

The Direct and Indirect (Through Worry and Academic Achievement) Impacts of Emotional Self-Efficacy on Adolescence Depression: Bandura's Agentic Model of Depression.

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Abstract

The present study examines Bandura's agentic model of depression as well as modeling emotional domain of self efficacy in adolescence depression. The selected sample was 946 high school students (471 females and 475 males) from north, south, east, west and central Tehran. The schools were chosen randomly. Participants completed Child Depression Inventory (CDI), Self-Efficacy Questionnaire, and Penn-state Worry Questionnaire. The design of this study is structural equation modeling, which includes two sections: First, confirmatory factor analysis and second, structural equation. This study examined direct and indirect pathways to adolescence depression. Findings revealed satisfactory fit: $\chi^2/df = 0/07$, $RMSEA = 0/55$, $NFI = 0/97$, $CFI = 0/98$ and $GFI = 0/97$. Results showed that the direct and indirect impacts (Worry \rightarrow depression and worry \rightarrow academic achievement \rightarrow depression) of emotional efficacy are significant.

Keywords: self-efficacy, emotional self-efficacy, depression, academic achievement, agentic model.

Self-efficacy is the central construct of Bandura's social cognitive theory (Bandura, 1997, 2006) and refers to the perceived ability to produce a desired action. Among the mechanisms of personal agency, none is more

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pervasive than peoples beliefs in their capabilities to exercrise control over their level of functioning and environmental demands (Bandura, 1999 and 2006). Unless people believe that they can produce desired effects by their actions, they have little incentive to act. Efficacy beliefs exert a considerable impact on human development and adaptation (Bandura et al., 1996 and, Madux, 1995). Efficacy beliefs also play a central role in the self-regulation of cognitive, motivational, emotional and choice Processes (Bandura, 1999, 2005 and 2006).

Self-efficacy is presumed to have a powerful influence on behavior (Bandura, 1977) concerning one's ability to execute a specified course of action. Self-efficacy should be distinguished from outcome expectancy that refers to beliefs of probability that a specified course of action will lead to certain consequences or outcomes and out come value, the subjective value one places on certain outcomes or sets of outcomes (Maddux, 1991).

According to Bandura (1997), self-efficacy plays a pivotal role in the self-regulation of affective states. The inability to influence events and conditions that significantly affect one's life can give rise to feelings of futility and despondency as well as anxiety .

Briefly, when people perceive themselves as inefficient to gain highly valued outcomes, they become depressed (Muris, 2001).

Childhood depression is a matter of major concern because of its prevalence and impairment of functioning. Moreover, it often is not a transient phenomenon that children outgrow. Depressive episodes are recurrent if the contributing factors remain unabated. Early depressive vulnerability can, therefore be predictive of frequency and severity of depression in adulthood (Petersen, Compass, Brooks and Stemmler,1993 and Burnes, Andrews and Szabo,2002) .

Theories of depression differ in the particular determinants they feature. Social cognitive theory posits an agentic model of depression in which individuals play a proactive role in their adaptation rather than simply undergo experiences through environmental stressors acting on their personal vulnerabilities. Within an agentic perspective, positive contributors to successful adaptation represent enablement factors that

operate proactively rather than just protective or sheltering factors. Enablement equips them with the personal resources to select and structure their environment in ways that cultivate competencies and set a successful course for their lives. people are enabled rather than merely buffered by competencies and beliefs of personal efficacy (Bandura, Pastorelli, Barbaranelli, and Caprara,1999; and Bandura, 1999).

According to Bandura's agentic model there are three important pathways along which a low sense of Self- Efficacy may give rise to feelings of depression (Bandura, 1997; and Bandura et al., 1999).

First, when people face a situation in which they have to meet highly valued standards , a low sense of self-efficacy may produce a despondent mood. This is particularly true when people's personal standards of merit are set well above their perceived efficacy to attain them . Second, a low sense of social efficacy may prevent the formation of social relationships that brings satisfaction to people's live and enable them to manage stressful experiences. The lack of social self-efficacy makes people believe that they cannot meet other's evaluative standards (Muris , 2002). The third efficacy pathway to depression is through the exercise of control over negative thoughts. All people experience despondency and depressed thoughts from time to time in response to rejection, losses, failures and setbacks, but they vary in how well they are able to deal with these thoughts and how quickly they get over them. most pepole cope successfully and rebound rapidly, whereas some use ineffective strategies and are drawn into a deepening despondency that lasts for a long time . Recurrent rumination about negative life events and one's despondent state ampilfies and prolongs depressive reactions, whereas engrossment in activities that command attention or improve one's life terminate depressive episodes. Low sense of efficacy to regulate ruminative thought contributes to the occurnce and continuation of depressive episodes, (Bandura et al.,1999).

