



## Strategies for coping with stress as predictors of mental health \*

Kâmile Bahar Aydın\*\*

### Abstract

*Problem Statement:* According to the relevant literature, strategies for coping with stress affect adolescent's mental and physical health, school attendance and adaptation, academic achievement. If strategies for coping with stress suggested by Csikszentmihalyi are taught to adolescents, a more effective use of psychic energy and thus an increase in subjective experience quality can be achieved.

*Purpose of the Study:* The aim of this study is to examine whether strategies coping with stress based on the flow theory predict adolescents' mental health to a significant level.

*Method:* The study was conducted on a total of 119 ninth grade students (61 females and 58 males) aged 14-17 in a public high school in Ankara (in 2005-2006). The predictor variables of the study, the subscales of the Strategies for Coping with Stress Scale (SCSS), were *struggle (S)*, *personal control (PC)*, and *active/effective contact with the environment (ACE)*. SCSS was developed based on Csikszentmihalyi's flow theory. The predicted variables of the study were the Brief Symptom Inventory (BSI) whose subscales of Turkish form were *anxiety*, *depression*, *negative self*, *hostility* and *somatization*. In the study, multiple linear regression analysis was used.

*Findings and Results:* There were correlations ranging from  $\beta = -.65$   $p < .001$ ,  $R^2 = .39$  to  $\beta = .30$   $P < .05$ ,  $R^2 = .07$  between the subscales of SCSS and the subscales of BSI. Most correlation coefficients were negative as expected. Moreover, the regression models established between predicted and predictor variables were significant at  $p < .001$  level excluding *somatization*. The most powerful predictor of mental health is the *ACE* strategy of coping with stress. The findings especially about *ACE* support the strategy of "focusing attention on the world", which Csikszentmihalyi suggests as an effective strategy.

*Conclusions and Recommendations:* The results depict that as the levels of adolescents' stress coping strategies decrease, their psychological symptoms increase. These results support Csikszentmihalyi's opinions on coping with stress and other relevant literature. Psychological help experts can control adolescents' mental health and raise the quality of their subjective experiences by teaching them strategies of SCSS.

**Keywords:** Flow Theory, Mental Health, Coping with Stress, Adolescents

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\*\* Assistant Professor Kâmile Bahar Aydın, PhD, Department of Educational Sciences, Faculty of Education Mehmet Akif Ersoy University, Turkey. Email: kamilebahar@hotmail.com

## Ruh sağlığının yordayıcıları olarak stresle başa çıkma stratejileri

### Özet

**Problem Durumu:** İlgili literatür incelendiğinde, stresle başa çıkma stratejilerinin, ergenlerin ruhsal ve fiziksel sağlıklarını, okula devamlarını, uyumlarını ve akademik başarılarını etkilediği görülmektedir. Stresle etkin başa çıkma stratejileri rehberlik ve psikolojik danışma programları, kapsamında, okul öncesi eğitimden başlanıp tüm eğitim kademelerindeki öğrencilerin gelişim düzeylerine ve ihtiyaçlarına uygun bir biçimde kazandırıldığında, ruh sağlığı hizmetlerinin etkililiği de artabilir. Gelişimsel ve önleyici ruh sağlığı hizmetlerine yaşamın ne kadar erken dönemlerinde başlanırsa, yeti ve insan gücü kaybının da o kadar önüne geçilebilir. Yeti ve insan gücü kaybının önüne geçilmesinin, ülke ekonomisine de önemli katkılar sağlayacağı beklenmektedir. Orta ergenlik dönemindeki öğrenciler, gelişim alanlarındaki hızlı değişime ve yetişkinlerin bu öğrencilerden beklentilerinin artmasına bağlı olarak gelişimsel stres yaşamaktadırlar. Özellikle de dokuzuncu sınıf öğrencilerinin, ilköğretimden ortaöğretime geçiş basamağında yer almalarına ve bir akademik programa karar verme durumunda olmalarına bağlı olarak stres yüklerinin daha yüksek olması beklenmektedir. Ayrıca, orta ergenlik döneminde ruhsal hastalıklarda artış olmaktadır. Tüm bunlar orta ergenlik döneminde gelişimsel-önleyici “kişisel” psikolojik danışma ve rehberlik hizmetlerine ağırlık verilmesi gerektiğini ortaya koymaktadır. Okul danışmanları, hazırladıkları stresle başa çıkma stratejileri grup programları ile daha fazla sayıda öğrenciye yardım sunabilirler. Akış kuramına dayalı stresle başa çıkma stratejileri ergenlere kazandırıldığında; yalnızca semptomları ortadan kaldırmanın (iyileştirici ruh sağlığı hizmetlerinin), ve semptomların daha da ilerlemesini önlemenin (önleyici ruh sağlığı hizmetlerinin) yanı sıra, onların bilinçlerini etkin bir biçimde düzenlemeleri, psikolojik enerjilerini daha etkin kullanmaları ve öznel yaşantılarının kalitesini artırmaları (geliştirici ruh sağlığı hizmetleri) yönünde de yardım sunabilirler.

