

## Structural Model Presentation for Readiness to Change Based on Achievement Motivation and Psychological Capital with Problem-Solving Mediation in Students

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### ABSTRACT

**Objective:** The current research aimed to present a structural model for readiness to change based on achievement motivation and psychological capital with problem-solving mediation in students of Islamic Azad University, Roudehen.

**Methods and Materials:** The research method was correlational using structural equation modeling, and the population included all undergraduate students at Islamic Azad University, Roudehen branch, in the academic year 2022-2023. The sample size comprised 220 individuals selected via multi-stage cluster random sampling and responded to the Readiness for Change Questionnaire by Sloo (2006), Hermans' Achievement Motivation (1970), and Cassidy and Long's (1996) Problem-Solving Styles questionnaire.

**Findings:** The findings from the structural equation modeling using AMOS software indicated that the structural model of the study fits the collected data. Moreover, achievement motivation positively and significantly predicts readiness for change in students. Psychological capital also predicts readiness for change positively and significantly in students. Adaptive problem-solving strategies positively and maladaptive strategies negatively and significantly predict readiness for change in students.

**Conclusion:** Both adaptive and maladaptive problem-solving strategies significantly mediate the relationship between achievement motivation and readiness for change, as well as between psychological capital and readiness for change in students.

**Keywords:** Readiness to change, Achievement motivation, Psychological capital, Problem-solving mediation.

## 1. Introduction

Change is the most prominent reality in the world of human experience, and fundamentally, addressing the degree of readiness for change is an unavoidable matter, which essentially consists of two dimensions: ability and willingness. The concept of readiness for change was initially introduced as a reaction to resistance against change (Nilsson et al., 2019), but over time it has been studied as the most common positive attitude towards change (Rafferty, 2018). Since readiness for change is a multifaceted concept that includes emotional, cognitive, and volitional dimensions of change (Jakobsen et al., 2020), it cannot be seen merely as an organizational concept belonging to organizational frameworks. When discussing readiness for change among students, it involves the capacity for accepting or initiating change in a segment of the workforce responsible for significant transformations in the fields of science and thought, with the transtheoretical model being one of the few effective approaches to motivating individuals for positive social changes (Xiao, 2019).

Since organizational readiness is influenced by individual readiness, it is affected by various factors that can vary from one person to another (Vanluchene & Jonsson, 2019). Therefore, identifying the psychological structure of individuals that has a positive relationship with readiness for change is crucial. In this research, the role of two factors, achievement motivation and psychological capital, will be examined indirectly, and the role of problem-solving as an individual factor will be considered in a model predicting readiness for change among students.

Achievement motivation is a psychological topic that has attracted the attention of many psychologists and educational specialists. Achievement motivation is the drive to perform tasks relative to high standards and is divided into two main groups: extrinsic and intrinsic motivation (Pintrich, 2000; Smit et al., 2017). Those with high achievement motivation want to excel and improve their performance. They are duty-conscious and possess self-esteem. They participate in academic and social activities and resist external social pressures. If they see a task within their capabilities, they are willing to take some risks, but they are not willing to leave themselves to chance in activities such as gambling where the outcomes are random (Bahram Saleh & Fatemeh, 2013; Chik & Abdullah, 2018).

Psychological capital was first introduced by Fred Luthans (a leading organizational behavior theorist) and his colleagues, inspired by positive psychology and combining

positive psychological states that can be developed and positive organizations (Mohammadi et al., 2021; Saadati & Parsakia, 2023). It is a collection of positive traits and capabilities that can act as a strong resource in the growth and enhancement of individuals and organizations, including: a) individual belief in their abilities to achieve success in specific tasks (self-efficacy); b) creating positive attributions about current and future successes (optimism); c) having perseverance to pursue goals and following necessary strategies to achieve success (hope); and d) enduring difficulties and returning to normal performance levels and even improving upon them to achieve success (resilience) (Avey et al., 2010).

