

The Effectiveness of Motivational Interview on Enhancing Self-efficacy and Improving Self-concept in Underdeveloped Students

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Abstract The aim of this study was the investigation of the effectiveness of motivational interview on enhancing self-efficacy and improving self-concept in underdeveloped students. The method of research was semi-experimental. The statistical population consisted of all male first grade students of high schools in Urmia city. 32 people of first grade students were selected as underdeveloped students and they were randomly divided in two groups (experimental group = 16 people, control group = 16 people). The design of research was pretest-posttest with control group. Subjects filled the Sherer's self-efficacy questionnaire (1983) and Rogers' self-concept scale before the beginning of intervention and two weeks after the last session of intervention. After the implementation of pretest, the program of motivational interview had implemented for motivational interviewing group during five sessions (each session takes 75 minutes and two times in a week). We used covariance for data analysis. The result showed that the scores of self-efficacy and self-concept of subjects had a significant increase after motivational interviewing. In the field of working with underdeveloped students, motivational interview (with due attention to its nature) may be considered as an effective consultative style.

Keywords: *motivational interview, self-efficacy, self-concept, underdeveloped students*

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1. Introduction

Large numbers of students in spite of having normal intelligence level have an inadequate academic motivation and do not show a good academic performance in different levels of education. So they faced to academic problems and educators also became frustrated in proportion to the success's expectation of them [29]. In most countries, this issue considered as a challenge for system of education and has forced the specialists to seek solutions and effective interventions in this field. Now the main challenge for educators is to find the ways that can link these students with the education process again [1,35,45].

By reviewing on the research literature, a term that has been used for these students is underdeveloped students. "Underdeveloped" is defined as a disparity between the students' academic performance with their ability. In other words, underdeveloped students act much weaker than what would expect of them. Indeed, underdeveloped students achieve a level of performance that is lower than

their abilities and potentials [6,9,22,40]. Indeed, there is a kind of disparity between ability and performance.

Baslanti [5] applied the term of underdeveloped syndrome and considered it as a set of hesitation signs, doing incomplete assignments, clutter, and carelessness in practice. Recently, for these people, the term of students with special educational needs has been applied [10]. Poor study habits, difficulties in accepting the friends, low concentration, disciplinary problems at school and home environment are the behavior patterns that have allocated for underdeveloped students and also have proposed the low self-confidence, lack of direction in target, low responsibility, ambivalent, emotional maturity and lower mental health [28,34]. In Reis and Mac Coch's opinion ([40]; quoted by: Baslanti [5]) the features that can be related to the underdeveloped are: low self-esteem, low self-concept, low self-efficacy, pessimism, depression, fear of success, negative attitude toward school, lack of goal-oriented behavior, failure in set of realistic goals, all or nothing thinking and lack of motivation.

During adolescence age, underdeveloped students have features that distinguish them from the underdeveloped students of tender years. In adolescence, due to that

cognitive development which is in passing and transformation from concrete thinking toward analytical and more rational thinking, adolescents will form their views about values, goals, and social norms. Based on these words, ambivalent and resistance is considered as a very important challenge in this age [31]. On the one hand, complex interaction of the special needs of adolescence period and on the other hand, flaws in academic skills due to lack of motivation, impaired self-control skills, contradiction with family, friends and teachers can have long-term effects on the formation of self-concept, competence and self-efficacy of these students (quoted by: Butler [7]). Different interventional methods have been proposed, but it seems that there is not a single interventional approach to work with the underdeveloped students (quoted by: Butler, [7]). Not all of the interventional methods can be appropriate, especially for underdeveloped adolescents. Recently, an interventional method has been proposed as a motivational interview that can be effective and efficient for underdeveloped adolescents [7]. Motivational interview is a client-centered, directive method for enhancing intrinsic motivation to change by exploring and resolving ambivalence [31].