**Araştırmanın Amacı:** Bu araştırmanın amacı, akış kuramına dayalı stresle başa çıkma stratejilerinin ergenlerin ruh sağlığını anlamlı düzeylerde yordayıp yordamadığını incelemektir.

**Araştırmanın Yöntemi:** Araştırma, 2005-2006 eğitim-öğretim yılında Ankara'daki Devlet liselerinin 9. Sınıfında öğrenim gören, 14-17 yaşları arasındaki 119 öğrenci (61 kız ve 58 erkek) üzerinde yapılmıştır. Araştırmanın yordayıcı değişkenleri, akış kuramı temel alınarak geliştirilen Stresle Başa Çıkma Stratejileri Ölçeğinin (SBSÖ) alt boyutları olan *mücadele (M)*, *kişisel kontrol (KK)* ve *çevreyle etkin temas (ÇET)* stratejileridir. Araştırmanın yordanan değişkenleri ise, Kısa Semptom Envanterinin (KSE) alt boyutları olan *anksiyete*, *depresyon*, *olumsuz benlik*, *hostilite* ve *somatizasyondur*. Araştırmada, yordayıcı ve yordanan değişkenler arasındaki ilişkinin incelenmesinde çoklu doğrusal regresyon analizi tekniği kullanılmıştır.

**Bulgular ve Sonuçlar:** Regresyon analizi sonucunda  $\beta = -.65$   $p < .001$ ,  $R^2 = .39$  ve  $\beta = .30$   $P < .05$ ,  $R^2 = .07$  arasında değişen korelasyonlar elde edilmiştir. Korelasyon katsayılarının çoğunluğu, beklendiği gibi negatif yöndedir. Yordayıcı ve yordanan değişkenler arasında kurulan regresyon modelleri, somatizasyon hariç,  $p < .001$  düzeyinde anlamlıdır. Bulgular, ruh sağlığını en güçlü düzeyde yordayan stresle başa çıkma stratejisinin ÇET olduğunu göstermektedir. ÇET, yordanan değişkenlerle ilişkinin miktarı bakımından birinci sırada depresyonu, ikinci sırada olumsuz benliği, üçüncü sırada anksiyeteyi, dördüncü sırada hostiliyeyi anlamlı düzeylerde ( $p < .001$ ) yordamaktadır. ÇET'de puan yükseldikçe, bireyin

kendini daha olumlu algıladığı, kendine güven ve geleceğine umutla baktığı; bu olumlu algılayışlara bağlı olarak da çevresindeki akademik ve sosyal olay ve olgulara etkin katılımında bulunduğu ve bunlara dikkatini yoğunlaştırabildiği anlaşılmaktadır. ÇET’de puan yükseldikçe, ergenin “kendine odaklanmak-self focused attention” yerine, çevresiyle temas halinde olduğu anlaşılmaktadır. ÇET, bu durumda stresle başa çıkma literatüründe “kaçınma-avoiding” stratejisinin de karşıtı bir stratejidir. Yani, ÇET “yaklaşma” yönelimli bir stratejidir. Araştırmanın bir diğer önemli bulgusu, mücadele stratejisinin hostilete ve somatizasyon ile olumlu ilişkiye sahip olmasıdır. KK stratejisi ise, yalnızca hostilete ile negatif yönde ve anlamlı korelasyona sahiptir.

