and organizational conflict revealed that communication competence is a significant predictor of organizational conflict, where the former explains about 38% of the variance in the latter (R=.619, R^2=.383, p< .01). Based on the moderate negative correlation found between communication competence and organizational conflict (r=- .619), it was concluded that as the communication competences of heads of educational supervisors improve, the organizational conflicts in head departments of

supervisors also decrease. This finding is supported by previous researches on teachers (Şahin, 2010) athletes (Haselwood et al., 2005) and business students (Gross & Guerrero, 2000).

Among the three types of communication competences, only *empathy competence* was found to be a significant predictor of the *intergroup conflict*, with a negative low correlation (partial r=-.171). Thus, heads of educational supervisors are recommended to display empathic behaviors when it is needed to decrease the level of intergroup conflict in the head department.

Among the three types of communication competences, only *support competence* was found to be a significant predictor of the *intergroup conflict*, with a negative moderate correlation (partial r=-.360). Thus, heads of educational supervisors are recommended to display empathic behaviors when needed to decrease the level of intergroup conflict in the head department. Therefore, it can be concluded that as the heads of educational supervisors display supportive behaviors in communication such as listening attentively, not interrupting, considering others' feelings, and caring about what is said, the level of intragroup conflict will decrease.

Among the three types of communication competences, only *empathy competence* was found to be a significant predictor of the *interpersonal conflict*, with a negative low correlation (partial r=-.120). Thus, heads of educational supervisors are recommended to display empathic behaviors when needed to decrease the level of interpersonal conflicts in the head department.

In sum, the current study adds new understanding to the supervision process, particularly for the heads of supervisory teams. It builds on the existing literature in the fields of communication and conflict resolution. Additionally, the study only provided the perspective of supervisors. In order to arrive at a fuller understanding of communication competencies and conflict concepts, additional research needs to be done from the perspective of head supervisors, supervisors and vice-supervisors specifically in job satisfaction, motivation, professional commitment and self-efficacy.

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İletişim Yeterliği ile Örgütsel Çatışma Arasındaki İlişki: Eğitim Denetmenleri Başkanlığı Üzerine Bir Araştırma

Atıf:

Özet

Problem Durumu: Denetimi, eğitimde gözetme yollarından biri olarak gören Bursalıoğlu (1994, s:129) kamu yararı adına davranışı kontrol yöntemi olarak tanımlamaktadır. Bunun yanı sıra denetimi uyumu sağlamanın bir gereği olarak düzenleyici mekanizmalardan en çok kullanılanı olarak da nitelendirmektedir. Denetim, örgütsel eylemlerin kabul edilen amaçlar doğrultusunda, saptanan ilke ve kurallara uygun olup olmadığının anlaşılması süreci olarak da tanımlanmaktadır. Denetimin temel amacı örgütün amaçlarının gerçekleştirilme derecesini saptamak, daha iyi sonuç alabilmek için gerekli önlemleri almak ve süreci geliştirmektir (Aydın, 2000, 11).

Eğitim denetçilerinin rolleri konusunda, rol oluşumundaki değişkenlerden kaynaklanan farklı rol sınıflandırmaları üzerinde duran Başar (2000, 39) denetçi rollerini görev, süreç ve davranış boyutlarını kapsayacak biçimde liderlik, yöneticilik, rehberlik ve yardım, eğiticilik, araştırma ve soruşturma rolleri olarak belirtmektedir. Diğer iş görenler gibi eğitim denetçilerinin de rollerinin gereklerini yerine getirebilmeleri için bazı yeterliklere sahip olmaları gerektiği üzerinde durulmaktadır.

İletişim Yeterliği: Rickheit, Strohner ve Vorwerg'e (2008, 18) göre iletişim yeterliği kavramı 1960'lı yıllarda Dell Hymes tarafından, iletişimde konuşma dili

yeterliğinden ziyade gramer kuralları bilgisini vurgulamak için kullanılmıştır. Onlara göre, Wiemann (1977), Spitzberg ve Cupach (1984/1989) iletişim yeterliği kavramının kapsamının geliştirilmesinde önemli katkılarda bulunmuşlardır. Wiemann (1977) tarafından yapılan çalışmada iletişim yeterliği yaklaşımlarının t-grup, sosyal beceri, ve kendini ifade etme yaklaşımları olarak üç grupta ele alınabileceği vurgulanmaktadır. Wiemann (1977) iletişim yeterliğini " iletişimde olan bir bireyin iletişimin amaçlarına ulaşma doğrultusunda durumun özelliklerini de dikkate alarak uygun davranışı seçme becerisi" olarak tanımladıktan sonra, iletişim yeterliğinin yakın ilişki (affiliation/support), sosyal rahatlık (social relaxation), empati (empathy), davranışsal esneklik (behavioral flexibility) ve etkileşim yönetimi (interaction management) olmak üzere beş temel alana ilişkin becerilerin bileşiminden meydana geldiğini belirtmiştir. Rubin ve Martin(1994), kişilerarası iletişim yeterliğini kendini açma(self-disclosure), empati (empathy), sosyal rahatlık(social relaxation), girişkenlik(assertiveness), etkileşim yönetimi(interaction management), diğeri-odaklılık (altercentrism), dışa vurumculuk (expressiveness), destekleyicilik (supportiveness), samimiyet(immediacy) ve çevresel kontrol(environmental control) boyutlarında ele almışlardır. Hoy ve Miskel (2010, 347) iletişim yeterliğini iletişim kuran kişinin sahip olduğu bir takım beceri ve kaynaklar olarak ele almaktadırlar. Bu kapsamda iletişim yeterliğine sahip bireylerin gönderme, dinleme ve geribildirim becerilerine sahip olması gerektiğini vurgulamaktadırlar.

Örgütsel Çatışma: Örgütsel çatışmanın tanımı farklı şekillerde yapılmıştır. Çatışmanın temelinde tarafların çatışmayı algılaması, muhalefet, zıtlık, engelleme ve çıkarlarıyla amaçları uyumsuz görünen iki ya da daha fazla tarafın bulunması gereklidir (Aydın, 2000, 292). Çatışma, taraflardan birinin diğerinin çabalarını etkisizleştirmek için yaptığı bir girişimdir (Robbins, 1994, 220). Örgütsel çatışma, bağdaştırılamaz ayrılıkları ya da uzlaşmaz özellikleri olan iş görenler ve kümeler arasındaki etkileşim durumudur. Bir birleriyle etkileşen kişilerin çatışma davranışı, bilişsel ve duygusal güçlerini etkileyen olaylara ve çelişkilere karşı yaptıkları bir tepkidir (Başaran, 2004, 323). Çatışmanın tanımı ne şekilde yapılırsa yapılsın anlaşmazlık, zıtlaşma, uyumsuzluk ve birbirine ters düşme çatışmanın temel unsurlarıdır. İnsanın etkileşim halinde olduğu toplumsal yaşamda çatışma kaçınılmaz bir olgudur (Bursalıoğlu, 2002, 155; Karip, 2003, 1; Şimşek, Akgemci, Çelik, 2001, 238). Çatışmanın olmadığı bir örgüt ölüdür. Yaşayan, etkililiği devam eden örgütlerde çatışmaların varlığı kaçınılmazdır ve doğaldır (Açıkalın, 1998, 107).

İletişimin hızla geliştiği ve değişimin örgütler için zorunlu olduğu günümüzde örgüt üyeleri arasındaki bireysel farklılıkların artması kaçınılmaz olmuştur. Bu durum sürekli etkileşim halinde bulunan örgüt üyeleri arasında çatışmaların artmasına neden olmaktadır (Karip, 2003, 1). İnsanlar arasında ortaya çıkan çatışmaların temelinde zayıf iletişim yatmaktadır. Bireyler arasında var olan iletişimin derecesi örgütün performansını ve bilgilerin aktarılmasını önemli ölçüde etkiler (Robbins, 1994, 141).

Araştırmanın Amacı: Bu araştırmanın amacı eğitim müfettişlerinin görüşlerine göre, eğitim müfettişleri başkanlarının iletişim yeterliği ile örgütsel çatışma arasındaki ilişki düzeyini belirlemektir.

Araştırmanın Yöntemi

Çalışma Grubu: Araştırmanın çalışma grubunu 2009–2010 öğretim yılında, Adıyaman, Diyarbakır, Hatay, Kayseri, Malatya, Kahramanmaraş, Tokat ve Şanlıurfa Milli Eğitim Müdürlükleri, Eğitim Müfettişleri Başkanlıklarında görevli 217 eğitim müfettişi oluşturmaktadır. Bu illerde görev yapan toplam 446 eğitim müfettişinin tamamına ölçme araçları ulaştırılmasına rağmen 217 eğitim müfettişi araştırmaya katılmıştır.

Veri Toplama Araçları: Eğitim müfettişlerinin görüşlerine göre eğitim müfettişleri başkanlarının iletişim yeterliği ile örgütsel çatışma arasındaki ilişki düzeyini belirlemeyi amaçlayan bu araştırmada, Wiemann (1977) tarafından geliştirilen "iletişim yeterliği ölçeği-İYÖ" *(Communicative Competence Scale)* ve Rahim tarafından geliştirilen "örgütsel çatışma ölçeği-ÖÇÖ"*(Rahim Organization Conflict Inventory; ROCI-I)* ölçeklerinin Topluer(2008) tarafından yapılan Türkçe uyarlamaları kullanılmıştır.

Verilerin Çözümlenmesi: Araştırmada elde edilen verilerin analiz edilmesinde betimsel istatistikler ve doğrusal regresyon analizi kullanılmıştır. Ortalama puanların değerlendirilmesinde her bir ölçeğin alt ölçeklerinden alınan ortalama puanlar hesaplanmıştır.

Araştırmanın Sonuçları ve Önerileri: Eğitim müfettişleri başkanlıkları her ilde milli eğitim müdürlüğü bünyesinde, eğitim müfettişi başkanı, başkan yardımcıları, eğitim müfettişleri ve ilgili diğer memurlardan oluşan bir birim olarak belirlenen amaçlar doğrultusunda işleyişte bulunmaktadır. Bu birimlerin başkanlarının iletişim yeterlikleriyle birimlerde ki örgütsel çatışma arasındaki ilişkinin araştırıldığı bu araştırma sonucunda, eğitim müfettişi başkanlarının, iletişim yeterliğinin bileşenlerinden olan empati, sosyal rahatlık ve desteklemeye ilişkin davranışları "çoğu zaman" göstermekte oldukları gözlenmiştir. Bu bulgu Mulla (2008) tarafından da desteklenmektedir. Bununla birlikte eğitim müfettişleri başkanlıklarındaki grup içi çatışma, gruplar arası çatışma, kişisel çatışma ve toplam örgütsel çatışma miktarının da "bazen" düzeyinde olduğu gözlenmiştir**.** Önceki araştırma bulguları da bir liderin iletişim yeterliğinin kaliteli bir lider-üye ilişkisi için önşart olduğunu ortaya koymaktadır. (Flauto, 1999; Kinnick, 2005; Myers and Kassing, 1998; Payne, 2005).

İletişim yeterliğinin örgütsel çatışmayı yordama düzeyine ilişkin olarak yapılan analiz sonucunda, iletişim yeterliği ile örgütsel çatışma arasında kısmi korelasyonun negatif yönlü ve orta düzeyde (r=-.619) olduğu görülmüştür. İletişim yeterliği değişkeni, örgütsel çatışma puanı ile orta düzeyde ve anlamlı bir ilişki göstermektedir (R= .619,   R² = .383, p< .01). İletişim yeterliği değişkeni örgütsel çatışmadaki toplam varyansın yaklaşık % 39'nu (R² = .383) açıklamaktadır. Bu bulguya göre, örgütsel çatışma üzerinde iletişim yeterliği manidar ve ters yönlü bir etki değişkenidir. Bu bulgu öğretmenler (Şahin, 2010) sporcular (Haselwood et al., 2005) ve işletme öğrencileri (Gross and Guerrero, 2000) üzerine yapılan araştırma bulgularıyla da desteklenmektedir.

İletişim yeterliği bileşenlerinden olan empati ile gruplar arası çatışma arasında negatif yönlü ve düşük düzeyde (r=-.206), sosyal rahatlık ile gruplar arası çatışma arasında negatif yönlü ve düşük düzeyde(r=-.051), destekleme ile gruplar arası

çatışma arasında pozitif yönlü ve düşük düzeyde (r=.039) bir ilişkinin olduğu gözlenmiştir. Empati, sosyal rahatlık ve destekleme değişkenleri, gruplar arası çatışma puanı ile orta düzeyde ve anlamlı bir ilişki göstermekte(R=.580) ve gruplar arası çatışmanın yaklaşık %34'nü açıklamaktadır. Empatinin gruplar arası çatışma üzerinde önemli (manidar) bir yordayıcı ve ters yönlü bir etki değişkeni olduğu gözlenmiştir. Eğitim müfettişleri başkanlarının insanları konuşmaya teşvik etmesi, onları girişimlerinde desteklemesi, onları anlamaları ve bunu hissettirmeleri, samimi, sakin ve dikkatli bir dinleyici olmaları, iyi geçinmesi ve uyumlu olması gibi davranışlarının gruplar arası çatışma miktarı ile negatif yönlü bir ilişki gösterdiği görülmektedir. Gruplar arası çatışma miktarının azaltılması gerektiği bir durumda eğitim müfettişleri başkanlarının empatik davranışlar sergilemeye özen göstermeleri önerilebilir.

İletişim yeterliği bileşenlerinden olan empati ile grup içi çatışma arasında pozitif yönlü ve düşük (r=-.024), sosyal rahatlık ile grup içi çatışma arasında sıfır düzeyinde (r=.000), destekleme ile grup içi çatışma arasında negatif yönlü ve orta düzeyde(r=-.379) bir ilişkinin olduğu gözlenmiştir. Empati, sosyal rahatlık ve destekleme değişkenleri, grup içi çatışma puanı ile orta düzeyde ve anlamlı bir ilişki göstermekte(R=.477) ve gruplar arası çatışmanın yaklaşık %23'nü açıklamaktadır. Desteklemenin gruplar içi çatışma üzerinde önemli (manidar) bir yordayıcı olduğu görülmüştür. Buna göre gruplar içi çatışma üzerinde destekleme yeterliğinin manidar ve ters yönlü bir etki değişkeni olduğu görülmüştür. Eğitim müfettişleri başkanlarının iletişimde destekleyici davranışlar sergilemeleri, örneğin, iyi bir dinleyici olması, söz kesmemesi, duyguları dikkate alması, söylenenlere önem vermesi ve ilgilenmesi gibi davranışlarla grup içi çatışma miktarı negatif yönlü bir ilişki göstermektedir. Eğitim müfettişleri başkanlarının grup içi çatışma miktarını azaltmada bu tür davranışlara özen göstermeleri önerilebilir.

Empati ile kişisel çatışma arasında negatif yönlü ve düşük düzeyde bir ilişkinin(r= -.143), sosyal rahatlık ile kişisel çatışma arasında negatif yönlü ve düşük düzeyde bir ilişkinin(r= -.126), destekleme ile kişisel çatışma arasında pozitif yönlü ve düşük düzeyde bir ilişkinin (r=.082) olduğu görülmüştür. Empati, sosyal rahatlık ve destekleme değişkenleri, kişisel çatışma puanı ile orta düzeyde(R=.558) ve anlamlı bir ilişki göstermektedir. Empatinin kişisel çatışma üzerinde önemli (manidar) bir yordayıcı olduğu görülmüştür. Buna göre kişisel çatışma üzerinde empati yeterliğinin manidar ve ters yönlü bir etki değişkeni olduğu görülmektedir. Kişisel çatışma miktarının azaltılması gerektiği bir durumda eğitim müfettişleri başkanlarının empatik davranışlar sergilemeye özen göstermeleri önerilebilir.

Anahtar Kelimeler: *Eğitim denetmeni, İletişim yeterliği, Örgütsel çatışma.*

Teachers' Psychological Contract Perceptions and Person-Environment Fit Levels[*]

Nihan DEMIRKASIMOĞLU[†]

Atıf:

Abstract

Problem Statement: Modern management approaches attach great importance to both the informal and the economic aspects of the organizations. Identifying teachers' psychological contract types and fit levels of a work environment in terms of variables such as seniority, educational degree, and school type will lead to discovery of the motivational factors of the employment relationship in school organizations.

Purpose of Study: This research was aimed at determining the psychological contract perceptions and person-environment fit levels of public and private elementary school teachers.

Methodology: This study was designed with single and correlational survey models. Public school teachers were represented by 375 participants, and private school teachers were represented by 201 participants in the sampling. While determining teachers' psychological contract perceptions, the "Psychological Contract Inventory" developed by Rousseau (2000) was adapted to Turkish teachers. Teachers' "Person-Environment Fit" scale was developed by the researcher.

Findings and Results: The most dominant psychological contract type was the relational contract, followed by balanced, transitional, and transactional contracts. The highest level of person-environment fit was teacher-job fit, followed by teacher-group fit, teacher-supervisor fit, and teacher-school fit. Both public and private school teachers were fitted with

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their "jobs" mostly. Teachers thought that they fit with their work environment highly in terms of its components.

Conclusions and Recommendations: Teachers had dominantly developed a relational psychological contract. School type, seniority, and educational degree were variables that made significant differences in transactional and relational contracts. Private school teachers' scores were higher than the public school teachers in regard to relational contract type. Balanced contract perception was the highest type after the relational contracts. Private school teachers' fit levels with "their jobs" are higher than public school teachers', and they were also more positive than the public school teachers in balanced type. It was concluded that public and private school teachers in Ankara province developed a positive psychological contract and high level of person-environment fit. Public school teachers with associate degrees had higher levels of school fit than those with undergraduate and graduate degrees. In general, as the seniority increases, teacher-school fit increases as well. If shared expectancies will be negotiated between teachers and administrators, positive psychological contracts will be more common. A well-designed orientation process for new coming teachers will make the compliance process easier.

Keywords: Psychological contract, person-environment fit, public and private school teachers.

Introduction

Despite earlier interest in the psychological contract (PC) phenomenon in organizational literature, it did not fully emerge nor was it deeply analyzed in management theory until the 1990s. Interest in the PC was driven by newer and more innovative people-management practices based on more competitive international market dynamics (Cullinane & Dundon, 2006). The PC has gained its construct status and has taken conceptual and empirical turns with the seminal works initiated by Rousseau since the 1990s (Sels, Janssens, & Van den Brande, 2004). Interpreting this construct with a new perspective, Rousseau (1989) defined the psychological contract by focusing on the individuality of the employee instead of focusing on the relationship between organization and employee, which is a bilateral exchange relationship. According to the author, PC is an *employee's* individual beliefs related to the reciprocal responsibilities in the employer-employee relationship.

According to Schalk and Roe (2007), the existence of the PC is the indicator of the employee's commitment to the organization. In the related literature, it has been proposed that PC is a very important motivator for employees, and if the responsibilities of the organization were neglected, the employees' trust and organizational commitment decrease, while turnover rates increase (Coyle-Shapiro, 2002; Buyens & Schalk, 2005). These arguments were tested by several empirical studies, and it is evident that PC is related to variables such as performance,

commitment, trust, and employee status (Sturges, Conway & Guest, 2005; Coyle-Shapiro & Kessler, 2002; Castaing, 2006).

Rousseau (1995, p. 98) categorizes PC types as transactional, relational, balanced, and transitional. A transactional contract is a short-term contract which involves limited and specific employee responsibilities (Dabos & Rousseau, 2004). Employees' involvement is weak, and turnover is easy and high, so the employees' devotion is weak (Rousseau, 1995, 98). A relational contract is a type in which employees' commitment, stability, and trust are preliminarily based on emotional factors (Rousseau, 1995, p. 98). Since a balanced contract combines the relational and transactional contract characteristics, it is called *balanced* or *hybrid* (Yin & Xu, 2008). Transitional contract terms are not considered to be a PC form itself by Rousseau (2000), and it reflects cognitive statements composed of mistrust, uncertainty, and erosion dimensions. Mistrust indicates the employee's distrust of the organization; uncertainty indicates that the employee cannot predict the direction of the employment relationship, and erosion means that the employee has a loss of benefits compared to the past (McDonald & Makin, 2000).

Person-Environment Fit

Person-environment (P-E) fit is defined as the match between the individual and the work environment (Kristof-Brown, Zimmerman & Johnson, 2005). Among the P-E fit levels, the most comprehensive is *person-job fit*, which is described as the match between the necessities or characteristics of a job and an individual's abilities (Kristof, 1996; Sekiguchi, 2004; Kristof-Brown, Zimmerman & Johnson, 2005).

