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## INVESTIGATING THE RELATIONSHIP BETWEEN METACOGNITIVE BELIEFS AND ACHIEVEMENT GOAL ORIENTATION WITH THE MEDIATING ROLE OF ACADEMIC HELP SEEKING AND AVOIDANCE IN CHORAM SECOND-GRADE HIGH SCHOOL STUDENTS

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### ABSTRACT

*This study aimed to investigate the relationship between metacognitive beliefs and achievement goal orientation with the mediating role of academic help-seeking and help avoidance in Choram second-grade high school students. It is an applied research study in purpose and descriptive survey in methodology. The statistical population consisted of all students (n = 347), from whom 182 were selected using the multi-stage cluster sampling method based on Krejcie and Morgan Table. Data were collected through Elliot and H. A. McGregor's Achievement Goal Questionnaire (AGQ), Ryan and Pantrich's help-seeking behavior questionnaire, and Wales' meta-cognitive beliefs questionnaire. Data were analyzed using structural equation modeling (SEM) by SPSS and AMOOS. The results showed that metacognitive beliefs (subscales of positive beliefs, thought control, confidence, and self-awareness) directly correlated with academic help-seeking.*

*In contrast, they had a significant inverse relationship with help avoidance as a mediator variable in the relationship between metacognitive beliefs and achievement goal orientation. Also, it was found that metacognitive beliefs had a significant inverse relationship with academic help-seeking, while it had a significant direct relationship with help avoidance. Besides, it was discovered that achievement goal orientation and its components (including performance-approach, mastery-approach, performance-avoidance, and mastery-avoidance) had a significant relationship with metacognitive beliefs with the mediating role of academic help-seeking and help avoidance.*

**Keywords:** Metacognitive beliefs, Achievement goal orientation, Academic help-seeking, Help avoidance, Students.

### INTRODUCTION

One of the important goals pursued by the education system is to provide the ground for the all-round growth of individuals and to train healthy, efficient and responsible individuals to play a role in individual and social life. Since students, as one of the basic pillars of the country's educational system, has special importance and position in achieving the goals of the educational system, paying attention to this segment of society in terms of education and training will lead to fertility and prosperity of the educational system. However, only a few of many students who enter the education system can develop their talents, succeed, and show good academic performance (Akbarzadeh and Saadipour, 2014).

One factor influencing students' help-seeking behavior is their motivational beliefs of achievement goal orientation. Achievement goal orientation is related to people's activity level in learning situations. These goals can affect how learners approach tasks and how they perform them (alone or with the help of others) (Georghiades, 2016).

Newman (2016) believed that learning goals (whether dispositional or situational) have a positive effect on academic achievement, while performance goals (whether dispositional or situational) have a negative effect on it (Newman, 2016). Most students seek real-world learning and understanding. Therefore, to achieve their goal, they need more cognitive effort and consciously or unconsciously use metacognitive skills to adjust and use their knowledge and learning optimally. Therefore, such people are sensitive to their learning, setting goals for better and more learning, and looking for better ways to improve their cognitive abilities (Delavarpour, 2018).

Also, some interventions are needed to help students increase their help-seeking and develop their full potential. One of these interventions is teaching metacognition strategies. Metacognition is one of the new concepts in psychology and educational sciences, welcomed by educational planners and other educational researchers. Metacognition can be defined as learning how to learn, particularly how to monitor thinking and learning and use it in practice. In other words, metacognition means cognition about cognition. Metacognition means the ability to know what we do not know and what it is. It also means self-awareness or how to learn (McCormick, 2013). It is also defined as any cognitive knowledge or process in assessing, monitoring or controlling cognition (Flavell, 2011).

Help-seeking behavior is one of the important self-regulation strategies that plays an important role in the learning process. Using help-seeking behavior, learners identify their learning problems and try to reduce and eliminate them by asking and getting help from others (Holt, 2014). Nelson-Le Gall (2015) and Newman (2016) found help-seeking as evidence of mastery and mastery (Gall, 2015; Newman, 2016). Ames (2015) considered help-seeking as a kind of active individual behavior to use the available facilities to achieve success (Ames, 2015).