One of the cognitive abilities that can help individuals in decision-making is problem-solving styles. Decision-making is essentially the process of solving a problem. Throughout history, psychologists and philosophers have stated that an essential part of being human is the ability and capability to solve problems. The most important idea stemming from this statement is that problem-solving ability plays a significant role in social competence and mental health. This problem-solving ability greatly influences individuals' ability to confront problems in life and make decisions (Maleki et al., 2012). Additionally, D'Zurilla & Nezu define problem-solving as effective behavioral-cognitive processes through which an individual seeks to identify and discover suitable and adaptive solutions for specific problems encountered in daily life (Jiang et al., 2016). Nezu (2004) states that finding suitable solutions for solving problems involves five stages: (a) identifying the problem, (b) defining the problem, (c) generating solutions, (d) evaluating solutions and implementing the chosen solution, and (e) evaluating the outcome (Christian, Meryl, Stephen, et al., 2016). D'Zurilla, Nezu, & May De-Alvarez (2002) developed a model of problem-solving that focuses on five related areas: positive problem orientation and logical problem-solving style, representing efficient and adaptive methods for solving problems, and negative problem orientation, impulsive/careless style, and avoidance style, representing inefficient and maladaptive methods for solving problems (Ariya et al., 2021; Hwang & Oh, 2021).

The higher education system, like any other social system, requires changes over time to invigorate and maintain its balance (Qaidamini Haroni et al., 2021). The failure to respond to changing forces and internal and environmental needs surrounding universities will cause concern and negative and distressing consequences for society, with the most emphasis being placed on the internal

environment of universities, the capacity, and the operational ability to respond to changing conditions and needs (Khalilnejad Narmigh & Abolmaali 2023). On the other hand, the implementation of any program or model for change and the effort to combat resistance to change requires the participation and agreement of all individuals involved in the change process (Alqudah et al., 2022).

Therefore, examining the factors affecting individual readiness for change in the student community, which can play an important role in implementing change programs, seems essential. Research conducted so far on the construct of readiness for change has been mostly in the field of organizational management and organizational change. For example: Khalilnejad & Abolamali (2021) reported in a study that personality traits both directly and through the mediation of self-determination predict readiness for change in students (Khalilnejad Narmigh & Abolmaali 2023). Mirkamali & Mazari (2017) found that self-development, mediated by organizational improvement, affects readiness for change (Mirkamali & Mazari, 2017). Findings from Mokhtari, Mahaleh Kalaei, & Bagheri (2018) indicate that the relationship between readiness for change and organizational learning is significant, and the emotional reaction component among the components of readiness for change has the highest predictive power (Mokhtari et al., 2018). Gigliotti et al. (2018) concluded in a study that perceived organizational support has a direct effect on readiness for change (Gigliotti et al., 2019). According to the researcher's searches, no research has been found that examines readiness for change based on achievement motivation and psychological capital with the mediation of problem-solving in students within a model. Therefore, the current research aimed to present a structural model for readiness to change based on achievement motivation and psychological capital with problem-solving mediation in students of Islamic Azad University, Roudehen.

## 2. Methods and Materials

### 2.1. Study Design and Participants

The research method used in the present study was correlational employing structural equation modeling. The population included all undergraduate students of the Islamic Azad University, Roudehen branch, for the academic year 2022-2023. The sample size was determined to be 220 individuals, factoring in a 10% dropout rate, based on a minimum sample size of 200 for regression analysis. A multi-stage cluster random sampling method was utilized,

where initially four faculties were randomly selected from the seven available at the university, two departments from each faculty, and four classes from each department, with 20 individuals randomly selected from each class. Standard questionnaires were used in the field study.

### 2.2. Measures

#### 2.2.1. Readiness for Change

This 16-item questionnaire was used to measure readiness for change, operationalized across three dimensions: tolerance of novelty—new and unexpected situations (questions 2, 9, 11, 13); tolerance of complexity—sparse, unrelated, complex, unorganized, and sometimes contradictory or conflicting information (questions 4, 5, 6, 7, 8, 10, 14, 15); and tolerance for situations with unsolvable problems where answers are not easily obtained (questions 1, 3, 12). Nasrifar (2017) reported a Cronbach's alpha coefficient of 0.76 for this questionnaire. Additionally, in the research by Khalilnejad and Abolamali (2022), confirmatory factor analysis was conducted using AMOS 18.0 software and maximum likelihood estimation (ML). The analysis encompassed all questionnaire items, allowing them to load on a single latent factor according to the questionnaire's scoring guidelines. The results of the confirmatory factor analysis indicated that all fit indices support a satisfactory fit of the three-component model of the Readiness for Change Questionnaire with the collected data ( $\chi^2/df = 1.65$ , CFI = 0.937, GFI = 0.953, AGFI = 0.935, RMSEA = 0.042). Based on the results, the highest factor loading was for item 2, tolerance of novelty ( $\beta = 0.857$ ), and the lowest was for item 4, tolerance of complexity ( $\beta = 0.320$ ). Since the factor loading of all items was above 0.32, it can be said that all items possess the necessary capability to measure components of readiness for change (Khalilnejad Narmigh & Abolmaali 2023).

