# Academic Locus of Control and Motivational Persistence: Structural Equation Modeling

Hakan SARIÇAM[1]

**ABSTRACT**

The aim of this study is the examination of the relationship between academic locus of control and motivational persistence. For the first time to my knowledge, the relations between academic locus of control and motivational persistence were investigated. The participants of the study consisted of adolescents who have attended from different public high schools. Overall, 413 students contributed to this study. Academic Locus of Control Scale and The Motivational Persistence Scale were used for data collection. In the research, whether there is a casual relationship between academic locus of control and motivational persistence in adolescents was tested through path analysis in the context of structural equation model. According to the results, there is a causative relationship between academic locus of control and motivational persistence in adolescents. The findings were discussed in relation to previous research.

*Key Words:* Academic locus of control, Motivation, Perseverance, Structural equation model

DOI Number: http://dx.doi.org/10.12973/jesr. 2015.51.5

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## INTRODUCTION

"Motivation" has been much discussed and theorized in educational psychology. It is one of the most important prerequisites for learning; also, persistence of motivation is a key for achievement (Sing, 2011; Ushioda, 2015). According to Keller (2006), motivation is measured by the amount of effort the student makes in order to achieve the instructional goal. Spence and Helmreich (1983) defined motivation: Achievements as task-oriented behavior. In another definition Keller (2006) said; Motivation "refers to the magnitude and direction of behavior... it refers to the choices people make as to what experiences or goals they will approach or avoid, and to the degree of effort they will exert in that respect." For systematic motivational design, he adds three underlying assumptions: (a) people's motivations can be influenced by external events; (b) motivation, in relation to performance, is a means and not an end; and (c) systematic design and implementation can predictably and measurably influence motivation (Keller, 2006). "Motivation concerns the direction and magnitude of human behavior which is the choice of a particular action, the persistence with it, and the effort expended on it" (Dornyei, 200la). Motivation provides an important foundation to complete cognitive behavior, such as planning, organization, decision-making, learning, and assessments (Pintrich & Schunk, 1996). If people are motivated or concentrate, they probably accomplish their goals. Students who have enough motivation are more likely to succeed in learning (Dweck, 1986). In this sense, motivation may be perceived an indicator of achievement (Elliot, 1999; Ushioda, 2015). Students with high motivation will achieve better performances and outcomes than other learners who are given the same conditions, circumstances, and opportunities for learning (Wlodkowski, 1999; Hardré & Reeve, 2003). However, if students are not motivated or have low concentration, even those with remarkable abilities may not achieve their long-term goals (Elliot & Dweck, 1988; Elliot & Harackiewicz, 1996). Persistence of motivation is as important as having motivation (Constantin, Holman, & Hojbotă, 2012).

### Academic Locus of Control

The locus of control was firstly noted in Rotter's (1954 Cited in: Rotter, 1990) social learning theory. Individuals attribute the responsibility of the rewards and/or punishments either to internal forces (themselves), or to the other external forces. The point where these attributions focus is called as locus of control (Rotter, 1990). In the literature, the locus of control is divided into internal and external control. Rotter (1966 Cited in: Österman, Björkqvist, Lagerspetz, Charpentier, Caprara, & Pastorelli, 1999, 61) defined "internal locus of control as the perception that events are contingent on one's own behavior or one's own permanent characteristics. Specifically, people may believe that outcome of their behavior is related to their own behavior and personal characteristics. In the internal locus of control, the belief that individuals may influence outcome of their behavior and control their lives as they wish is prevalent (Rotter, 1990; Cummings & Swickert, 2010). People with high internal locus of control are more likely to be interested in their well-being and more health-focused and prepared to deal with negative life events (Cummings & Swickert, 2010). On the other hand, external locus of control is defined as the degree of expectation that the outcomes or reinforcements of one's behaviors are based on the factors other than the person, such as luck, charm, faith or other powerful people (Rotter, 1990). In other words, external control is characterized by the feeling that outcomes are more a result of fate, luck, chance, or control of powerful others, or are unpredictable due to the complexity of situations (Dağ, 2002). In

external locus of control, individuals may not control their outcomes and they attribute the outcomes to other factors (Cummings & Swickert, 2010; Rotter, 1966 Cited in: Rotter, 1990). People who have external locus of control believe that they do not have control over the events happening around them and they are not capable of directing their lives as they desire.