Empirical research on the contribution of perceived Self-Efficacy to depression has been predominantly confined to adults (Bandura , 1997). As this also frequently occur in youths (Burns, et al., 2002 and Richardson,

1999), it seems obvious to study self-efficacy in relation to child and adolescent psychopathology. So far research in this area has showed the role of self-efficacy in early onset of depression (Muris, 2001, 2002; Maciejewski, Prigerson and Mazure, 2000; Bandura, Barbaranelli, Caprara and Pastorelli, 1996, Maddux, 1995, and Ehrenberg, Cox, and Koopman, 1991).

The present study further examined the third pathway of Bandura's agentic model of depression in adolescence and modeling emotional self efficacy impacts directly and through worry and academic achievement on adolescents depression. The indirect impact of worry is also included because it is a kind of ruminative and frequent negative thoughts without exercise of control about those thoughts (Clark and Fairburn, 1997). It involves intrusive and excessive thoughts or images that are related to possible negative or threatening outcomes (Chorpita, 2007 and Schroeder and Gordon, 2002). Also indirect impact of academic achievement is included because emotional inefficacy and worry have influence on self-regulation and goal orientation in academic functioning (Malpass, Neil, and Hocevar, 1999).

Method

Participants and procedure

The participants in this study were 946 students with a mean age of 16.5 years. There were 471 females and 475 males. The sample consisted of high school students from north, south, east, west, and central Tehran. They were chosen randomly through a several-stage sampling.

Participants completed the Child Depression Inventory (CDI) (Kovacs, 1992), Self-Efficacy Questionnaire (Muris, 2001), and Pennstate Worry Questionnaire (Meyer, 1990).

The design of this study was based on a structural equation modeling which includes two sections: first, confirmatory factor analysis and second, structural equation. This study examined direct and indirect (through worry and academic achievement) emotional efficacy pathways to adolescence depression.

Questionnaires

Children Depression Inventory (CDI): The CDI (Kovacs, 1992) is a commonly used self-report measure of depressive symptoms in children and adolescents. The scale has 27 items dealing with sadness, self blame, loss of appetite, insomnia, interpersonal relationships, and school adjustment. CDI items have to be scored on a three point scale with 0 = not true, 1 = somewhat true, or 2=very true. A total CDI score can be calculated by summing all scores.

CDI has satisfactory reliability and validity (Kovacs, 1992) . Bandura and his colleagues (1999) reported that the alpha reliability coefficient was .84. In another study (Cole, Peeke, Marting, Truglio and Seroczynsk, 1998), CDI was found to have high levels of internal consistency, (.91), retest reliability, and convergent validity.

In the present study, the questionnaire was translated to Farsi. The reliability of CDI by test-retest of 43 students (20 males and 23 females) was .83 and Cronbach's alpha was .64 (Tahmassian, 2005).

Self-Efficacy Questionnaire (SEQ): The SEQ contains 24 items that can be allocated to three subscales: 1) social self-efficacy (eight items) which has to do with the perceived capability for peer relationships and assertiveness, 2) academic self-efficacy (eight items) which is concerned with the perceived capability to manage one's own learning behavior, and 3) emotional self-efficacy (eight items) which to the perceived capability of coping with negative emotions. Each item has to be scored on a five point scale with 1=not at all and, 5=very well. Total self-efficacy and subscale scores are computed by summing across relevant items. Muris (2002) has provided some evidence for the validity of the SEQ. From the sample of 373 adolescents (165 boys and 208 girls) the predicted pattern of correlation between SEQ and scores on active coping ($r=.37$, $p<.001$), passive coping ($r=-.29$, $p<.001$), and with the tendency to make negative causal attributions ($r=-.49$, $p<.001$) was found Other studies (Celikelel, Gendogdu, and Kranesen, 2006; and lackaye, Marqalitm, and Ziman, 2006) showed that SEQ has satisfactory reliability and validity.