#### 2.2.2. Psychological Capital

This questionnaire was designed by Luthans (2007) and utilizes standardized measures widely used for structures measuring hope, resilience, optimism, and self-efficacy, and the validity and reliability of these subscales have been confirmed. The questionnaire contains 24 questions, with each subscale comprising 6 items, and respondents rated each item on a 5-point Likert scale (from strongly disagree (1) to strongly agree (5)). The subscales are self-efficacy (items 1 to 6), hope (items 7 to 12), resilience (items 13 to

18), and optimism (items 19 to 24), with items 13, 20, and 23 scored inversely. To calculate the score for psychological capital, the score for each subscale was first determined separately, and then their total was taken as the overall score for psychological capital. The chi-square ratio for this test is 24.6, and in this model, the indices RMSEA, CFI are 0.08 and 0.98 respectively. Luthans and colleagues reported a reliability of the questionnaire above 0.90, and after translation and revision, its content validity was confirmed by five experts in industrial-organizational psychology and management, showing a reliability of 0.77 in this study (Saadati & Parsakia, 2023).

### 2.2.3. Problem-Solving Styles

This 24-question questionnaire, created by Cassidy and Long, assesses six factors, each encompassing four test items. These factors are: helplessness in problem-solving or orientation (reflects an individual's helplessness in problematic situations): questions 1 to 4, control in problem-solving (reflects the external-internal control dimension in problematic situations): questions 5 to 8, creative problem-solving style (indicates planning and considering various solutions based on the problematic situation): questions 9 to 12, confidence in problem-solving (reflects belief in one's ability to solve problems): questions 13 to 16, avoidance style (indicates a tendency to sidestep problems rather than confront them): questions 17 to 20, and approach or proximity style (reflects a positive attitude towards problems and a tendency to confront them head-on): questions 21 to 24. In two studies by Cassidy and Long (1972), Cronbach's alpha coefficients for the problem-solving sub-scales were as follows: helplessness (0.66), control in problem-solving (0.66), creative style (0.57), confidence in problem-solving (0.71), avoidance style (0.52), and approach style (0.65); alpha in the second study: helplessness (0.86), control (0.60), creativity (0.66), confidence (0.66), avoidance (0.51), and approach (0.53), with reliability coefficients for these subscales all above 50% according to these two studies. In research by Mohammadi, alpha coefficients were above 50 (except for the approach style), indicating the necessary reliability of the scale. The validity of this scale relies mostly on its content validity and the method of its construction. While the manual for the problem-solving styles scale does not explicitly discuss the validity coefficient, some questions within it provide evidence from individuals who have used it and have the requisite expertise in this area (Ariya et al.,

2021), indicating the scale's relevance to the trait under investigation.

### 2.2.4. Achievement Motivation

This questionnaire consists of 29 four-choice questions across ten dimensions (task tension, aspiration level, time perception, recognition behavior, choice of friends, achievement behavior, upward mobility, risk-taking behavior, time orientation, and resistance) to assess participants' achievement motivation levels. The reliability of this test was obtained through Cronbach's alpha at 84%. Hermans also noted a high correlation coefficient of this test with the Thematic Apperception Test (TAT), emphasizing the acceptable validity of the test. The reliability and validity of this instrument have been proven in multiple studies. Hosseini (2013) in a study titled "Determining the relationship between achievement motivation and emotional intelligence among students in Isfahan" obtained concurrent validity of the test through correlation with the emotional intelligence test (, which was significant at  $p < 0.01$  ( $r = 0.51$ ). Standardization of this questionnaire in Iran was conducted by Ahi (2005) on universities in Tehran, achieving internal consistency using Cronbach's alpha (0.97), with alpha coefficients for male (0.98) and female (0.97) populations (Habibi et al., 2021; Shirdel et al., 2013; Torbatinezhad et al., 2022).