The conceptual model of motivational interview has been formed based on the concepts from change process of Prochaska and Diclemente, ambivalent and uncertainty, health beliefs of Roger's protective theory, Janiss and Mann's decisional balance, Brom's reactive theory, Bam's self-perception theory, Kanfer's self-organizing theory, and Rokeach's values theory [15]. According to Miller and Rollnick [31], there are four principle in motivational interview: express empathy, uncovering disparity, deal with resistance and supporting of self-efficacy. According to Diallo and Wiess in motivational interview, the goal is guidance of client in order to develop his/her aims and explore the disparity that there is between his/her goals and current behaviors. The main goal of motivational interview is reviewing and solving the ambivalent and on the other hand, solving the disparity and revealing it for referential person is the center of motivational interview. Based on the method of interventional of motivational interview (unless the ambivalent be uncovered and the person be unable to solve it) change occurs hardly. There are three principles in motivational interview to increase the motivation for changing: Preparedness, the importance of changing (satisfaction and enthusiasm) and make sure for changing (ability). Prochaska and Diclemente [39] believe that the reason that people can't be changed is that they can't, won't and don't know how to be changed and what should be changed. If people be helped in order to success in reaching their goal, their problematic behavior do change, they will reach to this believe that they have the ability to be changed and this sense will cause to arouse them [31].

The use of motivational interview has been spread rapidly from the issue of addiction to the health systems field, health promotion, reform and training areas and psychological disorders [37,38]. Motivational interview has been showing its effectiveness in the school environments and in improving and promoting the status of adolescents that suffering from depression [8], prevention of obesity in girls [16] and tobacco consumption and drug abuse [20].

It seems that adolescence owing to changes that occurs in it has a particular proportion with four principles of motivational interview (empathy, revealing disparity, deal with resistance and support of self-efficacy). Since underdeveloped students will often face to the problem in motivation, so it seems that the motivational interview consultative style is an appropriate technique in order to help these students. Due to the wide range of motivational interview applications and the potential that has in the field of education for application, it is essential to do a research on its effectiveness in improving the status of underdeveloped students. No research in Iran has been done about this case and due to the unfavorable condition of adolescent students that are in trouble in self-efficacy and self-concept and also it is considered as a challenge for instructional educators, system of education and families, the aim of this research is investigation of the effect of motivational interview in promoting the self-efficacy and improving the self-concept of underdeveloped students. In this regard, the following hypotheses are examined:

1. Motivational interview has a positive effect on the self-efficacy of underdeveloped students.
2. Motivational interview has a positive effect on the self-concept of underdeveloped students.

2. Method

The method of this study was quasi-experimental. Statistical community was all of male students in first-year of high school that were studying in Urmia city in 2010-2011. According to this, the sample size in experimental research is recommended about 15 people. Based on this in this study, we also selected the area 1 randomly between two areas of Urmia's education and training, and from that area, we selected two schools randomly. From students of those schools according to the criteria for entering to the research that is: 1) male gender, 2) IQ, above mid to up, 3) have two-parental family, 4) the average grade below 12 5) score below 10 in the main courses; 32 people selected as an underdeveloped students. These students by randomly divided into two groups of 16 people for testing that placed under the motivational consultation and control group that did not receive any treatment.

2.1. Tools of Research

The tools that used in these study are: Sherer's self-efficacy scale, Rogers's self-concept scale and motivational interview guideline that is extracted and prepared from the book of motivation group based on curriculum: an intervention in a group of motivational interview in 5 session.

2.1.1. Sherer's Self-efficacy Questionnaire

This scale made by Sherer and Madoox in 1982. It has 17 species. this scale measure the expectations of self-efficacy of subjects in three levels " their desire to beginning the behavior", " their desire to try to complete the behavior " and " their resistance in the face of obstacles " (quoted by: [36]). Grading of this scale is based on the Likert scale. Sherer had reported Cronbach's

alpha for the scale of 0/76. Mehrbizadeh, Honarmand and Abulghasemi obtained Cronbach's alpha coefficients and bisection of self-efficacy scale, respectively 0/81 and 0/79. The internal parallelism coefficient of this scale reported equals 0/83 and for study of criterion validity, correlation of it (by using of Rutter's internal scale) obtained equals 0/342 that is significant in the level of $P < 0/01$.

