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## ACADEMIC SELF-CONCEPT AND STUDENTS' ACHIEVEMENT IN THE SIXTH GRADE TURKISH COURSE: A PRELIMINARY ANALYSIS

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## Abstract

This study investigates the relationship between academic self-concept (ASC) and first term marks of sixth grade students from their Turkish course. 74 students from two state primary schools in Turkey participated in this self-report survey study. ASC was assessed through a Turkish version of Myself-As-a-Learner Scale (MALS) (Burden, 2012) while achievement was measured by composite course mark at the end of Term I. Data analysis showed that female and male participants had varying levels of ACS, with girls reporting more positive academic self concept. It was also found that Turkish marks correlated significantly with ASC. The relationship was still significant when gender was controlled, implying the gender variable did not have any moderating effect. This study concludes that understanding ASC can provide useful information to teachers of Turkish and other fields alike both at the level of prediction and intervention.

*Keywords:* academic self-concept, gender, course achievement

## 1. Introduction

Self-concept is broadly defined as how one perceives herself. This concept has recently gained due recognition in educational psychology (Burden, 2012) and has been investigated by a growing number of scholars in the field (see for example Huang 2011; Marsh & Martin, 2011 for a wealth of publications in this field). It is often argued that the way(s) human beings evaluate themselves in relation to their past experience and social context is likely to influence their feelings (Harter, 1986; Marsh, 1993) such as efficacy, locus of control, and optimism (Ruvolo & Markus, 1992) as well as how they set their goals for future, and thus their motivation (Williams & Burden, 1997).

Self-concept cannot be described as one single construct as it encompasses a number of different dimensions in which people may have varying levels of personal evaluation (Marsh, 1993). A holistic measurement of such a multifaceted construct, then, can often be difficult. Clearly, a person's perception, for example, of her athletic abilities can be different from how she sees herself as a student and yet her perception of herself as a social person can be totally different, pointing to a multidimensional nature of the phenomenon (Heaton & Duerfeldt, 1973). Due to such complexity of the construct, it may be difficult and less revealing to measure the impact of a holistic overarching self-concept on human academic behaviour. In fact, Huang (2011a) found that an overall self concept can explain less variation in learner performance than its sub-domains. Therefore, measurement of its sub-domains such as academic, social, and physical self-concepts (Burden, 2012) can be more informative.

Of different sub-domains of self-concept, academic self-concept (ACS) has been reported to be a significant factor on academic achievement (Burden, 2005). ACS is often defined as one's personal evaluation and feelings about her own academic strengths and achievement. It is often construed as having its roots in an interpretation of one's past learning experience (Burden, 1998; Marsh, 1993; Marsh & Martin, 2011). However, just as it is based on our past experience, it is also likely to influence our future performance as it has been shown to be linked to both future academic performance as well as self-efficacy, a sense of competence and confidence about future academic performance (Ferla, Valcke & Chai, 2009).

ACS and achievement are also often described to have a reciprocal relationship, influencing one another (Marsh & Craven, 2006) in that they mutually reinforce each other and their relationship results in improvement in both constructs (Marsh & Martin, 2011). However, improvement in one but not in the other may yield only short-term temporary changes. To emphasize this, Marsh and Craven (ibid: 159) state "If practitioners enhance self-concepts without improving performance, then the gains in self-concept are likely to be short-lived. If practitioners improve performance without also fostering participants' self-beliefs in their capabilities, then the performance gains are also unlikely to be long-lasting."

A multitude of papers have so far been published on ACS in different educational contexts with regard to its interaction with academic achievement, often reporting different levels and strengths of positive interactions and sometimes presenting diverse methodological structures. To synthesize such diversity and wealth of research studies, *meta-analysis* can be a useful tool which may help researchers as well as readers to develop a better understanding of the phenomenon addressed in different contexts and research papers (Glass, McGaw & Smith, 1981). Marsh and Martin (2011) point out that the ability of meta-analyses is to assess the generalizability of research findings in various research papers, which is not always possible in individual studies. Meta-analyses of research findings on ASC often reveal that ASC and academic achievement are closely related to each other. Valentine and DuBois (2005) and Huang (2011a), for example, identified robust interaction between the two concepts across research studies they included in their meta-analyses.

Studies in Turkey on ASC, too, report positive relationships between ASC and academic achievement (Arseven, 1979; Yavuzer, 1989: cited in Kenç and Oktay, 2002; Doğusal-Tezel, 1987) although these relationships can be limited, explaining a small amount of variation (Kenç and Oktay, ibid). Doğan-Başokçu and Doğan (2005) in their attempt to validate an ASC scale developed by Kuzgun (1994, 1996) found that academic self-concept can predict students' academic performance, combination of different subscales of their instrument explaining 10% of variation.

