

Study of Differentiation of Self and General Health in High School Students

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Article information	Abstract
<p>Article history: Received: 27 Sep 2011 Accepted: 1 Dec 2011 Available online: 16 Oct 2012</p>	<p>Background: According to the Bowen Family System Theory, the differentiation level is associated with lower anxiety. The aim of this study was to evaluate more broadly the relationship between differentiation and other indicators of public health (anxiety, depression, physical discomforts, and social dysfunction) in Iranian culture.</p> <p>Materials and Methods: This descriptive-correlation study was conducted on third-grade boy and girl high school students in district 5, Tehran. The study sample consisted of 320 third grade high school students randomly selected from the four geographical corners of this district (160 girls and 160 boys). The subjects completed the 28-item version of the Goldberg General Health Questionnaire and the Differentiation Inventory designed by Skowron. The results were analyzed by SPSS-14 statistical software through Pearson correlation, multivariate regression analysis, and <i>t</i>-test statistical methods.</p> <p>Results: The results of regression analysis in the <i>t</i>-test showed a significant relationship between differentiation level and general health of students at the level of 0.99.</p> <p>Conclusion: People with higher differentiation (emotional reactivity, fusion with others, less emotional cutoff, and clearer I-position) have better general health. The findings confirm the Bowen System Theory.</p>
<p>Keywords: Family system Differentiation General health Students Emotional responses I- position Fusion</p>	
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Introduction

Since the present era is associated with significant progress of science whose purpose is to facilitate human life and to promote people's health, a study of factors affecting health is of special importance.

The cornerstone of Bowen's well-made and accurate theory relies on his belief about powers that are within the family and seek unity and togetherness or inversely individuality. According to Bowen, self-differentiation means a person's ability to avoid automatic follow of behavior from emotions. Bowen did not assume that feelings should be sacrificed for the sake of rational behavior, and he did not believe that it is necessary to suppress emotions. He was concerned that humans are influenced by emotions which are not well understood. The main purpose of self-differentiation is to provide a balance between emotion and cognition. Differentiation, in its Bowenian meaning, is further a process than an achievable goal. Differentiation is like a path for life not a state of being or existence [1]. When the family is involved in challenge with unity focused powers, anxiety is raised inevitably. According to Bowen, chronic anxiety is the main basis of all the illness-like signs and the only antidote of this status is attaining to dissociation and differentiation; the process through which the person learns to adjust his/her path of motion, and not to permanently obey family or others guidelines [2]. According to Bowen's theory, at least four factors are associated with the differentiation level of an individual.

1. Emotional reactivity: Low differentiated individuals are emotionally very reactive; thus, a large part of their energy is spent to experience, state, and express their strong feelings. It is very difficult for these people to be calm, since they are trapped in an emotional world.

2. I-position: The differentiation of an individual is reflected in the ability to take the I-position; that is, even when the person is motivated to do something against his/her belief, he will keep a clear definition of self-concept. Low differentiated individuals with a low clear I-position are emotionally dependent on others and are rarely able to independently feel, think, and act. In contrast, highly differentiated people have the ability to take the I-position in their relationships.

3. Fusion with others: Low differentiated individuals fuse with others in most of their close relationships. According to Bowen's theory, highly fused people are stuck emotionally to their place in family and do not possess strong beliefs. They are also fanatic or are simply submitted to others' ideas. These people highly in seek of the affirmation and confirmation of others.

4. Emotional cutoff: When personal relations become very cordial, low-differentiated individuals may respond to the situation through emotional cutoff. Intimacy is a deep threat for such people; thus, they often tend to isolate themselves from others. By separating themselves, they exaggeratedly deny the importance of family and show themselves seemingly independent [3].

Differentiation was theorized as a key element of the adolescent's successful move toward youth period. The pattern of family relationships can either promote or reduce the successful transition to adulthood for adolescents, especially the amount of parents' help to the adolescent to adjust the desire for individuality and togetherness plays also an important role in this regard [4, 5]. Differentiated individuals have a distinctive definition of themselves and their beliefs, and can choose the direction of their lives. In contrast, undifferentiated individuals who lack a defined identity move along with the emotional wave of the family during stress and problems between the persons present. Therefore, they experience a high chronic anxiety and become prone to psychological problems and the occurrence of disease symptoms. Family patterns affect the individual's autonomy, age-appropriate responsibility, effective communication with important people in his/her life, and his/her health through the way of differentiation [6].