2.1.2. Rogers' Self-concept scale

Rogers' self-concept scale are consist of two forms by the name of A and B. A is for measuring the actual ego and B is for measuring the ideal ego. This scale is include of 25 personality trait that on the opposite side of each of them, there is a contradictory personality trait. The distance between two contradictory traits is grading with a seven-degree scale. Subjects according to their attitude in proportion to traits of this scale (by putting a mark next to one of the score on this scale) assess their personality characteristics according to the instructions of A and B forms.

In the Aghajan, Narimani and Asiaee research [2], the reliability of this test reported as 0/81 by Cronbach's method. Sheikhani (quoted by: [33]), in his study for measuring the reliability of Roger's self-concept scale used from Cronbach's alpha and bisection that the values of it for A form were, respectively; 0/50 and 0/78 ; and for B form were, respectively; 0/73 and 0/79. Mousavi [33], examined the coefficients of validity by constructive validity method and the scores derived from the mentioned scale correlated with scores obtained from the Beck's depression inventory and obtained correlation coefficient considered as an indicator of validity that the value of it equals to 0/25 and it is significant at the level of 0/01.

2.3. Raven's Progressive Matrixes Test for Adults

This test has 60 visual questions and consist of five groups of 12 parts (A - E). this is made for measuring the Spearman's general factor. In normalization of this test by Baraheni (quoted by [19]) on the 3,010 people in Tehran city, the validity was reported as 0/89 to 0/95 and the range of validity was between 0/24 to 0/61.

2.4. Instruction of Motivational Interview

Motivational interview as a consultative style will complete the stages of change that be presented during five sessions and twice in a week which is usually 90 minutes and it includes stages of pre-contemplation, contemplation, move to preparedness stage, stage of operation, designing and planning, the continuing stage of change. It is necessary to mention that the obstacles of change will be determined in each stage, too. 5 very essential skills will be taught to client that includes :

4.1 *Stages of change* : increasing awareness for need to understanding the process of change and reaching to the appropriate strategies to move toward the change.

4.2 *Feelings* : by increasing awareness of inconsistent and ambivalent, be help to the students to understand that inconsistent is intrinsic and he/she should be solve this ambivalent with appropriate strategy.

4.3 *Positive and negative aspects of behavior* : will be taught profit and benefits of short-term and long-term of desirable behavior and degree of self-efficacy will determined for change.

4.4 *Values* : specifies the awareness of students about scattering between the academic problematic behavior and values.

4.5 *Temptations and self-confidence* : the full understanding the of themselves, helping to the students in order to create their potential again, increasing commitment, raising levels of self -confidence, motivation for changing and increasing the optimism.

2.2. Method of the Research Implementation

After the selection, subjects responded to the Sherer's self-efficacy test and Roger's self-concept scale as a pretest. The experimental group was placed under motivational consultation and control group did not receive any treatment. the structure of sessions in motivational interview extracted from the activity book of grouping intervention in motivational interview with Fidelz's five sectional structure (2006) that supplied and prepared by Poor Sharifi and used in a group of 16 people. the structure and content of each session scheduled for five weeks and each skill during the sessions (each session took about 90 minutes) instructed to the underdeveloped students.

5.1 *First session* : introducing, familiarity with the members of group, instruction of the change stages, practicing of steps, determining the change's level of students.

5.2 *Second session* : review of this issue that, why are they in group? and will be ask from them to express their viewpoints about the changes and homework will be review.

5.3 *Third session* : in this session focus is on the ambivalent and harmony in decision making. The strengths and weaknesses points and their relation with problems that have in the academic fields discussed in form of brain storming.