Studies investigating ASC in relation to language development are scarce. In native language development, ASC has been shown to be related to the development of Flemish (De Fraine, Van Damme & Onghena, 2007) and Chinese (Marsh, Hau & Kong, 2002). In the Turkish context, Doğan-Başokçu and Doğan (2005) found positive correlations between ASC and scores in Turkish component of a centrally administered test (Student Selection and Placement Examination for Secondary Education) given at the end of Grade 8 for placement purposes. A combination of components numerical ability, verbal ability and hand-eye coordination explained an 8% of variation in participants' scores in the Turkish components of the exam. Interestingly, the numerical ability component was the best predictor of the test performance in Turkish. More recently, Erten and Burden (in preparation) found that ASC and student attribution can be powerful predictors of performance in achievement tests in English classes, ASC alone explaining 6% of unique variation in students' scores.

To summarize, we know that ASC is a significant factor in student achievement. However, its relation to language development remains to be explored. With limited studies available, it is often difficult to make safe conclusions. Therefore, studies in this area are likely to contribute to our understanding of the phenomenon. Therefore, this study aims to explore possible effects of ASC and student achievement in Turkish classes.

## 2. Study

### 2.1. Aims of the Study

This study was primarily concerned with investigating the relationship between ASC and academic achievements of 6<sup>th</sup> grade students in their Turkish course. To do this, answers to the following research questions were sought.

1. How do 6<sup>th</sup> grade students perceive themselves as learners?
2. Is there a relationship between students' ASC scores and their Turkish marks?

### 2.2. Setting and Participants

The study is part of a larger scale study and is based on preliminary analysis of some data collected. The data used for analysis for this study was collected in 2011 from 74 6<sup>th</sup> grade students at two state primary schools in two cities in Turkey. Both schools were located in the city centre (Manisa = 30; and Mersin = 44). Of these students 43 were female while 31 were male. Students at the time of data collection were in their 6th grade with a mean age of 12.20 (SD = 0,596).

### 2.3 Instruments

*Turkish course mark:* The instrument used in this study collected demographic and background information concerning participants' achievement in Turkish classes. Students were asked to give their Turkish mark at the end of the first term. Participants were not assessed on the same tests but they were following the prescribed syllabus as teachers of Turkish at state schools are required to follow the same syllabus prescribed by the Ministry of Education, often using the same course book distributed by the Ministry.

At the time of data collection, students were required to take a centrally administered annual exam at the end of each year, score of which contributed to a composite score at the end of year eight that was used for the placement of primary school graduates in different types of high schools. Teachers of Turkish are, then, expected by the system and parents to focus on the same content in their efforts to prepare their students for such a competitive exam. Further, a t-test analysis of the two groups of students on their 1<sup>st</sup> term Turkish mark did not reveal a significant difference ( $t = .741$ ,  $df = 72$ ,  $p < .461$ ). Therefore, it is not unsafe to assume a fairly homogenous sample in terms of course content and achievement.

*Academic self-concept (ASC).* ASC was measured by a Turkish version of Myself-As-a-Learner Scale (MALS) (Erten, Burden & Bayraktar-Erten, in preparation). MALS purports to measure how students perceive themselves as learners on a one-dimensional factorial construct. The scale employs a 5-point Likert scale where the minimum possible score is 20 while the maximum possible is 100. The scale items instruct participants to describe themselves by reporting their agreement level with statements like *I am good at discussing things; Learning is easy; I like using my brain.*

The instrument was so far employed by several other researchers and has been reported to correlate with achievement as well as interact with interventions in experimental design (e.g. Burke & Williams, 2008; Armstrong & Humphrey, 2009; Dewey & Bento, 2009; Erten & Burden, in preparation). Burden (1998; 2012) reports that original MALS achieves high

internal consistency (Cronbach's alpha = .84) and test-retest reliability ( $r = .96$ ). The Turkish translation used in this study was also found to have high internal consistency (Cronbach's alpha = .83) with a high split half correlation of  $r^2 = .666$  ( $p < .000$ ) (Erten et.al., *ibid.*).

## 2.4 Procedures for Data Collection and Analysis

The composite instruments were posted to previously contacted schools where it was administered by cooperating school teachers in their regular class hours. The instruments were posted back to the researchers upon completion. The return rate was a satisfactory 65%.