### 2.3. Data analysis

To determine the relationships governing the variables of the study, structural equations were used. Data analysis was conducted using AMOS-18 software.

## 3. Findings and Results

Table 1 displays the descriptive indices, Cronbach's alpha coefficients for achievement motivation, components of psychological capital (self-efficacy, hope, resilience, optimism), maladaptive problem-solving (helplessness, problem-solving inhibition, and avoidance style), adaptive problem-solving (creative style, confidence in problem-solving, and approach style), and readiness for change (tolerance for novelty, tolerance for complexity, and tolerance for unsolvable situations) as well as the variance inflation factor and tolerance coefficient for predictor variables.

**Table 1**

*Descriptive Indices and Cronbach's Alpha Coefficient for Research Variables, Variance Inflation Factor, and Tolerance Coefficient of Predictor Variables*

Variable	Mean	Standard Deviation	Cronbach's Alpha	Skewness	Kurtosis	Tolerance	VIF
Achievement Motivation	86.27	12.93	.81	-.45	-.26	.58	1.73
Psychological Capital - Self-Efficacy	17.61	3.10	.72	1.17	1.11	.55	1.84
Psychological Capital - Hope	16.97	3.28	.68	1.55	.89	.40	2.51
Psychological Capital - Resilience	17.51	4.75	.76	.53	-.10	.43	2.32
Psychological Capital - Optimism	18.20	4.87	.73	.24	.07	.51	1.97
Maladaptive Problem-Solving - Helplessness	1.77	1.03	.69	-.17	-.45	.53	1.90
Maladaptive Problem-Solving - Inhibition	1.98	1.12	.65	-.14	-.19	.54	1.86
Maladaptive Problem-Solving - Avoidance Style	1.74	.87	.73	-.23	-.65	.52	1.91
Adaptive Problem-Solving - Creative Style	1.86	.93	.66	.01	-.05	.56	1.80
Adaptive Problem-Solving - Confidence	2.29	.98	.69	.06	-.42	.51	1.97
Adaptive Problem-Solving - Approach Style	2.02	1.04	.60	.12	-.26	.47	2.15
Readiness for Change - Tolerance for Novelty	12.58	2.42	.58	-.24	-.67		
Readiness for Change - Tolerance for Complexity	21.94	4.52	.74	-.08	-.29		
Readiness for Change - Tolerance for Situations	8.73	2.23	.56	-.21	-.04		

According to the Cronbach's alpha values, the components of tolerance for novelty and tolerance for situations in readiness for change are somewhat low; hence, caution should be exercised when interpreting findings related to them. For the evaluation of univariate normal distribution of data, skewness and kurtosis values indicate that all components fall within the  $\pm 2$  range, supporting the assumption of normality. In this research, the assumption of collinearity was examined using the variance inflation factor (VIF) and tolerance coefficient, with results indicating that collinearity assumptions are satisfied since tolerance values

for predictor variables are greater than 0.10 and VIF values are less than 10. Additionally, the assumption of multivariate normal distribution was evaluated using Mahalanobis distance data analysis, with skewness and kurtosis values obtained being 0.89 and 0.48 respectively, indicating that these values fall within the  $\pm 2$  range. To evaluate the homogeneity of variances (meaning that error variances at different levels of the dependent variable are consistent), a scatterplot of standardized error variances was examined, indicating that the homogeneity of variance assumption is met within the data of the present research.

**Table 2**

*Measurement Model Parameters in Confirmatory Factor Analysis*

Latent Variable - Indicator	b	$\beta$	SE	t
Maladaptive Problem-Solving - Helplessness	1	.756		
Maladaptive Problem-Solving - Inhibition	.964	.732	.088	10.91**
Maladaptive Problem-Solving - Avoidance Style	.945	.710	.089	10.58**
Adaptive Problem-Solving - Creative Style	1	.716		
Adaptive Problem-Solving - Confidence	1.141	.786	.106	10.79**
Adaptive Problem-Solving - Approach Style	1.095	.770	.103	10.63**
Readiness for Change - Tolerance for Novelty	1	.741		
Readiness for Change - Tolerance for Complexity	2.119	.840	.191	11.11**
Readiness for Change - Tolerance for Situations...	.704	.567	.086	8.17**
Psychological Capital - Self-Efficacy	1	.435		
Psychological Capital - Hope	1.650	.774	.256	6.44**
Psychological Capital - Resilience	1.786	.871	.272	6.56**
Psychological Capital - Optimism	1.559	.642	.185	8.43**