Helping is one of the learning strategies through which students can try to identify their learning and academic problems and solve them by asking questions and asking for help from others (Khankeshizadeh and Rezaei, 2012). Undoubtedly, students face problems in their studies that they need help to solve. In such a situation, help-seeking behavior plays a significant role as a coping strategy affecting their internal stress and tension. As a result, in addition to successfully continuing the learning process, identified learning problems and academic performance are improved (Pacheco del Castillo, 2017).

Students often encounter situations in which they need the help of others to accomplish their tasks. In such situations, students must first be aware of their metacognition needs and then decide to seek help (Ryan and Pantrich, 2017). Metacognitive performance moderates academic achievement behaviors. The higher the perceived academic performance, the greater the willingness to help. There is a linear relationship between metacognitive performance and academic help-seeking, and there is a negative relationship between help-seeking avoidance and students' academic competence (Ryan, Gheen & Midgley, 2016).

A review of the literature on metacognitive beliefs, achievement goal orientation, academic help-seeking, and help avoidance shows that although various studies on each of them and related



factors have been conducted separately, there are inadequate studies on the relationship between metacognitive beliefs and achievement goal orientation with the mediating role of academic help-seeking and help avoidance. Therefore, conducting such research was felt, especially among students. A review of the literature also showed that no research had been done so far on the relationship between metacognitive beliefs and achievement goal orientation with the mediating role of academic help-seeking and help avoidance in Choram second-grade high school students. Therefore, by conducting this research, the researcher can fill the research gap in the first place and help increase the use of metacognitive strategies and achievement goal orientation in schools in the second place. This, in turn, can increase students' interest in learning, increase their motivational involvement, and increase academic help-seeking, which in turn can pave the way for students' academic achievement.

In light of the foregoing, this study seeks to answer whether there is a significant relationship between metacognitive beliefs and achievement goal orientation with the mediating role of academic help-seeking and help avoidance among Choram second-grade high school students?

### **Theoretical Foundations**

#### **Academic help-seeking:**

Help-seeking is defined as a social interactive process. Gall and Newman (2015) described help-seeking as one of the learning strategies that students can use to identify their learning and academic problems and take action to solve them by asking questions and getting help from others. They can use this strategy to master better skills and learning (Williams and Takaku, 2013). When they need help and ask for help, students reduce their academic problems and acquire the knowledge and skills that help them in problem-solving. Regarding the factors affecting help-seeking, Payakachat, Gubbins, Ragland, Norman, Flowers et al. (2013) showed that help-seeking behavior is influenced by social norms, classroom goal structure, teaching methods of teachers and students' skills, attitudes and behaviors (perceptions of academic qualification, self-regulated learning, and perceptions of help-seeking behavior).



#### **Help-seeking avoidance:**

Despite the obvious importance of help-seeking in academic achievement, there are always students who do not inquire despite feeling the need (Newman, 2016). This group of students thus puts themselves at a disadvantage in learning and practice (Ryan and Pantrich, 2017; Ryan et al., 2016). Therefore, researchers have identified potential deterrents to help-seeking students in educational settings. In general, dispositional characteristics and several situational factors may be involved in help-seeking avoidance. Causes for students' avoidance of help-seeking include several psychological factors such as embarrassment, shyness, threatened self-esteem, reluctance to reveal problems and inefficiencies, fear of others' negative perception (dullness), willingness to do things independently, anxiety, concerns over teacher or classmates' unwillingness to help them, the lack of knowledgeable and competent helpers, and the rules of classroom management (Newman, 2006).

According to Roll et al. (2011), the reasons for help avoidance are in the multidimensional class, for which three orientations can be conceptualized: 1) autonomous orientation, according to which help avoidance is attributed to striving for independent action, 2) ability-focused orientation, whereby a person tends to hide low ability and inefficiency to avoid help-seeking,

and 3) expedient orientation, whereby reluctance to help-seeking is attributed to a person's perception that help-seeking does not lead to a quick task.

**Achievement goal orientation:**

One of the most important issues regarding achievement motivation is the role of academic goals and achievement goal orientation. Goal orientation theories are mainly developed to explain achievement behavior.

According to Ames (2015), goal orientation represents a set of beliefs that lead to different ways of approaching, engaging with, and responding to developing situations.

Yourdan (2016) noted that goal orientation explains why we pursue achievement tasks, not merely performance goals (e.g., getting an A score in course X).