**Öneriler:** Bu çalışmada ruh sağlığı üzerinde etkileri incelenen stresle başa çıkma stratejilerinin tümü olumlu/etkin başa çıkma yollarıdır. Bir başka deyişle Csikszentmihalyi’nin akış kuramı bağlamında vurguladığı, “dönüştürülmüş (transformed coping)” başa çıkma yollarıdır. Stresi mücadeleye ya da akış yaşantısına dönüştürmenin en temel yolu “bilinci etkin düzenlemekten” geçmektedir. Dönüştürülmüş başa çıkma yollarının kullanılabilmesi, kısmen gelişim evrelerine bağlıdır. Bir başa deyişle, bireyler “soyut algılama” gücü kazandıkça, dönüştürülmüş başa çıkma stratejilerini kullanabilir duruma gelmektedirler. Csikszentmihalyi, öznel yaşantının kalitesini artırmada, stresle başa çıkmada, öncelikle bireyin gücünü ve sorumluluğunu vurgulamaktadır. Bu çalışmadan elde edilen bulgular da bu anlayışı destekler niteliktedir. SBSÖ kapsamındaki stresle başa çıkma stratejilerin tümü bireyin gücüne dayanmaktadır. Özellikle ÇET stratejisinden elde edilen bulgular Csikszentmihalyi’nin stresle etkin başa çıkma stratejisi olarak önerdiği “dikkati dış dünyaya yoğunlaştırma (focusing attention on the world)” stratejisini tamamıyla destekler niteliktedir: Psikolojik enerjiyi (psychic energy) iç dünyadaki olumsuz duygulara ve düşüncelere kilitlemek yerine, çevreyle (okul bağlamındaki akademik ve sosyal etkinlikler, vb.) temas halinde olmak ruh sağlığına olumlu katkılarda bulunmaktadır. KK stratejisinin hostilete ile negatif yönde ve anlamlı korelasyon vermesi, Csikszentmihalyi’nin etkin bir strateji olarak önerdiği “ben bilincine odaklanmayan kendine güven duygusu (unself consciousness self assurance) stratejisini destekler niteliktedir. Uzmanlar, ergenlerin hostiletelerini azaltmak istediklerinde, onlara KK stratejisini öğretebilirler. Dokuzuncu sınıfta öğrenim gören ergenlerin; benlik algısı, gelecek yaşam, sosyal ilişkiler ve akademik görevlerde yaşadıkları stresle başa çıkmada kullandıkları KK ve ÇET stratejilerinin düzeyleri yükseldikçe, onların psikolojik semptomları azalmaktadır. Bir başka deyişle ruh sağlığı düzeyleri yükselmektedir. Öncelikle okul psikolojik danışmanları ve diğer ruh sağlığı uzmanları, ergenlerin ruh sağlıklarını kontrol edebilmek için, onlara SBSÖ kapsamındaki stresle başa çıkma stratejilerini kazandırabilirler. Bu amaçla stresle başa çıkma grup programları hazırlayabilirler ya da bu amaç için hazırlanmış grup programlarını kullanabilirler. Uzmanlar, ÇET stratejisini ergenlere kazandırmaya öncelik tanıyabilirler. Uzmanlar, tüm stratejileri ergenlere kazandırırken yardımın etkililiğini artırabilmek için ergenlik döneminin streslerini fark etme ve bu konuda çocuklarına etkin yardımlar sunmalarında anne-babalara grup rehberliği yapabilirler. Bu çalışmada, mücadele stratejisinin hostilete ve somatizasyon ile olumlu sonuç verdiği gözlenmiştir. Bu sonuç, muhtemelen, mükemmeliyetçi kişilik tipi ya da sosyal destekten tamamıyla yoksun olma ya da sosyal destek kaynaklarına hiçbir şekilde güven duymama ile açıklanabilir. Şöyle ki, sosyal destekten tamamıyla yoksun olan ergenler, stresle yoğun olarak mücadele verirken hostilete ve somatik belirtiler de yaşıyor olabilirler. Bu öğrenciler, aynı zamanda mükemmeliyetçi kişilik yapısına sahip olabilirler. Yine de, araştırmacılar, mücadele stratejisinin mükemmeliyetçi kişilik tipi ve sosyal destek doyumunu değişkenleri ile ilişkisini inceleyebilirler.