Physical health and well-being have always been studied by medical scientists and psychologists. It seems that the unifying of mental health and well-being concepts results in a more important concept; general health. Meanwhile, the main goal of medical scientists and psychologists is to maximize health feelings of people. General health has four subscales which include: the lack of somatic disorders, the lack of anxiety and insomnia, normal social function, and the lack of severe depression and tendency to suicide. In a research conducted by Chung and Gale, high self-esteem and low depressed mood as two components of well-being and their relationship with differentiation were examined. Therefore, significant structural differentiation in the prediction of mental health was assessed [7].

In another study conducted by Peleg-Popk, highly differentiated students reported less social anxiety. Furthermore, these students reported less somatic symptoms than those with lower differentiation. In another study by the same researcher, the differentiation of adolescents within the family (especially differentiation from mothers) had a negative relationship with state anxiety and trait anxiety (triad anxiety) and had a positive relationship with cognitive performance [8]. In a research conducted by Skowron, high differentiation was identified as a better factor of personal adjustment and the increase of solving skills of social problems in colored ethnic groups [9]. In the research done by Weitzel et al., the cause of anorexia nervosa that occurs usually in adolescence was defined as lying in weak identity constructs which improved following interventions to increase differentiation levels in adolescents [10]. Since differentiation can improve through training techniques, and according to previous studies and their results which showed that high differentiation level was an effective factor on health, we suggest more focus on this construct in health domains.

Materials and Methods

This research was a descriptive correlation study and its population consisted of third-grade students of boy and

girl high schools of District 5 in Tehran. Given the size of the population and the research design, the sample size was decided to be 320 persons (160 girl and 160 boy students). To select high schools, District 5 was divided into four geographic regions of North, South, East and West, and then Sommayeh, Mahdavi Can (girls), Tohid and Shahid Rajai (boys) high schools were selected through randomized stratified sampling. The participants in the research were randomly selected from third-grade students of these high schools. The measurement tools in this study were the Differentiation of Self Inventory (DSI) and the 28-item version of the General Health Questionnaire (GHQ) [11].

The reliability of the Differentiation Inventory: Cronbach's alpha coefficient reported by Skowron and Friedlander was 0.86. In the research conducted in Iran, this coefficient was reported to be 0.81 [12]. The reliability of the Farsi version of GHQ questionnaire was reported as 0.84 [13]. The validity of the General Health Questionnaire mostly relied on construct validity, which is determined through the calculation of its correlation coefficient with similar tools used to screen psychological disorders. Based on Goldenberg and Belk's study, the correlation between scores of this questionnaire and the result of clinical evaluation of disorders severity was reported as 0.80 [14]. Statistical methods used in this study included Pearson correlation coefficient, multivariate regression analysis, and the *t*-test, which were analyzed with SPSS-14 software.

Having been explained the research design; participants were allowed to fill out the questionnaire if they wished to. They were also assured that the questionnaire information would remain confidential. To encourage them to respond accurately to the questions, they were announced that they can follow up the results of the questionnaire through e-mail.

Results

All subscales of differentiation showed a significant correlation with anxiety, depression, social function, and somatic health. Table 1 depicts the mean and standard deviation of different dimensions of differentiation and the general health of the boy and girl students, separately. The conditional correlation coefficient (the correlation coefficient after statistical control) of differentiation level and general health of students was calculated as 0.466, according to Pearson correlation coefficient, which shows a positive and moderate correlation between differentiation level and general health ($p < 0.01$). Correlation coefficients between differentiation level and students' somatic health, anxiety, social dysfunction, and depression were 0.37, 0.48, 0.39, and 0.40, respectively. All coefficients indicate a positive and moderate relationship ($p < 0.01$).

Table 2 (the appendix to page 2) represents the results of univariate regression analysis of differentiation and general health as well as multivariate regression analysis of differentiation subscales – emotional reactivity, I-position, emotional cutoff, fusion with others, and general health, separately.