The newest form of P-E fit is person-group fit, which focuses on the relationships between individuals and their work groups (Kristof-Brown, Zimmerman & Johnson, 2005). Researches have proved that employees accepting the group norms have more positive attitudes towards their work. The underlying idea here is that the weak aspects of members will be complemented by the strong aspects of the other group members (Edwards & Cooper, 1990; Werbel & Johnson, 2001). The third P-E fit level is one of the dyadic relationships between individuals and their work environments and is called the person-supervisor fit. Leader-follower value congruence, the degree of similarity of superior-subordinate personalities, and the goal congruence of supervisor-subordinate are the types of research included in this category. Person-organization fit occurs when an organization satisfies the needs and preferences of an employee (Kristof, 1996). Chatman defined (1991) person-organization fit as "the congruence between patterns of organizational values and patterns of individual values."

This research is an attempt to understand the under-researched topic of teachers' PC in the Turkish context and its relationship with their P-E fit levels, which seems to be an important instrument to analyze and interpret their work attitudes and behaviors. One reason that this topic is important is that the modern management approach also attaches importance to both the management of human resources and economic contracts. Teachers with a positive PC and higher P-E fit levels would be expected to be satisfied with their work and work environments. Despite intense

academic interest in the organization and management literature, its reflection in national and international educational research is very limited with focus on the academicians' PC perceptions (e.g. Aydin, Yilmaz, Memduhoğlu, Oğuz and Güngör, 2008; Zhang & Jiongliang, 2005). The aim of this research is to determine the PC perceptions and P-E fit levels of public and private elementary school teachers in Ankara province in relation to school type, seniority, and educational degree variables.

Methodology

Research Design

This study was designed with single and correlational survey models. With the single survey model, psychological contract perceptions and person-environment fit levels of teachers were determined. With the correlational survey model, the relationship between the psychological contract and person-environment fit was tested.

Research Sample

The sample of this research consisted of two sub-populations. According to Sekeran and Bougie (2009), 10273 public school teachers would be represented by 375 and 866 private school teachers would be represented by 234 teachers in the sampling with 95% confidence interval. Stratified sampling was used for statistical data collection. 375 public school teachers were fully reached, while 85.89% of private school teachers were reached with 201 participants, because a limited number of private school administrators permitted the research instrument to be implemented.

The public (70%) and private (83%) school teachers were dominantly female. The public school sample tended to be predominantly middle-seniority range with 6% in the 1-5 year range, 14% in the 6-10 year range, 33% in the 11-15 year range, 24% in the 16-20 year range, and 23% in the 21+ year range. The private school participants' seniority ranges were as follows: 20% in the 1-5 years range, 21% in the 6-10 years range, 23% in the 11-15 years, 6% in the 16-20 years range, and 30% in the 21+ year range. The largest educational degree of public school participants was undergraduate (76%), followed by associate degrees (16%) and graduate (8%). Finally, 72% of the private school teachers had an undergraduate degree, followed by 19% associate and 9% graduate degrees.

Research Instruments and Procedure

The Psychological Contract Inventory (PCI) developed by Rousseau (2000) was adapted to Turkish by the researcher. PCI includes subscales both under the dimensions of "Employer Obligations" and "Employee Obligations" with the transactional (8 items), relational (8 items), and balanced terms (12 items). "Transitional Contract" was composed of 12 items. The Person-Environment (P-E) Scale was developed by the researcher. A pilot study was undertaken with 140 teachers in total consisting of 70 private and 70 public schools teachers. Data analysis was made by means of the descriptive statistical techniques such as percentage, frequency, arithmetical mean, and standard deviation. A t-test was used to find out

whether school teachers' psychological contract perceptions and person-environment fit levels were significantly different in terms of their gender and school type. The Kruskal-Wallis H test was used in order to find out whether school teachers' psychological contract perceptions and person-environment fit levels were significantly different in terms of seniority and education level. Lastly, regression analysis technique was used to determine the predictivity level of the teacher-environment fit on psychological contract types. A significance level of .05 was used as a cut-off.

Validity and Reliability Analyses

Transactional Contract Scale (TCS). In the *employee responsibility* dimension, as a result of CFA, one item was excluded because its standardized path coefficient was not significant again. CFA showed a good fit for the measurement model (X^2=10.00, p=.026, Ss=8). Other fit statistics were within the recommended ranges (RMSEA=.042, GFI=.98, AGFI=.94, CFI= .98, NNFI=.96). Cronbach's alpha for a two-factor scale is .67. In the *employer responsibility* dimension, CFA results for TCS were as follows: χ^2=11.02, p=.020, sd= 8, RMSEA=.052, GFI=.97, AGFI=.93, CFI=.98, NNFI=.97. These indices implied that the model had a good fit. This two-factor scale had a Cronbach's alpha reliability coefficient of .67.

Relational Contract Scale (RCS). Fit indices provided by CFA results were found to be within the acceptable ranges (X^2=20.57, df=8, p=.00; RMSEA=.10; GFI=.95; AGFI=.88; CFI=.97; NNFI=.95) for *employee responsibilities*. The scale had internal consistency with a Cronbach's alpha of .82. Fit indices provided by CFA results were found to be good for all the fit indices (X^2=20.57, df=8, p=.00; RMSEA=.10; GFI=.95; AGFI=.88; CFI=.97; NNFI=.95). The scale had internal consistency with a Cronbach's alpha of .75 for *employer responsibilities*.

Balanced Contract Scale (BCS). The *external marketability* dimension was correlated with the other latent variables, so the analysis was performed again after excluding this sub-dimension. The CFA analysis results were as follows: X^2=8.79, df= 8, p=0.36, RMSEA=.02, GFI=.98, AGFI=.95, CFI=1.00, NNFI=1.00. These fit indices show that X^2/df=1.09 in particular had a good fit for *employee responsibilities*. CFA analysis results (X^2=8.79, df= 8, p=0.36, RMSEA= .02, GFI=.98, AGFI=.95, CFI= 1.00, NNFI= 1.00) show that the model had a good fit. The reliability coefficient of the scale was .85 for *employer responsibilities*.

Transitional Contract. As a result of CFA, three items were removed, because the t-value was not significant at the level of .05, and the analysis was performed again. The indices related to the factor structure have good values: χ^2/df=1.79, RMSEA= .07, GFI=.94, AGFI=.88, CFI =.98, NNFI=.96. Cronbach's alpha of the PCI was calculated as .89.

P-E Fit Scale. Before pilot testing, 32 items were subjected to the P-E Fit Scale (PEFS). KMO was found to be .88, and Bartlett's test of sphericity was significant (p<.01). PEFS resulted in four initial factors with eigenvalues greater than unity. Five items were omitted because of overlapping and low correlation (below .30). After factor rotation, the four-factor scale consisted of 22 items in total (Table 1).

Table 1

Validity and Reliability Results of Teachers' P-E Fit Scale.

Factor	Number of items	Factor loadings	Corrected item correlation	Cronbach Alpha
Teacher-Supervisor Fit	8	.54-.86	.65-.73	.91
Teacher-Job Fit	5	.72-.84	.60-.71	.91
Teacher-Group Fit	5	.54-.81	.46-.64	.86
Teacher-School Fit	4	.54-.78	.37-.64	.83

Cronbach's Alpha= .94

These four factors respectively represented 24.73%, 18.58%, 15.78%, and 13.59% of the total variance, which was 72.70% in total. PEFS showed good internal consistency (Cronbach's alpha = .94).

Findings

Teachers' perceptions related to psychological contract types are presented in Table 2.

Table 2

Means and Standard Deviation Values Related to Psychological Contract Types.

Dimensions		Transactional M	SD	Relational M	SD	Balanced M	SD	Transitional M	SD
Teachers'	Public	1.95	.74	3.62	.80	3.38	.78		
Obligation	Private	2.05	.76	3.81	.86	3.70	.77		
Schools'	Public	2.11	.74	3.66	.80	2.96	.87	2.15	.92
Obligation	Private	2.31	.83	3.40	.88	3.05	1.03	2.34	.95

The most dominant PC type among public ($M_{(teachers'\ obligation)}$ = 3.62; $M_{(schools'\ obligation)}$ = 3.66) and private ($M_{(teachers'\ obligation)}$ = 3.81; $M_{(schools'\ obligation)}$ = 3.40) school teachers was the relational contract, followed by the balanced contract. Private school teachers ($M_{(teachers'\ obligation)}$ = 3.70; $M_{(schools'\ obligation)}$ = 3.05) were more positive than the public school teachers ($M_{(teachers'\ obligation)}$ = 3.38; $M_{(schools'\ obligation)}$ = 2.96) in the balanced type. The transactional contract was the type for which the teachers' fulfillment level

of their obligations was the lowest. The total scores from the subdimensions of "distrust, uncertainty, and erosion" showed that both public (M=2.15) and private (M=2.34) school teachers had low levels of transitional contract perception.

Independent Variables Results Related to Transactional Contract

School type. There was no difference between the public and private school teachers' perceptions in the *employee obligations* dimension [$t_{(574)}$=1.49; p>.05], whereas there was a difference in the employer obligations dimension [$t_{(574)=}$2.97; p<.05].

Seniority. Perceptions of public [x^2 (4)]= 10.96, p<.05] and private [x^2 (4)]= 15.33, p<.05] school teachers related to transactional contract varied both in employer and employee obligations. Public (mean rank=216.50) and private (mean rank=123.69) school teachers with 21+ years of experience had a higher level of transactional contract perception compared with the other seniority groups. Private school teachers' perceptions of the transactional contract was the highest in the most senior teachers in both employer and employee obligations.

In the *employer obligations* dimension, the transactional contract perceptions of both public [x^2 (4)]= 44.37, *p*<.05] and private school teachers [x^2 (4)]= 15.71, *p*<.05] were significantly varied. Among the private school teachers, the highest level of transactional contract perception belonged to the teachers with highest seniority (mean rank=122.29), while the lowest scores belonged to the teachers with lowest seniority (mean rank=88.17). Public school teachers with 1-5 years of seniority (mean rank=266.52) had a stronger transactional contract related to the school's obligations.

Educational Degree. Perceptions of public [x^2 (2)]= 22.93, *p*<.05] and private [x^2 (2)]= 7.20, *p*<.05] school teachers related to the transactional contract varied in the employer obligations dimension but not in the employee obligations according to the public [x^2 (2)=5.70, *p*>.05] and private [x^2 (2)=3.44, *p*>.05] school teachers. Public (mean rank=242.73) and private (mean rank=215.25) school teachers with associate degrees had a higher level of transactional contract perception than the teachers with graduate degrees.

Independent Variable Results Related to Relational Contract

School Type. In the employee responsibility dimension, participants' perceptions related to relational contract significantly varied [t(574)=2.56; *p*<.05]. Private school teachers' scores (M=22.88) were higher than those of public school teachers (M=21.77) in relation to the relational contract type. This finding contradicts the theoretical assumption that permanent workers are more likely to have emotional attachment and relational contract. High levels of relational contract perceptions of private school teachers could be explained with their desire to keep their status in the school by displaying extra-role behaviors and their tendency to perform their duties more willingly. In the employer responsibility dimension, public school teachers

(M=25.68) were more positive about the school obligations than the private school teachers (M=28.83) [$t_{(574)=}$3.65; p<.05].

Seniority. Teachers' opinions related to their relational obligations significantly varied among public school teachers [x^2 (4)]= 44.37, *p*<.05] in terms of seniority, whereas private school teachers' perceptions did not vary [x^2 (4)]= 4.20, *p*<.05]. Teachers with 21 years of seniority or more perceived that they fulfill *their* relational obligations more than the teachers with 6-10 years of seniority.

Educational Degree. Relational PC perceptions of teachers varied significantly among public school teachers in the employee obligations dimension [x^2 (3) =33.20, *p*<.05], while they did not vary in employer obligations. Teachers with an associate degree (mean rank = 261.94) had a stronger relational PC perception than the teachers with a graduate degree (mean rank = 160.59).

Independent Variables Results related to Balanced Contract

School type. Teachers' perceptions were not significantly related to employers' BC type according to school type [$t_{(574)=}$1.05; p>.05]. Teachers' perceptions related to schools' balanced contract obligations varied significantly [$t_{(574)=}$4.75; *p*<.05]. Private school teachers' perception levels [x^2 (4)]=5.83, *p*>.05] of BC fulfillment were higher than those of public school teachers [x^2 (4)]= 2.98, *p*>.05].

Seniority. Teachers' balanced contract perceptions significantly varied among private school teachers [x^2 (4)]= 20.64, *p*<.05] in terms of seniority, whereas public school teachers' perceptions did not vary [x^2 (4)]= 4.20, *p*<.05]. Private school teachers with 1-5 years of seniority (mean rank = 129.46) had a higher level of fulfillment perception related to "adjusting changing performance demands," "seeking out developmental opportunities that enhance their value to their employer," and "actively seeking internal opportunities for training and development."

Independent Variables Results related to Transitional Contract

School type. Private school teachers' (M=21.10) transitional contract scores were higher than the public school teachers' (M=19.37), as expected [$t_{(574)}$=2.34; *p*<.05]. This finding implied that private school teachers distrust their employer more; they had difficulty in predicting the direction of employment relationship in the future and their benefits were decreased compared to the past.

Seniority. Public school teachers (mean rank=228.43) with 0-5 years of seniority had a stronger level of transitional contract than the teachers with 11-15 (mean rank=162.54) years of seniority [x^2(4)]=12.9, *p*<.05], while private school teachers' perception did not significantly vary [x^2 (4)]=5.83, *p*<.05].

Educational Degree. Transitional PC perceptions of teachers did not show a significant difference related to the educational degree variable according to public [x^2 (3)]= 2.45, *p*>.05] and private school teachers' views [x^2 (4)]= 3.43, *p*>.05].

Findings related to P-E Fit Levels of Teachers

Both public and private school teachers fit with their jobs mostly ($M_{(public)}$=3.86; $M_{(private)}$=4.20), followed by teacher-group fit ($M_{(public)}$=3.81; $M_{(private)}$=3.89), teacher-supervisor fit ($M_{(public)}$=3.58; $M_{(private)}$=3.72) and teacher-school fit ($M_{(public)}$=3.37; M=3.57$_{(private)}$) respectively (Table 3).

Table 3

Person-environment fit levels of teachers.

School type	Teacher-school fit M	Ss	Teacher-job fit M	Ss	Teacher-supervisor fit M	Ss	Teacher-Group fit M	Ss
Public	3.37	.87	3.86	.82	3.58	.86	3.81	.59
Private	3.57	.93	4.20	.74	3.72	.98	3.89	.48

As seen in Table 3, teachers thought that they fit with their work environment highly in terms of its components.

Independent Variable Results Related to Teacher-School Fit

School type. Teachers' fit levels with their schools significantly among public and private school teachers [$t_{(574)}$= 2.58; p<.05]. Private school teachers (M=14.30) agreed more strongly than the public school teachers (M=13.48).

Seniority. Teachers with 0-5 years of seniority (mean rank=139.75) had higher scores than the 11-15 and 21+ seniority groups. Teachers with 6-10 years of seniority had higher scores than the 21+ seniority group.

Educational degree. Public school teachers with associate degrees (mean rank=226.12) had a higher level of fit than those with undergraduate (mean rank=183.70) and graduate degrees (mean rank=152.97). This suggests that teachers' fit level decreases as the educational degree increases.

Independent Variables Results related to Teacher-Job Fit

School type. Private school teachers' fit levels with "their jobs" are higher than those of public school teachers [t(574)= 4.64, p<.05]. This difference may have resulted from differences in the personnel selection processes.

Seniority. Public school teachers with 21+ years of seniority (mean=171.62) had higher scores than those with 1-5 years (mean=159.52), 11-15 years (mean rank =186.06), and 16-20 (mean rank =175.97) years of seniority [$x^2(4)$]=11.82, $p<.05$]. Private school teachers' perception did not significantly vary according to seniority [$x^2(4)$=3.19, $p>.05$]. Public teachers with 21+ years of seniority had the highest level of job fit, while new teachers had the lowest job fit scores.

Educational degree. Private school teachers' job fit level [$x^2(2)$=3.13, $p>.05$] had no difference related to the educational degree, whereas public school teachers' level varied significantly [$x^2(2)$=14.39, $p<.05$]. Teachers with associate degrees (mean rank= 236.95) had the highest level of fit with their jobs.

Independent Variables Results Related to Teacher-Supervisor Fit

School type. Teachers' fit levels did not significantly vary according to the school type variable [$t(574)$= 1.73, $p>.05$].

Seniority. Teacher-supervisor fit levels of teachers showed a significant difference among private school teachers [$x^2(4)$ = 13.65, $p<.05$]. The highest level of supervisor fit belonged mostly to the 0-5 year seniority group followed by the 21+ year seniority private school teachers.

Educational degree. Educational degree was not a statistically significant variable for both public [$x^2(2)$=1.60, $p>.05$] and private [$x^2(2)$=2.81, $p>.05$] school teachers in terms of teacher-supervisor fit.

Independent Variables Results Related to Teacher-Group Fit

School type. There was no difference between the teachers' fit levels with their colleagues according to school type [$t(574)$= 1.73, $p>.05$].

Seniority. Seniority was not a statistically significant variable for public [$x^2(4)$=6.88, $p>.05$] and private [$x^2(4)$=4.62, $p>.05$] school teachers.

Educational degree. There was no difference related to the educational degree of public [$x^2(2)$=4.35, $p>.05$] and private [$x^2(2)$=.72, $p>.05$] school teachers' fit levels with their colleagues.

Regression Findings Related to PC and P-E Fit

Transactional Contract. Multiple regression analysis was conducted to predict the P-E subscales on PC types (Table 4).

Table 4

Regression of the types of P-E fit on transactional contract.

	Variables	B	SE	β	t	p
Employee Obligations	Teacher-school fit	-.15	.074	-.12	-2.08	.03
	Teacher-job fit	-.02	.058	-.02	-.50	.61
	Teacher-supersivor fit	.00	.034	.00	.00	.99
	Teacher-group fit	.05	.075	.032	.68	.49
	Teacher-school fit	-.15	.074	-.12	-2.08	.03
	R =0.13	R²=0.17	F (4,571) = 2.506		p= 0.41	
	Variables	B	SE	β	t	p
Employer Obligations	Teacher-school fit	-.07	.07	-.06	-1.02	.30
	Teacher-job fit	-.04	.05	-.04	-.83	.40
	Teacher-supersivor fit	-.11	.03	-.17	-3.22	.00
	Teacher-group fit	-.02	.07	-.01	-.26	.79
	Teacher-school fit	-.07	.07	-.06	-1.02	.30
	R = 0.24	R²= 0.06	F = (4,571) = 9.14		p= .000	

In the "*Employee Responsibilities*" dimension, the combined predictor set of teacher-environment fit was a significant predictor of transactional PC ($R=0.131$, $R^2 = 0.17$, $p<.05$). Four subdimensions of P-E fit were positively related to the transactional contract at a low level ($R= 0.131$) and explained 17% of the total variance. Only the teacher-supervisor fit of the P-E fit ($\beta= .125$, $p<.05$) predicted the transactional contract negatively and significantly.

In the "*Employee Responsibilities*" dimension, combined P-E fit dimensions accounted for significant variance in the transactional contract ($R=0.24$, $R^2 = 0.06$, $p<.05$). These variables had a low-level relationship with transactional PC ($R=0.24$), explaining .06% of the total variance. Only teacher-supervisor fit ($\beta= 0.17$, $p<.05$) of P-E types predicted the transactional contract significantly and negatively.

Relational Contract. Findings from the multiple regression of the P-E fit types on relational contract are presented in Table 5.

Table 5

Regression of the types of P-E fit on relational contract

	Variables	B	SE	β	t	p
Employee Obligations	Teacher-school fit	.48	.07	.35	6.99	.00
	Teacher-job fit	.13	.05	.10	2.40	.01
	Teacher-supersivor fit	.03	.03	.04	.99	.32
	Teacher-group fit	.22	.07	.12	3.16	.00
	R = 0.52 R²=0.27	F = $_{(4,571)}$ = 54.35		p= .00		
	Variables	B	SE	β	t	p
Employer Obligations	Teacher-school fit	.32	.07	.20	4.20	
	Teacher-job fit	-.21	.06	-.15	-3.61	
	Teacher-supersivor fit	.41	.03	.51	11.79	
	Teacher-group fit	.09	.07	.04	1.22	
	R = 0.61 R²= 0.378	F $_{(4,571)}$ = 86.69		p= .00		

In the "*Employee Responsibilities*" dimension, the combined predictor set of the teacher-environment fit was found to be a significant predictor of relational PC ($R=0.52$, $R^2 = 0.38$, $p<.05$). P-E fit types had a moderate level of positive relationship ($R= 0.525$) with relational contract and explained 28% of the total variance.

In "*Employee Responsibilities*" dimension combined P-E fit dimensions had a significant effect on relational contracts of teachers ($R=0.61$, $R^2= 0.37$, $p< .05$). These variables had a moderate-level relationship with relational PC ($R=0.61$), explaining 38% of the total variance. Examination of the unique effects of teacher-school ($\beta= 20$, $p< .05$) and teacher-supervisor fit ($\beta=.51$, $p<.05$) variables revealed that these variables predicted the relational PC perceptions significantly and positively, whereas the teacher-job variable ($\beta= .15$, $p<.05$) was a negatively significant predictor.