\*\*p<0.01

Table 2 shows that the highest factor loading is for the indicator resilience ( $\beta = .871$ ) and the lowest for the indicator

hope ( $\beta = .435$ ). Thus, considering that all indicator loadings were above .32, it can be stated that all of them are



sufficiently capable of measuring the latent variables of the current research. According to Tabachnick and Fidell (2007), factor loadings of .71 and above are considered excellent, between .63 and .70 very good, between .55 and .62 good, between .45 and .55 fairly good, between .32 and .44 low, and below .32 weak.

Following the assurance of a satisfactory fit of the measurement model with the gathered data, fit indices of the structural model were estimated and evaluated. The structural model posited that achievement motivation and

psychological capital both directly and through the mediation of problem-solving predict readiness for change in students.

The results indicated that the fit indices from the structural equation modeling analysis support an acceptable fit of the model with the collected data ( $\chi^2/df = 2.37$ , CFI = .941, GFI = .915, AGFI = .867, RMSEA = .074). Thus, in testing the first hypothesis, it was concluded that the structural model of the research fits the collected data. Table 3 shows the path coefficients in the structural model.

**Table 3**

*Total, Direct, and Indirect Path Coefficients among Research Variables in the Structural Model*

Paths	b	S.E.	$\beta$	p
<b>Direct</b>				
Achievement Motivation ← Adaptive Problem-Solving	0.024	0.004	0.444	0.001
Achievement Motivation ← Maladaptive Problem-Solving	-0.018	0.004	-0.303	0.001
Achievement Motivation ← Readiness for Change	0.011	0.014	0.080	0.424
Psychological Capital ← Adaptive Problem-Solving	0.210	0.072	0.409	0.001
Psychological Capital ← Maladaptive Problem-Solving	-0.372	0.120	-0.656	0.001
Psychological Capital ← Readiness for Change	0.144	0.302	0.111	0.458
Adaptive Problem-Solving ← Readiness for Change	1.220	0.285	0.481	0.001
Maladaptive Problem-Solving ← Readiness for Change	-1.232	0.248	-0.537	0.001
<b>Indirect</b>				
Achievement Motivation ← Readiness for Change	0.051	0.015	0.376	0.001
Psychological Capital ← Readiness for Change	0.714	0.274	0.549	0.001
<b>Total</b>				
Achievement Motivation ← Readiness for Change	0.062	0.013	0.456	0.001
Psychological Capital ← Readiness for Change	0.858	0.125	0.660	0.001

Table 3 shows that the total path coefficient between achievement motivation and readiness for change is positive and significant ( $p = .001$ ,  $\beta = .456$ ). Based on this, the conclusion was drawn in testing the second hypothesis that achievement motivation significantly and positively predicts readiness for change in students. The total path coefficient between psychological capital and readiness for change is positive and significant ( $p = .001$ ,  $\beta = .660$ ). Based on this, the conclusion was drawn in testing the third hypothesis that psychological capital significantly and positively predicts readiness for change in students. The path coefficient between adaptive problem-solving strategies and readiness for change is positive and significant ( $p = .001$ ,  $\beta = .481$ ), and the path coefficient between maladaptive problem-solving strategies and readiness for change is negative and significant ( $p = .001$ ,  $\beta = -.537$ ). Based on this, the conclusion was drawn in testing the fourth hypothesis that adaptive problem-solving strategies positively and maladaptive strategies negatively and significantly predict readiness for change in students.

The indirect path coefficient between achievement motivation and readiness for change ( $p = .001$ ,  $\beta = .376$ ) on one hand, and between psychological capital and readiness for change ( $p = .001$ ,  $\beta = .549$ ) on the other hand, is positive and significant. Thus, it can be stated that both adaptive and maladaptive problem-solving strategies significantly mediate the relationship between achievement motivation and psychological capital with readiness for change among students. Although the significance/non-significance of the role of each of the two mediating variables (adaptive and maladaptive problem-solving strategies) in the relationship between achievement motivation and psychological capital with readiness for change was not clear, the Baron and Kenny formula (1986, as cited in Mallinckrodt et al., 2006) was used to determine the significance or non-significance of each mediating role. Using the Baron and Kenny formula, it was shown that the indirect path coefficient between achievement motivation and readiness for change through adaptive problem-solving strategies ( $p = .001$ ,  $\beta = .213$ ) and through maladaptive problem-solving strategies ( $p = .001$ ,  $\beta = .168$ ) is positive and significant. Based on this, the