This study mainly employed MALS scores and students' 1<sup>st</sup> term Turkish marks as main variables. SPSS 19 was used to analyze the emergent data. Descriptive statistics were calculated to initially depict characteristics of the participants. As the data exhibited a normal distribution, Pearson correlation coefficients and partial correlations were used to explore the relationship between ASC, Turkish mark as well as school and gender as a controlling factor.

## 3. Findings and Discussion

This study primarily aimed to investigate the relationship between ASC and achievement in Turkish course as measured by a composite mark at the end of the first term. This study particularly sought to describe

- a) students' profile of ASC and achievement in Turkish course, and
- b) potential interaction between Turkish course achievement and ASC,

### 3.1 Achievement in Turkish Course

Descriptive statistics revealed a fairly high mean of end of the term achievement in the Turkish course. Students appeared to have a mean score of 81.78 (SD = 11.819). Both schools had fairly similar means for the Turkish course. Students from Mersin seemed to report slightly better Turkish marks ( $n = 43$ ,  $\bar{X} = 82.65$ , SD = 11.017) than did their peers from Manisa ( $n = 31$ ,  $\bar{X} = 80.58$ , SD = 12.419), with a minimal mean difference of 2.071 and not achieving any statistical significance ( $t = .741$ ,  $df = 72$ ,  $p < .461$ ). Further, gender factor did not seem to influence participants' Turkish marks, although female students had a fairly higher mean mark although the mean difference between the two groups did not qualify to be significant ( $t = 1.411$ ,  $df = 72$ ,  $p < .0.163$ ). These figures can be seen in Table 1 below.

Table 1. *T-test: school and gender effect on Turkish marks*

Group	n	Mean	SD	Mean Difference	t	df	Significance
Mersin	31	82.65	11.017	2.071	.741	72	p <.461
Manisa	43	80.58	12.419				
Female	43	83.42	11.149	3.902	1.411	72	p <.163
Male	31	79.52	12.519				

### 3.2. ASC Scores

Descriptive analysis of ASC scores revealed that participants in this study had a mean score of 78.32 (SD = 11.227). Both schools reported fairly high ASC scores. Mersin group reported higher ASC score ( $n = 31$ , mean = 80.32, SD= 9.782) than Manisa group ( $n = 43$ ,

mean = 76.88, SD = 12.069). However, the difference was not statistically significant ( $t = 1.306$ ,  $df = 72$ ,  $p < .196$ ).

The other control variable which was gender, however, seemed to influence ASC scores. Female students appeared to have higher ASC scores ( $n = 43$ , mean = 80.30, SD = 9.583) than their male peers ( $n = 31$ , mean = 75.58, SD = 12.836) although the difference was not big enough to qualify as significant ( $t = 1.813$ ,  $df = 72$ ,  $p < .074$ ). These figures are presented in Table 2 below.

Table 2. *T-test: school and gender effect on ASC scores*

Group	n	Mean	SD	Mean Difference	t	df	Significance
Mersin	31	80.32	9.782	3.44	1.306	72	p < .196
Manisa	43	76.88	12.06				
Female	43	80.30	9.583	4.7	1.813	72	p < .074
Male	31	75.58	12.836				

As gender appeared to be a potential factor influencing ASC scores, its influence was further explored through a non-parametric frequency analysis. To do this, an initial K-means cluster analysis of participants on their ASC scores was undertaken, which created three distinct ASC groups. These were labelled as students with low ( $n = 9$ , mean = 60.11, SD = 8.084), medium ( $n=31$ , mean = 72.74, SD = 3.838), or high ( $n = 34$ , mean = 88.23, SD = 5.354) ASC scores, which were later used to employ a Chi square analysis where ASC group frequencies and gender were cross-tabulated. The Chi square analysis pointed to a significant difference between male and female students ( $\chi^2 = 7.073$ ,  $df = 2$ ,  $p < .029$ ), with higher percentages of male students exhibiting high (22.58% vs. 4.65%) and low (45.16% vs. 39.53%) ASC scores than their female peers. Interestingly, a much larger proportion of female participants reported a moderately medium level of ASC (55.81% vs. 32.26%). Such varying distribution of participants according to their schools to different ASC groups was not apparent ( $\chi^2 = 4.012$ ,  $df = 2$ ,  $p < .135$ ). Gender differences can be found in Table 3 below.

