Summary
Negative Life Events, Behavior Problems and Self-Regulation of Adolescents from Low Socio-Economic Status

Güntülü Tercanlı Metin

Hacettepe University

Mehmet Harma

Kadir Has University

Gülbin Gökçay

Istanbul University

Reyhan Bahçivan-Saydam

Istanbul University

Early adolescence is a developmental transition period in which numerous biological, cognitive, psychological, and social changes are experienced. In this period, physical and psychological problems have increased and these problems are significantly related to the change and negative life experiences (Compas, Howell, Phares, Williams, & Giunta, 1989; Larson & Ham, 1993).

Negative life events are known as risk factors of many physical and mental illnesses (Rabkin & Struening, 1976). Negative life events are associated with emotional-behavioral problems (Deater-Deckard, Dodge, & Bates, 1998; Flouri & Kallis, 2011; Gerard & Buehler, 2004) and psychiatric problems (e.g., attention deficit and hyperactivity disorder, oppositional defiant disorder and major depression) (Flouri & Kallis, 2011; Tiet et al., 2001) among adolescents. Previous work has consistently documented that adolescents who experienced negative life events, show poor school performance and increased delinquent behaviors (Dornbusch, Mont- Reynaud, Ritter, Chen, & Steinberg, 1991; Vaux & Ruggiero, 1983).

Lower levels of socio economic status (SES) have thought to be a chronic adversity on adolescents (e.g., social, emotional and academic maladjustment). Adolescents with socioeconomic disadvantage subject to more stressful life experiences than their peers in their proximal environment (family, school etc.) (Felner et al., 1995). Poverty and environmental adversities make them more vulnerable against adversities because these kinds of adversities limit to the access of the resources that may lessen the effect of the event or protect the adolescents (DuBois, Felner, Brand, Adan, & Evans, 1992).

In presence of adversities, determining protective factors that provide resilience becomes important to prevent mental health problems in adolescence. Among these protective factors, self-regulation is the one that facilitates adaptation (Karoly, 1993). It is conceptualized as conscious or unconscious control that the individuals exert themselves to control their thoughts, emotions, impulses, desires and attentional processes (Vohs & Baumeister, 2004).

Considering the protective factor of self-regulatory skills (especially for adolescents from low SES environment), previous work showed that self-regulation was significantly linked to the positive social skills and peer relations (Eisenberg et al., 1997; Gündüz, Yağmurlu, & Harma, 2015), academic achievement (Duckworth & Seligman, 2005) and emotional-behavioral adjustment (Tangney, Baumeister, & Boone, 2004). On the other hand, low self-regulation was associated with increased internalizing-externalizing behavior problems (Eisenberg et al., 2001; Krueger, Caspi, Moffitt, White, & Stouthamer-Louber, 1996) and risky drinking and sexual behaviors (Quinn & Fromme, 2010; Raffaelli & Crockett, 2003).

The answer to the question of how successful self-regulatory skills could be protective can be the concept of coping strategies and skills. Self-regulation enables to use effective coping skills in stressful situations (Ataman, 2011; Garnefski, Kraaij, & Spinhoven, 2001). People can anticipate and detect potential stressors through their self-regulation skills (Aspinwall & Taylor, 1997). Specifically, self-regulation provides *proactive coping* to individuals. Previous studies have shown that, in presence of socio-demographic risks, there is a significant difference between adolescents with high and low self-regulation in terms of adaptive functioning in many domains (Bakker, Ormel, Verhulst, & Oldehinkel, 2011; Buckner, Mezzacappa, & Beardslee, 2009; Lengua, Bush, Long, Kovacs, & Trancık, 2008).

From this point of view, the aim of this study is to examine the mediator role of self-regulation in rela-

Address for Correspondence: Güntülü Tercanlı Metin, School Counselor, PhD (Ongoing). Hacettepe University Department of Social Work, Beytepe/ Ankara.
E-mail: guntuluu@yahoo.com

tionship of negative life events and emotional-behavioral problems among Turkish adolescents from low SES. Findings of this study are expected to contribute to the limited literature on adolescent self-regulation in Turkey; and to be used in preventive mental health studies targeting adolescents who have socioeconomic disadvantages.