**Anahtar Sözcükler:** Akış Kuramı, Ruh Sağlığı, Stresle Başa Çıkma, Ergenler

## Introduction

Modern mental health policies do not only focus on improving /treatment disturbed psychological constructions and functions but also include strategies for developing and supporting “positive mental health” and protecting it against various risks. In this sense, mental health services should be provided for not only patients in hospitals but also for “the whole society” through basic health policies on the basis of inter-disciplinary and inter-institutional strategies. Of course, the institutions in which developmental and protective/preventative mental health services can be most commonly provided are schools. As a matter of fact, in the Republic of Turkey national mental health policy (The Ministry of Health of Turkey “MHT”, 2006) it is emphasized that personal and psychological development should be a mission of education and schools should work like “developmental clinics” The earlier developmental, protective/preventative and therapeutic mental health services are provided in life, the more losses regarding “competence”, “manpower” and “economy” are prevented. Approximately 40 percent of Turkish population consists of children and adolescents between the age 0 and 18. Total prevalence of mental health disorders among children and adolescents between the age 4 and 18 has been found to be 11,3 percent. The rates observed among females are nearly twice as many as those among males. The frequency of mental disorders observed among children and adolescents are anxiety, depression and behavioral disorders respectively (MHT). During the process of development, adolescence lays the foundation for the period of young adulthood (Yeşilyaprak, 2006). Considering that young adults are the most productive sphere of society, it is expected that mental disorders continuing during the period of young adulthood will place a big burden on both young adults and national economy (MHT).

When compared with other developmental stages, adolescence seems to involve many more changes. The rapid change appearing across developmental stages causes stress. Particularly the fast-occurring physical, cognitive, emotional and social changes during early adolescence affect mental health to a great extent (Seiffge-Krenke, Weidemann, Fentner, Aegenheister, & Poeb lau, 2001). Ekşi (1999), on the other hand, emphasizes that the most serious psychiatric problems arise during the period of middle adolescence (nearly between the ages 15 and 17). Ninth grade of secondary school corresponds to the period of middle adolescence. Most of the students at this grade level (71%) are  $\bar{X}=15$  years old (Aydın, 2008). Students of 9<sup>th</sup> grade experience stress owing to the fact that they are within a transitional period from primary school to secondary school and academic expectations

directed towards them increase (Geisthardt, 1996). In addition to developmental issues, environmental factors lead to stress, too. It is expected that adolescents living in Turkey, which have a high potential for natural disaster, accidents, traumatic experiences, terror, migration and crisis (MHT, 2006), will have more risks related to burden of stress and mental disorders. Besides, also the University Entrance Exam (UEE) to university brings about stress on the part of adolescents. Only around 10 percent of students taking this examination are able to get into a four-year license program. According to the results of some studies, exam pressure/stress causes considerable emotional problems on the part of students. Certain psychological and somatic symptoms defined as symptoms of attending to university are observed among students (Yıldırım, 2004). According to some researchers (Compas & Pihares, 1991; Isaksan & Jarvis, 1999 in Seiffge-Krenke et al., 2001), there is a strong relationship between the stress experienced in adolescence and psychological symptoms. At the same time, the most important middle variable between stress and harmony is “strategies for coping with stress”. Certain researchers (Suls & Fletcher, 1985; Roth & Cohen, 1986; Barry, 2002; Morris, 2002) emphasize that strategies for coping with stress affect individuals’ harmony. Effective coping with stress leads to psycho-social adaptation and therefore to physical and mental health while ineffective coping with stress causes psycho-social maladaptive and therefore to physical and mental disorders. However, it is critical to determine which strategies for coping with stress bring harmony or effectiveness and which ones bring non-harmony or ineffectiveness.

The father of the flow theory, Csikszentmihalyi, discusses three different resources in coping with stress (Csikszentmihalyi, 1990): 1) External support (e.g., social support patterns), 2) Psychological resources (e.g., personal traits, intelligence), 3) Strategies for coping with stress. Sources of external support are not so effective in reducing stress on its own. Those can only help those who can help themselves. Psychological sources are largely beyond an individual’s control, too. To illustrate, it is difficult for people to be more intelligent or lovable than they already are. On the other hand, strategies for coping with stress are more within one’s control and are more flexible. According to Csikszentmihalyi (1990), there are three basic strategies in turning stress into struggle: 1) Unselfconscious self-assurance, 2) focusing attention on the world, 3) discovery of new solutions. All of these strategies can be developed through learning experiences, are within an individual’s control, and are transformed and effective ways of coping with stress which can harmonize the conscious.