In present study, the questionnaire was translated to Farsi. The reliability of the SEQ by test – retest of 43 students was .89 for total self-efficacy and .88 for emotional self efficacy. Internal consistency (Cronbach’s alpha) for emotional self-efficacy was .84 and Guttman split-half was .82 .

Pennstate Worry Questionnaire: Pennstate Worry Questionnaire (Meyer, Miller, Metzger, and Bekovec, 1990) is a self-report questionnaire measuring frequent negative thoughts. The scale has 14 items and have to be scored on a 4 point scale with 0 = not true and 4=very true . Chorpita (1997) reported .90 for reliability .80 for internal consistency. In Iran Mofrad (1379) reported .88 for test – retest reliability in a clinical sample, .85 in a normal sample and .8 for internal consistency.

Academic Achievement: in this research academic achievement assessment was based on the grade point average of one academic term only.

Results

Discriptive statistics showed that the means and standard deviations of emotional self-efficacy, worry, depression and academic achievement are respectively, 16.81 (SD=4.28), 39.48 (SD=11.04), 37.36 (SD=6.76) and 16.81 (SD=2.29).

Table 1 presents the component matrix of emotional self-efficacy subscale by factor analysis.

Table 1
Subscale component matrix of emotional self-efficacy

Item	Component
6	.728
2	.685
3	.652
5	.652
4	.652
1	.623
7	.589

Factor analysis revealed one factor for emotional self-efficacy subscale which accounted for 43% of the variance (Eigenvalue: 3/011).

Table 2 shows the rotated component matrix of the worry questionnaire.

Table 2
Rotated component matrix of Pennstate worry questionnaire

Item	Component	
	1	2
13	.826	.063
11	.816	.062
10	.814	.038
6	.753	.247
12	.669	.263
8	.666	.130
3	.602	.424
4	.568	.437
14	.026	.203
9	.025	.773
2	.003	.700
7	.252	.628
5	.463	.494
1	.456	.480

Factor analysis of worry questionnaire revealed two factors which accounted for 53.46% of the variance (Eigenvalues: 5.932 , 1.547)

Structural equation modeling revealed that the model provides a satisfactory fit:

Chi – square = 191.71, RMR = .07, RMSEA = .55

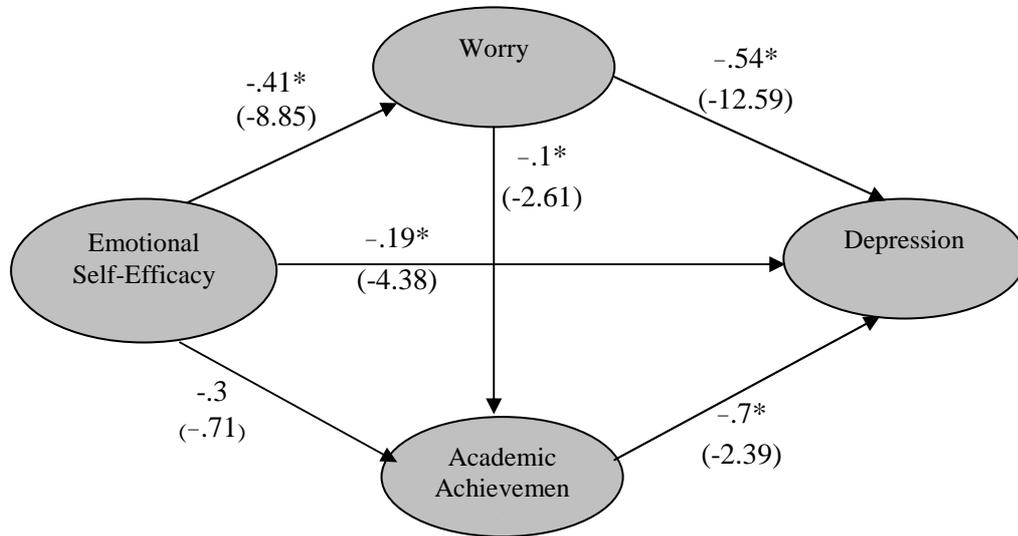
Normed fit index (NFI) = .97

Non- normed fit index (NNFI) = .97

Comparative fit index (CFI) = .98

Goodness of fit index (GFI) = .97

Adjusted Goodness of fit index (AGFI) = .94



Chi-Square=191.71, df=54, P-value=0.00000, RMSEA=0.055

Figure 1. The Emotional Self-efficacy Modeling of Adolescence Depression.