The academic locus of control has same constructs like locus of control. In fact, academic locus of control is a reflection of locus of control in education. The internal academic locus of control is defined as one's achievement that he or she has control over his or him own performance. External academic locus of control was defined as the success that external factors such as teachers, or friends having control over your performance (Sarıçam, 2014).

**The present study**

The aim of the current study is to examine the relationships between motivational persistence and academic locus of control. Based on the relationships of motivation (e.g.,) and locus of control (e.g. Weiner & Kukla, 1970; Harter, 1981; Findley & Cooper, 1983; Allen, & Lester, 1994; Daniels & Guppy, 1997; Schunk, Pintrich, & Meece, 2008; İskender & Akın, 2010; Sing, 2011; Hrbáckováa, Hladíkb, & Vávrová, 2012) with psychological constructs such as achievement goals (Akın, 2010; Çetinkalp, 2010), stress and anxiety (Arslan, Dilmaç, & Hamarta, 2009) and metacognition (Landine & Stewart, 1998); Anderson, Hattiea, and Hamilton (2005) also suggested that motivation is associated with locus of control. In this context, internal academic locus of control would be associated positively with the sub-dimensions of motivational persistence, namely external academic locus of control would be negatively correlated with the sub-dimensions of motivational persistence are hypothesized in present study. This model is represented schematically in Figure 1.

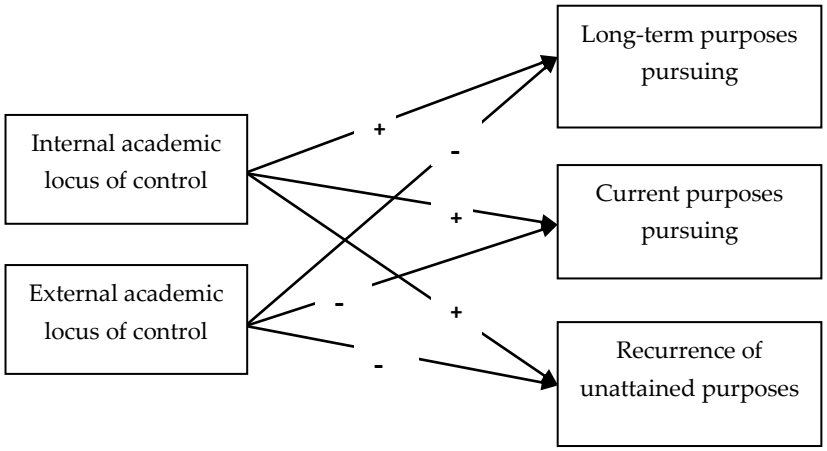



Figure 1. *Hypothesized model of the relationships between motivational persistence and academic locus of control*

## METHOD

**Participants**

The participants of the study consisted of adolescents who have attended different public high schools. Overall, 413 students contributed to this study, 194 males and 219 females. Their ages ranged from 15 to 18, and the mean age of the participants was 16.6

years. The grades of these students were 1. Grade (n=123), 2. Grade (n=117), 3. Grade (n=100), 4. Grade (n=73).

**Instruments**

*Academic Locus of Control Scale-Adolescent Form:* Adolescent form of this scale was examined by Sarıçam (2014). Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy of .72 and a significant result on Bartlett's test of Sphericity $\chi^2$= 561.619 (p< .001, df= 136). Results confirmatory factor analyses demonstrated that 17 items yielded two factors that the two-dimensional model was well fit ($\chi^2$=697.06, df=392, RMSEA= .059, GFI= .94, CFI= .93, AGFI= .92 and SRMR= .047). Factor loadings ranged from .32 to .88. Cronbach alpha internal consistency coefficient was found as .71 for internal academic locus of control sub-scale, .81 for external academic locus of control sub-scale. In the concurrent validity significant relationship (*r*= .54) was found between internal academic locus of control and student responsibility, the relation (*r*= -.43) was found between external academic locus of control and student responsibility, test-retest reliability coefficient was as .81 for internal academic locus of control and .79 for external academic locus of control. The corrected item-total correlations ranged from .41 to .81.