An examination of the related literature shows that consistent findings have been obtained in studies focusing on the “effect” and “correlation” between strategies for coping with stress and mental health. The most important findings obtained from studies on coping with stress can be summarized as follows: Action-oriented coping is strongly associated with positive psychological outcomes while strategies based on avoidance and emotions are associated with poor mental health (Endler & Parker, 1990; Folkman, Lazarus, Gruen, & DeLongis, 1986; Lazarus & Folkman, 1984; Seiffge-Krenke, 1993; Stern & Zavon, 1990 in Wong & Wong, 2006). Many studies held with clinical samples have shown that this group of people uses non-functional coping strategies more often. On the other hand, adolescents identified as depressed, anxious, irresponsible, crime-prone and drug addicted have been shown to use withdrawal as a strategy (Seiffge-Krenke, 1993). Avoidant coping is associated with depression and behavior disorders (Ebata & Moos, 1991; Seiffge-Krenke ve Klessinger, 2000; Seiffge-Krenke et al., 2001); children of divorced parents (Sandler, Tein, & West, 1994); anxiety (Lewis & Kliever, 1996; Hess & Copeland, 2001); and difficulties with school adaptation (Causey & Dubow, 1993). In contrast, approach-oriented coping is associated with positive adaptation (Ebata & Moos, 1991; Seiffge-Krenke & Klessinger, 2000; Seiffge-Krenke et al., 2001). Problem based coping strategies are associated with positive developmental outcomes. Problem-based coping strategies used by children are negatively related to emotional and behavioral problems (Ebata & Moose, 1991; Ayers, Sandler, West, & Roosa, 1996) social problems (Compas, Malcarne, & Fondacoro, 1988). In contrast, children who more frequently use emotion based coping display more behavioral problems, depression and anxiety symptoms (Compas et al., 1988). Seiffge-Krenke (1993) compare the strategies for coping with stress of normal adolescents and those receiving clinical help. They concluded that while normal adolescents preferred social support and problem-solving in coping with stress, adolescents receiving clinical help used defensive coping (such as denying the existence of a problem and distraction) and functional coping strategies simultaneously. In other words, adolescents receiving clinical help seemed to prefer an ambivalent coping process.

Ways of coping with stress during childhood and adolescence affect coping in latter years (Losaya, Eisenberg, & Fabes, 1998). Therefore, functional/effective coping skills (problem based, action oriented, approach oriented and transformed coping strategies) should be taught to all students starting from preschool. Services geared towards equipping students with effective coping skills should take into consideration their developmental stages.

Students should be prepared beforehand to respond functionally to stress stemming from developmental, traumatic and daily hassles. This would step by step bring students closer to the power of controlling consciousness emphasized by Csikszentmihalyi. Students would therefore not have much difficulty in transforming stressful events into opportunities. Taking necessary precautions before one's mental health is ruined, and increasing the quality of subjective life are important aims of positive psychology. Based on Csikszentmihalyi's Flow Theory, this study analyzes whether the Strategies for Coping with Stress Scale developed with a Turkish adolescent sample meaningfully predicts psychological symptoms. The findings of this study may be helpful on the part of school counselors, mental health experts, teachers and researchers.

## Method

### Research Model

This study seeks the answer to the question: "Do coping with stress strategies used by adolescents, namely *struggle*, *personal control* and *active contact with the environment*, significantly predict their *anxiety*, *depression*, *negative self*, *hostility* and *somatization* symptoms?". The descriptive method was used in finding an answer to this question.

### Sample

The sample consists of 119 ninth graders (61 females and 58 males) attending state high schools in the city center of Ankara (in 2005-2006). The students were aged 14-17. The sample was selected by the random sampling method.

### Research Instruments

The predicted variables of the research were *depression*, *anxiety*, *negative self*, *hostility* and *somatization*. Data related to these were collected by the Brief Symptom Inventory (BSI). The predictor variables of the research were *struggle*, *personal control* and *active contact with the environment*. Data related to these were collected by the Strategies for Coping with Stress Scale (SCSS).

1. *Brief Symptom Inventory (BSI)*: It was developed by Derogatis (1992) to measure levels of psychological symptoms. Adapted to Turkish and tested for validity and reliability by Şahin and Durak (1994), the inventory has five sub-scales, *anxiety*, *depression*, *negative self*, *hostility*, *somatization*, and a total of 53 items. A higher score on the inventory shows a higher psychological symptom level and thus lower mental health. Correlations obtained criterion related validity of the BSI: With Social Comparison Scale, between -.14 and -.34;

With Submissiveness Scale, between .16 and .42; with Tendency to Stress Scale, between .24 and .36; with UCLA-Loneliness Scale, between .13 and .36; with Offer Loneliness Scale, between -.34 and -.57; with Beck Depression Inventory, between .34 and .70. Correlations obtained reliability of the BSI: Cronbach Alpha coefficient for the total inventory is .96. Coefficients for subscales ranged between .55 and .86 (Şahin & Durak, 1994 in Savaşır & Şahin, 1997).

