



## Investigating the effectiveness of a motivational interviewing group on academic achievement

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### Abstract

The aim of this study was to determine the effectiveness of group motivational interview method on increasing the academic achievement of female students in the second year of high school in Isfahan (Iran). Sampling was available by method. The academic achievement status of 60 students was assessed based on their GPAs and then 32 students with poor (GPA 16-14) and very poor (GPA 10-10) students were selected and assigned to experimental group (16 people) and control group (16 people) randomly. In this study, the experimental group was exposed to motivational counseling but the control group did not receive any intervention. Analysis of covariance was used to analyze the data. Results indicated that motivational interviewing increased academic achievement in post-test ( $P < 0.05$ ). According to the results, school counselors are recommended for improving the academic achievement in high school students through motivational interview.

### Keywords

academic progress, motivational interview, motivational counseling

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## Introduction

The progress of any society is a function of the quality of the educational system of that society. Currently, education in general forms an important part of people's lives. In addition, the quality and quantity of this system also play an important role in people's future. For about a century, psychologists have widely tried to identify the predictors of educational achievement (Narimani & Soleymani, 2013). The issue of students' academic achievement is one of the most important evaluation indicators of the education system, and all the efforts of this system are actually to promote it (Askari et al., 2013). One of the main goals of educational systems is the success of students in school. Success in school includes gaining appropriate experiences in all dimensions of cognitive, emotional, social, behavioral and biological development. Gaining these experiences in school can have a great impact on the present and future lives of children and adolescents (Zohrevand, 2010). Bloom (1974) in his model provided evidence of the emotional characteristics of students during learning, which plays both the role of cause and effect (Seif, 2017). The issue of achieving success and preventing failure in education is one of the most important concerns of any educational system in all societies. The educational progress of the students of each society shows the success of the educational system in achieving the desired goals (Moradi Moghadam, 2014). The structure of the class, its educational content, as well as various factors, including cognitive ability and personal and family characteristics, play a major role in improving the educational status of students (Pashaei et al., 2009). Factors affecting academic achievement are divided into two general categories: 1) external (environmental) factors including learning situation, social atmosphere of school, emotional atmosphere of class, influence of peer group, family atmosphere 2) internal (personal) factors: including intelligence, motivation, interest, expectations, attitude towards success and failure, personality types, thinking styles, etc. (Seif, 2017). Academic achievement refers to all student activities in the school environment, which includes self-efficacy, emotional effects, planning and motivation (Amiri et al., 2019). One of the big problems of the current educational systems is the existence of students who have a weak concept of self-concept. This weak self-concept is caused by their continuous failures in learning. Such students do not see a close relationship between their successes and actions and attribute their failures to lack of ability (Narimani & Soleymani, 2013; Seif, 2017). From a social and psychological point of view, students' feelings of failure and success have a significant impact on their cognitive and motivational processes and their

personality traits and subsequent performance in educational, social and occupational situations and this aspect is of higher importance as a personality influence. So for the developing societies that have to make up for their scientific, intellectual and economic backwardness with great difficulty and effort, having a spirit that looks at themselves and the future with a positive view and makes themselves effective and consider it useful, it seems very necessary (Seligman, 2002). Motivational interviewing first emerged from Miller's clinical experiences in treating problem drinking (Miller & Rose, 2009). The principles and clinical methods of this type of interview were developed by Miller and Rollnick (2009). Miller (1996) defined motivational interviewing based on the principles of experimental social psychology (causal evidence, cognitive dissonance and self-efficacy). Motivational interviewing was also developed in connection with the meta-theoretical model of behavior change (Prochaska & DiClemente, 1983) and the concept of readiness for change (Miller & Rollnick, 2009). In the first, four underlying principles of motivational interviewing were: dealing with the patient's resistance, creating dissonance, showing empathy and supporting the patient's self-efficacy (Miller & Rollnick, 2009). Later, these four principles were changed as follows: resisting balance reflection, understanding clients' motivations, listening to clients, and empowering clients (Rollnick et al., 2010). Motivational interviewing to increase internal motivation directly discovers and resolves the ambivalence of clients for change. Therefore, the ambivalence of references has a central role in motivational interviewing. Typically, the motivation of most clients is engaged; On the one hand, they have good reasons to change their current behavior, and on the other hand, they are aware of the benefits and losses associated with changing or staying in the current situation. This engagement in motivations puts the client in a state that has no ability to change, unless he is encouraged to replace the previous behavior with a new pattern of behavior. Motivational interviewing allows clients to openly express their ambivalence, identify their conflicting motives and resolve them satisfactorily. This is done through direct guidance of the interviewer for appropriate behavioral changes. Therefore, in the motivational interview, the interviewer does not directly encourage or force the client to change, but it is the responsibility of the client that determines his decision to change or not. The role of the interviewer is to help the client to identify and reveal his conflicting motives. Also, the interviewer provides the necessary information and support for change and suggests alternative approaches and potential ways of change.