**Metacognitive beliefs:**

Metacognition is a cognitive model that operates at a higher level and is based on monitoring and control (Efklides, 2015). It can also refer to an individual's awareness of their thinking process and ability to control it (Cakiroglu, 2017). Metacognitive beliefs refer to the part of metacognitive knowledge that connects an individual's beliefs about cognition with cognitive and emotional experiences. Metacognition is key to recognizing the ability that allows the individual to reconstruct and think control and plays a key role in learning and academic achievement (Firoozi and Yar Ahmadi, 2016).

**Research background:**

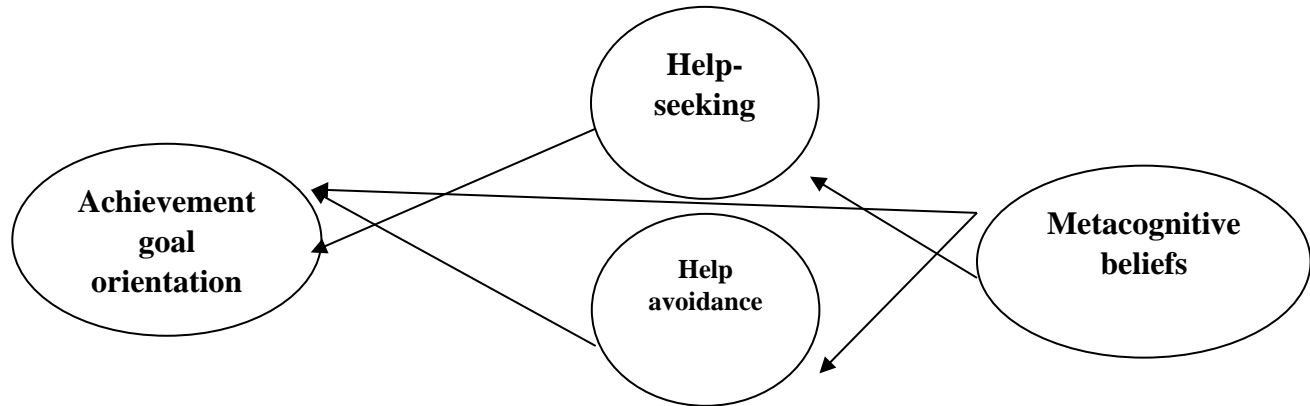
In a study entitled "The effect of teaching metacognitive strategies on help-seeking and academic procrastination in probating students at Yasuj University," Taghvaeinia (2018) showed that teaching metacognitive strategies had a significant effect on the components of academic procrastination. Also, it was found that the metacognitive strategy training program affected the post-test scores of help-seeking subjects in the experimental group and not the control group.

In a study entitled "Orientation dimension relationship model for achievement goals and scientific help, the mediating role of academic conflict and academic self-efficacy by high school students in Shiraz," Ghaedi (2016) concluded that learning goal orientation and its components had been affected help-seeking through academic involvement dimension mediator.

In a study entitled "The effect of classroom motivational achievement goals on metacognitive learning," Young (2017) showed that students with high task goal orientation (mastery) and high self-reliance, as well as high intrinsic motivation, used a lot of metacognitive strategies.

In a study entitled "The effect of cognitive belief prediction on Norwegian students' achievement goals," Braten & Stromso (2016) concluded that mastery goals are predicted by knowledge construction and improvement beliefs, while performance-avoidance goals are predicted by knowledge acquisition rate positive and Meaningful.

**Conceptual model of research:**



**Fig. 1: Conceptual model of research**

In this model, "academic help-seeking," "help avoidance" (as mediator variables), "achievement goal orientation" (as criterion variable), and metacognitive beliefs (as predictor variable) were examined.

#### **Research method:**

This study uses the descriptive correlational method and especially the SEM method. The statistical population consists of all Choram second-grade high school students studying in the academic year 2019-2020 (n = 347). Using the multi-stage cluster sampling method, the sample size (n = 182) was determined using Krejcie and Morgan's sample size determination table. For this purpose, among the second-grade high schools, three schools were randomly selected, and from each school, three classes were selected, and from each class, 20 students were selected.