5.4 *Fourth session*: sheet of guide ((for what things consider the highest values in their life)) is distributed and will be ask from them to think about the values that have the highest priority for them and write these values in the right side of paper.

5.5 *Fifth session*: participants will be familiar with principles of temptation. Situations that has very much temptation for exiting from the program, will be identified and will learn the way of set of inappropriate goals.

3. Findings

Based on the research objectives ; two research questions will be examined. The first research question is whether a motivational interview in group lead to improving the self-efficacy in underdeveloped student? In this question, motivational interview in group is an independent variable and self-efficacy presents as a dependent variable. For examining this question we used analysis of covariance that the obtained results of it presents in [Table 1](#) and [Table 2](#).

Table 1. The mean and standard deviation of self-efficacy in experimental and control groups

Post-test M±SD	Pre-test M±SD	Number of subjects	Groups	Variable
46/56±7/07	45±8/2	16	Control	Self - efficacy
48/94±12/32	43/88±10/03	16	Motivational interview	
47/75±9/96	44/44±9/05	32	Total	

Table 2. summary of covariance analysis tests results about the effectiveness of motivational interview on self- efficacy

F	Me n of squares	df	Sum of squares	Dependent variable
25/26	1043/67	1	1043/67	Self efficacy

According to the [Table 1](#), the mean of control group's self- efficacy in the pre-test and post- test stages were ; respectively 45 and 46/56, but this values for experimental group were ; respectively 43/88 and 48/94. based on Levin's test results ($F = 2 /05$, $p < 0/016$), there were necessary conditions for using the test of covariance analysis provided that pre-assumptions related to approximate normality and parallelism of variances be available. As you see in [Table 2](#), analysis test of covariance analysis showed that the effect of motivational interview on two groups was not identical and there was a significant difference ($F = 15 /26$, $p < 0/01$), So that the motivational interview could lead to remarkable increase in the mean of experimental group's self- efficacy. The rate of effect was 0/36. that is ; 36% of the variances of post-test (self- efficacy) was related to intervention in the motivational interview. Statistical power is 0/97 that indicates the sufficiency of sample size

The second research question is whether a motivational interview in group lead to improving the self-concept in underdeveloped student? The results of the covariance analysis of this question is shown in [Table 3](#) and [Table 4](#).

Table 3. The mean and standard deviation of self-concept in experimental and control groups

Post-test M±SD	Pre-test M±SD	Number of subjects	Groups	Variable
74/81±45/61	83/70±44/95	16	Control	Self - concept
102/25±65/33	162/88±45/21	16	Motivational interview	
88/53±57/15	133/28±92/22	32	Total	

Table 4. summary of covariance analysis tests results about the effectiveness of motivational interview on self- concept

Sig	F	Mean of squares	F	Sum of squares	Dependent variable
00/01	21/06	40061/18	1	40061/18	Self -concept

According to the [Table 3](#), the mean of control group's self- concept in the pre-test and post- test stages were ; respectively 83/70 and 74/81, but this values for experimental group were ; respectively 102/25 and 162/88. based on Levin's test results ($F = 2 /95$, $p < 0/095$), there were necessary conditions for using the test of covariance analysis provided that pre-assumptions related to approximate normality and parallelism of variances be available. As you see in [Table 4](#), analysis test of covariance analysis showed that the effect of motivational interview on two groups was not identical and there was a significant difference ($F = 21 /06$, $p < 0/001$), So that the motivational interview could lead to remarkable increase

in the mean of experimental group's self- concept. The rate of effect was 0/42. that is; 42% of the variances of post-test (self- concept) was related to intervention in the motivational interview. Statistical power is 0/99 that indicates the sufficiency of sample size.

It is necessary to mention that, due to that our tool for measuring in this research was Rogers' self-concept scale so consequently ; reduction of score means that the rates of self-concept is increase which in our analysis, this score has a significant reduction.