Table 3. *Chi square: gender versus asc levels*

	LOW	MEDIUM	HIGH	TOTAL
FEMALE	17	24	2	43
%	39.53	55.81	4.65	100
MALE	14	10	7	31
%	45.16	32.26	22.58	100

( $\chi^2 = 7.073$ ,  $df = 2$ ,  $p < .029$ )

Difference between female and male participants observed in this particular study presents a curious case. Although female students reported a slightly better overall ASC as reflected by their mean scores than male students, proportions of male participants, as a result of K-means cluster analysis, who were classified as both those having high ASC and those having

low ASC were larger than female participants while the reverse was true for the moderate group. This was possibly due to a higher standard deviation (9.58 vs. 12.83) found in the mean scores of male students reflecting a more varied perception of their academic strengths. Such a finding gives support to what Pehlivan and Köseoğlu (2010) found with a group of Science High School students although it contradicts with an observation that male students report better ASC scores (Kenç & Oktay, 2002). Further, Doğusal-Tezel (1987) and Burden (2012) report insignificant differences between the two groups. Clearly, gender issue in ASC may be context and domain bound. For example, Huang (2011b), in his meta-analysis of a related concept self-efficacy on an international scale, found that female students had better self-efficacy on language arts than males while males were better on mathematic self-efficacy. It is certainly possible that members of different gender groups may have differing perceptions of themselves in different possible sub-domains of ACS. Further research can be informative to clarify this issue.

### **3.3. ASC and Achievement in Turkish Course**

To explore the possible relationship between participants' ASC and their achievement in Turkish course, a Pearson correlation coefficient analysis was used. This analysis indicated a strong correlation between the two constructs ( $n = 74$ ,  $r = .416$ ,  $p < .001$ ), ASC explaining almost one fifth of variation in Turkish course marks at the end of the first term ( $r^2 = .173$ ). As the gender appeared to be a significant factor on ASC scores, a further partial correlation analysis, where gender was controlled to see whether it is a factor on the interaction between ASC and course achievement, revealed that the interaction between ASC and achievement in Turkish course was still intact ( $r = .396$ ,  $df = 71$ ,  $p < .001$ ), still explaining a significant amount of variation ( $r^2 = .156$ ). The minimal decrease in the correlation coefficient indicated that gender did not interfere with the relationship between these two constructs to a great extent, indicating that the relationship between ASC and achievement in this particular study was independent and genuine.

High correlation coefficient observed between ASC and achievement in Turkish course was in keeping with reports on the relationship between ASC and other fields of study both in Turkey and abroad. This study especially gave support to studies that looked into interaction between AC and first language development such as Flemish (De Fraine, Van Damme & Onghena, 2007), Chinese (Marsh, Hau & Kong, 2002), and Turkish (Doğan-Başokçu & Doğan, 2005). Positive relationship observed in this study was congruent with studies into other fields of study in Turkey (Arseven, 1979; Doğusal-Tezel, 1987; Yavuzer, 1989; Kenç & Oktay, 2002) as well as meta-analyses of international studies (Valentine & DuBois, 2005; Huang, 2011a).

Marsh and Martin (2011) maintain that ASC and achievement is often in a reciprocal relationship. It is quite possible that both constructs can be in strong interaction in this study too. It is also likely that students had positive ASC because they earned successful scores in their Turkish exams or just the other way around. Data at hand in this study, unfortunately, does not allow for further elaboration of the direction of interaction identified here. However, it is not unsafe to assume a reciprocal relationship as suggested by Marsh and Craven (2006).

## **4. Conclusion**

Small scale in nature, this study explored the relationship between two constructs: a widely recognized ASC and achievement in Turkish course. In the light of above findings and discussion, it is safe to conclude that ASC can explain performance in academic achievement irrespective of individual differences such as gender. Therefore, a closer look into interface between the two constructs is warranted.

It can be argued that, as Marsh and Craven (2006) quite rightly put, classroom practice needs to aim at improvement both in academic performance and academic self-concept as the lack of one may only lead to short-lived results. Such an argument has clear implications for classroom teachers. This study is limited in its size and scope, further studies into paths of interaction and development in both can provide important information on how to better help our students improve their perception of themselves as well as their academic performance. Classroom research can yield extremely important information.

ASC is a sub-domain of general construct of self-concept. Yet, it also encompasses one's perception of herself in different fields of study. Clearly, learners may have varying perception of themselves in foreign language(s), mathematics, fine-arts, physics as well as social sciences including Turkish (Mercer, 2011). More field-specific measures of self-concept has also been reported to be better predictors of achievement (Huang, 2011a) as well as individual differences such as gender (Huang, 2011b). Specialist instruments, then, can be more revealing in attempts to understand the role of academic self-concept (or field-specific academic self-concept) in course achievement in relation to other moderating factors. There is certainly room for further research.



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