In this study, data are collected using three questionnaires: 1) Elliot and HA McGregor's Achievement Goal Questionnaire (AGQ) (2001), 2) Ryan and Pantrich's help-seeking behavior questionnaire (1998), and 3) Wales meta-cognitive beliefs questionnaire (1997).

#### **Elliot and H. A. McGregor's Achievement Goal Questionnaire (AGQ) (2001):**

Elliott and McGregor (2001) first developed the achievement goal orientation model and then designed a 12-item questionnaire based on the model. Each goal is measured by three items, rated from 1 (does not apply to me at all) to 5 (absolutely applies to me). This questionnaire consists of four components: approach-performance goals (items 1, 7, and 9), performance-avoidance goals (items 4, 6, and 11), mastery-approach goals (items 2, 8, and 12), And mastery-avoidance goals (items 3, 5, and 10). In this questionnaire, scoring is done on a five-point Likert scale, from strongly agree to strongly disagree (Elliott and McGregor, 2011). Cronbach's alpha coefficient was 0.87, 0.89, 0.92, and 0.83 for mastery-approach goals, mastery-avoidance goals, performance-approach goals, and performance-avoidance goals, respectively. In Iran, Cronbach's alpha coefficient was calculated to be 0.85, 0.85, 0.82, and 0.87 for mastery-



approach orientation, mastery-avoidance orientation, performance-approach orientation, and performance-avoidance orientation, respectively (Sepehri and Latifian, 2011).

#### **Ryan and Pantrich's help-seeking behavior questionnaire (1998):**

This questionnaire was designed by Ryan and Pantrich (1998). As reported by Ryan and Pantrich (1998), the validity criterion of Cronbach's alpha method was 0.89. Help avoidance validity was calculated using the varimax rotation procedure, indicating that the avoidance factor explains 27% of the global variance. In the Persian version, Ghadampour and Sarmad (2013) reported the validity criterion of help avoidance to be 0.68. This dimension was confirmed by varimax rotation. The results showed that the help-seeking avoidance factor explained 29.4% of the total variance.

#### **Wales' meta-cognitive beliefs questionnaire (1997):**

The questionnaire was developed by Wells (1997) on a 30-item self-report measure, which measures individuals' beliefs about their thoughts. In this questionnaire, the answers are scored on a 4-point Likert scale (from strongly agree to disagree) from 1 (disagree) to 4 (strongly agree). This scale has five subscales: 1) positive beliefs about anxiety, 2) uncontrollable and dangerous beliefs about anxiety, 3) beliefs about cognitive adequacy, 4) general negative beliefs (including responsibility, superstitions, etc.), and 5) cognitive self-consciousness. To validate the metacognitive questionnaire, 52 people were interviewed; The questionnaire's reliability coefficient was calculated to be 0.88 (Yousefi, Jangi Aghdam, Sivanizadeh and Adhamian, 2016). Cronbach's alpha coefficient was also calculated to be 0.89, 0.86, and 0.79 for metacognition, academic orientation, and help-seeking behavior, respectively. Therefore, it can be said that the research tool has good reliability.

The collected data were imported into SPSS. Various tables and graphs were drawn to describe the sample derived from the statistical population based on descriptive statistics. Research hypotheses are tested using SEM by AMOOS.

## **Results**

### **Description of research variables**

Table 1 lists the means and standard deviations of the research variables.

**Table 1. Mean and standard deviation of research variables**

| Subscale                     | Mean | SD  |
|------------------------------|------|-----|
| Performance-approach         | 10.6 | 1.8 |
| Performance-avoidance        | 11.3 | 1.3 |
| Mastery-approach             | 10.5 | 1.6 |
| Mastery-avoidance            | 10.4 | 1.3 |
| Achievement goal orientation | 42.8 | 3.4 |
| Help-seeking                 | 22.8 | 3.4 |

|                       |      |     |
|-----------------------|------|-----|
| Help avoidance        | 25.7 | 3.6 |
| Academic help-seeking | 48.5 | 3.9 |
| Self-awareness        | 19.2 | 2.9 |
| Confidence            | 22.5 | 3.1 |
| Thought control       | 17.6 | 2.4 |
| Positive beliefs      | 21.1 | 2.4 |
| Negative beliefs      | 18.9 | 3   |
| Metacognitive beliefs | 99.3 | 2.6 |