*Motivational Persistence Scale:* This scale was developed by Constantin, Holman and Hojbotă (2011); it was adapted to Turkish by Sarıçam, Akın, Akın and İlbay (2014). The results of explanatory factor analysis showed that Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy of .87, and Bartlett Sphericity test $\chi^2$= 611.798 (p<.001, df=78). Results confirmatory factor analyses demonstrated that 13 items yielded three factors (1.Long-term purposes pursuing (LTTP), "Long term purposes motivate me to surmount day to day difficulties". 2. Current purposes pursuing (CPP), "I continue a difficult task even when the others have already given up on it". 3. Recurrence of unattained purposes (RUP), "Even though it doesn't matter anymore, I keep thinking of personal aims that I had to give up") as original form and that the three-dimensional model was well fit ($\chi^2$=141.85, df= 60, RMSEA= .058, CFI=.85, GFI=.95, AGFI=.92, SRMR=.057). Factor loadings ranged from .30 to .61. Cronbach's Alpha internal consistency coefficient was found as .69 for whole scale, .72 for sub-dimension of long-term purposes pursuing, .70 for sub-dimension of current purposes pursuing, .71 for sub-dimension of recurrence of unattained purposes. In the concurrent validity significant relationships (*r*= .34) was found between the Motivational Persistence Scale and Integrative Hope Scale. Test-retest reliability coefficient was .66 for whole scale. Corrected item-total correlations ranged from .31 to .56.

**Procedure**

Permission for participation of students was obtained from related school managers. Researchers administered the self-report questionnaires to the students in the classroom environment; participants were all volunteer students, not from intact classes. The measures were counterbalanced in administration. Students did not place their names on the measures and were advised not to talk each other. Participants completed the questionnaires in approximately in 15 minutes.

In the research, whether there is a casual relationship between academic locus of control and motivational persistence in adolescents has been tested through path analysis in the context of structural equation model. Structural Equation Modeling, or SEM, is a very general statistical modeling technique, which is widely used in the social sciences. It can be

showed as a combination of factor analysis and regression or path analysis. Structural equation modeling provides rather very general and advantageous plan for statistical analysis that contains several traditional multivariate procedures, for example factor analysis, regression analysis, discriminant analysis, and canonical correlation, as special cases (Hox & Bechger, 1998). Structural equation models are often visualized by a graphical path diagram. SPSS 20 with AMOS program has been used in analyzing the gained findings.

## FINDINGS

### Inter-correlations and Descriptive Data

Table 1 shows the inter-correlations of the variables, means, standard deviations, and internal consistency coefficients of the variables used.

Table 1. *Descriptive statistics, alphas, and inter correlations of the variables*

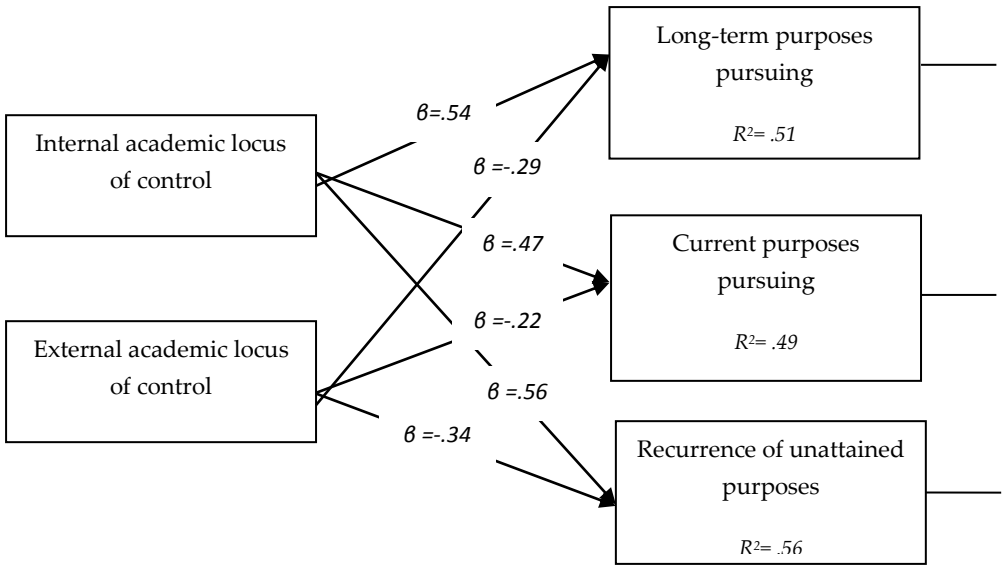
| Variables | 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|---|
| 1. Internal academic locus of control | 1 | | | | | |
| 2. External academic locus of control | -.67** | 1 | | | | |
| 3. Long-term purposes pursuing | .51** | -.36** | 1 | | | |
| 4. Current purposes pursuing | .49** | -.31** | .64** | 1 | | |
| 5. Recurrence of unattained purposes | .54** | -.39** | .66** | .61** | 1 | |
| 6. Motivational persistence (Total) | .52** | -.41** | .75** | .70** | .79** | 1 |
| Mean | 24.71 | 30.76 | 16.13 | 15.84 | 20.93 | 52.90 |
| Standard deviation | 6.88 | 9.06 | 3.94 | 3.89 | 4.11 | 11.23 |
| Alpha | .76 | .71 | .81 | .80 | .82 | .83 |