Table 1. Descriptive statistics of various aspects of differentiation and general health of students

	Determination	β Coefficient (Standardized)	Coefficient	Regression Coefficient	<i>p</i> -value
Emotional reactivity	0.26	0.44	0.07	0.68	0.001
I-position		0.27	0.08	0.44	0.001
Emotional cutoff		0.35	0.09	0.63	0.001
Fusion with others		0.25	0.08	0.40	0.49
Differentiation	0.24	0.498	0.03	0.031	0.001

Table 2. Results of regression analysis of differentiation, its subscales, and general health

	Boys Mean \pm SD	Girls Mean \pm SD
Emotional reactivity	40.75 \pm 9.34	35.62 \pm 8.66
I-position	46.31 \pm 15.9	44.21 \pm 8.79
Emotional cutoff	43.41 \pm 8.07	41.96 \pm 8.05
Fusion with others	40.59 \pm 8.69	70.39 \pm 9.24
Differentiation	171.06 \pm 23.68	161.49 \pm 22.28
Somatic health	23.22 \pm 19.3	20.60 \pm 4.59
Anxiety	22.50 \pm 3.78	65.19 \pm 4.50
social dysfunction	21.59 \pm 10.3	19.38 \pm 91.3
Depression	23.73 \pm 4.94	21.70 \pm 46.5
General health	91.04 \pm 80.11	81.33 \pm 46.15
Mean score	19.16 \pm 90.1	53.16 \pm 2.01

The determination coefficient of differentiation and general health was equal to 0.24 and shows that the independent variable of differentiation explains singly 0.24 of the variance of the general health dependent variable. Since the regression coefficient (*b*) is positive, it can be said that general health improves 0.31 per one unit increase in differentiation.

A comparison of β coefficients of the four subscales – emotional reactivity, I-position, emotional cutoff, and fusion with others – showed that emotional reactivity with a beta coefficient of 0.44 had the greatest impact on general health of students. The determination coefficient of differentiation and somatic health was equal to 0.13, which shows that the independent variable of differentiation explains singly 0.13 of the variance of the somatic health dependent variable. The determination coefficient of differentiation independent variable and anxiety was 0.23, indicating that differentiation explains singly 0.23 of the variance of the anxiety dependent variable. On the other hand, the determination coefficient of differentiation and social dysfunction was 0.15, which shows that differentiation explains singly 0.15 of social dysfunction. The determination coefficient of differentiation and depression was 0.16, which shows that the independent variable of differentiation explains singly 0.16 of the variance of the depression dependent variable.

Discussion

The results have confirmed the hypotheses of the study that highly differentiated students (emotional reactivity, emotional cutoff and fusion with others, as well as greater ability in keeping the I-position) have better general health (lower anxiety and depression and better somatic health and social function). In the regression analysis, two subscales of emotional reactivity and I-position were the highest predictors of anxiety variables, respectively. The

ffective (emotional) response system is an instinctual and physiological system considered as an internal guidance for the organism [15].

Upon an increase in environment anxiety, the emotional reactivity of all persons increases; however, low differentiated individuals emotionally react more in anxious situations, when the differentiation of mind and feelings becomes difficult for them and respond immediately and autonomously to the environment according to previously learnt patterns. This immature paradigm includes emotional cutoff and fusion with others. These are two temporary mechanisms to avoid facing real feelings and to reduce anxiety which become a permanent and exaggerated behavioral pattern in low-differentiated people. The individual, who fuses with important persons of his/her life, will gradually be emotionally dependent on them; then, the individual will lose autonomy and will need more support from them. These issues result in further confusion and anxiety in the individual and family members. The other side of fusion with others is emotional cutoff, the behavioral symbol of fear of integration and unity with others. The person fears losing his/her independent identity in relation to other one or of being rejected by important persons of his/her life, therefore, he/she anticipatedly behaves exaggeratedly independent.