Balanced Contract. Findings from the multiple regression of the P-E fit types on balanced contract are presented in Table 6.

Table 6

Regression of the types of P-E fit on balanced contract

	Variables	B	SE	β	t	p
Employee Obligations	Teacher-school fit	.29	.06	.22	4.27	.00
	Teacher-job fit	.22	.05	.18	4.08	.00
	Teacher-supersivor fit	.07	.03	.11	2.31	.02
	Teacher-group fit	.09	.07	.05	1.33	.18
R = 0.47	R²= 0.22	F = (4,571) = 41.18	p= .00			
	Variables	B	SE	β	t	p
Employer Obligations	Teacher-school fit	.70	.07	.39	9.02	.00
	Teacher-job fit	.01	.06	.00	.21	.83
	Teacher-supersivor fit	.33	.03	.37	9.23	.00
	Teacher-group fit	-.06	.07	-.02	-.80	.42
	R = 0.24	R²= 0.06	F = (4,571) = 9.14	p= .000		

The P-E fit levels of teachers predicted significant variance on balanced PC with a low-level relationship and explained 22% of the total variance ($R=0.47$, $R^2=0.22$, $p< .05$). P-E fit levels also predicted the balanced contract perceptions of teachers ($R=0.68$, $R^2 = 0.47$, $p<.05$) in the *"Employer Obligations"* dimension at a moderate level and significantly. It explained 47% of the total variance. Teacher-school fit ($\beta= .39$, $p<.05$) and teacher-supervisor fit ($\beta= .37$, $p<.05$) variables predicted the balanced contract perceptions of teachers positively and significantly.

Transitional Contract. The multiple regression analysis of the types of P-E fit on transitional contract is presented in Table 7.

Table 7

Regression of the types of P-E fit on transitional contract

	Variables	B	SE	β	t	p
Transitional Contract	Teacher-school fit	-.17	.13	-.07	-1.33	.18
	Teacher-job fit	.00	.10	.00	-.00	.99
	Teacher-supersivor fit	.00	.06	.00	.09	.92
	Teacher-group fit	-.30	.13	-.10	-2.27	.02
	R = 0.15 R² = 0.02	F $_{(4,571)}$ = 3.32	p= .01			

The combined predictor set of teacher-environment fit was a significant predictor of transitional PC ($R=0.15$, $R^2= 0.02$, $p< .05$). P-E fit variables showed a low-level relationship ($R=0.15$) and explained 2% of the total variance. Only teacher-group fit predicted the transitional contract significantly and negatively.

Discussion and Conclusion

The most dominant PC type among public and private school teachers was the relational contract. Besides this, teachers' perceptions related to the relational contract fulfillment levels of teachers and schools were almost equal. This means that the cornerstone of the "mutuality principle" of PC in the relational contract existed in teacher-school relationships. This finding empirically proved Rousseau's arguments (1990) about the formation of PC indicating "what the employee feels she or he owes and is owed in turn by the organization." Also, in a study on public servants' PC perceptions in the United Kingdom, Coyle-Shapiro and Kessler (2003) asserted that organizational commitment would be achieved by the mutuality norm. Similarly, Brown and Roloff (2011) proved that as the school administrators' fulfillment level of the PC increased, the level of teachers' commitment increased.

The Balanced contract followed the relational type followed in turn by the transitional contract. Private school teachers were more positive than the public school teachers in the balanced type. The transactional contract was the type for which teachers' fulfillment levels of their obligations was the lowest. O'Donohue's (2007) finding that public sector teachers' PC perception was higher in the relational type than the transactional type was in accordance with the findings of this study. In another study conducted by Propp (2004) on school administrators, "short-term" and "narrow" employee responsibilities were rated with a low-level agreement.

Transactional contract perceptions of teachers were weak, which meant that their PC was strong. Teachers had dominantly developed a relational PC. Findings of these study suggested that teachers *did not* see their employment relationship as solely an exchange relationship based on "short-term" and "narrow" obligations. Scores were low. Since a transitional contract is not characterized by the desired

expectations in an employment relationship, low scores of distrust, uncertainty, and erosion subdimensions of the transitional contract implied a good PC.

Private school teachers had higher transactional perception than the public school teachers. This could be explained with the difference between public and private schools teachers' employment conditions. In Turkey, public school teachers are employed in a permanent status, while private school teachers work with one-year contracts. Private school teachers seemed to perceive their employment relationship as more economical and less guaranteed. De Cuyper, Rigotti, Witte, and Mohr (2008) asserted that a transactional contract is influenced by performance-based factors. So, the private school teachers were possibly influenced by performance-based factors such as losing their job and not exceeding their specifically limited obligations. This finding is parallel to the findings of Millward and Brewerton (2000), which proved that permanent employees have a stronger relational contract than temporary employees, and that fulltime employees have a stronger relational contract than part-time workers.

Public and private school teachers with 21+ years of seniority had a higher level of transactional contract perception in comparison to the other seniority groups. One possible reason for this might be teachers' retirement plans in the later years of working life. They might be avoiding from making long-term plans. Private school teachers' perceptions of a transactional contract is the highest in the most senior teachers in both employer and employee obligations. Bhattacharya, Rayton, and Kinnie (2009) similarly found that transactional contracts of employees increase as the emloyees' age increases. In a study by Rousseau (1990) with a sample of newly recruited MBA students, no correlation was found between participants' transactional contract type and intentions to stay with the recruiting organization. Similarly, in research by Mimaroğlu (2008), medical sales people's transactional contract perceptions did not vary according to their working period in the sector or firm. This inconsistency may be linked to the fact that the research in different sectors had unique conditions.

Public school teachers with 1-5 years of seniority had a stronger transactional contract related to the school's obligations. In accordance with this data, Özkalp (2004) suggested that newcomers in organizations have a transactional contract type until they have the feeling of continuity. This situation could be expanded with Louis's (1980) sense-making approach, which asserted that newcomers' experiences in the orientation period and their start in the organization membership affect their PC.

Private school teachers' scores were higher than the public school teachers scores related to the relational contract type. This finding contradicts the theoretical assumption that permanent workers are more likely to have emotional attachment and relational contract. High levels of relational contract perceptions of private school teachers could be explained with their desire to keep their status in the school by displaying extra-role behaviors and their tendency to perform their duties more willingly.

In the employer responsibility dimension, public school teachers were more positive about the school obligations than the private school teachers, which contradicts with McDonald and Makin's findings that temporary workers have a higher level of relational contract than permanent workers. Oppositely, Milward and Brewerton (1999) did not find a difference between temporary and permanent workers. Lierich and Christine O'Connor (2009) reported that no difference was found between teachers' organizational commitment behavior and temporary or permanent status. Bellou (2007) also reported that workers in the private and public sector were almost the same in terms of the different subdimensions of a psychological contract.

Teachers with associate degrees had a stronger relational PC perception than the teachers with graduate degrees. As the educational degree decreases, the relational PC perception becomes stronger. This finding can be explained with the findings of Roehling (2008), who proved that employees' expectancies with higher educational degrees were not met satisfactorily by their employers in terms of interesting and meaningful work. It seems that employees with higher educational degrees expect much more than the others.

Private school teachers' balanced contract levels were higher than those of public school teachers. In a study by Jong, Schalk, and Cuyper (2009), it was found that employees with permanent status had higher balanced contract perceptions than the employees with temporary status. This difference occurs because of the competitive working conditions of private school teachers who are forced by schools to improve themselves continuously.

Private school teachers with 1-5 years of seniority had a higher level of fulfillment perception related to "adjusting changing performance demands," "seeking out developmental opportunities that enhance their value to their employer," and "actively seeking internal opportunities for training and development." Shuping (2009) also reported that knowledge workers at an iron ore mining company in South Africa had a level of balanced contract in employees with 0-5 years of seniority.

Teachers fitted with their "jobs," "colleagues," "supervisors," and "schools," respectively. Taken together, teachers generally tended to have a good fit perception with their work environments. Teachers thought that they fit with their work environment highly in terms of its components. Teachers with 0-5 years of seniority had higher school-fit than those with 11-15 and 21+ years of seniority. In general, as the seniority increases, teacher-school fit increases as well. Taşdan (2008) also proved empirically that teachers with 21+ years of seniority fit more than those with 1-5 and 6-10 years of seniority. In contrast, Sezgin (2006) reported that seniority was not a significant variable related to teacher-school fit.

Public school teachers with associate degrees had a higher level of school-fit than those with undergraduate and graduate degrees. It is possible to think that teachers' fit level decreases as their educational degree increases. Sezgin's (2006) findings support this finding in that he found the lowest value congruence level of teachers with their organizations belonging to those with associate degrees.

Private school teachers' fit levels with "their jobs" are higher than those of public school teachers. This difference may have resulted from the difference in personnel selection processes. Teachers in public schools were selected with a generalized written test administered by a central body called the Measuring, Selection, and Placement Center in Turkey. These tests include general ability and general culture tests in addition to field knowledge in teaching. Starting from the highest scores, applicants were assigned to the available positions based on their preferences. On the other hand, private school teachers select their candidates by interviews that enable the schools to acknowledge the applicants more closely and in detail. It is possible to think that private schools select more congruent individuals for the teaching profession.

In the shortest form, the findings provided from this study showed that public and private school teachers in Ankara province had a positive PC with their organizations and had a high level of fit with school environments. The following recommendations are proposed based on these findings:

1. As transactional contract perception was the highest in the new coming teachers, principals should be more careful about understanding the expectations of the new members of the profession. This kind of attempt will be successful in transforming their transactional contract into a relational contract. Furthermore, principals should be more helpful in the orientation processes of new teachers in the process of compliance to the work environment. Additionally, responsibilities should be given according to their competencies.

2. It is necessary for the teachers and administrators to negotiate their expectancies openly to shape teachers' psychological contracts positively.

3. Providing better opportunities to the public school teachers like personal and professional development and promotion will increase their performance and construct good relationships with their schools. Also, teachers with superior performance will be supported with performance pay or additional benefits.

4. This research reflects the subjective perception of teacher participants with a limited-employee perspective. Despite the fact that PC structure is mostly centered on employees' subjective perceptions so far, adding the employer perceptions as a complementary perspective is suggested in the literature as well. From this point of view, researchers could possibly analyze this dual structure by covering a complementing perspective in the further studies.

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Kamu ve Özel Okul Öğretmenlerinin Psikolojik Sözleşme Algıları ve İş Çevresine Uyum Düzeyleri

Özet

Problem Durumu: Rekabete dayalı ve değişen iş pazarı dinamiklerinin ön plana çıktığı modern çağda, yeni ve yaratıcı insan yönetimi uygulamalarının ortaya çıkmasıyla birlikte örgüt ve çalışan arasındaki ilişkiyi açıklamada yeni bakış açıları ortaya çıkarmıştır. Örgüt ve çalışan arasındaki ilişkiyi çift taraflı bir alış-veriş ilişkisi yerine, çalışanın bireysel öznelliğine odaklanarak açıklamak için analitik bir araç olarak öne sürülen psikolojik sözleşmenin çalışanlar için önemli bir motivasyon aracı olduğu, örgütsel güven iş doyumu ve örgütsel bağlılık gibi pek çok anahtar etken ile ilişkili olduğu alanyazındaki ampirik araştırmalarla ortaya konulmuştur. Psikolojik sözleşme kavramını öğretmenlerin perspektifinden anlamaya çalışmak, öğretmenlerin iş tutumu ve davranışlarını açıklamada önemli bir araç olarak görünmektedir. Çünkü modern yönetim anlayışı insan kaynağının yönetilmesinde örgütün formel yönü kadar informel yönünün de yönetilmesini önemsemekte, ekonomik sözleşmeler kadar psikolojik sözleşme olgusunu da işe koşmaktadır. Olumlu bir psikolojik sözleşme geliştirebilen ve iş çevresiyle üst düzeyde bir uyum yakalayabilen öğretmenlerin işlerinden ve iş çevrelerinden memnun olması beklenebilir. Buradan hareketle bu araştırmanın problemi, öğretmenlerin okulları ile geliştirdikleri psikoojik sözleşme türlerinin neler oduğu ve bu psikolojik sözleşmelerinin iş çevresni uyum düzeylerinin bir yordayıcısı olup olmadığının belirlenmesidir.

Araştırmanın Amacı: Bu araştırmanın amacı, Ankara ili merkez ilçeleri kamu ve özel ilköğretim öğretmenlerinin psikolojik sözleşme algıları ve iş çevresine uyum düzeylerinin; okul türü, kıdem ve öğrenim durumu değişkenlerine göre belirlenmesidir.

Araştırmanın Yöntemi: Bu araştırma, tarama modellerinden tekil tarama ve ilişkisel tarama modelleri ile desenlenmiştir. Araştırma iki alt evrenden oluşmaktadır. Birinci alt evren, dokuz merkez ilçede 546 kamu okulunda görevli 10273 sınıf öğretmeninden; ikinci alt evren ise bu ilçelerdeki 58 özel okulda görevli 868 sınıf öğretmeninden oluşmaktadır. Kamu okulu öğretmenlerinin oluşturduğu 10273 kişilik evreni, %95 güven düzeyinde 375 katılımcı, 868 kişilik özel okul öğretmenlerinden oluşan evreni 234 katılımcı temsil edebilecektir. Araştırmanın kapsamında 375 kamu ve 201 özel okul öğretmenine anket uygulanmıştır.

Öğretmenlerin psikolojik sözleşme durumlarını belirlemek amacıyla Rousseau (2000) tarafından geliştirilmiş olan Psikolojik Sözleşme Envanteri (PSE), araştırmacı tarafından Türkçe'ye uyarlanmıştır. İş çevresine uyum düzeyleri ise araştırmacı tarafından geliştirilen ölçekle incelenmiştir. PSE'de sözleşme türleri hem "Çalışanın Yükümlülükleri" ve hem de "İşverenin Yükümlülükleri" boyutlarında işlemsel sözleşme (8 madde), ilişkisel sözleşme (8 madde) ve dengeli sözleşme (12 madde) türlerinden oluşan alt ölçekler bulunmaktadır. Geçişsel Sözleşme, 12 maddeden oluşmaktadır. PSE'de 64 madde yer almıştır. Ön denemede ölçek taslakları, 70 özel ve 70 kamu okulunda görevli 140 sınıf öğretmenine uygulanmıştır. Veri toplama araçlarının geçerlik analizlerinde açımlayıcı ve doğrulayıcı faktör analizlerinden yararlanılmıştır. Güvenirlik analizlerinde ise iç tutarlılık katsayısı ve madde toplam korelasyonları (.30 kesim noktası alınarak) hesaplanmıştır.

Psikolojik sözleşme ve iş çevresine uyum düzeylerinin eğitim durumu ve okul türü değişkenlerine göre test edilmesinde Kruskal Wallis-H testi, okul türü değişkenine göre test edilmesinde ise bağımsız örneklemler için t-testi kullanılmıştır. Öğretmenlerin psikolojik sözleşme algılarının iş çevresine uyu türleri tarafından yordanıp yordanmadığının belirlenmesinde ise çoklu regresyon analizi tekniği kullanılmıştır.

Araştırmanın Bulguları: Kamu (M$_{(öğretmenin\ yükümlülüğü)}$ =3.62; M$_{(okulun\ yükümlülüğü)}$=3.66) v e özel (M$_{(öğretmenin\ yükümlülüğü)}$=3.81;M$_{(okulun\ yükümlülüğü)}$=3.40) okul öğretmenlerinde en baskın olan psikolojik sözleşme algısı, ilişkisel sözleşmedir. Katılımcılar ile okul arasında oluşturulan psikolojik sözleşme türlerinden ilişkisel sözleşmeyi, ikinci sırada dengeli sözleşme izlemektedir. Bu sözleşme türünde özel okul öğretmenleri (M$_{(öğretmenin\ yükümlülüğü)}$ =3.70; M$_{(okulun\ yükümlülüğü)}$=3.05), kamu okulu (M$_{(öğretmenin\ yükümlülüğü)}$=3.38; M$_{(okulun\ yükümlülüğü)}$=2.96) öğretmenlerine göre daha olumlu bir algıya sahiptir. Bu araştırmada, öğretmenlerin işlemsel sözleşme algılarının, psikolojik sözleşme türleri arasında en düşük katılım gösterdikleri sözleşme türü olduğu saptanmıştır. İşlemsel sözleşme türündeki bulgular göstermiştir ki öğretmenler hem kendi yükümlülüklerini hem de okulun yükümlülüklerini kısa dönemli ve salt ekonomik şartların yerine getirilmesine dayanan bir alışveriş ilişkisi biçiminde *değerlendirmemektedir*. Geçişsel sözleşme algısını oluşturan "güvensizlik, belirsizlik ve aşınma" alt boyutlarının toplamından elde edilen puanlar, hem kamu (M =2.15) hem de özel (M=2.34) okul öğretmenlerinin düşük bir geçişsel sözleşme algısına sahip olduğunu göstermektedir.

Öğretmenlerin iş çevrelerine uyumlarına ilişkin görüşleri bütüncül değerlendirildiğinde, kamu ve özel okul öğretmenlerinin en yüksek uyum gösterdiği boyutlar sırasıyla; iş (M$_{(kamu)}$=3.86; M$_{(özel)}$=4.20), meslektaş (M$_{(kamu)}$=3.81; M$_{(özel)}$=3.89), yönetici (M$_{(kamu)}$=3.58; M$_{(özel)}$=3.72) ve okul (M$_{(kamu)}$=3.37; M=3.57$_{(özel)}$) boyutlarıdır. Başka bir ifade ile kamu ve özel okul öğretmenleri birinci sırada "işi" ile, ikinci sırada "meslektaşları" ile, üçüncü sırada "yöneticileri" ile ve son sırada "okulları" ile uyum içerisinde olduğunu düşünmektedir.

Araştırmanın Sonuçları ve Önerileri: Kamu ve özel okul öğretmenleri ve okul yönetimi arasındaki işlemsel sözleşme zayıf, psikolojik sözleşme ise güçlüdür. İşlemsel sözleşme türünde *okul türü, kıdem ve öğrenim durumu değişkenleri* fark yaratan değişkenlerdir. Öğretmenler, okulları ile ağırlıklı olarak ilişkisel sözleşme geliştirmişlerdir. Katılımcıların ilişkisel sözleşmeye ilişkin görüşlerinde okul türü, kıdem ve öğrenim durumu değişkenleri fark yaratan değişkenlerdir. Öğretmenlerinin ikinci olarak en yüksek algıya sahip olduğu sözleşme türü, dengeli sözleşmedir. Özel okul öğretmenleri, okulun öğretmenlere sunduğu performans desteğini kamu okulu öğretmenlerine göre daha tatminkar bulmaktadır. Dengeli sözleşmeye ilişkin öğretmen görüşlerinde *öğrenim durumu* değişkenine göre anlamlı farklılık bulunmazken, *okul türü ve kıdem* değişkenlerinde anlamlı farklılık bulunmaktadır. Öğretmenler, düşük düzeyde bir geçişsel sözleşme algısına sahiptir. *Öğrenim durumu* değişkeni, öğretmenlerin geçişsel sözleşme algısında fark yaratan değişkenler değilken *okul türü* değişkenine göre öğretmen görüşleri anlamlı biçimde farklılaşmaktadır. Kamu ve özel okul öğretmenleri en çok "iş" leri ile; ikinci olarak "meslektaş"ları ile; üçüncü sırada "yönetici" leri ve son sırada "okul"ları ile uyum göstermektedir. Araştırma sonuçlarına dayalı olarak geliştirilen öneriler şöyledir.

1. İşlemsel sözleşme algısının mesleğe yeni başlayan ve mesleki kıdemi en fazla olan öğretmenlerde en yüksek olduğu hatırlanırsa, bunun ilişkisel sözleşme algısına dönüştürülebilmesi için, yöneticilerin bu grupta yer alan çalışanların gereksinimlerini ve beklentilerini karşılamak noktasında daha özenli davranması gerekmektedir. Ayrıca yöneticilerin, öğretmenlerin yeterliklerine uygun görevler vermesi, işlerine uyum sağlamalarını kolaylaştırabilir.

2. Araştırma sonuçlarına göre öğretmenler, okuldan sağladıkları yarar oranda okula katkı sunmaktadırlar. Okul yönetimlerinin, özellikle mesleğe ya da okulda yeni göreve başlayan öğretmenler ile beklentilerini açıkça paylaşması psikolojik sözleşme algısını olumlu yönde etkileyecektir.