4. Discussion and Conclusion

The aim of this study was to investigation the effectiveness of motivational interview on increasing self- efficacy and improving self-concept of underdeveloped students. The results of this study showed that group motivational interview increased the self-efficacy and self-concept of underdeveloped students. The above findings almost are aligned with Brody's findings [8], Flattum, et al. [16] and Lawendowski [20]. In the above findings they also showed that motivational interview is effective in improving and promoting the status of adolescents with depression, obesity prevention, substance abuse at school environments. It is also aligned with findings of Pour Shariffi, Zamani, Mehryar and Rajabi. In the field of health psychology, they also showed that the motivational interview would be lead to changes in patients under this treatment in comparison with control group. The above findings in line with other researches as the effectiveness of motivational interview on changing in substance use in employees [41], the efficiency of motivational interview in creating the change in risks of substance use [27] and the effectiveness of motivational interview is inclined to cognitive therapies in the treatment of generalized anxiety disorder [46].

Sosa had proposed about underdeveloped that underdeveloped is a behavior, not attitude. In other words, it is a set of behaviors and habits that will form over the time. Delisle and Berger [12] in a research showed that the major cause of underdeveloped is behavioral problems rater than disability in intelligence capacity and can be as an effective factor on self-concept. When underdeveloped links with self-concept, it can act as a self-fulfilling prophecy. If the students understand themselves as a defeated person, may eventually be forced themselves to place in an imposed condition for these students. Good grades can be attribute to chance and poor grades can lead to strengthen the negative self-concept [10].

Schools counselors often in working with underdeveloped students in order to finding the ways of connection with these students and motivating them to change in their lives for better and positive choice are facing to some challenges. Motivational interview can be as a response to this problem. The use of motivational interview allows students to classify their goals and strengthen its own values and this can act as a capital in process of changing for their behavior and lead them to become successful students and play their contribution in society [7]. Motivation interview can be effective for growing adolescents because it is not aggressive and provocative. Adolescents often are not comfortable with therapy techniques which have nature of cognitive,

because they are in developing of cognitive skills and self-express is not easy for them. Changes that occur in adolescence have proportion with principles of motivational interview (empathy, revealing disparity, deal with resistance and support of self-efficacy) [31].

The concept of motivational interview differ somewhat from therapy and consultation concepts. Counselor is not a source of power in motivational interview, but more visiting each other or be together, and a friendly meeting for discovering the cause of problems, deal with resistance, specify the discrepancy between values and objectives with current behavior, understanding the contradictions and ambivalent and familiarity with six stages of change (pre-contemplation, contemplation, preparedness, operation, continuation and regression) are sources of power.

Overview study of Madson et al [26] about 28 published articles from 1999 to 2007, have shown the ability of motivational interview in improving the development of skills and self-efficacy. Some of researchers believe that when the motivational interview is added to other interventional methods, it leads to leave a significant effect during the time ([46], quoted by: [37,38]).

It seems that the motivational interview can be more effective by increasing the internal motivation and a individual readiness for change, increasing of more active participation, continuation and commitment to therapeutic program, reinforcing the positive behavior. And in an indirectly way and without obligation and coercion increasing the concern about abnormal behavior, participation in setting the work plan, studying the profit and loss of change, determine the values, increasing the contradiction between values and behavior and objectives, evaluation and strengthen the confidence to change, support of self-efficacy and emphasis on the sense of autonomy and freedom of action. Motivational interviewing can more near the underdeveloped students toward adjusting between their objectives and values by decreasing the resistance and enhancing the intrinsic motivations. Motivational interview can be considered as preventative intervention. Implementation of group motivational interview, lack of loss of samples in interventional works, implementation of structure and stability of research environment are strong points of this study. On the other hand, implementation of intervention only on male students of secondary school and no follow-up are the major barriers in this study. It is suggested that for the effectiveness of motivational interview compare or combine it with other interventional methods. Totally, in Madson's opinion [26], it should be mention that few researches have been done on the motivational interviewing method and it requires further study.

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