In fact, keeping exaggerated physical and emotional distance from others is another unsuccessful mechanism to reduce anxiety in low differentiated individuals. The second significant predictor of anxiety is the person's ability to take the I-position, which is the person's ability in defining his/her beliefs, needs, desires, and limits; these definitions construct the self of individual. The self which is appropriately affected by supporting or opposing pressures and forces in interpersonal relations is known as the basic self, and if it is under the influence of interpersonal relationships, it is called the pseudo self. People who are weak in taking the I-position and have a pseudo self, change their beliefs and values according to the requirements of their relationships.

The direction of these changes is to obtain reward and be confirmed by others. However, obtaining the approval of others temporarily reduces anxiety and encourages this behavior, but when all these attempts have been blamed and denied instead of being approved by others, will sacrifice more and more the personality of the self to obtain others' confirm, thus forming a vicious cycle.

The result of such a defective approach is the creation of a great source of anxiety in them (especially during evaluation). Apart from anxiety, the second subscale of

general health that showed the highest correlation with differentiation was depression. Emotional reactivity, emotional cutoff, and the I-position were respectively identified as significant predictors of depression in regression analysis. Emotional reactivity and emotional cutoff gained the highest score in predicting depression. According to these findings, we can conclude that when a low-differentiated person encounters an undesirable event, he/she cannot overcome his/her emotions and responds emotionally to the environment. According to the results of this research, the dominant response of such a person is emotional cutoff, so the individual separates himself/herself from situations and persons. This behavior may temporarily reduce stress and strengthen the individual's gradual movement toward depression through cutting off social relations.

In addition, failure to keep the I-position is reported to be a predicting factor of depression; to explain, it can be said that by means of taking I-positions, disabled people are seeking approval from others, and with a little blame or lack of confirm from others, they introspect to find the cause of the problem, because they do not possess a specific definition of themselves; also, since they are very passive and have not an identity to defend, they are condemned. The attributional approach of these persons is internal versus external, *i.e.* they seek to detect a weakness in themselves following failure. This attributional approach is of the main origin of depression according to Beck's theory.

Besides anxiety and depression, social function is the third subscale of general health that showed the highest correlation with differentiation. In explaining the proper social function, one can say that in fact a person with such a character had the ability to adapt with different situations. The regression analysis of the I-position subscale showed that social function was the most powerful predictor. An adolescent who is powerful in keeping the I-position has a relatively complete and correct understanding of the self and his/her strengths, weaknesses, and needs. In fact, he/she actively seeks opportunities to efficiently use his/her abilities in such situations and train his/her I-position so that a good cognition can be achieved. To properly adapt and to passively function, such a person does not change in the course of social changes; he/she actively manipulates and reciprocally interacts with the environment which leads to his/her better social function.

Apart from anxiety, depression, and social function, it was the somatic health subscale that showed the highest significant correlation with differentiation. Emotional reactivity, emotional cutoff, and the I-position were, respectively, the most predictive factors of somatic health in regression analysis. According to Bowen's theory, in low-differentiated families, the parents keep their contact (and therefore the apparent emotional balance) with each other in a state of helplessness and need of the child. The expression of somatic symptoms in children of such families is encouraged by parents. In other words, when children in such families found that their parents become closer when they got sick, they show more high risk and

less precautionary behaviors and the person and the family respond more sensitive to somatic symptoms and even pretend to be sick. On the other hand, less differentiated individuals experience high levels of anxiety and this chronic anxiety leads to his/her immune system suppression through hormonal alterations and keeping the body in a flight-and-flight mode and make him/her susceptible to various diseases.

With regard to the findings of this study, well-differentiated people have better general health; and emotional reactivity is the most predictive factor of general health. To explain this finding, one can say that continuous application of the emotional reactivity pattern in low-differentiated individuals, through its physiological impact, causes continuous arousal of neural-hormonal defense system of fight-and-flight (through hypothalamic-pituitary-adrenal axis) and by keeping the person alert, suppresses the immune system. The continuation of these conditions is hazardous to the person's health; however, on the other hand, emotional reactivity leads to emotional behavioral reaction (without intellection) to environmental stimuli; in such conditions, thinking about behavior health is disrupted.