2. *Strategies for Coping with Stress Scale (SCSS)*: It was developed by Aydın (2005, 2008) considering the Turkish context and taking Csikszentmihalyi's (1990) flow theory. SCSS measures the strategies used for coping with stress due to classes, homeworks, exams, school rules, teachers, friends, self perception, and future life by 14-17 year-old adolescents. The SCSS has got 48 items and three subscales. The subscales of SCSS are *struggle (S)*, *personal control (PC)* and *active contact with the environment (ACE)*. As the score becomes higher, so does the level of effective coping with stress. SCSS's Cronbach Alpha reliability coefficients (internal consistency) were as follows:  $\alpha_{\text{total scale}} = .88$ ,  $\alpha_S = .85$ ,  $\alpha_{PC} = .83$  and  $\alpha_{ACE} = .81$ . The SCSS's test-repetitive test (rxx) reliability coefficients were as follows:  $R_{\text{total scale}} = .91$ ,  $R_S = .84$ ,  $R_{PC} = .91$ ,  $R_{ACE} = .84$ . The criterion related validity of the SCSS was measured with the BDI. The Pearson correlation coefficients were as follows:  $R_{\text{total scale}} = -.40^{**}$ ,  $R_S = -.16^{**}$ ,  $R_{PC} = -.23^{**}$ ,  $R_{ACE} = -.57^{**}$ .

### **Data Analyses**

In the first stage, the data were checked for suitability for regression analysis, and no problems were found. In the second stage, correlations between the dependent and independent variables were analyzed by the Pearson correlation coefficient technique. In the third stage, multiple linear regression analysis (Enter) was conducted among psychological symptoms and strategies for coping with stress.

### **Findings and Results**

The results of multiple linear regression analysis of the depression, anxiety, negative self, hostility and somatization subscales are given below.



**Table 1***The Results of Multiple Regression Analysis of the Depression Subscale*

Independent Variable	B	Standard Error	Beta	F	R	R <sup>2</sup>
Constant	51.09	5.60				
Struggle	.13	.09	.15			
Personal Control	.01	.12	.01	24.77***	.63	.39
Active Contact with the Environment	-.73	.10	-.65***			

\*\*\*  $p < .001$ 

The regression equation is significant on the level .001 ( $F = 24.77$ ). *S*, *PC* and *ACE* variables altogether have a strong and significant correlation with students' *depression* scores ( $R = .63$ ,  $R^2 = .39$ ). *S*, *PC* and *ACE* altogether account for 39% of the total variance in *depression*. According to the model, this is a high level. According to standardized regression coefficient, only *ACE* has a meaningful predictive effect on *depression* ( $\beta_{ACE} = -.65$ ,  $p < .001$ ). *S* and *PC* do not have a predictive effect on the level .05. A negative correlation exists between *ACE* and *depression*. To sum up, as *ACE* is used less as a strategy, adolescent *depression* rises significantly.

**Table 2***The Results of Multiple Regression Analysis of the Anxiety Subscale*

Independent Variable	B	Standard Error	Beta	F	R	R <sup>2</sup>
Constant	40.21	5.54				
Struggle	.10	.09	.13			
Personal Control	-2.7	.12	.03	13.12***	.51	.26
Active Contact with the Environment	-.51	.10	-.52***			

\*\*\*  $p < .001$ 

The regression equation is significant on the level .001 ( $F = 13.12$ ). *S*, *PC* and *ACE* variables altogether have a moderate and significant correlation with students' *anxiety* scores ( $R = .51$ ,  $R^2 = .26$ ). *S*, *PC* and *ACE* altogether account for 26% of the total variance in *anxiety*. According to standardized regression coefficient, only *ACE* has a significant predictive effect on *anxiety* ( $\beta_{ACE} = -.52$ ,  $p < .001$ ). *S* and *PC* do not have a predictive effect on the level .05. A negative correlation exists between *ACE* and *anxiety*. To sum up, as *ACE* is used less as a strategy, adolescent *anxiety* rises significantly.