Method

Participants

Study sample consists of 358 7th and 8th grade students living in a low SES district of Istanbul, Esenler. Participants were 190 female (53.1%) and 168 male (46.9%) students aged between 12 and 16 (M = 13.1, SD = .80).

Materials and Procedure

Students were asked to complete a series of self-report measures including demographic information form, Life Events Checklist (LEC), Adolescent Self-Regulation Inventory (ASRI) and Youth Self Report (YSR 11-18). Data was collected from students in a classroom environment (40 min.) on a volunteer basis.

A demographic information form, including questions on participants' age, sex and their parents' education level, job and monthly income, was used in the study. Besides, a modified 26-item Life Events Checklist (LEC) was administered (Goodman et al., 1998) to measure the frequency of negative life experiences. The checklist has acceptable validity and test-retest reliability (Brand & Johnson, 1982). Participants were asked to report whether each event had happened to them in the last year and if so, to categorize them as '*mostly good*' or '*mostly bad*' experience. Then they rated the effect of the event on them on a 4-point Likert scale ranging from '*not at all*' to '*a lot*'. More than one scoring can be used depending on the aim of the study.

In this study, the items '*Breakup with boyfriend/ girlfriend*' and '*Loss of a close friend*' were combined as '*Breakup with a close friend*' upon request of Provincial Directorate of National Education. Then adolescents were asked to report whether each event had happened to them to date and if so, rate the effect of it. The number of events experienced and had effect on them were collected and formed a negative life event score. Higher scores represented increased negative life events. The expression of '*negative life events*' used in this study refers to negative life events, which experienced to date and had effect on the participants. Events had no effect were excluded from the study.

Adolescent Self Regulatory Inventory (ASRI) was also administered to measure self-regulatory skills of adolescents. It was originally developed by Moilanen

(2005) and adapted to Turkish by Harma (2008). The scale includes 32-items and measures the degree to which adolescents are able to activate, monitor, maintain, inhibit and adapt their emotions, thoughts, attention and behaviors. Items are rated on a 4-point Likert scale ranging from '*never*' to '*always*'. Higher scores on ASRI refer to successful self-regulatory skills.

Youth Self Report (YSR 11-18) was designed by Achenbach and Edelbrock to measure emotional-behavioral problems and competencies of adolescents aged between 11 and 18 (Achenbach, 1991; Achenbach & Edelbrock, 1986). The questionnaire includes 112 problem behaviors and 17 competencies. Only problem behavior items were used in this study. Items were rated as 0 (*the problem is not true for me*), 1 (*somewhat or sometimes true for me*) and 2 (*always true for me*). Internalizing (i.e., withdrawn, somatic complaints, anxious/depressed) and externalizing (i.e., delinquent, aggressive behavior) behavior scores were obtained by summing of the scores of sub-scales. Total problem score was obtained from all of the sub-scales, including the social problems, thought problems and attention problems. The questionnaire was adapted to Turkish by Erol, Kılıç, Ulusoy, Keçeci and Şimşek (1998).

Results and Discussion

Direct relationship between number of negative life events and externalizing/ internalizing problems, and indirect relationship of them on self-regulation were examined using a set of Path analyses. Following the positive correlations between age and the number of negative life events, participants' age was controlled in the following analyses. The first model examined the question of how the number of negative life events and self-regulation predict externalizing/internalizing problems. The second model tested the mediator role of self-regulation on the relationship between negative life events and externalizing/internalizing problems. Then these two models were compared. Each model was found as fitting the data well (χ^2 (3) = 3.59, p = .67, CFI = .99, RMSEA = .01, 90% CI [.00 - .06]; χ^2 (5) = 6.79, p = .44, CFI = .94, RMSEA = .03, 90% CI [.00 - .09], *respectively*). Chi-square difference test yielded no significant difference between the estimated models ($\Delta \chi^2$ (2) = 3.20, p = .37). Considering theoretical significance of the mediation model, we interpreted indirect relationships model.

As shown in Figure 2, the number of negative life events predicted externalizing and internalizing problems both directly and indirectly through self-regulation skills. Specifically, adolescents stated more negative life-events reported low self-regulation skills (β = -.17, p < .01). In turn, self-regulation negatively predicted internalizing (β

= .36, p < .001; *Indirect effect CI: 99% CI* [.01 - .08]) and externalizing problems (β = .21, p < .001; *Indirect effect CI: 99% CI* [.02 - .13]). To compare effect size of the predictions, Wald statistics were computed and the number of negative life events (β = .36) predicted internalizing problems more strongly than self-regulation (β = -.24), whereas self-regulation (β = -.44) predicted externalizing problems more strongly than negative life events (β = .21) (*Wald* (1) = 111.49, p < .001).