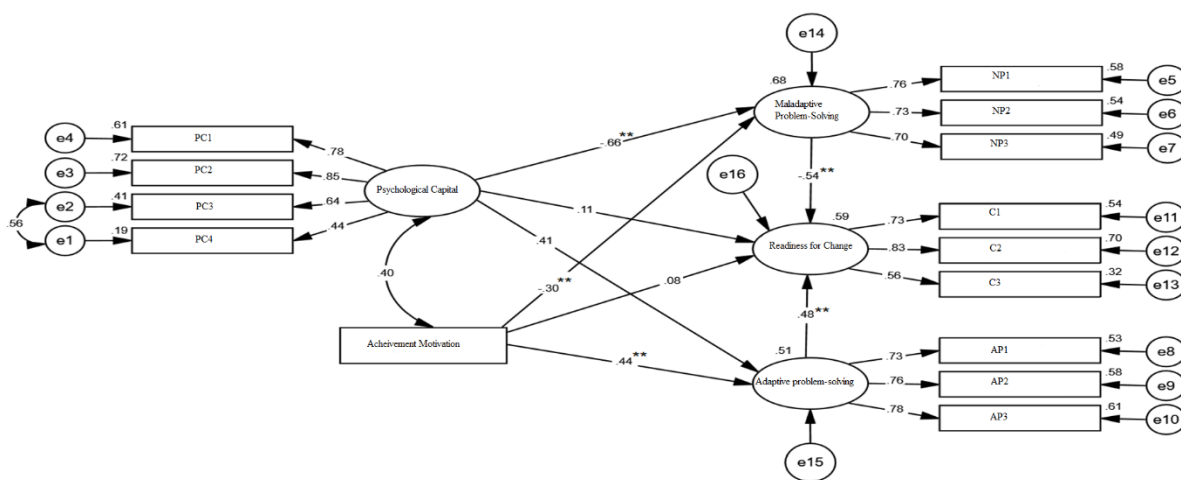
conclusion was drawn in testing the fifth hypothesis that among students, adaptive and maladaptive problem-solving strategies significantly mediate the relationship between achievement motivation and readiness for change. Also, the Baron and Kenny formula showed that the indirect path coefficient between psychological capital and readiness for change through adaptive problem-solving strategies ( $p = .001, \beta = .197$ ) and through maladaptive problem-solving strategies ( $p = .001, \beta = .352$ ) is positive and significant. Based on this, the conclusion was drawn in testing the sixth

hypothesis that among students, adaptive and maladaptive problem-solving strategies significantly mediate the relationship between psychological capital and readiness for change.

Figure 1 shows that the total squared multiple correlations ( $R^2$ ) for the variable readiness for change was 0.59, indicating that achievement motivation, psychological capital, and problem-solving strategies together explain 59% of the variance in readiness for change among students.

Figure 1

Final Model



#### 4. Discussion and Conclusion

The aim of this research was to present a structural model for readiness to change based on achievement motivation and psychological capital with problem-solving mediation among students at Islamic Azad University, Roudehen. The findings indicated that the structural model of the research—which hypothesized that achievement motivation and psychological capital both directly and through mediation by problem-solving predict readiness for change in students—fits with the collected data. It was shown that an increase in achievement motivation and psychological capital directly increases readiness for change in students and indirectly does so by enhancing adaptive problem-solving strategies.