3. Psikolojik sözleşme kavramının karşılıklılık algısına dayandığı hatırlanırsa, bu çalışmanın çalışanın öznel algısını sınırlı bir perspektiften yansıttığı ileri sürülebilir. Psikolojik sözleşme kavramının anlaşılmasında çalışanın algısını merkeze alan araştırmalar çoğunlukta olsa da, alanyazında karşılıklı tarafların algısının araştırılması da önerilmektedir. Bu önermeden hareketle, araştırmacılara okul yönetiminin ve çalışanların karşılıklı psikolojik sözleşme algısını kapsayan bir bakış açısını bir araya getirerek bu yapıyı çift yönlü analiz etmeleri önerilebilir.

Anahtar Kelimeler: Psikolojik sözleşme, iş çevresine uyum, kamu okulu öğretmenleri, özel okul öğretmenleri

The Development and Validation of the Teacher Violence Scale

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Abstract

Problem Statement: One of the initial tasks of the school staff is to create a safe environment, which is free of negative behaviors and role models. However, there has been a concern for the violence in the schools. Most of studies in the literature has focused on aggression, violence, and bullying among students. But, teacher violence against students hasn't been studied sufficiently. In order to investigate this type of violence, a self-report instrument is needed.

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Purpose of the Study: This study aimed to develop and validate the Teacher Violence Scale (TVS), which measures different forms of violent behaviors displayed by teachers against students.

Method: The psychometric properties of the TVS were explored on two separate participant groups. The first one was consisted of 583 (61.0% girls and 39.0% boys) high school students. The second one was composed of 878 (36.7% girls and 63.3% boys) high school students. The initial phases of scale development started with defining the target construct, generating items, and receiving expert reviews. The pilot form was administered to the first participant group and the final form was validated on the second participant group. In addition, some evidence for convergent, discriminant and divergent validity of the TVS were explored. Lastly, the internal consistency for the entire scale and the sub-dimensions of the TVS and the item analysis of the TVS were investigated.

Findings and Results: The exploratory factor analysis (EFA) indicated that the TVS is a 36-item scale with 5 factors namely physical violence (11 items), sexual violence (6 items), accusing/humiliating (8 items), taunting (5 items), and oppressing (6 items). This 5-factor structure explained approximately 64 percent of the total variance. The confirmatory factor analysis (CFA) showed that the 5-factor model was validated [$\chi^2(584)$ = 1330.27, χ^2/df = 2.28, *RMSEA* = .04, *SRMR* = .06, *NNFI* = .99, *CFI* =.99]. The TVS had a strong evidence for convergent, discriminant and divergent validity. In addition, it had good internal consistency for the scores of entire scale and sub-dimensions.

Conclusion and Recommendations: This study presented some psychometric evidence for the TVS. The results of EFA and CFA indicated that the TVS is a 36-item scale with 5 sub-dimensions. It is expected that the TVS will fill a gap and will be a useful instrument to measure teachers' violence towards students. Further studies should provide additional evidence for predictive and cross validity and test-retest reliability of the TVS.

Keywords: Teacher violence, scale development, validity, reliability, high school students

Introduction

Although violence is an enduring problem in societies for centuries, it hasn't been considered as a serious problem for a long time (Pişkin, 2006a). Today, it is apparent that there has been a growing awareness on school violence in Turkey and mass media has given more attention to this issue (Pişkin, Çınkır et al., 2011; Pişkin et al., 2011). However, one of the important responsibilities of schools is to provide an environment that is free of unacceptable behaviors and role models. Moreover, to

feel secure and safe are the prerequisites for keeping on educational activities in schools (Öğülmüş, 1995).

Violence has detrimental effects on children's development. Although there has been more emphasis on physical harms of violence on students, it also leads to a set of psychological problems such as stress and anxiety. Support to this argument is provided by the observation that students who witnessed violence were psychologically influenced (Furlong & Morrison, 1994). Janosz et al. (2008) pointed out that witnessing violence in schools has a deleterious impact on students' well-being and it is associated with feelings of insecurity, internalizing problems, later school engagement, poor academic achievement, and truancy. In addition, violence slows down academic, physical, and social development of students and hinders them to achieve their maximum capacity (Furlong, Morrison, & Clontz, 1993). Studies carried out on Turkish elementary and high school samples indicated that most of victimized students felt to be less attracted to their schools and were afraid to go their schools because of bullies (Pişkin, 2010; Pişkin & Ayas, 2005). However, in schools, all students have to be protected from the factors that could be a threat to their physical and psychological well-being. To feel secure and safe is very crucial not only for students but also for all people having a role in schools and education.

Many countries have paid an increased attention to and had concerns about school violence and school safety (Chen & Astor, 2010; Conoley & Goldstein, 2004; Due, Holstein, & Soc, 2008; Nansel et al., 2001; Pişkin, Öğülmüş et al., 2011). When the relevant literature was investigated, it was understood that great attention has been paid to the violent behaviors among students. Students are the focus of research studies. However, to believe that school violence or school safety is related only with incidents among students could be misleading. It is necessary to consider violent behaviors displayed by teachers toward students as well. In the literature, there is a paucity of research investigating violent behaviors of teachers towards students as compared to studies of violence among students. The scant interest of researchers about teacher violent behaviors may have several reasons. First, since teachers are perceived as an authoritative figure in most cultures, to question their acts may not be culturally appropriate. Second, teachers' behaviors could be considered as a part of educational process and discipline. Therefore, most of their behaviors, including aggressive content could be seen as a way of education that again may prevent to question teachers' approaches. Lastly, the absence of scales evaluating teachers' behaviors could be another reason. A few available studies on violent behaviors displayed by teachers against students were conducted based on surveys or interviews.

Definition of Teacher Violence

Violence is a broad term and could be defined in many possible ways. But, as a global consensus, the World Health Organization (WHO) defines violence as "the intentional use of physical force or power, threatened or actual, against oneself, another person, or against a group or community, that either results in or has a high likelihood of resulting in injury, death, psychological harm, maldevelopment or

deprivation" (WHO, 1996; as cited in WHO, 2002, p. 4). In accordance with this definition, we conceptualized teacher violence as the intentional use of power by teachers against students in different forms such as physical, verbal, psychological, and sexual, which aims to give harm.

Research on Teachers' Violent Behaviors Against Students

There is a paucity of research investigating violent behaviors towards students by teachers in Turkey when it is compared to studies of violence among students. Limited number of studies indicated that the most common violent behavior displayed by teachers toward students is corporal punishment (Gözütok, 1993b; Gözütok, Er, & Karacaoğlu, 2006). It seems that corporal punishment has been used as part of education for years and seen as a manifestation of authority (Sümer & Aydın, 1999). Culture has profound influences on the perception of violent behaviors. Studies pointed out that teachers and students believed that corporal punishment is a normal and an acceptable act in education (Saruhan, 1987; Timuroğlu, 1983). Sümer and Aydın (1999) noted that most of the teachers believed that corporal punishment isn't an effective method of discipline and they are looking for new strategies in dealing with students' problem behaviors in schools. Studies on corporal punishment in Turkish schools can be summarized with several themes, namely punishment strategies used by teachers, role of teachers' gender, and places where those punishments or violent behaviors happened. For the first one, Gözütok (1993a) examined the behaviors of teachers in maintaining discipline and found that 30 percent of the teachers were using negative discipline strategies such as slapping, ear and hair pulling, insulting, threatening etc. In another study, Gözütok et al. (2006) investigated students' perspectives with respect to punishment strategies applied by their teachers. Most of the students reported ears and hairs pulling, slapping, throwing chalk and eraser were the most prevalent punishment methods used by their teachers. Regarding the role of gender in teacher violence, studies found that male teachers were more likely to use negative discipline strategies or violent behaviors against students than female teachers did (Bulut, 2008; Gözütok, 1993a; Hatunoğlu & Hatunoğlu, 2005). Finally, Bulut (2008) reported that these incidents mostly occurred in classrooms and principals' room.

It is obvious that corporal or physical punishment and school violence have a causal relationship that the use of physical punishment increases the probability of violence in schools (Straus, 1991). Since children whom does their teacher punish or parents have a perception of "being bad", they can continue their misbehaviors. Ada (2010) found that students punished as a procedure of school discipline are more likely to involve in bullying. Straus (1991) also points out that this causal relationship continues in future and increases the likelihood of deviance such as delinquency, crime, wife-beating etc. Ünal and Çukur (2011) explored the association between delinquency and school related factors, such as attachment to teacher, commitment to school, and discipline techniques. They found that delinquency was negatively related to attachment to teacher, commitment to school, and inductive discipline techniques. In addition, they reported that delinquency was positively associated with coercive discipline techniques and being bullied in school.

Teachers' behaviors are seen as a role modeling and their positive behaviors will contribute significantly to the development of children. A study (Telli, den Brok, & Çakıroğlu, 2008) investigating perceptions of students regarding the concept of ideal teacher found that students described the ideal teacher as a person who is guiding, motivating, encouraging, respecting, and instilling confidence and has a potential to build positive relationship with others. Therefore, having healthy communication with students will provide a motivation for students how to direct their lives in a more positive way. Yurtal and Artut (2010) suggested that the approaches of teachers and principal for dealing with problems are very crucial. If they use violence coping with problems, this may increase the inclination toward it. The aggressive teacher and principal figures in children's drawings are also good evidence for how teachers and principals have an influential role in students' world (Yurtal & Artut, 2010). In a qualitative study, Çakmak (2011) investigated the perspectives of 185 Turkish prospective teachers related to changing roles of teachers. Interestingly, majority of the prospective teachers reported that their primary roles as a teacher were to transmit knowledge, guide, and to deliver the content in the program. Being a role model was reported at the eleventh place. This finding indicated that the prospective teachers prioritized the tasks related to their self-improvements more than other roles.

Purpose of the Study

Considering the lack of instruments in the literature, it is obvious that there is a need to develop a scale evaluating the multidimensional nature of teacher violence. It is expected that such a tool could promote research that will contribute to understanding the nature of behaviors displayed by teachers against students. Therefore, the present study aimed at developing a valid and reliable instrument to assess violent behaviors of teachers towards students in schools.

Method

Participants

Two groups of participants were used in this study to perform exploratory and confirmatory factor analyses. Exploratory factor analysis was done on the first participant group that consisted of 583 students from five different types of high schools located in urban and rural areas of Ankara, Turkey. The selection of schools was done purposively considering the variation in types of high schools in Turkey. These school types were General, Anatolian, Girls' Vocational, Industrial Vocational, and Imam-Preacher high schools. The participants were selected through employing a convenience sampling. Two hundred twenty two (39.0%) of the participants were boys and 351 (61.0%) of them were girls. This group consisted of 146 (25.5%) ninth, 172 (29.9%) tenth, 146 (25.5%) eleventh, and 110 (19.1%) twelfth grade students.

Confirmatory factor analysis was done on the second participant group that comprised of 878 high school students. This group was drawn from four high schools in Ankara. Three hundred three participants (36.7%) were girls and 522 (63.3%) were

boys. Fifty-three participants didn't report their gender information. The study group consisted of 252 (32.5%) ninth, 188 (24.2%) tenth, 175 (22.6%) eleventh, and 161 (20.7%) twelfth grade students. A hundred two participants didn't report their grade level information. The participants' age ranged from 14 to 20 (M = 16.42, SD = 1.21).

Measures

Demographic variables. The participants completed a demographic information form including questions about gender, grade level, age, and type of school.

Teacher violence against students. Teacher Violence Scale (TVS) (*see* Appendix I) evaluates the violent behaviors displayed by teachers against students. This is a student self-report and measures teachers' violent behaviors from the perspective of students. The TVS which is a 36-item scale was responded on a 6-point scale ranging from 0 = *never* to 5 = *almost every day*. Higher scores obtained from the scale indicated higher teacher violence toward students.

Perceptions about bullying. The Myths about Bullying Inventory (MABI) developed by Pişkin (2006b) was administered to measure students' prejudgments, irrational beliefs and thoughts about bullying. The MABI is a 27-item scale with five response options ranging from 1 = *strongly disagree* to 5 = *strongly agree*. The scale consists of two dimensions namely erroneous approaches in dealing with bullying and justification of bullying behaviors. The Cronbach's alpha coefficients were found as .89 for the entire scale, .82 for the first dimension, and .83 for the second dimension. In the current study, this instrument was used as a criterion for the divergent validity of TVS.

Procedure

Item development. During the process of scale development, the researchers conducted a comprehensive literature review and interviews with students, teachers, and school principals by asking their opinions about teachers' violent behaviors towards students. The researchers generated items based on the literature review and opinions of these groups. These generated items were examined in terms of clarity and content appropriateness by a group of faculty members from the departments of psychological counseling and guidance, educational psychology, curriculum development, educational administration and policy, and measurement and evaluation. This process was finalized with a pilot form including 43 items.

Data collection process. This study was carried out during the spring semester of 2009/2010 academic year. Prior to scale administration, the approval was received from the Turkish Ministry of National Education. Then, the researchers visited the high schools located in rural and urban area of Ankara to explain the purpose of the study. After obtaining schools' approval, the data were collected through collaborating with school counselors and teachers. The instruments were administered in the classrooms by the researchers and the instruction about how to respond to the scales and the purpose of the study were provided to the participants. During the data collection process, some ethical issues such as informed consent,

confidentiality, and volunteered participation were also ensured. Administration lasted about twenty-five minutes.

Analysis of Data

To reveal the underlying structure among the items in the TVS, an exploratory factor analysis (EFA) was conducted. Then, the factor structure obtained with the EFA was tested with confirmatory factor analysis (CFA) to test whether this structure was consistent with the data. After confirming the factor structure of the TVS, more evidence for the validity of the TVS (e.g. convergent, discriminant and divergent validity) was explored. Lastly, the internal consistencies for overall and sub-dimensions scores of the TVS were calculated and the item analysis was performed.

Results

Exploratory Factor Analysis (EFA)

An EFA using maximum likelihood extraction with an oblique rotation was performed to explore the TVS's underlying factor structure. The rationale of an oblique rotation is that it assumes correlations between the factors (Tabachnick & Fidell, 2001). Supporting this, high correlations between the factors were found. Kaiser-Meyer-Olkin Measure of Sampling Adequacy indicated that the sample size of the study was quite appropriate for the factor analysis (.95), which should be greater than .60 (Tabachnick & Fidell, 2001) to conduct a factor analysis. Bartlett's Test of Sphericity was also significant. The EFA using maximum likelihood method with an oblique rotation revealed a six-factor solution with eigenvalues over one. Eigenvalues of these components were 40.97, 7.65, 6.23, 3.20, 2.99, and 2.62, respectively. This six-factor solution explained 63.66 percent of the total variance. Since the six-factor solution wasn't interpretable, we identified a five-factor solution considering our pre-determined number of factors based on the research objectives. Therefore, we repeated the EFA with fixing the number of factors at five. The selection of items were performed based on eigenvalues (>1), factor loading (>.32), and cross-loadings on other dimensions (Tabachnick & Fidell, 2001). Seven items were cross-loaded on other components and omitted from the scale. After that, the EFA was repeated on the remaining 36 items. This five-factor solution was interpretable and met the item selection criteria (e.g., factor loadings above .32). A five-factor solution accounted for 63.81 percent of the total variance. Factors, items, factors loadings, means, and standard deviations were presented in Table 1. The first factor was labeled as physical violence and consisted of 11 items accounting for 41.31 percent of the total variance. The second factor was labeled as sexual violence, included 6 items and accounted for 8.41 percent of the total variance. The third factor was labeled as accusing/humiliating, included 8 items and accounted for 7.20 percent of the total variance. The fourth factor was labeled as taunting, consisted of 5 items and accounted for 3.60 percent of the total variance. Lastly, the fifth factor was labeled as oppressing, included 6 items and accounted for 3.29 percent of the total variance.

Table 1.

Items, Factor Loadings, and Descriptive Statistics for the TVS

36 items	Factor Loadings					M	SD
	F1	F2	F3	F4	F5		
Physical Violence							
3. Slapping on the face	**.88**	.02	.01	-.12	-.00	.51	1.16
5. Hitting on the head	**.81**	-.02	.03	-.04	-.04	.51	1.21
9. Hitting with an object such as stick, ruler etc.	**.74**	.04	.06	-.00	.05	.57	1.23
2. Pulling ears	**.71**	.01	.02	-.04	.13	.40	1.00
4. Punching	**.69**	-.13	-.02	.08	-.15	.36	1.06
8. Kicking	**.65**	-.06	-.03	.12	-.08	.35	1.01
6. Clinking heads of two students	**.64**	-.18	.04	.06	-.12	.35	1.04
10. Throwing some objects to students	**.61**	.05	.07	.14	.12	.60	1.27
7. Hitting the head of the students against the wall or desk	**.56**	-.03	-.02	.15	.06	.23	.85
1. Pulling hair	**.44**	.04	.07	.10	.11	.31	.93
11. Making student to stand on one foot in the classroom	**.39**	-.12	-.05	.23	.17	.40	1.08
Sexual Violence							
41. Sexual movements (hand, arm, eye movement etc.)	.03	**-.96**	.02	-.07	-.01	.25	.92
40. Calling him/her with words having sexual connotations	.05	**-.92**	.01	-.10	.06	.26	.91
42. Sexual touching	.09	**-.87**	-.01	.06	-.04	.27	.97
43. Creating and spreading rumors of sexual nature	-.03	**-.83**	-.01	.13	-.02	.25	.97
39. Forcing to talk about sexuality	.03	**-.79**	-.01	.08	.04	.22	.84
38. Making jokes of sexual nature	-.01	**-.78**	.07	-.03	.07	.30	.97
Accusing/Humiliating							
21. Accusing with no reason	-.03	-.12	**.78**	-.01	-.04	1.00	1.57
20. Continuously searching to find defects	.02	-.04	**.77**	.00	-.10	1.03	1.64
25. Threatening to give low marks or to fail the class	.03	.03	**.68**	-.18	.22	1.48	1.79
17. Scolding the whole class or a group that you are in	.05	.13	**.66**	.03	.01	1.61	1.85
18. Calling rude words (stupid, silly, idiot, meek etc.)	.18	-.01	**.63**	.03	-.03	1.02	1.63
22. To regard as inferior	-.06	-.10	**.61**	.22	-.03	.60	1.31
26. To embarrass in front of the other students (making fun of homework or exam papers)	.03	.04	**.60**	.12	.20	1.12	1.64

Tablo 1. Continue...