*$p$<.05, **$p$<.01

When Table 1 is examined, it is seen that there are significant correlations between dimensions of motivational persistence and academic locus of control. Internal academic locus of control related positively to long-term purposes pursuing, current purposes pursuing, recurrence of unattained purposes and total motivational persistence, respectively ($r$=.51; .49; .54; 52). In contrary, long-term purposes pursuing ($r$=-.36, p<.01), current purposes pursuing ($r$=-.31, p<.01), recurrence of unattained purposes ($r$=-.39, p<.01), and total motivational persistence ($r$=-.41, p<.01) were found negatively associated with external academic locus of control. There were also significant correlations between dimensions of motivational persistence.

### Structural Equation Model and Path Analysis

This research was important in that it was tested through path analysis in the context of structural equation model, which was built up in the light of the literature. To this end, the model in figure 2 below was created and it was tested through path analysis by using SPPS 20 with AMOS. As seen in Figure 2, it was thought that academic locus of control predicting sub-dimensions of motivational persistence were a crucial variable.




Chi-square=83,16 df=42, p=0.1402, RMSEA=0,048

Figure 2. *Structural equation modeling and analysis results concerning the research hypothesis*

In order to state whether structural equation model was statistical appropriate, fit indices were analyzed. Upon examining the suitableness of the model, RMSEA (the Root Mean Square Error of Approximation), IFI (Incremental Fit Index), CFI (Comparative Fit Index), TLI (Tucker-Lewis Index) and $\chi^2$/sd were included as the critical set of criteria (Hoyle, 1995; Schumacker & Lomax, 1996). Higher values of incremental fit indices indicate larger improvement over the baseline model in fit. Values in the .90s (or more recently ≥ .95) are generally accepted as indications of good fit (Byrne, 2001). SEM software programs routinely report a handful of goodness-of-fit indices. Some of these indices work better than others under certain conditions. It is generally suggested that multiple indices be considered concurrently when an overall model fit is evaluated. As an illustration, Hu and Bentler (1999) proposed a 2-index strategy, which is, reporting SRMR along with one of the fit indices (e.g., IFI, CFI, or RMSEA). Browne, and Cudeck (1993), and Byrne (2001) also suggested the following criteria for an indication of good model-data fit using those indices: IFI, CFI, and TLI ≥ .95, SRMR ≤ .08, and RMSEA ≤ .06. Sun (2005) stated that in terms of the acceptability of the model the rate of $\chi^2$/df being under 2 was enough. As a result of the analysis, the model demonstrated excellent fit ($\chi^2$/df = 1.98, CFI = .95, IFI = .96, TLI= .95 and RMSEA = .048). Hence, in the light of the literature it was accepted that the model was correctly designed.

## RESULT, DISCUSSION AND SUGGESTIONS

It has been determined that measure model suggested in the study can be used in structural model. Structural model suggested based on confirmed measure models has been tested and confirmed. According to the results, a causative relationship exists between the academic locus of control and motivational persistence in adolescents. For the first time were examined the associations between academic locus of control and motivational persistence. In this context, it can be said that while adolescents who have internal academic locus of control perceive more motivational persistence, they experience less indecision. Past research

shows there are similar results to these findings (Mooney, Sherman & LoPresto, 1991; Anderson, Hattiea & Hamilton, 2005; Bal, Singh & Singh, 2010).