Review of the literature on readiness for change has revealed that all past research somehow relates this concept to personal characteristics (Haffar et al., 2014; Lizar et al., 2015; Maleki et al., 2012; Mirkamali & Mazari, 2017; Mokhtari et al., 2018; Nilsson et al., 2019). Research has cited factors such as intrinsic motivation and emotional

commitment, extrinsic motivation and normative commitment, learner characteristics like information seeking, openness, belief in human roles in life, adaptability, flexibility, compatibility, openness to experience, communication skills, self-energy management, problem-solving skills, self-assessment, goal setting and planning, risk-taking, ambiguity tolerance, adventurousness, and optimism, and personality traits like extraversion, conscientiousness, creativity, and self-confidence as influential individual factors. Bandura (1997) noted that self-efficacy indicates an individual's capability to achieve desired goals in specific situations. Thus, self-efficacy, as perceived by the individual, is a cognitive mechanism that facilitates behavioral change (Saket et al., 2023). Readiness factors are related to acceptance and implementation stages, psychological factors are defined as cognitive-emotional willingness to accept change, and structural factors are content factors that either hinder or facilitate acceptance of change. Among these factors, psychological factors are

important factors that both directly and indirectly explain an individual's readiness for change.

In testing the second hypothesis, it was concluded that achievement motivation significantly and positively predicts readiness for change in students. Cognitive-social theorists consider motivation as one of the most critical factors related to the individual as a mediator between external stimuli and behavior (Mokhtari et al., 2018; Nilsson et al., 2019), playing a key role in an individual's readiness for change. Individuals with high achievement motivation generally respond with approach-oriented emotions such as hope, pride, and anticipatory pleasure. Individuals with low need for achievement typically respond with avoidance emotions such as anxiety, defensiveness, and fear of failure. Behavioral responses of individuals to superiority standards also differ. When faced with an opportunity to engage in a task where superiority standards play a significant role, they show differences in selection, latency, effort, persistence, and willingness to accept personal responsibility for subsequent outcomes (Rafferty, 2018; Vanluchene & Jonsson, 2019). Individuals with high need for achievement, compared to those with low, choose relatively challenging to difficult tasks instead of simple ones. Instead of shying away from or completely avoiding achievement tasks, they quickly engage in them (Khalilnejad Narmigh & Abolmaali 2023; Mokhtari et al., 2018). In relatively challenging tasks, they show more effort and better performance because it bolsters the pride of those with high need for achievement, whereas it cripples the fear of those with low (Mokhtari et al., 2018; Rafferty, 2018). They persist more in the face of difficulty and failure in relatively challenging tasks and take personal responsibility for successes and failures, rather than seeking help or advice from others. The presence of such psychological characteristics based on the review of literature and related research on change are considered influential factors in readiness for change.

In testing the third hypothesis, it was concluded that psychological capital significantly and positively predicts readiness for change in students. This finding aligns with the results of prior (Avey et al., 2010; Jakobsen et al., 2020; Lizar et al., 2015; Mohammadi et al., 2021; Saadati & Parsakia, 2023; Saket et al., 2023). According to the findings from the test of the above hypothesis, an increase in psychological capital, which includes the dimensions of self-efficacy, hope, resilience, and optimism, is associated with an increase in readiness for change in students. In this regard, David (2005) states in his research that if individuals believe they have the ability to implement changes and can

successfully navigate the transition, they will show a greater willingness to implement changes (Lizar et al., 2015). It seems unlikely that people will attempt to control events if they doubt their capacity to perform necessary behaviors. Prochaska suggests that with increased self-referential thinking in an individual, we should allow them to embrace change by adopting new behaviors. Developers of the multi-stage model of change consider self-efficacy effective in positively predicting movement, stating that the cognition individuals have about behavioral change or resistance to change or support for efforts to change in their minds is readiness for change, and readiness is a person's "mindset" about themselves and change. DiClemente (2015), with a motivational interviewing approach, considers cognitive and experiential processes such as increased awareness and reevaluation of self to be influential in the early stages of change. Additionally, research shows that one of the effective traits in readiness for change is the trait of optimism in individuals. Optimistic people believe that they have control over matters. Psychological capital, optimism, and hope are associated with change (Avey et al., 2010; Mohammadi et al., 2021; Saadati & Parsakia, 2023).

According to Luthans, psychological capital is a collection of positive traits and capabilities that can act as a strong resource in the growth and advancement of individuals and organizations. The first influential component on readiness for change is resilience. Resilience, or the capacity of individuals to successfully confront challenges, is developed and crystallized as a positive trait through the interaction with one's internal abilities, social skills, and environment. The second influential component on readiness for change is self-efficacy. Self-efficacy, defined as "a firm belief in one's capabilities to mobilize the cognitive resources and courses of action needed for successful execution of a specific task within a given domain," encompasses domains of social, academic, emotional, and physical self-efficacy. The third component affecting readiness for change in organizational settings is hope. Hope is a cognitive or thoughtful state that enables an individual to set realistic and challenging goals and expectations and to achieve these goals through self-direction, willpower, energy, and internal sense of control. The fourth component influencing readiness for change is optimism. In psychological capital, optimism is not just the anticipation and expectation of positive outcomes in the future but relates to the reasons and evidence that an individual uses to explain how certain events, whether



positive or negative, past, present, or future, occur (Avey et al., 2010; Jakobsen et al., 2020; Saadati & Parsakia, 2023).