29. Ignoring not giving permission to talk, not responding to questions etc.	-.01	-.14	**.50**	.10	.06	.75	1.44
Taunting							
13. Making fun about personal appearance (clothes, glasses, etc.)	.13	.01	.15	**.61**	.03	.31	.88
14. Making fun about accents, dialect or style of pronunciation	.19	.03	-.04	**.60**	.17	.29	.86
12. Making fun of physical characteristics such as height, weight, dentition, color of hair, color of skin etc.	.15	-.07	.15	**.56**	-.06	.35	.99
16. Calling insulting names, nicknames	-.00	-.10	.16	**.55**	-.04	.38	1.07
15. Making fun about first name or surname	.14	-.12	-.03	**.54**	.06	.29	.87
Oppressing							
32. Restrict freedom such as not allowing to go out the class during break times	.19	-.19	.11	-.06	**.51**	.65	1.36
34. Unjustly complaining to the administration	.02	-.20	.13	.12	**.47**	.51	1.22
36. Tearing personal belongings such as books, notebooks, homework or drawings	.11	-.25	-.03	.32	**.44**	.38	1.07
27. Giving extra homework as punishment	.11	-.04	.30	-.03	**.42**	.91	1.48
33. Making negative speech or comments about some students to influence the others	-.04	-.14	.24	.22	**.37**	.50	1.20
35. Disclosing personal information	.03	-.21	.01	.18	**.36**	.35	1.03

Confirmatory Factor Analysis (CFA)

To test how well the five-factor model fit, a CFA was conducted. The purpose of conducting the CFA is that it provides many analytic possibilities (e.g., assessment of method effects, investigation of the stability or invariance of the factor model over informants) that are not possible to obtain with EFA (Brown, 2006). A CFA was performed using maximum-likelihood estimation to test the fit of five-factor model to the data. Results of the CFA suggested that the fit indices of the five-factor model was very good [$\chi^2(584)$ = 1330.27, χ^2/df = 2.28, *RMSEA* = .04, *SRMR* = .06, *NNFI* = .99, *CFI* =.99]. The CFA results for the five-factor model of TVS were shown in Figure 1. Factor pattern coefficients for the items of physical violence ranged from .57 to .78, those for items of taunting from .71 to .83, those for items of accusing/humiliating from .61 to .80, those for items of oppressing from .63 to .81, and those for items of sexual violence from .83 to .91. R^2 for the items of physical violence ranged from .32 to .61, those for the items of taunting from .50 to .68, those for the items of accusing/humiliating from .37 to .64, those for the items of oppressing from .40 to .66, and those for the items of sexual violence from .68 to .82.
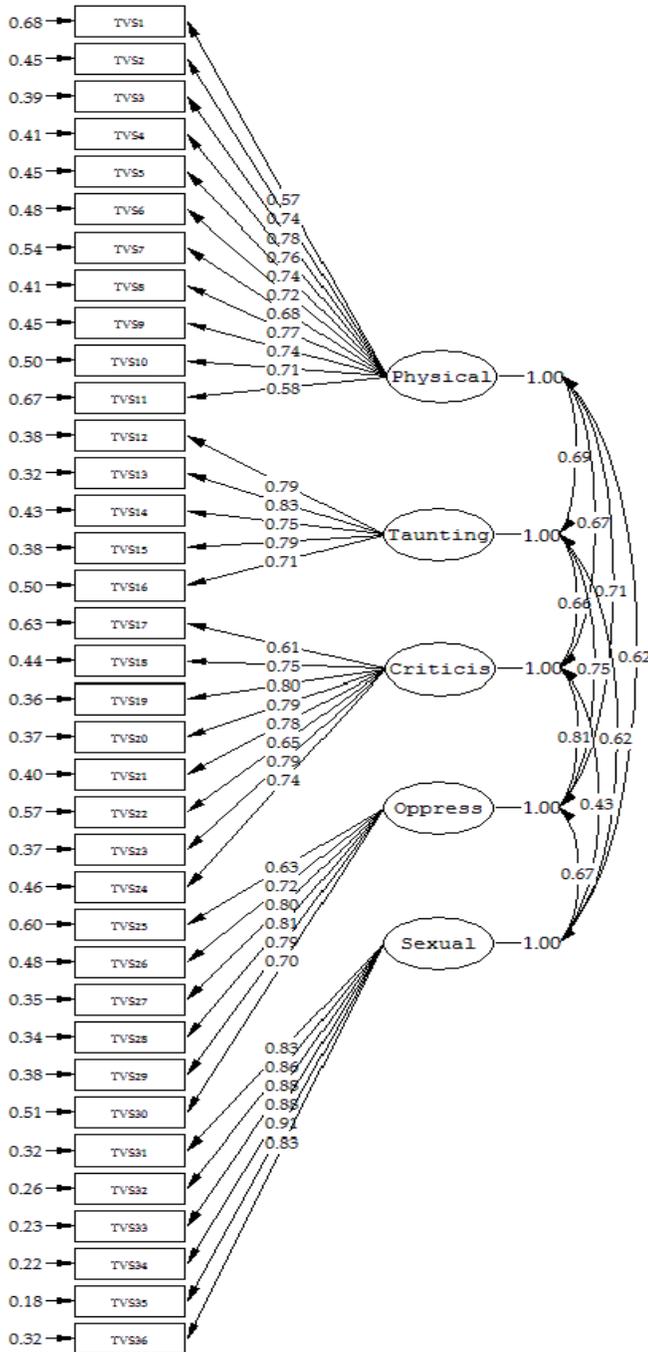
Figure 1. Confirmatory Factor Analysis of the Five-Factor Model of the TVS

For the convergent validity of the TVS, standardized factor loadings of the items, average variance extracted (AVE) and composite reliabilities (CR) of the dimensions, and whether CR values are higher than AVE values were examined. Hair, Black, Babin, and Anderson (2010) suggested a criterion for the standardized factor loadings and AVE values as ≥.50 and a criterion for the CR values as ≥.70. Byrne (2010) also suggested that the CR values should be larger than the AVE values. The results indicated that all standardized factor loadings and AVE values were above the criterion of ≥.50. Also, the composite reliabilities ranged between .80 and .94, which they were above the criterion of ≥.70. Lastly, all CR values were larger than the AVE values of the dimensions of TVS. Consequently, these findings indicated a full evidence for the convergent validity of TVS.

For the discriminant validity of the TVS, maximum shared squared variances (MSV) and average shared squared variances (ASV) were explored. It is expected that the AVEs should be larger than MSVs and ASVs (Hair et al., 2010). All AVEs were larger than the ASVs. In addition, the AVEs of three dimensions (physical violence, taunting, and sexual violence) were larger than their MSVs whereas the AVEs of two dimensions (accusing/humiliating and oppressing) were smaller than their MSVs. These findings provided a partial support for the discriminant validity of the TVS.

Divergent Validity of the TVS

The study of divergent validity was conducted on the data of first participant group. Correlation findings (*see* Table 2) indicated that the total scores from each subscale and entire scale of the TVS were positively correlated to the total scores from each subscale of the MABI as well as to the MABI's total scores. Only one dimension of the TVS, accusing/humiliating, was unrelated to the second dimension of the MABI (Justification of Bullying Behaviors). Regarding divergent validity, the results indicated that these correlations were not too strong. This demonstrates that the construct of teacher violence is different from the construct of myths about bullying.

Table 2.

Correlations, Reliabilities, Mean, and Standard Deviations for the Sub-dimensions and Total of TVS and MABI

Scales/Sub-dimensions	1	2	3	4	5	6	7	8	9
1. Physical Violence	—								
2. Sexual Violence	.56**	—							
3. Accusing/Humiliating	.48**	.41**	—						
4. Taunting	.69**	.59**	.53**	—					
5. Oppressing	.61**	.66**	.64**	.61**	—				
6. TVS – Total	.81**	.74**	.82**	.79**	.86**	—			
7. MABI – Subscale 1	.12**	.15**	.11*	.19**	.22**	.19**	—		
8. MABI – Subscale 2	.18**	.20**	.07	.24**	.27**	.21**	.82**	—	
9. MABI – Total	.17**	.19**	.09*	.22**	.26**	.21**	.94**	.96**	—
a	.93	.96	.89	.85	.85	.96	.90	.92	.95
M	4.57	1.54	8.37	1.61	3.23	23.756	27.59	30.62	58.05
SD	8.90	5.07	9.60	3.70	5.61	32.44	12.55	14.45	25.16

Note. * p < .05, ** p < .01

Internal Reliability of the TVS

The Cronbach's alpha coefficients for the sub-dimensions and entire of the TVS were calculated using two participant groups. The coefficients obtained from the first participant group were presented in Table 2. These coefficients for the sub-dimensions of the TVS and for the entire scale ranged between .85 and 96. The coefficients obtained from the second participant group were .92 for physical violence, .95 for sexual violence, .90 for accusing/humiliating, .88 for taunting, .87 for oppressing, and .96 for the entire scale. All these Cronbach's alpha coefficients indicated that the TVS had good internal consistencies.

Item Analysis of the TVS

The item analysis of the TVS was done using the data of second participant group. For the item analysis, the corrected-item total correlations and lower/upper 27% group differences for each item score were explored. The corrected-item total correlations for the TVS ranged between .50 and .70. The *t*-test results indicated significant group differences between lower 27% and upper 27% group of each item score (*p* < .01).

Conclusions and Recommendations

This study provides psychometric support for the Teacher Violence Scale (TVS). The EFA results indicated that the TVS yielded 5 distinguishable and interpretable factors including 36 items. These five factors explained almost 64 percent of the total variance. Factors were labeled as physical violence (11 items), sexual violence (6 items), accusing/humiliating (8 items), taunting (5 items), and oppressing (6 items). To validate the five-factor solution obtained through EFA, 36 items were analyzed with the CFA. Results of the CFA suggested a good fit to the data. The TVS had full evidence for the convergent validity and a partial evidence for discriminant validity. The results of divergent validity showed that greater exposure to the teacher violence was related to higher prejudgments, irrational beliefs and thoughts about bullying. However, there was no strong relationship between the scores of the TVS and the MABI. This indicates that the construct assessed by the TVS was different from the construct assessed by the MABI. The reliability estimates for the overall scale, as well as for the sub-dimensions of the TVS, suggested that it was a highly reliable instrument to use.

This study has provided some significant information to the field of teacher violence research. First of all, to the best of our knowledge, no instrument evaluating teacher violent behavior against students from the perspective of students has yet been developed. Therefore, it is expected that this scale will fill a gap and will be a useful tool for educators and researchers to evaluate teachers' aggressive behaviors towards students. An additional strength of this study is that the TVS was developed over a diverse population from different types of high schools and this enhances the applicability of our results to the schools and students displaying similar characteristics as the ones surveyed in Ankara.

The current investigation has several limitations. Firstly, the participants were selected from schools located only in Ankara. The generalizability of the TVS needs to be investigated among different populations and geographic locations. Secondly, this study only examined convergent, discriminant and divergent validity of the TVS. This needs to be expanded with additional validity studies, such as predictive, cross validity etc. Lastly, test-retest reliability coefficients weren't calculated due to a lack of repeated measures. Therefore, future studies should examine test-retest reliability of the TVS.

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Öğretmen Şiddeti Ölçeği'nin Geliştirilmesi ve Doğrulanması

Özet

Problem Durumu: Eğitimcilerin öncelikli görevleri arasında, olumsuz davranışların ve modellerin olmadığı güvenli bir eğitim ortamının oluşturulması yer almaktadır. Ancak, günümüzde okullarda yaşanan şiddet olaylarına yönelik bir endişe söz konusudur. Alan yazındaki ilgili çalışmalar incelendiğinde, araştırmalarda çoğunlukla öğrenciler arasındaki saldırganlık, şiddet ve zorbalık olaylarına odaklanıldığı, öğretmenden öğrenciye yönelik şiddet olaylarının yeteri kadar ele alınmadığı görülmektedir. Bu açıdan, okul şiddeti ya da okul güvenliği kapsamında sadece öğrencilerin uyguladıkları şiddet davranışları değil, öğretmenden öğrenciye yönelik şiddet davranışlarının da dikkate alınması gerekmektedir. Öğretmen şiddetiyle ilgili araştırmaların yetersiz olmasının birkaç faktörle ilişkili olduğu düşünülmektedir. Öncelikle, birçok kültürde, öğretmen otoriter bir figür olarak değerlendirilmekte ve öğretmenin davranışlarını sorgulamak kültürel açıdan uygun görülmemektedir. Diğer bir faktör ise, öğretmelerin öğrencilere yönelik birçok davranışı eğitim sürecinin ve disiplinin bir parçası olarak ele alınmaktadır. Son

olarak, öğretmen davranışlarını değerlendirmeye yönelik ölçme araçlarının olmaması da, bu konunun yeteri kadar araştırılmasının önünde bir engel olarak düşünülebilir.

Araştırmanın Amacı: Öğretmenden öğrenciye yönelik şiddet olaylarının araştırılabilmesi için öğrenciler tarafından yanıtlanabilecek bir ölçme aracına ihtiyaç duyulmaktadır. Bu çalışmada, okullarda öğretmenler tarafından öğrencilere uygulanan şiddet davranışlarını belirlemek için öğrenciler tarafından doldurulan bir ölçme aracının geliştirilmesi amaçlanmıştır.

Araştırmanın Yöntemi: Bu çalışmada iki farklı katılımcı grup verisi kullanılmıştır. Birinci katılımcı grup verileri üzerinde açımlayıcı faktör analizi, diğer grup verileri üzerinde ise doğrulayıcı faktör analizi yapılmıştır. Birinci katılımcı grup 583 (%61.0 kız, %39.0 erkek), ikinci katılımcı grup ise 878 (%36.7 kız, %63.3 erkek) lise öğrencisinden oluşmuştur. Türkiye'deki lise türleri çeşitlilik göstermektedir. Bundan dolayı, araştırmaya katılan katılımcılar farklı lise türlerinden seçilmiştir. Bu okul türleri arasında; Genel, Anadolu, Kız Meslek, Endüstri Meslek ve İmam Hatip Liseleri yer almıştır. Ölçme aracının geliştirilmesi sürecinde, alan yazın gözden geçirilerek ve araştırmanın hedef grubunu oluşturan öğrenci, yönetici ve öğretmenlerin de görüşleri alınarak madde havuzu oluşturulmuştur. Oluşturulan maddeler psikolojik danışma ve rehberlik, eğitim psikolojisi, ölçme ve değerlendirme ve eğitim yönetimi alanlarında çalışan bir grup öğretim üyesinin görüşüne sunulmuş; ölçeğin deneme formu dil, ifade, içerik ve yapı bakımından incelenmiştir. Alınan geri bildirimler sonucunda, 43 maddelik ölçek, deneme uygulama için hazır hale getirilmiştir. Deneme uygulama birinci katılımcı grup verileri üzerinde yapılmıştır. Faktör analizi sonucunda, 43 maddelik deneme form 36 maddeye düşmüş ve 5 faktörlü bir yapı elde edilmiştir. Deneme uygulama sonucunda elde edilen bu yapının ikinci katılımcı grup verileri üzerinde geçerli olup olmadığı doğrulayıcı faktör analizi ile test edilmiştir. Geçerlik çalışması kapsamında ayrıca benzeme, ayırma ve ayrılma geçerlikleri de incelenmiştir. Son olarak, ölçeğin tamamı ve alt boyutları için iç-tutarlık güvenirlik katsayıları hesaplanmıştır.

Araştırmanın Bulguları: Açımlayıcı faktör analizi sonucunda, 43 maddelik deneme form 36 maddeye düşmüş ve 5 faktörlü bir yapı elde edilmiştir. Bu faktörler ve madde sayıları şöyledir: fiziksel şiddet (11 madde), cinsel şiddet (6 madde), suçlama/aşağılama (8 madde), alay etme (5 madde) ve baskı altına alma (6 madde). Beş faktörlü yapı toplam varyansın yaklaşık %64'ünü açıklamıştır. Doğrulayıcı faktör analizi sonuçlarına göre ise, elde edilen beş faktörlü yapı geçerli kılınmıştır [$\chi^2(584)$ = 1330.27, χ^2/sd = 2.28, *RMSEA* = .04, *SRMR* = .06, *NNFI* = .99, *CFI* =.99]. Benzeme ve ayırma geçerlik çalışmalarının sonuçlarına göre, ölçek benzeme ve ayırma geçerliğine sahiptir. Ayrılma geçerliği sonucuna göre ise, ölçeğin puanları Zorbalığa İlişkin Mitler Ölçeği'nden elde edilen puanlarla manidar ve pozitif yönde ilişkili bulunmuştur. Ancak, elde edilen ilişkiler çok güçlü değildir. Bu açıdan, her iki ölçeğin ölçtüğü kavramlar birbirlerinden ayrışmaktadır. Ölçeğin iç-tutarlık güvenirlik katsayıları, Cronbach alfa katsayı ile hesaplanmıştır. Birinci ve ikinci katılımcı grupları için ölçeğin tamamına ilişkin Cronbach alfa değerleri .96'dır. Her

iki katılımcı grup için, ölçeğin alt boyutları için elde edilen Cronbach alfa değerleri .85 ile .96 arasında değişmektedir.

Araştırmanın Sonuçları ve Öneriler: Bu çalışmada, Öğretmen Şiddeti Ölçeği'nin geliştirilmesi ve doğrulanması için birtakım psikometrik bulgular sunulmuştur. Açımlayıcı ve doğrulayıcı faktör analizleri sonucunda, ölçek 36 madde ve 5 alt boyuttan oluşmuştur. Benzeme, ayırma ve ayrılma geçerliğine ilişkin kanıtlar, ölçeğin yapı geçerliğine sahip olduğunu işaret etmektedir. Ölçeğin tamamı ve alt boyutları için elde edilen güvenirlik katsayıları, ölçeğin iyi bir iç-tutarlığa sahip olduğunu göstermektedir. İlgili alan yazında, öğrencilerin görüşlerine dayalı olarak, öğretmenlerin öğrencilere yönelik şiddet davranışlarını değerlendiren bir ölçek bulunmamaktadır. Bundan dolayı, bu ölçeğin öğretmen şiddeti ile ilgili alan yazına önemli bir katkı sağlayacağı düşünülmektedir. Ölçek farklı lise türlerine devam eden öğrenciler üzerinde uygulandığı için elde edilen sonuçların genellenebilirliği de söz konusu olabilir. Sonraki çalışmalarda, Öğretmen Şiddeti Ölçeği'nin geçerliğine (yordayıcı ve çapraz geçerlik gibi) ve güvenirliğine (test-tekrar test güvenirliği gibi) ilişkin ek kanıtlar araştırılabilir. Ayrıca, ölçeğin yapı geçerliği başka örneklemler üzerinde de incelenebilir.

Anahtar Sözcükler: Öğretmen şiddeti, ölçek geliştirme, geçerlik, güvenirlik, lise öğrencileri.

Appendix I

Teacher Violence Scale

At below, there are some violent behaviors displayed by teachers against students. Please fill in the boxes for each item considering **how frequently** your teachers displayed these behaviors against you **in the past year**. Please respond to the items considering whether it happened to **you** and how frequently it happened. **Considering the past year**, fill in the boxes using a six-point scale given at below.

1. Never
  2. At least once a year
   3. At least once a term
    4. At least once a month
     5. At least once a week
      6. Almost everyday

		1	2	3	4	5	6
1.	Pulling hair	O	O	O	O	O	O
2.	Pulling ears	O	O	O	O	O	O
3.	Slapping on the face	O	O	O	O	O	O
4.	Punching	O	O	O	O	O	O
5.	Hitting on the head	O	O	O	O	O	O
6.	Clinking heads of two students	O	O	O	O	O	O
7.	Hitting the head of the students against the wall or desk	O	O	O	O	O	O
8.	Kicking	O	O	O	O	O	O
9.	Hitting with an object such as stick, ruler etc.	O	O	O	O	O	O
10.	Throwing some objects to students	O	O	O	O	O	O
11.	Making student to stand on one foot in the classroom	O	O	O	O	O	O
12.	Making fun of physical characteristics such as height, weight, dentition, color of hair, color of skin etc.	O	O	O	O	O	O
13.	Making fun about personal appearance (clothes, glasses, etc.)	O	O	O	O	O	O
14.	Making fun about accents, dialect or style of pronunciation	O	O	O	O	O	O
15.	Making fun about first name or surname	O	O	O	O	O	O
16.	Calling insulting names, nicknames	O	O	O	O	O	O
17.	Scolding the whole class or a group that you are in	O	O	O	O	O	O
18.	Calling rude words (stupid, silly, idiot, meek etc.)	O	O	O	O	O	O
19.	Continuously searching to find defects	O	O	O	O	O	O

20.	Accusing with no reason	O	O	O	O	O	O
21.	To regard as inferior	O	O	O	O	O	O
22.	Threatening to give low marks or to fail the class	O	O	O	O	O	O
23.	To embarrass in front of the other students (making fun of homework or exam papers)	O	O	O	O	O	O
24.	Ignoring not giving permission to talk, not responding to questions etc.	O	O	O	O	O	O
25.	Giving extra homework as punishment	O	O	O	O	O	O
26.	Restrict freedom such as not allowing to go out the class during break times	O	O	O	O	O	O
27.	Making negative speech or comments about some students to influence the others	O	O	O	O	O	O
28.	Unjustly complaining to the administration	O	O	O	O	O	O
29.	Disclosing personal or private information	O	O	O	O	O	O
30.	Tearing personal belongings such as books, notebooks, homework or drawings	O	O	O	O	O	O
31.	Making jokes of sexual nature	O	O	O	O	O	O
32.	Forcing to talk about sexuality	O	O	O	O	O	O
33.	Calling him/her with words having sexual connotations	O	O	O	O	O	O
34.	Sexual movements (hand, arm, eye movement etc.)	O	O	O	O	O	O
35.	Sexual touching	O	O	O	O	O	O
36.	Creating and spreading rumors of sexual nature	O	O	O	O	O	O

Development of the Dyadic Relationship Scale*

Özlem HASKAN AVCI*

Abstract

Problem Statement: The rise of premarital studies raises questions about the effectiveness of educational programs developed to prepare young couples for marriage and family life.

Purpose of Study: The purpose of this study is to describe and introduce the Dyadic Relationship Scale (DRS) for use with university students. The author developed the DRS on the basis of Turkish culture.

Methods: Validity and reliability studies for the DRS were conducted in 2013 with the participation of 1,115 students attending Hacettepe University, Ankara, Turkey. The data obtained were analyzed by SPSS software. Construct validity of the DRS was examined with exploratory factors and analysis. The DRS is a five point Likert scale comprising five subscales and 78 items. The five subscales measure Communication, Romanticism-Sexuality, Conflict Solving, Social Support, and Acceptance of Differences.

Findings and Results: The Communication subscale has a six-factor structure and explains 64.2% of the total variance. The Romanticism-Sexuality subscale has a five-factor structure and explains 61.5% of the total variance. The Conflict Solving subscale has a five-factor structure and explains 60.1% of the total variance. The Social Support subscale has a two-factor structure and explains 63.3% of the total variance. Finally, the Acceptance of Differences subscale displays a five-factor structure and explains 60.7% of the total variance.

Criterion-related validity was analyzed between the DRS and the Pre-Marital Relationship Assessment Scale. Based on the data obtained from

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181 Turkish university students, a positive and significant correlation at the level of .824 was found when the two scales were compared. The reliability of the DRS was analyzed in two ways. First, the Cronbach alpha coefficient was calculated for all subscales of the DRS. Alpha coefficients were calculated to be .77 for the Communication subscale, .88 for the Romanticism-Sexuality subscale, .85 for the Conflict Solving subscale, .91 for the Social Support subscale and .79 for the Acceptance of Differences subscale. Second, reliability coefficients of the DRS, which were analyzed by use of the split-half method, were found to be .61 for the Communication subscale, .64 for the Romanticism-Sexuality subscale, .73 for the Conflict Solving subscale, .69 for the Social Support subscale and .64 for the Acceptance of Differences subscale.