Motivation is fundamental to students' behavior, such as learning, achievement and academic performance at schools (Bateman & Snell, 2007; Schunk, Pintrich & Meece, 2008). Wiersma (1992) defined motivation as those internal and/or external forces that trigger actions that persist until a certain goal is achieved. In education, these triggers of behavior are various needs that students are striving to satisfy through various intrinsic and extrinsic rewards they receive at school. Examples of intrinsic rewards are feelings of achievement and self-worth, while extrinsic rewards include outcomes such as career future, good exam score, and well-done (Eisenberger & Cameron, 1996). On the other hand, in Self-determination Theory; Ryan and Deci (2000) emphasized that extrinsic rewards are destructive for intrinsic motivation. It has also been suggested that the effects of rewards on motivation persistence may be transitory (Deci & Ryan, 1994; Elliot & Harackiewicz, 1996; Pintrich & Schunk, 2002). Besides, the authors stated that students who have internal locus of control have higher intrinsic motivation than students with external locus of control (Nelson &Mathias, 1995; Hrbáckováa, Hladíkb & Vávrová, 2012). This indication recommends that an internal academic locus of control affects intrinsic motivation and that an internal academic locus of control increases motivational persistence.

This study has some limitations. First, the sample presented here is limited to high school students. For that reason, it is questionable whether the findings can be generalized to different age groups. Second, correlational statistics were utilized, and no definitive statements can be made about causality. Finally, this research was limited by the use of self-report scales and did not use a qualitative measure of academic locus of control and motivational persistence. Despite these limitations, the finding that stands out in this study is the importance of the academic locus of control in relation to motivational persistence. For this reason, GO's, especially Ministry of National Education (MNE), education professionals, and teachers should make more of an effort to foster the development of program about the internal academic locus of control and motivational persistence.

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# Akademik Kontrol Odağı ve Motivasyonel Kararlılık: Yapısal Eşitlik Modellemesi

Hakan SARIÇAM[2]

**Giriş**

"Motivasyon" eğitim psikolojisi alanında sıklıkla tartışılan ve teorik olarak incelenen kavramlardan biridir. Birçok kuramcı için motivasyon, özellikle öğrenme için gerekli görülürken; motivasyon da kararlılık başarının anahtarı sayılmaktadır. Keller'e (2006) göre motivasyon, davranışın yönünü ve büyüklüğünü belirlemektedir. Motivasyon, insanların seçeceği amaçlar doğrultusunda gayret sarf etmesi için yaklaşım ya da kaçınmalarıdır. Motivasyon üç varsayım üzerine dayandırılmaktadır: 1-İnsanlar dışsal olaylardan etkilenerek motive olurlar. 2-Sonlanan ya da sonlanmayan anlamında performansla ilişkilidir. 3- Sistematik dizayn ve uygulama sayesinde ölçülebilen motivasyon açıklanabilir. Motivasyonun özellikle planlama, organizasyon, karar verme, öğrenme ve değerlendirme gibi bilişsel davranışlar üzerinde katkıları vardır (Pintrich & Schunk, 1996). İnsanlar motive ya da konsantre olurlarsa muhtemelen amaçlarını da ulaşabileceklerdir. Benzer şekilde yeterince motivasyona sahip olurlarsa öğrenmede başarı sağlayacaklardır (Dweck, 1986). Bu düşüncelerden hareketle motivasyonun başarının tetikleyicisi olduğu söylenebilir (Elliot, 1999; Ushioda, 2015). Hardré ve Reeve (2003) ile Wlodkowski (1999) yaptıkları çalışmalarda benzer şartlar, durumlar ve fırsatlar verilen yüksek motivasyona sahip öğrencilerin diğer öğrencilere göre daha iyi performans sergiledikleri görülmüştür. Diğer taraftan motive olamamış ya da az konsantrasyona sahip öğrencilerin uzun süreli hedeflere ulaşma konusunda sıkıntılar yaşadığı tespit edilmiştir (Elliot & Dweck, 1988; Elliot & Harackiewicz, 1996). Constantin, Holman ve Hojbotă (2012) motivasyonun, motivasyonel kararlılık için gerekli olduğunu iddia etmişlerdir.