### Data normality test:

**Table 2. Kolmogorov-Smirnov test results for data normality**

| Variable's name              | Standardized coefficient | Significance level |
|------------------------------|--------------------------|--------------------|
| Achievement goal orientation | 1.43                     | 0.142              |
| Academic help-seeking        | 1.12                     | 0.105              |
| Help avoidance               | 1.26                     | 0.124              |
| Metacognitive beliefs        | 1.04                     | 0.084              |

According to the results of the Kolmogorov-Smirnov test (Table 2), the significance level is higher than 0.05 for the variables academic help-seeking, achievement goal orientation, help avoidance, and metacognitive beliefs, indicating that the data are normal. Therefore, parametric tests are used.

**H1:** Achievement goal orientation and its components are directly related to academic help-seeking in Choram second-grade high school students.

**Table 3. Regression weights (impact factors and factor loadings), Critical ratios, and significance level**

| Path   | Unstandardized estimate | Critical ratio | Standardized estimate | Significance level |
|--|-------------------------|----------------|-----------------------|--------------------|
| Performance-approach orientation<--Help-seeking  | 1.4                     | 3.35           | 0.204                 | 0.001              |
| Performance-avoidance orientation<--Help-seeking | -1.3                    | -3.41          | -0.241                | 0.001              |
| Mastery-approach orientation<--Help-seeking      | 1.6                     | 2.8            | 0.304                 | 0.001              |
| Mastery-avoidance orientation<--Help-seeking     | -0.98                   | -3.5           | -0.231                | 0.001              |



Table 3 lists the regression weights for the variables examined. The results show that achievement goal orientation and its components significantly affected academic help-seeking ( $p < 0.01$ ). CR must be greater than 1.96; This model also achieved a CR above 1.96.

**H2:** Achievement goal orientation and its components are directly related to help avoidance in Choram second-grade high school students.

**Table 4. Regression weights (impact factors and factor loadings), critical ratios, and significance level**

| Path  | Unstandardized estimate | Critical ratio | Standardized estimate | significance level |
|---|-------------------------|----------------|-----------------------|--------------------|
| Performance-approach orientation<---Help avoidance  | -1.21                   | -2.85          | -0.301                | 0.001              |
| Performance-avoidance orientation<---Help avoidance | 1.36                    | 3.4            | 0.235                 | 0.001              |
| Mastery-approach orientation<---Help avoidance      | -1.35                   | -2.26          | -0.311                | 0.001              |
| Mastery-avoidance orientation<---Help avoidance     | 1.45                    | 3.8            | 0.256                 | 0.001              |

Table 4 lists the regression weights for the variables examined. The results show that achievement goal orientation and its components significantly affected academic help avoidance ( $p < 0.01$ ). CR must be greater than 1.96; This model also achieved a CR above 1.96. Also, according to the results, the ratio of chi-square to the degree of freedom is less than 3, indicating the fit of the appropriate model. The values of all the studied indices are close to 1, indicating the model's desirability. Also, RSEMA was calculated to be less than 0.08.

**H3:** Metacognitive beliefs (positive and negative beliefs, confidence, thought control, and self-awareness) are directly related to academic help-seeking in Choram second-grade high school students.

**Table 5. Regression weights (impact factors and factor loadings), critical ratios, and significance level**

| Path                                       | Unstandardized estimate | Critical ratio | Standardized estimate | Significance level |
|--|-------------------------|----------------|-----------------------|--------------------|
| Help-seeking behavior<--- positive beliefs | 0.341                   | 8.6            | 0.312                 | 0.001              |
| Help-seeking behavior<--- negative beliefs | -0.265                  | -5.3           | -0.271                | 0.001              |
| Help-seeking behavior<--- thought control  | 0.284                   | 5.4            | 0.264                 | 0.001              |
| Help-seeking behavior<--- self-awareness   | 0.391                   | 10.9           | 0.361                 | 0.001              |
| Help-seeking behavior<--- confidence       | 0.302                   | 7.5            | 0.291                 | 0.001              |

Table 5 lists the regression weights for the variables examined. The results show that positive beliefs, thought control, confidence, and self-awareness had a significant positive effect on help-seeking behavior, while negative beliefs had a significant inverse effect on it ( $p < 0.01$ ).