Conclusions and Recommendation: The evidence for validity and reliability shows that the DRS can be validly and reliably used for measuring dyadic relationship levels between university students. Premarital educators can use the DRS in evaluating the effectiveness of their practices.

*Keywords***:** dyadic relationship, premarital relationship, premarital counseling, marriage preparation programs

Introduction

The family, perhaps the most important building stone of society, plays a significant role in raising healthy individuals and creating a stronger society. Marriage is the most important and serious step preceding establishing a family (Dinçyürek & Uygarer, 2012). When studies conducted on marriage and family, in Turkey and around the world, are examined, divorce rates are frequently addressed. According to data of the Turkish Statistics Institution (TUİK), the number of Turkish divorces in the first half of 2012 increased by 5.8% compared to the same period of the previous year, reaching 33,474 (TÜİK, 2012) for the six-month period. Increasing year by year, the number of divorces leads to the obvious conclusion couples' expectations from marriage were not fulfilled. Experts frequently try to bring premarital relationships to the attention of the public, educators and politicians, and emphasize the importance of preventative works to lower the rate of divorce, since several research studies have shown that the rate of divorce is 30% lower among couples who attend to and complete marriage preparation programs (Stanley, Amato, Johnson & Markman, 2006).

No doubt, couples pass through an extended process before they reach the point of deciding to divorce. The high numbers of divorce suggest that certain problems become unsolvable for couples. In the context of these problems, researchers point to the connections between divorce and the premarital period. Factors influencing marriage decisions may cause both problems and benefits during marriage (Dinçyürek & Uygarer, 2012). According to Kalkan, Hamamcı and Yalçın (2012), the premarital period may be deceptive for both parties if either person or both tends to

present only positive sides of their own personalities and overlook the negative qualities of their partner. Keitner, Heru and Glick (2010) point out that reluctance to recognize each other's differences in a relationship may result in a tendency to suppress differences, which may in turn create disappointments and conflicts. Partners who do not accept each other as is generally experience more problems.

Constraints affecting young individuals in preparation for marriage and family life have also been the subject of research. According to Olson and DeFrain (1994), engaged couples may develop an idealistic point of view for their future marriage. In general, problems arise when the first romantic phase of love comes to an end. At this point, counseling is capable of helping couples to renew and review their relationships (Peake & Steep, 2005). On the other hand, studies conducted on marriage show us that therapies applied to already damaged marriages have a very low rate of success. Several findings reveal that couples consider marriage counseling to be quite costly and that many couples experiencing marriage stress either do not seek support, or seek it after a considerable span of time (Sullivan, Pasch, Cornelius & Cirigliano, 2004). According to Bringle and Byers (1997), couples unfortunately receive counseling not as a preventive measure before problems arise, but after several problems develop and reach a serious state. The success rate is low for couples who seek marriage and family counseling at a very late stage.

These outcomes reflect the importance of the preventive dimension of marriage and family counseling, as is the case for many other fields included counseling and guidance. While the rates and negative effects of divorce are frequently mentioned, research and educational programs that emphasize the importance of the premarital relationship in the prevention of divorce and the creation of a healthy family life are too limited. Early intervention and support are known to be effective means of encouraging young individuals to marry only after establishing a strong relationship. They also improve loyalty and reduce the risks for a problematic relationship. They ensure that individuals adopt realistic expectations, reach a better understanding of marital roles and problems arising during marriage, and develop marital communication and problem-solving skills (Silliman & Schumm, 2004).

In Turkish society, which attaches great importance to the wedding day, it is necessary to draw the attention of a young couple away from marriage, a very important period of life, and to premarital counseling programs. The same seems to apply to American society; Britzman and Nagelhout (2012) accordingly report that people generally allocate too little time to considering what awaits them in their future marriage. It is particularly important for individuals the answer to the question "What would it be like to be married to me?" before deciding for it.

A common aspect of the international studies conducted on premarital relationships is the emphasis on the importance of communication and conflict solving. Doherty (2003) states that premarital counseling is important in addressing major issues of married life, which are listed as: couple communication, problem-solving techniques, loyalty, sexual desire and expectations, economical structure and financial management, and parenting approach. When the literature on premarital

counseling is reviewed, the significance of romanticism and sexuality, acceptance of differences as is, and mutual support are prominent themes. Research shows us that premarital education has become widespread in the last 50 years and that couples who attend and complete a premarital program have a higher quality of marriage, lower level of conflict and 30% lower rate of divorce (Stanley, Amato, Johnson & Markman, 2006). Marriage preparation and enhancement programs, premarital counseling and other preventive measures help to build stronger marriages and reduce marital stress (Lesage-Higgins, 1999).

In Turkey, premarital education has been addressed at the ministry level in recent years. When the Ministry of Family and Social Policies issued a statement noting, "Just as a person needs to complete a course to receive a driving license, the same may apply for marriage license," the media reacted by stressing the importance of the issue. "Marriage preparation courses" were organized and realized through the evaluation that, "The way of strengthening the institution of marriage follows from premarital courses," (The Ministry of Family and Social Policies, 2013).

The rise of such practices raises questions about the effectiveness of educational programs developed to prepare young individuals for marriage and family life and how such programs should be evaluated. The need for scientific, valid and reliable measuring instruments for use in evaluating such programs has become apparent. When earlier studies carried out in Turkey were reviewed, the author found that, in terms of validity and reliability, the number of measuring instruments for evaluating the effectiveness of premarital counseling programs was limited.

Although longstanding premarital counseling programs and measuring instruments can be found in non-Turkish studies, dyadic relationships are known to differ due to individuals' cultural backgrounds, local conditions and social group structures. From this point of view, we decided to develop a new instrument for measuring various aspects of dyadic relationships under the specific conditions of our own country, instead of trying to adopt a scale developed on the basis of a different culture. Larson et al. (1995) suggest that premarital measurements must be strong enough in five particular fields: they must be designed mainly or specifically for measuring premarital relationships; must ensure that comprehensive data are obtained about the educational process; must be applicable on a large scale; must be easily understood; and lastly, must be shown to be valid and reliable. In this study, which accounted for all those these criteria, the aim was to develop a Dyadic Relationship Scale for measuring various aspects of relationships among Turkish university students and to contribute to filling a gap in the literature.

Method

Research Sample

To determine the validity and reliability of the DRS, first, a trial form consisting of 85 items was distributed to 52 students of the university: items that students found to be confusing were subsequently rearranged . Validity and reliability work by use of the final DRS form was performed with the participation of 678 randomly selected

Hacettepe University students, 376 of whom were female (55.5%) and 302 were male (44.5%). In addition, split-half reliability and criterion-related validity analyses were carried out with 204 and 181 university students, respectively. In total, 1,115 university students contributed to the development of the Dyadic Relationship Scale.

Procedure

In order for the Dyadic Relationship Scale to be developed, firstly a literature review was first performed, and five subscales and an item pool of 88 items were established by determining the feelings, thoughts and behaviors of university students regarding premarital relationships. The five subscales included under the DRS are Communication, Romanticism-Sexuality, Conflict Solving, Social Support and Acceptance of Differences. Perceived Social Support Scale (Yıldırım, 2004) was used in the establishment of the Social Support subscale. After making necessary arrangements on the items pool in line with the suggestions given by three counseling and guidance authorities, three of the items were removed and a trial form consisting of 85 items was prepared. In consequence of the implementation of the trial form, items found to be confusing were rewritten. At the next stage, validity and reliability studies were conducted on the DRS with the data collected from 678 students. As a result, the number of items in the final form of the DRS was reduced to 78. For testing the validity of the scale, criterion-related validity was analyzed, comparing the DRS and the Pre-Marital Relationship Assessment Scale. Cronbach alpha coefficients and item/total statistics of the scale were reviewed for determining reliability coefficients of the scale. The split-half reliability method was applied as well.

Research Instruments and Procedure

Pre-Marital Relationship Assessment Scale (PMRAS) (Kalkan & Nevres Kaya, 2007) was employed for reviewing the criterion-related validity of the DRS. While the two scales present similarities in terms of the qualities intended to be measured and the study groups, there are differences related to the sub-dimensions measured. PMRAS is a scale with 34 items and five grades. Five factors are included in this scale, which explains 42.9% of the total variance. The correlation coefficient between the scores of PMRAS and the Relationship Happiness Scale was found to be .48 (p<.01), while the internal consistency coefficient for the whole PMRAS (Cronbach alpha) was calculated to be .86. Moreover, the test-retest reliability coefficient calculated on 64 individuals' PMRAS scores was .72 (p<.01).

Data Analysis

The SPSS software was employed for data analysis. First, it was considered that KMO must be higher than 0.60 and the Barlett test must provide significant results in order for the data to be deemed suitable for a factor analysis (Büyüköztürk, 2004). After it was determined that the data were suitable for carrying out a factor analysis, the factor structure of the scale and factor loading of the items were examined by use of the exploratory factor analysis. Meanwhile, the principal components analysis (PCA) was selected to be applied as the factoring technique. Common factor variance

of the factors on each variable, factor loadings of items and explained variance proportions were examined within the scope of the analyses. A factor loading value of .30 or higher was taken as a criterion for determining factor structures of the items. The items were required to have a factor loading of 0.30 or higher for the first factor, and each subscale was required to be one-dimensional and provide a usable total score in the component matrix table (Büyüköztürk 2004). The varimax rotation technique was selected in order to ensure that interrelated items form factors by combining and that the factors were constructed easily. As a result of the analyses, removed from the scales were items that had factor loading values lower than 0.30 for the first factor, or had similar factor loading values for several factors and provided little distinctiveness, or presented weak correlation with other items of the scale. Validity of the DRS was also checked by use of the criterion-related validity method The Pearson correlation coefficient was analyzed between the DRS and the Pre-Marital Relationship Assessment Scale (PMRAS). Cronbach alpha coefficients and item/total correlation values of the scale were reviewed for evaluating the scale's reliability.

Results

Validity of the DRS

In this study, validity of the DRS was examined in two ways. First, a factor analysis was performed in order to reveal the structural validity of the DRS. The KMO coefficient and explained total variance were studied for all subscales of the DRS. In factor analysis, factors with an eigenvalue of 1 or higher are considered to be significant (Büyüköztürk 2004). Based on this consideration, factor structures were examined separately for each subscale, and factor analysis results belonging to the subscales are addressed in this section of the study.

Factor analysis results for the communication subscale. The "Communication" subscale of the DRS consisted of 15 items. The KMO coefficient was calculated to be .77. The result of the Barlett test was significant for this subscale.

Table 1.

Factor Analysis Results for the Communication Subscale of the DRS

Item Num.	Common Factor Variance	Item Num.	Factor-1 Loading	Item Number	Factor Loading After Varimax					
					Fac.-1	Fac.-2	Fac.-3	Fac.-4	Fac.-5	Fac.-6
1	,533	14	,647	14	,810					
2	,752	4	,639	4	,763					
4	,660	18	,594	1	,544					
7	,688	8	,555	7		,775				
8	,667	1	,548	10		,706				
10	,609	7	,541	8		,670				
12	,569	10	,533	17			,762			
13	,567	16	,515	16			,700			
14	,733	17	,366	18			,598			
15	,577	15	,339	19						
16	,559	12	,477	12				,802		
17	,649	19	,407	13				,672		
18	,612	21	,382	21				,515	,783	
19	,723	2	,335	15					,678	
21	,730	13	,408	2						,826

Explained Variance: Total: % 64,19 Factor-1: % 24,64 Factor-2: % 9,56

Factor-3: % 9,03   Factor-4: % 7,30 Factor-5: % 6,93 Factor-6: % 6,73

Common factor variance of the factors for each variable ranged from .533 to .733. The Communication subscale presented a structure of six factors with eigenvalues higher than 1. The six factors explained 64.19% of the total variance altogether. Calculated variance percentages explained by the first, second, third, fourth, fifth and sixth factors were 24.64, 9.56, 9.03, 7.30, 6.93 and 6.73, respectively. Factor loadings of the items (component matrix) varied between .335 and .647 at the first factor.

As a result of the varimax rotation technique, the first factor was determined to consist of three items (1, 4, 14); the second to consist of three items (7, 8, 10); the third to consist of three items (16, 17, 18); the fourth to consist of three items (9, 12, 13); the fifth to consist of two items (15, 21); and the sixth factor was determined to consist of only one item (2). Factors were named based on the contents of the items. Thus, the first factor was called "verbal offence"; the second was "self regulation"; the third,

"self control"; the fourth, "manipulation"; the fifth, "sharing and coupling"; and the sixth factor was "tiring out".

Factor analysis results for the romanticism-sexuality subscale. The "Romanticism-Sexuality" subscale of the DRS consisted of 18 items. The KMO coefficient was calculated to be .89. The result of the Barlett test was significant for this subscale.

Table 2.

Factor Analysis Results for the Romanticism-Sexuality Subscale of the DRS

Item Num.	Common Factor Variance	Item Num.	Factor-1 Loading	Item Number	Factor Loading After Varimax				
					Fac.-1	Fac.-2	Fac.-3	Fac.-4	Fac.-5
2	,633	20	,742	19	,741				
3	,722	13	,740	21	,714				
4	,522	16	,736	17	,691				
5	,515	21	,729	20	,676				
7	,693	17	,666	18	,674				
9	,559	7	,660	16	,571				
10	,668	19	,635	2		,750			
11	,643	18	,631	4		,667			
12	,588	9	,614	5		,617			
13	,622	5	,612	9		,604			
15	,677	4	,583	13		,570			
16	,666	12	,533	11			,768		
17	,567	3	,507	12			,657		
18	,545	2	,527	3				,758	
19	,632	10	,307	10				,646	
20	,636	22	,460	7				,630	
21	,628	15	,353	15					,768
22	,547	11	,360	22					,594

Explained Variance: Total: % 61,46 Factor-1: % 35,12 Factor-2: % 8,16
Factor-3: % 6,56   Factor-4: % 6,02 Factor-5: % 5,61

As a result of the varimax rotation technique, the first factor was determined to consist of six items (16, 17, 18, 19, 20, 21); the second factor was determined to consist of five items (2, 4, 5, 9, 13); the third factor was determined to consist of two items (11, 12); the fourth factor was determined to consist of three items (3, 7, 10); and the fifth factor was determined to consist of two items (15, 22). The names of factors were

derived from the contents of the items. Thus, the first factor was called "romanticism behaviors"; the second factor was called "relationship saturation"; the third factor was called "physical intimacy"; the fourth factor was called "romanticism perception"; and the fifth factor was called "romanticism expectation".

Factor analysis results for the conflict solving subscale. The "Conflict Solving" subscale of the DRS consisted of 18 items. The KMO coefficient was calculated to be .86. The result of the Barlett test was significant for this subscale.

Table 3.

Factor Analysis Results for the Conflict Solving Subscale of the DRS

Item Num.	Common Fa Variance	Item Num.	Factor-1 Loading	Item Number	Factor Loading After Varimax				
					Fac.-1	Fac.-2	Fac.-3	Fac.-4	Fac.-5
1	,566	24	,679	21	,752				
4	,590	5	,662	13	,691				
5	,618	20	,629	24	,687				
6	,607	4	,575	20	,645				
8	,511	11	,574	18	,511				
9	,671	21	,561	22		,772			
10	,720	8	,537	15		,760			
11	,620	23	,526	17		,680			
12	,614	9	,507	23		,552			
13	,644	17	,502	4			,710		
15	,608	18	,457	5			,701		
17	,533	22	,419	11			,696		
18	,509	10	,510	8			,634		
20	,548	15	,395	9				,789	
21	,696	13	,524	10				,774	
22	,668	1	,411	1				,709	
23	,492	12	,456	12					,626
24	,603	6	,523	6					,533

Explained Variance: Total: % 60,1 Factor-1: % 28,17 Factor-2: % 13,08

Factor-3: % 6,94 Factor-4: % 6,14 Factor-5: % 5,76

Common factor variance for the factors on each variable ranged from .509 to .720. The Conflict Solving subscale presented a structure of five factors with eigenvalues higher than 1. The five factors explained 60.1% of the total variance. Calculated variance percentages explained by the first, second, third, fourth and fifth factors were 28.17, 13.08, 6.94, 6.14 and 5.76, respectively. Factor loadings of the items (component matrix) varied between .395 and .679 for the first factor.

As a result of the varimax rotation technique, the first factor was determined to consist of five items (13, 18, 20, 21, 24); the second factor was determined to consist of four items (15, 17, 22, 23); the third factor was determined to consist of four items (4, 5, 8, 11); the fourth factor was determined to consist of three items (1, 9, 10); and the fifth factor was determined to consist of 2 items (6, 12). The names of actors were derived from the contents of the items. Thus, the first factor was called "tendency for lack of conflicting"; the second factor was called "self control"; the third factor was "power struggle"; the fourth factor was "aiming at solutions"; and the fifth factor was as "implicit conflict".

Factor analysis results for the social support subscale. The "Social Support" subscale of the DRS consisted of twelve items. The KMO coefficient was calculated to be .92. The result of the Barlett test was significant for this subscale.

Table 4.

Factor Analysis Results for the Social Support Subscale of the DRS

Item Number	Common Factor Variance	Item Num.	Factor-1 Loading	Item Number		Factor Loading After Varimax Fac.-1 Fac.-2	
3	,611	9	,809	4	,807		
4	,669	13	,802	6	,784		
5	,607	3	,781	8	,749		
6	,635	8	,773	7	,743		
7	,602	5	,770	9	,734		
8	,622	4	,767	13	,728		
9	,660	15	,757	5	,726		
13	,647	7	,756	20	,691		
15	,578	6	,752	3	,684	,840	
16	,665	20	,655	19		,792	
19	,747	19	,596	16		,633	
20	,554	16	,565	15			

Explained Variance: Total: % 63,32 Factor-1: % 54,16 Factor-2: % 9,16

Common factor variance of the factors on each variable was found to range from .554 to .747. The Social Support subscale presented a structure of two factors with eigenvalues higher than 1. The two factors explained 63.32% of the total variance together. Calculated variance percentages explained by the first and second factors were 54.16 and 9.16 respectively. Factor loadings of the items (component matrix) were seen to vary between .565 and .809 at the first factor.

As a result of the Varimax rotation technique, the first factor was determined to consist of 9 items (3, 4, 5, 6, 7, 8, 9, 13, 20); and the second factor was determined to consist of three items (15, 16, 19). Factors were named in consideration of the contents of the items. Thus, the first factor was named as "emotional support"; and the second factor was named as "appreciating".

Factor analysis results for the acceptance of differences subscale. The "Acceptance of Differences" subscale of the DRS consisted of fifteen items. The KMO coefficient was calculated to be .81. The result of the Barlett test was significant for this subscale.

Table 5

Factor Analysis Results for the Acceptance of Differences Subscale of the DRS

Item Num.	Common Fac. Variance	Item Num.	Factor-1 Loading	Item Number	Factor Loading After Varimax				
					Fac.-1	Fac.-2	Fac.-3	Fac.-4	Fac.-5
2	,504	12	,667	8	,856				
3	,607	11	,636	12	,796				
4	,460	9	,589	9	,609				
5	,713	7	,566	18		,754			
7	,520	18	,536	16		,747			
8	,754	3	,511	13		,686			
9	,597	14	,509	5			,837		
10	,686	8	,505	3			,734		
11	,522	13	,491	2			,629		
12	,761	2	,461	10				,806	
13	,522	5	,414	7				,652	
14	,645	16	,440	11				,526	
16	,596	4	,402	20					,738
18	,631	20	,384	14					,706
20	,590	10	,539	4					,495

Explained Variance: Total: % 60,7 Factor-1: % 26,65 Factor-2: % 11,43

Factor-3: % 8,85 Factor-4: % 7,06 Factor-5: 6,73

The common factor variance of the factors on each variable ranged from .504 to .761. The Acceptance of Differences subscale presented a structure of five factors with eigenvalues higher than 1. The five factors explained 60.7% of the total variance. Calculated variance percentages explained by the first, second, third, fourth and fifth factors were 26.65, 11.43, 8.85, 7.06 and 6.73, respectively. Factor loadings of the items (component matrix) varied between .384 and .667 for the first factor.

As a result of the Varimax rotation technique, the first factor was determined to consist of three items (8, 9, 12); the second factor was determined to consist of three items (13, 16, 18); the third factor was determined to consist of three items (2, 3, 5); the fourth factor was determined to consist of three items (7, 10, 11); and the fifth factor was determined to consist of three items (4, 14, 20). Factor names were derived from the contents of the items. Thus, the first factor was named "acceptance of socioeconomic differences"; the second factor was named "acceptance of personal differences"; the third factor was named "acceptance of personal preference differences"; the fourth factor was named as "sense of belonging"; and the fifth factor was named "respect".