*Akademik Kontrol Odağı.* Kontrol odağı kavramı ilk olarak 1954 yılında Rotter'in sosyal öğrenme teorisi içinde vurgulanmıştır. Kuramda kontrol odağı kavramının ödül ve cezaların dışsal ve içsel olarak atfedilmesi ile ortaya çıktığı iddia edilmektedir (Rotter, 1990). Literatür incelendiğinde kontrol odağının iki türü olduğu göze çarpmaktadır. İç kontrol odağına sahip bireyler, başlarına gelen olayları, kendi sorumluluklarından kaynaklanan davranışlardan kaynaklandığı inancına dayandırırken; dış kontrol odağına sahip bireyler ise bu olayları şans, kısmet, kader, tesadüf gibi dışsal çıktılara dayandırmaktadır (Dağ, 2002).

Akademik kontrol odağı ise kontrol odağının eğitim ortamına yansıması şeklinde yorumlanmıştır (Sarıçam, 2014). İç akademik kontrol odağına sahip bireyler akademik çıktılarını kendi performans ve deneyimlerine dayandırırken; dış akademik kontrol odağına sahip bireyler akademik çıktıları ve başarılarını öğretmen, arkadaş, kopya gibi dışsal nedenlerden kaynaklandığını savunmaktadır. Ayrıca iç akademik kontrol odağına sahip bireylerin dış akademik kontrol odağına sahip bireylere oranla akademik performansları daha yüksek bulunmuştur (Akın, 2010).

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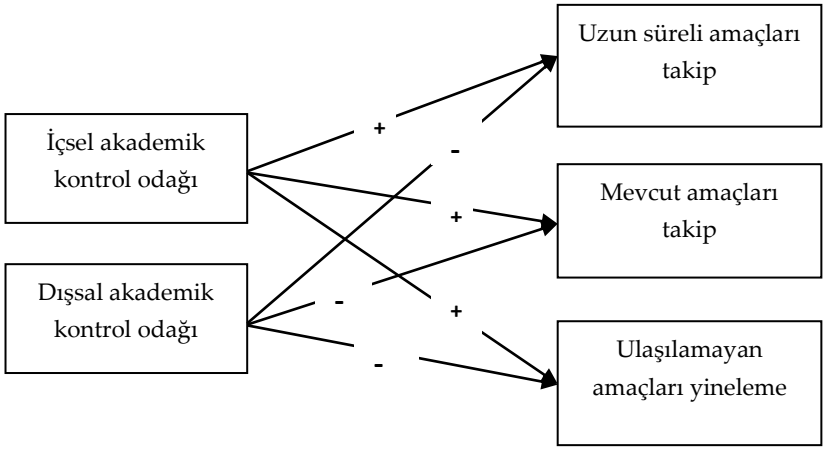
*Araştırmanın Amacı ve Önemi.* Bu çalışmanın amacı akademik kontrol odağı ile motivasyonel kararlılık arasındaki ilişkiyi incelemektir. Kontrol odağı ve motivasyonun stres, kaygı (Arslan, Dilmaç, & Hamarta, 2009), başarı (Weiner & Kukla, 1970), başarı yönelimleri (Çetinkalp, 2010), bilişüstü (Landine & Stewrt, 1998) gibi benzer psikolojik yapılarla ilişkili olmasına dayanarak kontrol odağı ve motivasyonun birbiriyle ilgili olduğu iddia edilmiştir (Anderson, Hattiea, & Hamilton, 2005); Landine & Stewrt, 1998). Bu iddiadan yola çıkarak bu çalışmada motivasyonel kararlılık ve akademik kontrol odağı arasında ilişki olduğu varsayımı sınanacaktır. Bu ilişkinin şekil 1. deki gibi olabileceği düşünülmektedir




Şekil 1. *Motivasyonel kararlılık ve akademik kontrol odağı ve alt boyutlarındaki ilişki modeli*

**Yöntem**

Araştırmanın çalışma grubunu devlet liselerine devam eden 413 lise öğrencisi oluşturmaktadır. Öğrencilerin 194'ü erkek, 219' kadın öğrenciden oluşurken yaşları 15 ile 18 arasında değişmekte ve yaş ortalaması 16.6'dır. Katılımcıların 123'ü lise 1, 117'si lise 2, 100'ü lise 3 ve 73 tanesi lise 4. sınıftadır.