Figure 1 presents a schematic representation of the model on the direct and indirect impact of emotional self-efficacy in the formation of depression in adolescence. The direct impact of emotional self-efficacy and indirect impact through worry are significant. The impact of emotional self-efficacy on average is not significant but the impact of average on depression is significant.

Table 3
Correlation matrix of ETA and KSI.

	CDI	Academic Achievement	Worry	Emotional self efficacy
CDI	1.00			
Academic Achievement	-0.12	1.00		
Worry	0.63	-0.09	1.00	
Emotional self-efficacy	-0.41	0.01	-0.41	1.00

Table 3 Presents correlation matrix of ETA (endogenous variables) and KSI (exogenous variables).

Discussion

In the past decade the phenomenon of adolescence depression has attracted considerable attention in the clinical literature (Ehrenberg et al. 1991, Richardson, 1999 and Burns et al., 2002). But, current understanding of depression in adolescents is limited, and empirical investigations aimed at increasing our understanding of the nature of adolescence depression is clearly needed.

In this study, the problem of adolescence depression was approached from a cognitive-behavioral perspective. More specifically the role of emotional self-efficacy in adolescence depression according to agentic model of Bandura (1999) was investigated. Bandura (1986, 2006) conceptualized self-efficacy as the most influential aspect of our life.

The present data suggests that emotional self-efficacy is linked to depression directly and, through the mediation of worry and academic achievement.

Emotional self-efficacy directly has impact on adolescence depression. The direct link between emotional self-efficacy and depression is not difficult to explain. It is evident that people may become depressed because they can not exercise control on negative thoughts and rumination (Caprara, Scabini, Barbaranelli, Regalia, and Bandura, 1999). Several findings yielded that emotional self-regulatory efficacy contributes to variance of depression. A low sense of efficacy to manage negative emotion is highly depressing (Bandura et al, 1999). Low self-efficacy about control over negative thoughts may boost depression. All people will experience anxious, worrisome, and depressed thoughts from time to time, but they vary in how well they are able to deal with these thoughts. While some people successfully cope with negative thinking, others may use ineffective strategies that even trigger further strings of negative thoughts (Muris, 2002, Bandura, 1992).

Emotional self-efficacy is linked to depression through worry. The perceived self-efficacy to calm oneself is included as part of the self management of negative thoughts and affect. Low self-efficacy in management of duration and frequency of negative thoughts may lead to worry (Malpass, Neil, and Hocevar, 1999 and Clark and Fairburn, 1997), and worry in turn has impact on adolescence depression. Current developments in cognitive and emotional theory suggest that anxiety plays a rather central role in negative emotions (Chorpital and Barlow, 1998). Anxiety specially cognitive component may actually be an important factor in depression.

The other pathway in present study was impact of emotional self-efficacy and worry on depression through academic achievement. The perceived inability to exercise control over events that affect one's life has been posited as a source of depression. Academic underachievement breeds despondency in adolescents (Bandura et al., 1996). According to Bandura's agentic model of depression (Bandura et al., 1999) the first pathway to depression is a sense of inefficacy to fulfill the valued standards and according to Showelson and Hunberand's (1976, Pajazaraz and Schunk, 2001) hierarchical model of self-concept for adolescence, academic performance and academic achievement are some of the valued standards. Our EQS model in present study showed the same findings. Academic underachievement may have impact on negative emotions (Har, Smith, and Ming, 2001) and emotional self-efficacy through worry may impact on academic achievement. Worry moderate negative effect on achievement (malpass, et al., 1999).

Bandura et al. (1999) suggests that in the academic source of depression the problem is not just academic achievement, but children's beliefs about their academic capabilities. This finding has shown in a study that tested the structural model of some domains of self-efficacy governing the severity of adolescence depression. This study shows that when academic self-efficacy is included in model, academic achievement has not direct impact on depression, but when academic self efficacy is not included in

the model, academic achievement has an impact on depression (Tahmassian, 1384).

Altogether, our EQS model provides a satisfactory fit and suggests that adolescence self-efficacy to manage negative emotions has direct and indirect (through worry and academic achievement) impacts on adolescence depression. There are also strong indications that increasing emotional self efficacy should be considered as an important target of adolescence psychotherapy.

The structure of the obtained relationships suggest that efforts to reduce proneness to depression would do well to center on enhancing perceived self-efficacy, both in its own right, and as a way of obtaining academic underachievement that breed despondency.

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