High loading values for the first factor of the items before the rotation, the high percentage of variance explained by the first factor, and the rapid decrease on the line chart following the first factor together suggest that the subscales also have a common factor. The literature tells us that loading values of .45 or higher for items is a positive criterion for selection; however, the limit value can be .30 for a small number of items in practice (Büyüköztürk, 2004). While the subscales of the DRS were limited in quantity, there was no item with a factor loading value lower than .30.

Criterion-Related Validity of the DRS

Validity of the DRS was analyzed using the "Criterion-related validity" method as well. The DRS and the Premarital Relationship Assessment Scale were applied with 181 Hacettepe University students. Pearson correlation coefficients for the scales are shown in Table 6.

Table 6

The Correlation between the DRS and its subscales and the PMRAS

	COM	RS	CS	SS	AD	DRS	PMRAS
COM	1,00						
RS	,923**	1,00					
CS	,967**	,966**	1,00				
SS	,725**	,881**	,808**	1,00			
AD	,935**	,977**	,977**	,837**	1,00		
DRS	,963**	,987**	,991**	,856**	,988**	1,00	
PMRAS	,797**	,804**	,811*	,727*	,815	,824**	1,00

COM= Communication, RS= Romanticism- Sexuality, CS= Conflict Solving,
SS= Social Support, AD= Acceptence of Difference, DRS= Dyadic Relationship Scale,
PMRAS= Premarital Relationship Assessment Scale
**Correlation is significant at 0.01 level
* Correlation is significant at 0.05 level

As can be seen in Table 6, there are positive and significant correlations between the DRS and its subscales and the PMRAS. These correlations can be considered evidence of the validity of the DRS and its subscales. The two methods implemented for evaluating the validity of the DRS each produced positive results.

Reliability of the DRS

Reliability of the DRS was calculated in two ways. First, the Cronbach alpha coefficient was analyzed for all subscales of the DRS. Alpha coefficients were calculated to be .77 for the Communication subscale, .88 for the Romanticism-Sexuality subscale, .85 for the Conflict Solving subscale, .91 for the Social Support subscale and .79 for the Acceptance of Differences subscale. According to the literature, reliability coefficients of .70 or higher are considered to be sufficient in terms of reliability in the interpretation of Cronbach alpha scores. Second, split-half reliability coefficients of the DRS were found to be .61 for the Communication subscale, .64 for the Romanticism-Sexuality subscale, .73 for the Conflict Solving subscale, .69 for the Social Support subscale and .64 for the Acceptance of Differences subscale. Split-half coefficients of the DRS comply with the values expected from the literature. Evidence reached for validity and reliability show that the DRS can be validly and reliably used for measuring dyadic relationship levels in university students.

Scoring of the DRS

Items included in the scope of the DRS were grouped in subscales. The total number of DRS items is 78, 15 of which are included in the Communication subscale, 18 in the Romanticism-Sexuality subscale, 18 in the Conflict Solving subscale, 12 in the Social Support subscale and the remaining 15 in the Acceptance of Differences subscale. All subscales also have reverse items. Three grades could be chosen from the scale ("completely fits me" = 3, "does not fit me at all" = 1), and the students were requested to put a cross in the parentheses of relevant grade. Direct items were scored with their mentioned points, while reverse items were scored contrarily. Score ranges for the subscales and the scale itself are 15-45 for Communication; 18-54 for Romanticism-Sexuality; 18-57 for Conflict Solving; 12-36 for Social Support; 15-45 for Acceptance of Differences; and 78-234 for the whole DRS. Higher scores indicate a more positive dyadic relationship for the individual in relation to the relevant subscale.

Discussion and Conclusions

The evidence reached for validity and reliability show that the DRS can be validly and reliably used for measuring dyadic relationship levels among university students. However, in order for the DRS to be capable of measuring dyadic relationships of individuals from other age groups, validity and reliability works must be performed for the scale. A limitation of the study is that it was not always possible to apply the scale to both partners simultaneously. The DRS was observed to measure various factors including, but not limited to, verbal offense, self regulation, self control, manipulation, sharing and coupling, romanticism behaviors, physical intimacy, romanticism perception, tendency for non-conflict, power struggle, aiming at solutions, implicit conflict, emotional support, appreciation, acceptance of socioeconomic differences, and acceptance of personal differences. On the other hand, other instruments should be developed for measuring additional factors of a dyadic relationship for university students, which are not included in the scope of this study.

As it was mentioned in the introduction section, premarital programs gradually became widespread in Turkey and several research studies show that a healthy dyadic relationship is a prerequisite for a healthy marriage. It is not a realistic approach to think that the problems experienced during the early dyadic relationship will come to an end with the wedding ceremony. On the contrary, problems which are not solved during the early phase of the relationship tend to continue after marriage and may even lead to the break-up marriages by creating a snowball effect. Premarital counseling is rather significant because it capable of its preparing the partners for a healthier marriage and preventing the negative and costly impacts of divorces on individuals as well as on their families and the society (Carroll & Doherty, 2003). New measuring instruments are needed to support the proliferation of premarital programs and to evaluate marriage preparation programs. In line with this need, implementers of premarital counseling and marriage preparation programs can use the DRS in evaluating the effectiveness of their practices. The DRS

can be particularly useful in the implementation of marriage preparation programs targeting university students as pre-post tests. Reviews of empirical studies conducted in the field of counseling and guidance show that premarital psycho-educational programs can be effective (Duran; 2010; Yalçın, 2010; Yılmaz & Kalkan, 2010).

An additional benefit can be created by determining the students who are experiencing problems in their dyadic relationships and ensuring that they receive individual and group therapy support from counseling centers of universities. The DRS can be also used by counselors, couples and family counselors, psychologists, psychiatrists, social service specialists and researchers. Results of the scale are thought to be beneficial, particularly for therapists specializing in couples therapy.

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Çift İlişkileri Ölçeği'nin Geliştirilmesi

Özet

Atıf:

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Problem durumu

Sağlıklı bir toplum sağlıklı ailelerden oluşur. Sağlıklı ailelerin varlığı temelde sağlıklı ve işlevsel çift ilişkilerine dayanmaktadır. Türkiye'de ve dünya genelinde evlilik ve aile ile ilgili araştırmalar incelendiğinde, sıklıkla dikkat çekilen konunun boşanma oranları olduğu görülmektedir. Uzmanlar, boşanmaların azaltılabilmesi için halkın, eğitimcilerin ve politikacıların dikkatini evlilik öncesi ilişkiler üzerine çekmekte ve önleyici çalışmaların önemini vurgulamaktadırlar. Yurtdışında uzun yıllardır evlilik öncesi eğitimlerin uygulandığı ve yaygınlaştığı görülmektedir. Ülkemizde de evlilik öncesi dönemin çift ilişkileri üzerindeki etkisi ve önemi anlaşılmış olup Bakanlık düzeyinde evliliğe hazırlanan çiftlere yönelik uygulamaların başlatıldığı görülmektedir. Aynı zamanda, son yıllarda farklı üniversitelerde konuyla ilgili deneysel çalışmalara dayanan bilimsel araştırmaların yapılmış olduğu gözlemlenmektedir. Uygulamaların artması, genç bireylerin evlilik ve aile yaşamına hazırlanmalarında etkili olacak eğitim programlarının nasıl değerlendirileceği konusunu düşündürmektedir. Bu programların etkililiğini değerlendirmede kullanılabilecek bilimsel, geçerli ve güvenilir ölçme araçlarının gerekliliği ortaya çıkmaktadır. Türkiye'de yapılan çalışmalar incelendiğinde, evlilik öncesi eğitimlerin etkililiğinin değerlendirilmesinde kullanılabilecek geçerliği ve güvenirliği test edilmiş sınırlı sayıda ölçme aracı olduğu görülmektedir.

Araştırmanın Amacı

Bu çalışmanın amacı, üniversite öğrencilerine yönelik bir Çift İlişkileri Ölçeği geliştirmektir. Çift İlişkileri Ölçeği (ÇİÖ), özellikle evliliğe hazırlık programlarında kullanılabilmesi amacıyla geliştirilmiştir. Bu amaçla yapılan çalışmada, Türk kültüründe geliştirilmiş olan Çift İlişkileri Ölçeği (ÇİÖ) tanıtılmıştır.

Araştırmanın Yöntemi

ÇİÖ'nün geçerlik ve güvenirlik çalışmaları Hacettepe Üniversitesi'nde öğrenim görmekte olan 1115 üniversite öğrencisi üzerinde yapılmıştır. ÇİÖ'nün geçerliğini sınamak için yapı geçerliği ve benzer ölçekler geçerliği yöntemleri; güvenirliğini sınamak için Cronbach Alpha katsayısı ve testi yarılama yöntemleri kullanılmıştır. Çalışmada kullanılan tüm veriler SPSS programıyla analiz edilmiştir. Yapı geçerliği için öncelikle, verilerin faktör analizi için uygun olup olmadığını incelemek amacıyla, KMO değerinin .60'dan yüksek, Barlett testinin anlamlı çıkması gerektiği dikkate alınmıştır. Verilerin faktör analizi için uygun çıkması üzerine ölçeğin faktör yapısı ve maddelerin faktör yükleri Açımlayıcı Faktör Analizi ile incelenmiştir. Faktörleştirme

tekniği olarak da temel bileşenler analizi seçilmiştir. Analizlerde faktörlerin her bir değişken üzerindeki ortak faktör varyansı, maddelerin faktör yükleri, açıklanan varyans oranları incelenmiştir. Faktör yapılarının belirlenmesinde, maddelerin .30 ve üzerinde faktör yük değerlerine sahip olması bir kriter olarak alınmıştır. Component Matriks tablosunda birinci faktörde maddelerin faktör yüklerinin .30 ve üzerinde olması ile her alt ölçeğin aynı zamanda tek boyutlu olması ve toplam puanının kullanılabilmesi esas alınmıştır. Birbiriyle ilişkili maddelerin bir araya gelerek faktör oluşturması ve faktörlerin daha kolay yorumlanabilmesi amacıyla Varimax eksen döndürme tekniği seçilmiştir. İnceleme sonunda birinci faktörde faktör yük değerleri .30'dan düşük çıkan, faktör yük değerleri farklı faktörlerde birbirine yakın olan, ayırt ediciliği düşük olan ve diğer ölçek maddeleri ile düşük korelasyon veren maddeler ölçeklerden çıkarılmıştır. Faktör analizi sonrasında, ÇİÖ'nün 5 alt ölçekli, 78 maddeden oluşan formu elde edilmiştir. ÇİÖ'de İletişim, Romantizm-Cinsellik, Çatışma Çözme, Sosyal Destek, Farklılıkları Kabul adında beş alt ölçek bulunmaktadır. Elde edilen form üzerinden ölçeğin sözü edilen diğer geçerlik ve güvenirlik çalışmaları yapılmıştır.

Araştırmanın Bulguları

Faktör analizi çalışmalarına göre, İletişim alt ölçeği 6 faktörlü bir yapı göstermekte ve toplam varyansın % 64,2'sini açıklamaktadır. Romantizm-cinsellik alt ölçeği için 5 faktörlü bir yapı göstermekte ve toplam varyansın % 61,5'ini açıklamaktadır. Çatışma Çözme alt ölçeği 5 faktörlü bir yapı göstermekte ve toplam varyansın % 60,1'ini açıklamaktadır. Sosyal Destek alt ölçeği için 2 faktörlü bir yapı göstermekte ve toplam varyansın % 63,3'ünü açıklamaktadır. Farklılıkları Kabul alt ölçeği 5 faktörlü bir yapı göstermekte ve toplam varyansın % 60,7'sini açıklamaktadır. ÇİÖ'nün Evlilik Öncesi İlişkileri Değerlendirme Ölçeği ile benzer ölçekler geçerliği sonuçları değerlendirildiğinde; 181 üniversite öğrencisinden alınan verilere göre, iki ölçek arasında pozitif yönde ve manidar düzeyde. 824'lük bir korelasyon saptanmıştır. ÇİÖ'nün güvenirlik çalışması sonuçları değerlendirildiğinde, ÇİÖ'nün tüm alt ölçekleri için Cronbach Alpha güvenirlik katsayıları, İletişim alt ölçeği için .77; Romantizm Cinsellik alt ölçeği için .88, Çatışma Çözme alt ölçeği için .85, Sosyal Destek alt ölçeği için .91, Farklılıkları Kabul alt ölçeği için .79 olarak bulunmuştur. ÇİÖ'nün testi yarılama yöntemiyle incelenen testi yarılama katsayıları, İletişim alt ölçeği için .61; Romantizm Cinsellik alt ölçeği için .64, Çatışma Çözme alt ölçeği için .73, Sosyal Destek alt ölçeği için .69, Farklılıkları Kabul alt ölçeği için .64 olarak bulunmuştur.

Araştırmanın Sonuçları ve Önerileri

ÇİÖ'nün maddeleri alt ölçek biçiminde gruplandırılmıştır. İletişim alt ölçeğinde 15 madde, Romantizm- Cinsellik 18 madde, Çatışma Çözme 18 madde, Sosyal Destek 12 madde ve Farklılıkları Kabul 15 madde olmak üzere ÇİÖ'de toplam 78 madde bulunmaktadır. Her alt ölçekte tersine çevrilmiş (reverse) maddeler bulunmaktadır. Ölçek üçlü derecelendirmeli (bana tamamen uygun =3 ile bana hiç uygun değil=1) olup bireyler maddelerin karşısındaki parantezin içine çarpı işareti koyarak tepkide bulunmaktadırlar. Düz maddeler, olduğu gibi, tersine çevrilmiş maddeler ise

tersinden puanlanmaktadır. Ölçeklerin puan aralıkları şöyledir: İletişim: 15-45, Romantizm- Cinsellik: 18-54, Çatışma Çözme: 18-54, Sosyal Destek: 12-36, Farklılıkları Kabul: 15-45, ÇİÖ (toplam): 78-234. Yüksek puan, bireyin o alt ölçek boyutunda çift ilişkilerinin daha olumlu düzeyde olduğu anlamına gelmektedir.

Geçerlik ve güvenirliğine ilişkin elde edilen kanıtlar, ÇİÖ'nün yüksek öğretim öğrencilerinin çift ilişki düzeylerini ölçmek amacıyla geçerli ve güvenilir olarak kullanılabileceğini göstermektedir. Evlilik öncesi psikolojik danışma programları ve evliliğe hazırlık programları uygulayanlar programların etkililiğini değerlendirmede ÇİÖ'yü kullanabilirler. Ayrıca çift ilişkilerinde sorunlar yaşayan öğrencilerin belirlenmesi ile, üniversite psikolojik danışma ve rehberlik merkezlerinden bireysel ve grupla psikolojik danışma yardımı almalarının sağlanması faydalı olabilir. ÇİÖ'yü başta psikolojik danışmanlar, çift ve aile danışması alanında uzmanlar, psikologlar, psikiyatristler, sosyal hizmet uzmanları ve araştırmacılar da kendi amaçları doğrultusunda kullanabilirler. Özellikle, çift terapisi alanında uzmanlığı olanlar, terapi sürecini yürütmede ölçek sonuçlarından yararlanabilirler.

*Anahtar Sözcükler***:** Çift ilişkileri, evlilik öncesi ilişkiler, evlilik öncesi psikolojik danışma, evliliğe hazırlık programları

Gender Discrimination in Higher Education in Pakistan: A Survey of University Faculty

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Abstract

Problem statement: Gender disparity is a worldwide phenomenon. This disparity is not only with respect to opportunities and resources but also in rewards, and exists in all regions and classes. Gender disparity exists in the field of education as well. Females experience overt and subtle gender discrimination to some extent nearly at every stage of their career. Males represent the majority of the faculty of higher education institutes across the globe. Managerial positions are usually held by males, who not only have more decision making power but also have more opportunities of social networking. Women have to achieve a successful career at the cost of their family life.

Purpose of the study: The present study aimed at exploring the current situation regarding gender discrimination in the higher education institutes of Pakistan.

Method: Gender equality has been investigated by a questionnaire survey of 180 faculty members on the five aspects of the working environment, namely Decision Making, Professional Development, Utilization of Resources, Academic Affairs and Job Satisfaction.

Results and findings: Two-way analysis of variance shows that post-level is the strongest significant contributor to the differences in the five scores

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from the equality questionnaire. Gender contributes only in Decision Making, where females tend to be excluded.

Conclusions and recommendation:

There are significant differences in perceptions of gender equality that are attributable to the respondent's post-level. Those at the higher levels see less inequality. Those at lower levels, especially lecturers, see more. With a high proportion of females at the lecturer level, this can appear as a straight forward gender polarization of views, as happens with Professional Development, Academic Affairs and Job Satisfaction. The fact that the concurrent introduction of post-level into the analyses removes the significance of the gender variable points to the impact of the relatively few promoted females, who do not see inequalities in Professional Development and Academic Affairs. These promoted females will have high Job Satisfaction scores because of their achievement in acquiring their positions. This suggests real movement in Pakistani higher education in the direction intended by the adoption of national equality policies.

Keywords: Attitudes; Gender discrimination; Higher education; decision making, job satisfaction, academic affairs.

Introduction

Gender equity promotes economic growth. It can be assessed in terms of education, health care, economic, political, legal and social rights provided to the members of both genders (USAID, 2009). The World Bank has recommended investment in female education as a strategy for development and poverty reduction in developing countries as this yields high social rate of returns (Oxaal, 1997). For empowering women in all walks of life, the most basic and essential factor is the education (Lopez-Claros & Zahidi, 2005). Access to higher education is a priority for all countries, and where females have apparently attained parity, areas where they are still under-represented need to be addressed in both quantitative and qualitative terms (Jacobs, 1996; Morely, 2007). While in developed countries women now enjoy gender parity in access to higher education with 52% of tertiary students being female, in developing countries the proportion reaches just 27% (UNESCO, 2002).

Males represent the majority of the faculty in higher education institutes worldwide. UNESCO (2002) quotes 27% as the female percentage for Commonwealth universities, with the percentage for developing countries generally much lower at 10% for Ghana and 18% for Pakistan, for instance. Females are likely to experience overt and subtle gender discrimination (UNESCO, 2002). Lund (1998) reports female representation at 33.8 % for lecturers and 9.9 % for professors in Commonwealth countries. In developing countries, for example Uganda, Nigeria, Pakistan, Zimbabwe, Tanzania and Zambia, the gender disparity tends to be greater.

Managerial positions are usually held by males, who not only have more decision making power but also have more opportunities of social networking (Gracia, 2009). A Commonwealth Higher Education Management Service survey (Lund, 1998) reported that in universities of the developing countries, gender disparity was

highest in the most senior positions from vice-chancellors through to heads of department. Singh (2008) reports low female representation at Commonwealth universities for the posts of vice-chancellor, faculty dean and professor at 9%, 17% and 15%, respectively for data collected in 2006. Muhwezi (2003), reporting from Uganda, points out that the under-representation of women in top administrative positions further discourages women from even applying in future for posts which are highly pressurized and heavily demanding in terms of time. This illustrates the worldwide phenomenon that only a few universities are led by women (UNESCO, 2009).

Gender disparity in education is pronounced in South Asia and in Pakistan (UNESCO, 2002). The World Economic Forum (Lopez-Claros & Zahidi, 2005), reports that Pakistan is 56th out of 58 countries that have progressed towards gender equality. This is despite long enshrined legislation that gives both genders equal rights regarding work and working conditions in The Constitution of The Islamic Republic of Pakistan (NAP, 2004).This tends to be a reflection of the social and cultural nature of much the region. Contrasting the prevailing perceptions of gender role in Pakistan, Khalid (2011) distinguishes between conservatives, who promote the marginalization of women, and liberals, who believe in a full democratic role and female emancipation.

In their survey of faculty members of universities of Pakistan, Quraishi and Kalim, (2008) reported that female faculty experienced gender discrimination, and consequently had lower job satisfaction. Females are less likely to be included in the decision making process as they are under-represented on committees and very few hold the position of chair. This situation is not only an indication of underestimation of female faculty members, but also leads towards the insufficient flow of information towards them. Consequently, female faculty in Pakistan face discriminatory barriers in key elements of a gender inequality model; those of a strongly conservative national culture and the internal structure dynamic of the institution (Acker, 1994; Bond, 1996a; Smulders, 1998; UNESCO, 2002).

In terms of the higher education workplace, international research studies of *decision making*, defined by the level of the participation of faculty in the instructional, curricular and managerial areas (Keung, 2008), show that few females are in authority positions (Aikman & Unterhalter, 2007). In the working world women are considered less capable then men (Goheer, 2003) and are expected to be primarily house-managers (Alireza, 1987: Asian Development Bank, 2008). Decision making is male dominated, and women have little say in policy making even in institutions other than higher education, where teaching is carried out mostly by women (Blackmore & Sachs, 2007; Drudy, Martin, Woods, & O'Flynn, 2005; Lang, 2010).