**Table 3***The Results of Multiple Regression Analysis of the Negative Self Subscale*

Independent Variable	B	Standard Error	Beta	F	R	R2
Constant	42.12	5.11				
Struggle	1.98	.08	.03			
Personal Control	4.80	.11	.05	18.64***	.57	.33
Active Contact with the Environment	-.59	.09	-.60***			

\*\*\* p&lt; .001

The regression equation is significant on the level .001 (F=18.64). *S*, *PC* and *ACE* variables altogether have a moderate and significant relationship with students' *negative self* (R =.57, R<sup>2</sup>=.33). *S*, *PC* and *ACE* altogether account for 33% of the total variance in *negative self*. According to standardized regression coefficient, only *ACE* has a meaningful predictive effect on *negative self* ( $\beta_{ACE} = -.60$ , p<.001). *S* and *PC* do not have a predictive effect on the level .05. A negative relationship exists between *ACE* and *negative self*. To sum up, as *ACE* is used less as a strategy, adolescent *negative self* rises significantly.

**Table 4***The Results of Multiple Regression Analysis of the Hostility Subscale*

Independent Variable	B	Standard Error	Beta	F	R	R2
Constant	26.20	3.34				
Struggle	.17	.05	.35**			
Personal Control	-.17	.07	-.30*	16.92***	.55	.31
Active Contact with the Environment	-.27	.06	-.44***			

\* p&lt;.05 \*\* p&lt;.01 \*\*\* p&lt;.001

The regression equation is significant on the level .001 (F=16.92). *S*, *PC* and *ACE* variables altogether have a moderate and significant correlation with students' *hostility* (R =.55, R<sup>2</sup>=.31). *S*, *PC* and *ACE* altogether account for 31% of the total variance in *hostility*. According to standardized regression coefficient, the order of importance of predictive variables on *hostility*;  $\beta_{ACE} = -.44$ , p<.001,  $\beta_S = .35$ , P<.01 and  $\beta_{PC} = -.30$ , P<.05. A negative correlation exists between *hostility* and *ACE* and *PC*; a positive correlation exists between *hostility* and *S*. To sum up, as *ACE* and *PC* strategies are used less, the *hostility* levels of adolescents rise significantly. However, as *S* levels increase, so does *hostility*.

**Table 5***The Results of Multiple Regression Analysis of the Somatization Subscale*

Independent Variable	B	Standard Error	Beta	F	R	R2
Constant	10.18	4.07				
Struggle	.15	.07	.30*			
Personal Control	-.13	.09	-.21	2.67	.26	.07
Active Contact with the Environment	-7.31	.07	-.11			

\* p&lt;.05

The regression equation is not significant on the level .05. (F=2.67). According to standardized regression coefficient, only *S* is a significant predictor for *somatization* ( $\beta_S = .30$ ,  $P < .05$ ). A positive and meaningful correlation exists between *S* and *somatization*. More use of the *S* strategy increases physical symptoms. The correlation between *somatization* and *PC* is on the level -.21, that between *somatization* and *ACE* is on the level -.11. These correlations are in the negative direction but not significantly on the level .05.

### Discussions and Recommendations

Active contact with the environment (ACE) is the best predictor of depression, anxiety, negative self and hostility. ACE includes a positive self perception, positive body image, self-acceptance, self-confidence and positive future expectations, etc. As such characteristics decrease, adolescents focus on themselves instead of processing information from the environment. They “avoid” participating in and focusing on academic and social activities. The related literature supports this finding by showing that “self-focus” (Mor & Winqvist, 2002) and “avoidance” (Suls & Fletcher, 1985; Ebeta & Moos, 1991; Seiffge-Krenke & Klessinger, 2000; Seiffge-Krenke et al., 2001) are positively related to depression and other mental diseases. ACE predicts depression at the highest level among psychological symptoms. If the depression is not controlled, it can have a negative effect on the life of an adolescent in many respects. Depressive adolescents experience social withdrawal, decrease in interest and activity, deterioration in relationships with fellows, decrease in school success, abandoning school and house, substance use, thoughts and attempts of suicide, feelings of guilt and excessive explosion of wrath. These all have a negative effect on cognitive and social development of adolescents (Kovacs & Goldston, 1991).