According to the results of this research, the mean differentiation showed a significant difference between boys and girls (the mean differentiation was greater in boys). This finding is confirmed or denied by some previous studies. For example, research conducted by Peleg-popko did not report a significant difference in differentiation level between the two sexes, and this finding confirms Bowen's theory on the absence of such a difference. However, Peleg-popko has suggested the same number of genders for future research in order to generalize this finding.

In another research conducted by the same researcher in 2004, he showed the difference between mean differentiations in the two sexes to be significant. Furthermore, girls gained higher scores in the emotional reactivity subscale than boys and boys gained higher scores in the emotional cutoff subscale than girls. According to the results of this study, girls gained higher scores than boys in the emotional reactivity (*i.e.* in anxious conditions, they behaved more emotional), and boys were more able to keep the I-position than girls. The reason for this difference could be the different socialization ways of girls and boys. This finding provides different preventive and treatment plans for pathology and therapy of low-differentiated boys and girls.

Regarding the findings of this research, considering the differentiation level of adolescents as an effective factor in mental health seems to be essential in their treatment programs. One feature of Bowen's therapy method is that increasing differentiation in one of the family members has a big impact on other members. Therefore, by improving the differentiation level of adolescents as a member of the family, this feature will improve in the whole family and lead to general health improvement. The confirmation of this conclusion depends on future research in this regard. Since this study was not

longitudinal, one cannot conclude that increase of differentiation may improve general health. Therefore, we recommend longitudinal research in this area. Of course, such researches will also examine the concept of Bowen's multigeneration theory. To make applicable the differentiation concept of Bowen's theory, we propose the determination of its optimal level in Iranian culture.

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References

1. Friedman E. Bowen theory and therapy In: A.S Gurman & D.P Kniskern Handbook of Family Therapy. Vol 2 New York: Brunner/Mazel; 1991: 38-154
2. Goldenberg I, Goldenberg H. Bowen theory in: [Family therapy] Persian. 4th ed. Tehran: Ravan press; 1387: 207-231.
3. Peleg-popko O. Bowen theory: A study of differentiation of self social anxiety and physiological symptoms. Contemporary Family Therapy 2002; 24(2): 355-369.
4. Carter B, McGoldrick M. The changing family life cycle: A framework for family therapy. 2nd ed. Boston: Allyn & Bacon; 1989: 320-328.
5. Kerr M, Bowen M. Family evaluation. 1st ed. New York: Norton; 1988: 127.842.
6. Skowron EA, Holmes SE, Sabatelli RM. Deconstructing differentiation: Self regulation, interdependent relating, and well-being in adulthood. Contemporary family therapy. 2003; 25(1): 111-129.
7. Chung H, Gale J. Comparing self-differentiation and psychological well-being between Korean and European American students. Contemporary family therapy 2006; 28(3): 367-381.
8. Peleg-popko O. Differentiation and test anxiety in adolescents. J Adolesc 2004; 27(6): 645-662.
9. Skowron EA. Differentiation of self, personal adjustment, problem solving and ethnic group belonging among persons of color. J Counseling Development 2004; 82(4): 447-456.
10. Weitzel FE. [Understanding anorexic women who moved toward healing through the process of self-differentiation: A multiple case study] [dissertation]. Colorado: School of Professional Psychology; 2006: 19-48.
11. Skowron EA, Friedlander ML. The differentiation of self inventory development and initial validation. J Counseling Psychol 1998; 45(3): 235-246.
12. Oskian P. [Effect of psychodrama on promote of differentiation of self in girl student in Tehran fifth zone] [dissertation]. Tehran: Tarbiyat Moalem University; 1384: 30-120
13. Heidarnia A. [The comparison of well being and self teen in boys under the mandate of mothers with the boys in normal family in Eslamshahr student] [dissertation]. Tehran: Olum-e-Behzisti va Tavan Bakhshi University; 1383: 122-131.
14. Balazade R. [The effect of social skills on aggression and wellbeing in women] [dissertation]. Tehran: Payam-e-Noor University; 1387: 45-93.
15. Papero DV. Bowen family system theory. 2nd ed. Boston: Allyn & Bacon; 1990: 230-170.

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Conflict of Interest

The authors declare no conflict of interest.

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