*Akademik Kontrol Odağı Ölçeği-Ergen Formu***:** Akademik Kontrol Odağı Ölçeğinin (AKOÖ) ergen formunun psikometrik özelliklerini Sarıçam (2014) tarafından incelenmiştir. Açıklayıcı faktör analizi sonucu KMO örneklem uygunluk katsayısı .72, Barlett testi $\chi^2$ değeri 561.619 ($p< .001$, sd = 136) bulunmuştur. Ölçeğin yapı geçerliği için uygulanan doğrulayıcı faktör analizinde orijinal formla tutarlı olarak 17 maddenin iki boyutta uyum verdiği görülmüştür ($\chi^2$ = 697.06, sd = 392, RMSEA = .059, GFI = .94, CFI = .93, AGFI = .92 ve SRMR = .047). Ölçeğin faktör yükleri .32 ile .88 arasında sıralanmakta olup; Cronbach Alfa iç tutarlılık güvenirlik katsayısı iç akademik kontrol odağı alt ölçeği için .71,5; dış akademik kontrol odağı alt ölçeği için .81 olarak bulunmuştur. Test-tekrar test korelasyon katsayısı ölçeğin iç akademik kontrol odağı için. 81; dış akademik kontrol odağı için. 79 olarak bulunmuş; ayrıca ölçeğin düzeltilmiş madde-toplam korelasyonlarının. 41 ile .81 arasında sıralandığı görülmüştür.

*Motivasyonel Kararlılık Ölçeği:* Constantin, Holman ve Hojbotă (2011) tarafından geliştirilen Motivasyonel Kararlılık Ölçeğinin Türkçe uyarlaması ve psikometrik özelliklerini Sarıçam, Akın, Akın ve İlbay tarafından incelemektir. Araştırmaya iki farklı üniversitede değişik fakültelerde öğrenim gören 539 üniversite öğrencisi katılmıştır. Açıklayıcı faktör analizi sonucu KMO örneklem uygunluk katsayısı .87, Bartlett Sphericity testi $\chi^2$ değeri

611.798 (p<.001, sd=78) bulunmuştur. Doğrulayıcı faktör analizinde Türkçe formun orijinal formla tutarlı olarak 13 maddeden oluştuğu ve maddelerin üç boyutta toplandığı görülmüştür ($\chi^2$=141.85, sd= 60, RMSEA= .058, CFI=.85, GFI=.95, AGFI=.92, SRMR=.057). Ölçeğin faktör yükleri .30 ile .61 arasında sıralanmaktadır. Ölçeğinin Cronbach alfa iç tutarlık katsayıları ölçeğin bütünü için .69, uzun vadeli hedefleri takip alt boyutu için .72, mevcut hedefleri takip alt boyutu için r= .70; ulaşılamayan hedefleri yineleme alt boyutu için .71 olarak bulunmuştur. Uyum geçerliği çalışmasında motivasyonel kararlılık ile umut arasında pozitif (r= .41) ilişki olduğu görülmüştür. Test-tekrar test korelasyon katsayısı ölçeğin bütünü için .66 olarak bulunmuştur. Ayrıca ölçeğin düzeltilmiş madde-toplam korelasyonlarının .31 ile .56 arasında sıralandığı görülmüştür.

Sınıf ve branş öğretmenlerinden gerekli yardım alındıktan sonra uygulayıcı sınıflara gelmiş ve çalışmanın amacından ve gönüllülük ilkesinden bahsetmiştir. Daha sonrasında gönüllü öğrencilere kendilerini değerlendirmesi için uygulama formları dağıtılmış ve 15 dakika sonra formlar tekrar toplanmıştır. Veriler bilgisayar ortamına aktarıldıktan sonra değişkenler arasındaki ilişki alt boyutlar bazında yapısal eşitlik modellemesi ile test edilmiştir. Yapısal eşitlik modeli, regresyon analizi gibi geleneksel çoklu ilişkileri tespit analizlerine göre daha genel ve avantajlı özelliklere sahiptir. Değişkenler arası ilişkileri açıklarken alt boyutlarının da toplam ilişkiye ne kadar etki ettiği hesaba katar ve bu ilişkileri grafikler şeklinde göstermeye yardımcı olur (Hox & Bechger, 1998). Veriler SPSS 20 uyumlu AMOS programı ile analiz edilmiş; önem düzeyi olarak p<0.01 temel alınmıştır.