**H4:** There is a direct relationship between metacognitive beliefs and their components without the mediating role of achievement goal orientation and its components in Choram second-grade high school students.

**Table 6. Regression weights (impact factors and factor loadings), critical ratios, and significance level**

| Path   | Unstandardized estimate | Critical ratio | Standardized estimate | significance level |
|--|-------------------------|----------------|-----------------------|--------------------|
| Metacognitive beliefs<-- Orientation                       | 0.271                   | 7.3            | 0.26                  | 0.001              |
| Self-awareness<-- Orientation                              | 0.364                   | 8.4            | 0.341                 | 0.001              |
| confidence<-- Orientation                                  | 0.301                   | 7.5            | 0.273                 | 0.001              |
| thought control<-- Orientation                             | 0.285                   | 7.3            | 0.261                 | 0.001              |
| Negative beliefs<-- Orientation                            | -0.220                  | -4.6           | -0.239                | 0.001              |
| positive beliefs<-- Orientation                            | 0.304                   | 7.6            | 0.279                 | 0.001              |
| Metacognitive beliefs<-- Performance-approach orientation  | 0.253                   | 5.3            | 0.241                 | 0.001              |
| Metacognitive beliefs<-- Performance-avoidance orientation | -0.202                  | -5.6           | -0.195                | 0.001              |
| metacognitive beliefs<-- Mastery-approach orientation      | 0.312                   | 8.4            | 0.296                 | 0.001              |
| metacognitive beliefs<-- Mastery-avoidance orientation     | -0.191                  | -6.3           | -0.184                | 0.001              |

Table 6 lists the regression weights for the variables examined. The results show that performance-approach orientation and mastery-approach orientation subscales had a significant positive effect on psychological beliefs, while performance-avoidance orientation and mastery-avoidance orientation had a significant inverse effect on metacognitive beliefs ( $p < 0.01$ ). Also, positive beliefs, thought control, confidence, and self-awareness had a significant positive effect on achievement goal orientation, while negative beliefs had a significant inverse effect on it ( $p < 0.01$ ).

**H5:** There is a relationship between metacognitive beliefs and their components with the mediating role of academic help-seeking/help avoidance and achievement goal orientation in Choram second-grade high school students.



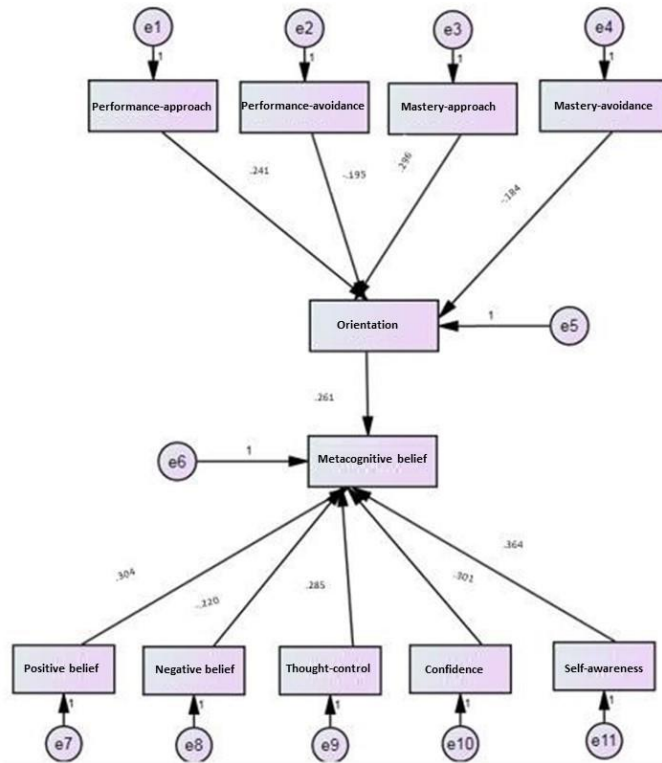


Fig. 2: Standardized regression coefficients for indirect communication between metacognitive beliefs through help-seeking/help avoidance and achievement goal orientation