In testing the fourth hypothesis, it was concluded that adaptive problem-solving strategies positively and maladaptive strategies negatively and significantly predict readiness for change in students. This finding aligns with the results of prior (Khalilnejad Narmigh & Abolmaali 2023). In this regard, Kaplan (2009) states that the manner of dealing with and solving problems, as well as the continuous articulation of goals and visions and the assessment of the gap between performance and goals, can be effective in determining success in change. Researchers agree in studies on readiness for change that cognitions and core beliefs are prerequisites for readiness for change (Ariya et al., 2021; Hwang & Oh, 2021), one of which is problem-solving ability—a cognitive-behavioral process guided by the individual himself, attempting to find effective or adaptive solutions for everyday life problems. Thus, problem-solving is a conscious, logical, and goal-oriented process.

In testing the fifth hypothesis, it was concluded that among students, both adaptive and maladaptive problem-solving strategies significantly mediate the relationship between achievement motivation and readiness for change. According to the findings from the test of this hypothesis, achievement motivation positively and significantly influences readiness for change through adaptive problem-solving strategies, and negatively and significantly through maladaptive problem-solving strategies. Review of prior studies did not find research that specifically examined the indirect effects of problem-solving on the relationship between achievement motivation and readiness for change, but the relationship between achievement motivation and problem-solving in students was studied and confirmed in the prior research (Khalilnejad Narmigh & Abolmaali 2023). In explaining the results, it can be said that students with higher achievement motivation tend to overcome obstacles and solve problems on the path to success, gaining power and striving to solve difficult tasks; in fact, they possess the necessary audacity for experimentation and learning from experiences, which are characteristics of high achievement motivation that are effective in employing constructive and flexible problem-solving (adaptive strategies) and thus facilitate the process of readiness for change which includes inclinations, attitudes, and motivation for change and influencing preparation and planning for creating new behavior.

In testing the sixth hypothesis, it was concluded that among students, both adaptive and maladaptive problem-

solving strategies significantly mediate the relationship between psychological capital and readiness for change. This finding aligns with the results of prior research (Gholizadeh et al., 2022). In explaining the findings, it can be said that individuals, when faced with various life problems, enter with a specific information processing system and problem-solving strategies. In other words, individuals carry a mental processing mode based on each of the components of psychological capital, so that people with high psychological capital perceive facing problems and challenges differently compared to those with lower psychological capital. This variable, by providing a positive perception of oneself, creates favorable conditions for solving problems because by generalizing this positive perception to different situations, they gain a different understanding of issues. These individuals process the issues and problems that occur in their lives with a positive outlook, therefore they can approach conditions more logically and with a constructive orientation, and have a more positive attitude towards encountering change and readiness for change.

## 5. Limitations & Suggestions

Among the limitations of the current research, mention can be made of data collection via questionnaires and the large number of questions in the questionnaires, which may negatively affect the accuracy and focus of respondents' responses. Due to the breadth of the concept of readiness for change, studying all levels of this construct was not possible. It was not possible to control some intervening variables, including economic welfare level and social class. Ultimately, based on the results of this research, it was shown that achievement motivation and psychological capital with the mediation of problem-solving significantly affect students' readiness for change, it is recommended that these factors be considered in developing change programs and related educational programs, as well as in implementing change.

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## Declaration

In order to correct and improve the academic writing of our paper, we have used the language model ChatGPT.

## Declaration of Interest

The authors of this article declared no conflict of interest.

## Ethics Considerations

The study protocol adhered to the principles outlined in the Helsinki Declaration, which provides guidelines for ethical research involving human participants.

## Transparency of Data

In accordance with the principles of transparency and open research, we declare that all data and materials used in this study are available upon request.

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## Authors' Contributions

All authors contributed equally.

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