Many researches have been done about the effect of motivation on academic achievement. Terry et al. (2014) examined dosage effects of motivational interviewing by randomly assigning 42 middle-school students to either one or two sessions of MI ( $n = 21$  per group). Significant dosage effects were found for math, science and history grades, with effect sizes of 0.55, 0.58 and 0.47, respectively. Considering that math effects were 0.47 and 0.37 in the prior studies, and math was the only significant change produced by one session of MI, these results strongly suggest that two sessions of MI are superior to one.

Hosseini et al. (2020) conducted a research on the effectiveness of motivational interviewing on academic procrastination in teenagers and reached the conclusion that the findings showed that motivational interviewing was effective on student procrastination. Also, the results of covariance analysis showed that it had a positive effect on the dimensions of work procrastination (intentional work procrastination, fatigue-related procrastination, and unplanned work procrastination). Based on the research findings, it can be concluded that motivational interviewing can lead to reduce academic procrastination in high school students.

Chen et al. (2012) determine whether participation in a motivational interview for people with type 2 diabetes would improve their self-management, psychological and glycemic outcomes. According to results, the motivational interview did improve participants significantly in self-management, self-efficacy, quality of life, and HbA1c among diabetes people with appropriate baseline value.

Based on previous studies results, in the present study, the effectiveness of motivational interviewing on the academic achievement of female high school students in Isfahan (Iran) has been investigated.

## Material and Methods

The research method is semi-experimental with a pre-test and post-test design and control group. In this design, the experimental group was exposed to group motivational interview, and pre-test and post-test were conducted in both groups. The participants were 32 female high school students who were randomly assigned to two groups (16 people in each group). Motivational interview was conducted during 8 group (training) sessions of 60 minutes, once a week for the students in the experimental group. This intervention was taken from the book "Motivational Interviewing: A Practical Guide to Group Motivational Interviewing" (Navidian and Poursharifi,

2010). A researcher-made academic achievement test was used to measure academic achievement. The content validity of this test was determined by a number of teachers. The reliability of the test was calculated as 0.78 using Kuder-Richardson's method. Analysis of covariance was used to investigate the research hypothesis.

## Results

Before examining the research hypothesis, the assumption of normality of variables and homogeneity of variance was examined and confirmed. In Table 1, the mean and standard deviation of the academic achievement of the two groups in the pre-test and post-test are presented. The results of covariance analysis to investigate the effect of motivational interviewing on academic achievement are presented in Table 2.

**Table 1**

The mean and standard deviation of academic achievement in the experimental and control groups in the pre-test and post-test

	Phase	Group	Mean	SD
Academic achievement	Pretest	Experimental	17.06	2.67
		Control	16.19	2.43
	Posttest	Experimental	19.87	2.03
		Control	16	2.13

**Table 2.** Results of covariance analysis of the effect of motivational interview on academic achievement

	MS	DF	F	p	ETA	Power
Academic achievement	47.3	1	16.63	0.001	0.36	0.97

According to Table 2, the effect of motivational interview on the academic achievement of students in the experimental group is significant. According to the ETA value, 36%, of the variance of academic achievement scores can be explained based on motivational interviewing. Based on this, motivational interviewing has significantly improved the academic achievement of students.

## Discussion

This research was conducted with the aim of determining the effect of counseling based on motivational interviewing on the academic achievement of female high school students in Isfahan city. The results indicated that counseling based on motivational interviewing has increased the academic achievement of female high school students in Isfahan city. The obtained findings are consistent with previous researches (Chen et al., 2012; Hosseini et al., 2020; Miller, 1996). For instance, Strait et al. (2012) examined the efficacy of MI for promoting academic achievement in middle school students. Participants were 103 6th-, 7th-, and 8th-grade students randomly assigned to either a MI ( $n = 50$ ) or a waitlist control condition ( $n = 53$ ). Students in the MI condition participated in a single MI session during the 7th or 8th week of the second semester. In comparison to the control group, students who received MI demonstrated significant improvements in their class participation, overall positive academic behavior, and significantly higher 4th quarter math grades.

In another study, a randomized control trial was used to evaluate the effects of a classroom-based motivational interviewing intervention on undergraduate psychology students' test performance. Results indicated that students in the treatment group confirmed significant increases in their exam grades following the intervention (Strait et al., 2019).

Motivational interviewing makes students aware of their academic problems and changes their wrong habits in academic planning, study habits, etc. with sufficient motivation. Through motivational interviewing, the skills of self-efficacy, self-determination (control) and attention to strengths and positive thinking are strengthened in students, and in turn, it increases academic progress.

In general, the findings of the present study support the role of motivational interviewing in students' academic performance. Based on this, it is suggested that counselors and school psychologists use this strategy to increase students' academic motivation and help teachers in implementing this intervention.

### Data availability statement

The original contributions presented in the study are included in the article/supplementary material; further inquiries can be directed to the corresponding author.

### Ethics statement

The studies involving human participants were reviewed and approved by ethics committee of Islamic Azad University of Isfahan.

### Author contributions

FB contributed to the study conception and design, material preparation, data collection and analysis. All authors contributed to the article and approved the submitted version.

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