**Bulgular**

*Korelasyonlar ve açıklayıcı bilgiler.* Çalışmanın bu kısmında değişkenler arası korelasyon katsayıları, ortalamalar, standart sapma ve Cronbach Alfa iç tutarlık güvenirlik katsayıları hesaplanmıştır. İç akademik kontrol odağı ile uzun vadeli hedefleri takip, mevcut hedefleri takip, ulaşılamayan hedefleri yineleme alt boyutları arasında sırasıyla (*r*=.51; .49; .54; 52) pozitif ilişkiler bulunmuş; buna karşın dış akademik kontrol odağı ile uzun vadeli hedefleri takip, mevcut hedefleri takip, ulaşılamayan hedefleri yineleme alt boyutları arasında sırasıyla (*r*=-.36; -.31; -.39) negatif ilişkiler bulunmuştur.

*Yapısal Eşitlik Modeli.* Akademik kontrol odağı ile motivasyonel kararlılığın alt boyutlarındaki arasındaki ilişki yapısal eşitlik modellemesine dayandırılarak path analizi çizilerek hesaplanmıştır. Analiz sonucunda uyum indeksi değerleri ($\chi^2$/sd = 1.98, CFI = .95, IFI = .96, TLI= .95 ve RMSEA = .048) olarak bulunmuştur.

**Tartışma ve Sonuç**

Bu çalışmada akademik kontrol odağı ve motivasyonel kararlılık arasındaki ilişki yapısal eşitlik modeli ile incelenmiştir. Elde edilen uyum indeksi değerleri alanda yaygın olarak kabul edilen ölçütleri sağladığından modelin mükemmel uyum verdiği söylenebilir. Bu bağlamda alanyazın incelendiğinde akademik kontrol odağı ve motivasyonel kararlılık arasındaki ilişkiyi inceleyen ilk çalışmadır. Araştırma bulgularına dayanarak iç akademik kontrol odağına sahip öğrencilerin daha fazla motivasyonel kararlılık gösterdiği; buna karşın dış akademik kontrol odağına sahip öğrencilerin daha fazla kararsızlık yaşadığı söylenebilir. Önceki çalışmalar bu araştırma bulgularını desteklemektedir (Mooney, Sherman, & LoPresto, 1991; Anderson, Hattiea, & Hamilton, 2005; Bal, Singh, & Singh, 2010).

Wiersma'ya (1992) göre motivasyon, belirli hedefleri gerçekleştirmek için dışsal veya içsel uyarıcılar bütünüdür. Eğitim ortamında istenilen bu değişiklikleri meydana getirmek

için birtakım içsel ve dışsal uyarıcılar ortaya konulmaktadır. Çağdaş eğitimde ödül ya da ceza olarak adlandırılan bu uyarıcılardan daha çok ödül kullanılmaktadır. İçsel uyarıcılara örnek olarak bireyin kendilik değeri ya da başarı isteği verilirken, dışsal uyarıcılara öğretmenin aferin demesi örnek olarak verilebilir. Fakat Ryan ve Deci (2000) Öz Belirleme Teorisinde dışsal uyarıcıların içsel motivasyona zarar verdiğini aktarmışlardır. Ayrıca, bazı araştırmacılar bu ödüllerin motivasyonel kararlılık üzerinde geçici bir etkisi olduğunu savunmuşlardır (Deci & Ryan, 1994; Elliot & Harackiewicz, 1996; Pintrich & Schunk, 2002). Bununla birlikte Hrbáckováa, Hladíkb ve Vávrová (2012) ile Nelson ve Mathias (1995) iç kontrol odağına sahip bireylerin içsel motivasyonlarının dış kontrol odağına sahip bireylerden daha fazla olduğunu bulmuşlardır. Bu bulgular ile çalışma bulguları birbiri ile paralellik gösterdiğinden ötürü iç akademik kontrol odağına sahip bireylerin motivasyonel kararlılık düzeylerinin dış akademik kontrol odağına sahip bireylerden daha yüksek olduğu söylenebilir.

*Anahtar Sözcükler:* Akademik kontrol odağı, Motivasyon, Kararlılık, Yapısal eşitlik

**Atıf için / Please cite as:**
Sarıçam, H. (2015). Academic locus of control and motivational persistence: structural equation modeling [Akademik kontrol odağı ve motivasyonel kararlılık: yapısal eşitlik modellemesi]. *Eğitim Bilimleri Araştırmaları Dergisi - Journal of Educational Sciences Research, 5* (1), 79-92. http://ebad-jesr.com/