When the components of ACE are considered, it can be seen that as the level of ACE falls, adolescents' fear of being "negatively judged" by others due to their "personal characteristics" rises. As adolescents fear "negative evaluation", they avoid "active contact with their environment." As a matter of fact, the significant negative correlation between ACE and negative self supports this view. As the active contact with environment decreases depending on, an increase is observed in negative self. In adolescence, when change is at its fastest, the fear of being negatively judged due to personal characteristics may be seen as a developmental issue (Fast changes and identity formation may lead to this fear.). However, the "collectivistic" cultural structure of the Turkish society may also be increasing the fear of personal characteristics being negatively evaluated. In collectivistic cultures, the aims, values and expectations of the group/society are important. On the other hand, in individualistic cultures, the characteristics, aims and values of the individual are in the forefront (Markus & Kitayama, 1991 in Wong & Wong, 2006). According to Csikszentmihalyi, flow is the optimal condition of subjective experience. The most important factor hindering flow in conscious is self perception (especially negative self and fears about the self). If the ACE strategy is taught strongly to adolescents, it may help protect their mental health and give them more opportunities to have the flow experience at school. The significant negative correlation between ACE and anxiety suggests as follows: As the individual avoids effective contact with environment, he/she focuses on negative feelings in his/her inner world, therefore leading to an increase in his/her anxiety. In other words, as the self-focus increases, so does anxiety. School counselors may teach ACE to adolescents through individual or group counseling. They may use package programs designed for this purpose (Aydın, 2006). In addition to psychological support, Turkish society may also be instilled into values of individualistic culture through social, health and educational policies.

Each of the strategies of struggle (S), personal control (PC), and ACE predict hostility significantly. The negative significant correlation of PC and ACE with hostility is obvious: Individuals who can effectively control their emotions and behaviors, who can assume responsibility and who have self confidence do not display hostile emotions and behavior towards others. A student with self-control controls himself/herself instead of being controlled by external forces (like teachers). Such a student has internal focus of control, is internally motivated for academic tasks and act in an emphatic manner rather than reactive or impulsive manner in their relations with people or towards school rules. He/she utilizes his/her time and energy in a purposeful and planned way and acts responsibly. He/she

accepts the external reality and is able to accommodate himself/herself to it. In other words, the more a student controls himself/herself, the less hostile emotions and behaviors he/she displays towards his/her environment. When the student rejects the external reality and gives himself/herself prominence, his/her hostility gets increased. This supports the strategy called “unselfconsciousness self assurance” that was emphasized in Csikszentmihalyi’s flow theory.

The significant negative correlation between ACE and hostility can be explained in the following way: As the student gets sure of himself/herself, focuses his/her attention on the happenings (academic and social happenings) around him/her and participates in them, his/her hostile emotions towards the environment get decreased. Contrary to this, when he/her avoids effective contact with environment and focuses on negative emotions and opinions in his/her inner world, these emotions and opinions get increased, thus leading to an increase in his/her hostility towards the environment. It is expected that as the frequency and intensity of hostility increases, so do the activities of sympathetic nervous system. This may result in disorders regarding an individual’s physical health. Also, hostility may damage an individual’s psychological adaptation and mental health. All findings about ACE obtained from this study support the strategy “focusing attention on the world” put forward by Csikszentmihalyi for coping with stress in an effective way.

The positive and significant correlation between struggle and hostility can be explained in this way: when perfectionist individuals use struggle as a strategy, their hostility may be increasing. As can be seen, there is also positive and significant correlation between struggle strategy and somatization. When perfectionist characteristics are combined with struggle, both hostility and somatic symptoms may increase. In order to control adolescents’ hostility and somatic symptoms, school counselors should teach them relaxation exercises and direct them to hobbies which provide them with flow experience. “Behavior” is not only controlled by “personality” but is also determined by the “environment”. Therefore, individuals who use the struggle strategy may lack the social support often trying to cope with stress. This may be instilling in them a feeling of hostility. Adolescents who use the struggle strategy and lack social support may experience somatic symptoms while trying to fight off stress on their own. School counselors should try to activate adolescents’ sources of social support. Nevertheless, researchers should study the relationship between the variables of perfectionism and social support satisfaction and the struggle strategy.

The effects of the SCSS on mental health may also be examined through intercultural studies. Findings from this study are evidence for the validity of the SCSS. Thus mental

health workers may use it for their own purposes. The SCSS has a proactive characteristic too. Instead of waiting for stress experiences to occur, school counselors may try to teach the strategies through SCSS to all students. By doing so, the mental health of adolescents can be protected. They can furthermore have flow experiences in the school.

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