Fig. 2 illustrates a structural equation with standardized coefficients. This model shows that the subscales of positive beliefs, thought control, confidence, and self-awareness have a significant inverse relationship with help avoidance as a mediator variable in the relationship between metacognitive beliefs and achievement goal orientation ( $p < 0.01$ ). Negative beliefs have a significant direct relationship with help avoidance as a mediator variable in the relationship between metacognitive beliefs and achievement goal orientation ( $p < 0.01$ ). The subscales of positive beliefs, thought control, confidence, and self-awareness have a significant positive relationship with help-seeking as a mediator variable in the relationship between metacognitive beliefs and achievement goal orientation ( $p < 0.01$ ). Negative beliefs have an inverse relationship with help-seeking as a mediator variable in the relationship between metacognitive beliefs and achievement goal orientation ( $p < 0.01$ ).

Among the achievement goal orientation components, performance-approach orientation and mastery-approach orientation subscales have a significant positive relationship with metacognitive beliefs with mediating the role of academic help-seeking, while performance-avoidance orientation and mastery-avoidance orientation subscales have a significant negative relationship with metacognitive orientations with the mediating role of academic help-seeking, both at  $p < 0.01$ . Among the achievement goal orientation components, performance-approach orientation and mastery-approach orientation subscales have a significant negative relationship with metacognitive beliefs with mediating role of help avoidance, while performance-avoidance

orientation and mastery-avoidance orientation subscales have a significant positive relationship with metacognitive beliefs with the mediating role of help avoidance, both at  $p < 0.01$ .

**Table 7. Fitting of the proposed data model based on fit indices**

| Model          | $\chi^2$ | df | $\chi^2/df$ | GFI   | AGFI  | IFI   | TLI   | CFI   | NFI   | RSEMA |
|----------------|----------|----|-------------|-------|-------|-------|-------|-------|-------|-------|
| Proposed model | 82       | 46 | 1.8         | 0.954 | 0.921 | 0.956 | 0.936 | 0.967 | 0.917 | 0.008 |

$\chi^2$ : chi-squared coefficient, GFI: goodness of fit index, AGFI: adjusted goodness of fit index, CFI: comparative fit index, IFI: incremental fit index, TLI: Tucker-Lewis index, NFI: normed fit index, RSEMA: root mean square residual, df: degree of freedom, and  $\chi^2/df$ : ratio of chi-square to the degree of freedom

Table 7 lists the index values after modifying the model. As can be seen,  $\chi^2/df < 3$  indicates a suitable model fit. The values of all the studied indices are close to 1, indicating the model's desirability. Also, RSEMA was calculated to be less than 0.08.

### Discussion and Conclusion

This study aimed to investigate the relationship between metacognitive beliefs and achievement goals with the mediating role of academic help-seeking and help avoidance in Choram second-grade high school students.

Pearson's correlation coefficients showed that performance-approach orientation and mastery-approach orientation components had a significant direct relationship with help-seeking, while performance-avoidance orientation and mastery-avoidance orientation components had a significant inverse relationship with it. Also, performance-approach orientation and mastery-approach orientation components had a significant inverse relationship with help avoidance, while performance-avoidance orientation and mastery-avoidance orientation components had a significant direct relationship with it. Accordingly, H1 and H2 confirmed the relationship between mastery orientation/performance orientation and academic help-seeking in Choram second-grade high school students.

Also, the results of the H3 test showed that metacognitive beliefs components had an effect on academic help-seeking with a coefficient of 0.27. Among the components of metacognitive beliefs, positive beliefs, thought control, confidence, and self-awareness had a significant positive relationship with academic help-seeking behavior, while the component of negative beliefs had a significant inverse relationship with it. Therefore, H3 confirmed the relationship between metacognitive beliefs (positive beliefs, negative beliefs, confidence, thought control, and self-awareness) and academic help-seeking in Choram second-grade high school students.

The results of the H4 test showed that among the components of achievement goal orientation, the components of performance-approach orientation and mastery-approach orientation had a significant positive relationship with metacognitive beliefs, while the components of performance-avoidance orientation and mastery-avoidance orientation had a significant negative relationship with it. Among the components of metacognitive beliefs, positive beliefs, thought control, confidence, and self-awareness were directly related to achievement goal orientation, while negative beliefs were significantly inversely related to it. Therefore, H4 confirmed the relationship between metacognitive beliefs and their components without



mediating role and achievement goal orientation and its components in Choram second-grade high school students.