Equal access to *professional development* is limited (UNESCO, 2009). As experiences and opportunities to refresh knowledge are gained formally through professional meetings and participating in workshops and conferences, female faculty in Pakistan are restricted by the nature of the society and find it difficult to build up job-related networks.

Gender discrimination in the *allocation and use of resources* is not uncommon in the workplace even in the more developed countries (Crosby, 1984; Ensher, Grant-

Vallone, & Donaldson, 2001; Greenhouse, 2004). In higher education, females generally have less access to resources (Bond, 1996a), although where access is available, there is evidence that females will make use of the opportunities (UNESCO, 2002).

Though women have a measure of success in higher education in the more developed countries, they are still under-represented in *academic affairs* and the processes of administration, especially in the top positions of institutions (Bond, 1996b; NESSE, 2009; Singh, 2008; UNESCO, 2002).

Job satisfaction is considered a strong predictor of overall individual well-being (Diaz-Serrano & Cabral Vieira, 2005), and as Ensher et al. (2001) point out, gender discrimination can lead to loss of job satisfaction. In education, there is evidence of a positive relationship between perceived autonomy within the work setting and the sense of job satisfaction (Kreis & Brockoff, 1986). In Pakistan, a strongly prescribed working environment for females might be expected to lead to low job satisfaction.

Research Questions

From the literature review of the introduction, it is pertinent to test the degree of gender discrimination amongst faculty in Pakistani higher education. The issues to be addressed are the degrees to which five dimensions of the professional academic's job (i) *decision making,* (ii) *professional development*, (iii) *utilization of resources,* (iv) *academic affairs* and (v) *job satisfaction* represent gender discrimination. To assist in interpretation, profiles of responses will be broken down by gender, age and faculty post-level.

Method

Research design

To collect the opinions of faculty members regarding gender equality, a descriptive, survey type research technique was adopted.

Sample

One hundred and eighty faculty members from 10 universities responded to the questionnaire giving a response rate of 85%. Participants were selected through random sampling techniques. The personal details of the respondents appear in Table 1.

Table 1

Respondents' Personal Details

		Frequency	Percentage
Gender	Male	79	43.9
	Female	101	56.1
Age group	22-25	29	16.1
	26-30	35	19.4
	31-35	42	23.3
	36-40	44	24.4
	Above 40	11	6.1
	Missing	19	10.6
Post occupied	Lecturer	124	68.9
	Assistant Professor	38	21.1
	Associate Professor	7	3.9
	Professor	5	2.8
	Missing	6	3.3
Institution type	Public	153	85.0
	Private	23	12.8
	Missing	4	2.2

Research Instrument

A composite Likert type scale was constructed to collect data from the university teaching faculty on the five factors of gender equality. This section describes the scale development and the procedure adopted for data analysis. The instrument was presented in the English language.

Development of Questionnaire: Equal opportunity scale

Items were constructed from the international literature. *Decision making*, based on 8 statements drawn from the studies of Keung (2008); Caparros, Jimenez, and Pagola (2010). *Professional development,* based on 11 statements drawn from the studies of Hargreaves and Fullan, (1992); Arends, Winitzky, and Tannenbaum (1998); Darling-Hammond and McLaughlin (1995). *Utilization of resources,* based on 4 statements drawn from the studies of Crosby, 1984; Ensher et al., (2001); Greenhouse, (2004); Bond, (1996a); UNESCO, (2002). *Academic affairs*, based on 9 statements drawn from the studies of Lund (1998); Bond, (1996a) and Singh (2005). *Job satisfaction*, based on 4 statements drawn from the studies of Weiss, Dawis, and Lofquist (1967); Kendall (1963); Nagy (1996); Porter (1969) and Hackman and Oldham (1975).

Responses to the items were required on a five point strongly agree (5)/strongly disagree (1) scale.

Validity and Reliability

Factor analysis was used to determine the validity of the instrument. Each set of gender equality items corresponding to one of the five areas of academic practice was subjected to a principal components factor analysis to test item validity (Duff, 1997; Munby, 1997). Oblique rotation of the factor axes was then carried out to accommodate the very likely inter-correlation of factors should more than one be present (Norusis, 1990, p.334; Youngman, 1979, p. 102). Alpha maximization was then applied to the emergent factors (Youngman, 1979, p. 185), and the item scores of

the selected items then subjected to a further principal components factor analysis to confirm the unidimensionality of the final item scale (Gardner, 1995, 1996).

Data Analysis

Scores for gender equality on each of the five areas of academic practice were computed by summing the scores of the contributing items. The means and standard deviations were computed. t-test and ANOVA were applied to see the mean scores/item of different types of participants.

Results

Gender Equality in Decision Making Practices

Factor analysis showed two factors with eigenvalues greater than unity. The strong first factor accounted for 58.5% of the total item variance. The two items 9 and 10 of the second factor were rejected. The scores of the remaining eight items were re-factorized to test for unidimensionality. The single factor of eight items now took 67.8% of the total item variance and the scale computed from these items had an Alpha reliability of 0.93. Decision making is conceptualized most strongly in terms of *curriculum development endeavors* (item 2).

Table 2

Decision Making

Item	Statement	M	SD	Factor loading	Correlation with total less item	n
	You are provided with equal opportunities in					
1	Policy making issues	2.69	1.30	0.78	0.65	177
2	Curriculum development endeavors	3.06	1.27	0.89	0.84	177
3	Curriculum revision process	3.19	1.29	0.87	0.81	177
4	Curriculum Evaluation	3.03	1.22	0.88	0.82	177
5.	Curriculum Monitoring	3.02	1.24	0.86	0.80	177
6.	Finalization of objectives of programs	3.03	1.25	0.83	0.78	177
7.	Content selection for subjects of study	3.32	1.28	0.82	0.77	177
8.	Devising A.V. Aids	3.34	1.15	0.69	0.63	177
9.	Paper construction	3.99	1.02	0.40 Rej		177
10.	Preparation and reporting results	3.95	0.99	0.34 Rej		177
	Alpha reliability				**0.93**	166

Rej: item rejected from composite scale

From a breakdown of the mean scores/ item of the composite *Gender Equality in Decision Making Practices* scale in terms of the respondent's gender, nature of institution, post-level and age, significant differences were found for

- gender (males M=3.52, SD=0.86, n=78; females M=2.75, SD=1.02, n=100, p<1%, t-test, large effect size);

- nature of institution (Public M=3.00, SD=1.04, n=151; Private M=3.67, SD=0.72, n=23, p<1%, t-test, medium effect size);

- post-level (lecturers M=2.92, SD=1.01, n=123; more senior staff M=3.62, SD=0.88, n=49, p<1%, t-test, medium effect size).

There were some gender differences in responses, and these were greatest in *policy making issues* and *curriculum monitoring and evaluation.* All item means other than those for items 9 and 10 showed significantly lower scores for females at p<1% with medium to large effect sizes. Female means tended to be in the negative continuum of the scale (scores of 1 to 3), indicating perceived gender inequality.

Gender inequality was rated most highly by staff at the lowest post-level, who are female and work in public institutions. The lowest age group was populated entirely by lecturers, so in comparison with older, more senior staff, the youngest teachers give the strongest gender inequality ratings (youngest M=2.72, SD=0.93, n=29; oldest M=3.45, SD=0.92, n=54, t-test, large effect size). A three-way analysis of variance tests the relative strengths of the three breakdown variables and identifies as significant, gender (F=14.893, df=1, p<1%, large effect size) and post level (F=3.585, df=3, p<5%, large effect size).

Gender Equality in Professional Development Practices

Factor analysis of the item scores showed just a single factor accounting for 57.5% of the total item variance. This unidimensional factor comprising all the items provides a composite scale of Alpha reliability 0.92. Professional development is seen most strongly as concerning *research oriented tasks* (item 7) and *material development tasks* (item 9).

Table 3

Professional Development Practices

Item	Statement	M	SD	Factor loading	Correlation with total less item	n
	You are provided with equal opportunities in					
1	Participating in seminars/conferences/workshops	3.75	1.11	0.70	0.63	177
2	Cross cultural exchange programs	3.10	1.19	0.68	0.62	177
3	In-service refresher courses	3.41	1.28	0.74	0.68	177
4	Enhancing further qualification	3.47	1.27	0.72	0.65	177
5	Faculty exchange program	2.90	1.21	0.80	0.74	177
6	Capacity building training	3.25	1.18	0.83	0.78	177
7	Research oriented tasks	3.32	1.20	0.85	0.80	177
8	Developing and undertaking research projects	3.20	1.22	0.78	0.72	177
9	Material development tasks	3.11	1.21	0.85	0.81	177
10	ICT training	2.96	1.24	0.75	0.69	177
11	Attending international conferences	3.11	1.36	0.61	0.54	177
	Alpha reliability				**0.92**	177

From a breakdown of the mean scores of items of the composite *Gender Equality in Professional Development Practices* scale in terms of the respondent's gender, nature of institution, post-level and age, significant differences were found for;

- gender with males giving gender equality a higher rating (males M=3.46, SD=0.88, n=78; females M=3.05, SD=0.92, n=99, p<1%, t-test, small effect size), and

- post-level (lecturers M=3.13, SD=0.89, n=124; more senior staff M=3.64, SD=0.86, n=47, p<1%, t-test, medium effect size).

Gender differences in responses to the items of Table 3 are greatest in *capacity building training* and *ICT training* with females expressing more dissatisfaction.

As 82 of 96 females are at the lowest post-level of lecturer, it might be expected that lecturers give low ratings because they are female. However, a two-way analysis of variance shows that post-level is the unique significant variable (F= 4.575, df=3, p<1%, medium effect size).

Gender Equality in Utilization of Resources Practices

Factor analysis shows just a single factor accounting for 58.2% of the total item variance. This unidimensional factor comprising all the items provides a composite scale of Alpha reliability 0.76. Item loadings show that *Getting photocopy material for teaching purposes* (item 3) is the 'marker' for this scale.

Table 4

Utilization of Resources Practices

Item	Statement	M	SD	Factor loading	Correlation with total less item	n
	You are provided with equal opportunities in					
1	Using ICT (multimedia, projector, internet, computers, printer) facilities at work place	3.89	1.14	0.72	0.51	177
2	Using Library resources	4.12	0.95	0.75	0.53	177
3	Getting materials photocopied	3.80	1.14	0.84	0.66	177
4	Utilizing Support Services	3.59	1.16	0.74	0.53	177
	Alpha reliability				**0.75**	177

From a breakdown of the mean scores of items of the composite *Gender Equality in Utilization of Resources Practices* scale in terms of respondent's gender, nature of institution, post-level and age, significant differences were found for;

- nature of institution (Public M=3.79, SD=0.83, n=150; Private M=4.32, SD=0.83, n=23, p<1%, t-test, medium effect size), and

- age, with the youngest respondents (aged 22-25) giving gender equality a lower rating than older respondents (aged 31-35) (young M=3.55, SD=0.81, n=29; older M=4.12, SD=0.55, n=41, p<1%, t-test, large effect size);

For both females and males, mean scores of the items of Table 4 were in the positive continuum of the scale (3 to 5) indicating agreement with the equality provision statement. Only item 4, *Utilizing support services*, shows a significant gender difference with females being less convinced that there is gender equality.

A two-way analysis of variance performed on the data from respondents aged 35 years or under shows that both breakdown variables contribute to the lower scores (nature of institution, F=5.869, df=1, p<5%, medium effect size; age, F=4.260, df=2, p<5%, medium effect size). There are no significant age or institution effects.

Gender Equality in Academic Affairs Practices

Factor analysis showed two factors with eigenvalues greater than unity accounting for 65.1% of the total item variance. One item was then rejected after Alpha maximization of the very strong first factor, and the scores of the remaining nine items were then re-factorized to test for unidimensionality. The single factor of items now took 56.9% of the total item variance. A scale constructed from these nine items has a Cronbach Alpha reliability of 0.90. Item scores appear in Table 5.

Table 5

Academic Affairs Practices

Item	Statement	M	SD	Factor loading	Correlation with total less item	n
	You are provided with equal opportunities in					
1	Selection of courses	3.39	1.19	0.80	0.63	176
2	Devising evaluation criteria	3.34	1.16	0.85	0.75	176
3	Resolving disciplinary issues	3.39	1.14	0.82	0.70	176
4	Formulation of rules and regulation	3.07	1.26	0.85	0.77	176
5	Updating library resources	3.29	1.17	0.74	0.59	176
6	Modifying and updating examination rules	3.02	1.29	0.70	0.71	176
7	Setting time table schedule	3.27	1.24	0.53	0.66	176
8	Distribution of credit hours	3.15	1.29	0.53	0.66	176
9	Allocating exams duties	3.26	1.18	0.53	0.64	176
10	Arranging co-curricular activities	3.35	1.15	0.36 Rej		176
	Alpha reliability				**0.90**	176

Rej: item rejected from composite scale

From a breakdown of the mean scores of items of the composite *Gender Equality in Academic Affairs Practices* scale in terms of the respondent's gender, nature of institution, post-level and age, significant differences were found for;

- gender with males giving gender equality a higher rating (males M=3.50, SD=0.82, n=78; females M=3.04, SD=0.94, n=98, p<1%, t-test, medium effect size), and

- post-level with the higher professorial ranks much more satisfied about gender equality (lecturers M=3.08, SD=0.89, n=121; most senior staff of professor/associate professor M=4.24, SD=0.55, n=11, p<1%, t-test, large effect size).

- age with the younger respondents (aged 22-35) giving gender equality a lower rating than older respondents (aged above 35) (younger M=3.04, SD=0.86, n=63; older M=3.45, SD=0.89, n=94, p<1%, t-test, small/medium effect size).

A gender analysis shows that females feel less satisfied in five of the ten areas: *selection of courses, devising evaluation criteria, resolving disciplinary issues, formulation of rules and regulation* and *setting timetable schedules*.

A three-way analyses of variance shows that only the post-level breakdown variable contributes significantly to the Gender Equality in Academic Affairs score

variation (F=4.723, df=3, p<1%, large effect size): the apparent age and gender effects are due to their association with post-level.

Gender Equality in Job Satisfaction Practices

Factor analysis shows just one factor accounting for 68.4% of the total item variance. A four-item scale constructed from these items has a Cronbach Alpha reliability of 0.85. O*ut of turn promotion* (item 2) and *discussion of the confidential reports* (item 3) are the strongest indicators of job (dis)satisfaction (Table 6).

Table 6

Job Satisfaction Practices

Item	Statement	M	SD	Factor loading	Correlation with total less item	n
	You are provided with equal opportunities in					
1	Service incentives	3.18	1.22	0.77	0.61	178
2	Out of turn promotion	2.72	1.19	0.86	0.73	178
3	Discussion of the confidential reports	2.75	1.22	0.86	0.73	178
4	Promotion of turn	2.88	1.21	0.81	0.66	178
	Alpha reliability				**0.85**	178

From a breakdown of the mean scores of items of the composite *Gender Equality in Job Satisfaction Practices* scale in terms of the respondent's gender, nature of institution, post-level and age, significant differences are found for;

- gender with females rating more inequality with a lower score (males M=3.12, SD=1.06, n=79; females M=2.70, SD=0.91, n=99, p<5%, t-test, small effect size), and

- post-level with the higher professorial ranks much more satisfied about gender equality having already received their promotions (lecturers/assistant professors M=2.82, SD=0.96, n=161; most senior staff of professor/associate professor M=4.23, SD=0.75, n=11, p<1%, Mann-Whitney test, large effect size).

A gender analysis shows that females report less equality of opportunity in matters of promotion (items 2 & 4).

Ten of the eleven senior faculty (associate and full professors) are aged 36 and above, which leaves 22 respondents in this age range with relatively low job satisfaction (Senior staff M=4.15, SD=0.74, n=10; Others in this age range, M=2.53, SD=0.93, n=22, p<1%, Mann-Whitney test, large effect size). The result of this is an insignificant U-shaped distribution of Gender Equality in Job Satisfaction scores with age with a maximum in the 36-40 range.

A two-way analysis of variance shows that the post-level breakdown variable contributes to Gender Equality in Job Satisfaction variation significantly (F=7.526, df=3, p<1%, large effect size), whereas gender does not.

Discussion and Conclusion

At the micro-level of the individual items, gender differences with medium or large effect sizes identified *policy making issues* and *curriculum monitoring and evaluation* as major areas of perceived discrimination in decision making. This supports the earlier findings in Pakistan of Quraishi and Kalim, (2008) and in international surveys (Lund, 1998; Singh, 2008).

It is consistent to find the professional development areas of *capacity building training* and *ICT training* showing gender discrimination ratings as these are skills that potential decision makers require. Gender parity is more evident when it comes to the availability and use of resources, although even here there is evidence that additional support might not be readily forthcoming. The evidence from this item analysis does not support Bond's conclusion that females lack access to resources in higher education (Bond, 1996a).

A number of items related to academic affairs show gender effects. With effect sizes being small, it is deduced that the significant differences in responses to items such as *devising evaluation criteria* and *formulation of rules and regulations* are a consequence of discrimination in decision making practices. The academic affairs items effectively operationalize this discrimination.

The females feel discriminated against in matters of promotion, is wholly consistent with their under-representation in the higher post-levels (Lund, 1998: UNESCO 2002; Singh, 2008). The small effect sizes for significant gender differences does suggest that this might not be such a strong factor for as many females as are aspects of decision making.

These findings seem to be conclusive. There are significant differences in perceptions of gender equality that are attributable to the respondent's post-level. Those at the higher levels see less inequality. Those at lower levels, especially lecturers, see more. With a high proportion of females at the lecturer level, this can appear as a straight forward gender polarization of views, as happens with Professional Development Practices, Academic Affairs Practices and Job Satisfaction Practices. The fact that the concurrent introduction of post-level into the analyses removes the significance of the gender variable points to the impact of the relatively few promoted females, who do not see inequalities in professional development and academic affairs. These promoted females will have high job satisfaction scores because of their achievement in acquiring their positions.

Conclusion

The conclusion from the simple item analysis is that gender discrimination is felt most strongly in the area of Decision Making. Females register the sharpest inequality in *policy formulation* and *curriculum evaluation*. Promotion tends to lessen the dissatisfaction as post-level, like gender, is a large effect size contributor to the variation in scale scores. Professional Development is much more gender neutral and any significant female differences have small effect sizes. Indeed, when post-

level is taken into account, this variable removes gender from significance. Utilization of Resources does not appear to show any gender discrimination at all. An initial analysis shows gender discrimination in Academic Affairs, particularly in the area of curriculum evaluation, but the two-way analysis of variance locates the significant variation in scores with post-level. Over 85% of females are lecturers in this sample, so an interpretation of gender differences existing in Academic Affairs need to be treated with some care. Those feeling discrimination do so from different perspectives. It is misleading to draw the over-simplistic inference that some faculty members are happy with gender parity and some are not, with a sharp male/female divide. Misleading inferences about gender differences are well illustrated with the Job Satisfaction analysis where an initial gender effect disappears with a large effect size variation attributed to post-level. Females tend to get 'trapped' at the lower post-levels (Lund, 1998), so if there is no movement up the career ladder, research focused exclusively on the gender variable can carry a bias (Bond, 1996b). Only the extended analysis of variance for the Decision Making scale supports a significant female concern and this is complicated by the socio-cultural nature of Pakistani society.

The qualified gender discrimination in Decision Making suggests that there has been real movement in Pakistani higher education in the direction intended by the adoption of national equality policies. The establishment of the Fatima Jinnah Women University and a further six all-female universities more recently (HEC, 2012) is an important step in this direction. If paths to decision making are opened up, as expected, this could answer many of the remaining problems that females experience in co-educational institutions.

The latest Commonwealth Universities data (Singh, 2008), shows that the proportion of female professors in Pakistan has increased from 9% in 1997 to 20% in 2006, and the proportion of female associate professors/senior lecturers from 12% to 22%. In terms of absolute numbers, there has been a growth from 10 to 116 in the number of female professors and from 61 to 403 for female associate professors/senior lecturers over the nine year period. These data pre-date the expansion of the all-female universities, so the increasing female representation is primarily the result of the policies of the more liberal universities.

The current research shows that just over one half of the respondents sampled (Equality Positivists) were satisfied that discrimination has now been effectively eliminated from their institutions. This can be attributed to both legislation (NAP, 2004) and the intellectual levels of the faculty. Those universities showing real changes internally cannot, nevertheless, isolate themselves from the culture of the country so domestic duties, travel restrictions and social networking, can still deny females full gender equality.

The dual policy of liberal, essentially co-educational and all-female institutions seems to be worth persevering with given the gains of the former and the potential of the latter in the widely patriarchal, conservative society. Consistent with this policy, future gender discrimination studies might compare the views of academic faculty in all-female, in liberal co-educational and in conservative co-educational institutions. Extending the research design to include samples of students would provide evidence for the future direction of the dual gender policy for the two forms of institution.

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