Multiple-group path analysis was also run to test whether the parameter estimates varies across gender or not. Results yielded no significant difference between freed model (χ^2 (3) = 3.59, p = .67, CFI = .99, RMSEA = .01, 90% CI [.00 - .06]) and constrained model (χ^2 (6) = 5.20, p = .52, CFI = .98, RMSEA = .02, 90% CI [.00 - .09]). In sum, there were no convergent findings across females and males.

The results of this study were generally in expected direction and supported by the previous research. In all life periods, negative life events are associated with psychological problems (Flouri & Kallis, 2011) while successful self-regulation skills are associated with the adjustment (Buckner et al., 2009; Tangney et al., 2004). Negative life events and experiences have found to affect neuroendocrine system adversely and make it difficult to regulate behavior, emotion, and attention (Evans, 2003; Doan, Fuller-Rowell, & Evans, 2012). Previous work on the role of self-regulation on problem behaviors among individuals from different age groups showed that self-regulation is closely associated with both internalizing and externalizing problems (Buckner et al., 2009; Krueger et al., 1996; Eisenberg et al., 2001). In a sample of having socio-economic, maternal and environmental risks; adolescents with low effortful control were found to experience more internalizing and externalizing problems than those with higher effortful control (Lengua et al., 2008). Similarly, among adolescents with low SES, those who have higher self-regulation skills were found to have higher social and academic competency, lower level of behavioral problems, depression, and anxiety (Buckner et al., 2009). Adolescents who use adaptive cognitive regulation strategies against stressful life events were found to have lower levels of depression and anxiety (Ataman, 2011). Following these empirical results, it could be stated that interventions to improve self-regulation abilities of adolescents who have negative life experiences will lessen behavioral and emotional problems.

Consistent with the previous work (Batum & Yağmurlu, 2007; Eisenberg et al., 2001; Doan et al., 2012; Karreman, van Tuijil, van Aken, & Dekovic´, 2009; Kochanska & Knaack, 2003), the current study also showed that self-regulation more strongly predicted externalizing problems than negative life events. Low SES brings environmental risk (high crime and violence rates etc.) with itself (Attar, Guerra, & Tolan, 1994). Adolescents who live in such surroundings and have low self-regulation are more vulnerable to environmental risks (Gardner, Dishion, & Connell, 2008; Lynam et al., 2000) because they have difficulty to avoid from dangerous and risky situations and to choose safe environments and experiences (Lengua et al., 2008). Moreover, attention regulation as a dimension of self-regulation is an essential part of anger-regulation (Kim & Deater-Deckard, 2011).

Negative life events were found as related to both externalizing and internalizing problems in the field (Sandler, Reynolds, Kliewer, & Ramirez, 1992; Deater-Deckard, Dodge, & Bates, 1998; Appleyard, Egeland, Van Dulmen, & Sroufe, 2005; Morales & Guerra, 2006; Flouri & Kallis, 2011; Doan et al., 2012; Lengua, 2002). Longitudinal studies indicate that there is a reciprocal and continuous relationship between negative life events and adjustment (Kim, Conger, Elder, & Lorenz, 2003; Timmermans, 2008). According to Kim et al. (2003), externalizing and internalizing problems predict future negative life events and experienced life events in the future predict future internalizing and externalizing problems. This study has a cross-sectional design, so, it is not possible to observe real dynamics of negative life events and internalizing/externalizing problems relationship.

Another finding of the current study was the mediator role of self-regulation between negative life events and internalizing/externalizing problems relationship did not change across sexes. This result is consistent with the previous work indicating that mediator role of self-regulation does not change across sexes (Doan et al., 2012). Self-regulation was found as equally important for both sexes to lessen the effects of negative life events.

Some limitations of the study should be noted. The study has a cross-sectional design and has a small sample from one school in a low SES area. Besides, only adolescent-report information was used in the study. Future research should use more representative sample and different sources of information to increase generalizability of results presented here.