The results of the H5 test showed that the results showed that metacognitive beliefs (subscales of positive beliefs, thought control, confidence, and self-awareness) had a significant direct relationship with academic help-seeking, while they had a significant inverse relationship with help avoidance as a mediator variable in the relationship between metacognitive beliefs and achievement goal orientation. Also, it was found that metacognitive beliefs had a significant inverse relationship with academic help-seeking, while it had a significant direct relationship with help avoidance. Besides, it was found that achievement goal orientation and its components (including performance-approach, mastery-approach, performance-avoidance, and mastery-avoidance) had a significant relationship with metacognitive beliefs with the mediating role of academic help-seeking and help avoidance.

Therefore, H5 confirmed the association between metacognitive beliefs and their components with the mediating role of academic help-seeking/help avoidance and achievement goal orientation in Choram second-grade high school students.

The findings of testing these hypotheses are consistent with the findings of Taghvaeinia (2018), Ghaedi (2016), Young (2017), Ames (2015), تاجر and Stromso (2016).

Explaining these findings, it can be stated that students with mastery achievement goal orientation mainly use instrumental help-seeking, while students seeking help to reduce their efforts do not use executive help-seeking. Goal structure also conveys to the individual that understanding, improvement, and the value of intrinsic learning are important, while performance structure attaches importance to demonstrating the ability of individuals against others. In mastery achievement goal orientation, people focus on the task and consider help-seeking as a problem-solving strategy. Mastery achievement goal orientation leads to better social adjustment than performance goals. Comparative communication between students and peers is essential because it determines social capability and adjustment and positively affects academic achievement. Therefore, it is understood that mastery achievement goal orientation leads to more friendly relationships. As a result, students with mastery achievement goal orientation mainly seek the help of their friends and classmates when needed. On the other hand, when situational factors emphasize their contradiction, normative assessment and interpersonal comparisons are emphasized. Under these circumstances, instead of a task, the person focuses on the considerations around them and envisions help-seeking as a failure (Butler and Newman, 2014).

In another explanation, it can be said that mastery achievement goal orientation leads to adaptive help-seeking behavior and performance achievement goal orientation leads to help-seeking avoidance (Ryan et al., 2016). Students with a high level of performance achievement goal orientation have less adaptation and interaction with their peers at school and set increasing their value as their goal. Therefore, these students avoid help-seeking in times of need (Nelson et al., 2014).

Another explanation is that people with achievement goal orientation mastery seek real-world learning and understanding. Therefore, to achieve their goal, they need more cognitive effort and must consciously or unconsciously use metacognitive skills to adjust and use their knowledge and learning optimally. Therefore, such people are sensitive to their own learning,



setting goals for better and more learning, and looking for better ways to improve their cognitive abilities. Such concerns are associated with the ability to perform metacognition activities. Although they seem to have a performance-approach orientation, their motivation to perform tasks and learn is not real, internal, and profound, and they are more likely to seek results. However, it should be noted that these individuals need cognitive effort and, consequently, a metacognitive activity ceiling to achieve their goals (Delavarpour, 2011). Therefore, it can be said that since achieving tangible and immediate results is important for people with a performance achievement goal orientation, they seem to be looking for the most result (score or objective result) at the lowest cost (including cognitive effort and low metacognitive).

The bottom line is that when learners have positive beliefs about their ability to engage in valuable actions, thoughts, feelings, and pursuit of academic goals and have confidence in their abilities, they can set their own learning goals and strive to recognize and motivate and monitor your behavior. These people, while having confidence in others, also have confidence in their learning beliefs. This belief leads to mastery and more control over what he has learned. To ensure their success, these people ask for help from others when they feel the need. In contrast, learners who are unaware of their own abilities and always have misconceptions about learning and avoid others' help-seeking when they feel they need help because of their negative mental beliefs about others - they think that others will take them as weak and lazy if they seek their help. Therefore, it can be concluded that ability level (positive beliefs, confidence in your ability, being aware of your ability, and ability thought control) moderate academic help-seeking behaviors. The higher an individual's perceived academic performance, the more likely he or she is to seek help. That is, there is a linear relationship between metacognitive performance and academic help-seeking, and there is a negative relationship between help-seeking avoidance and students' academic adequacy (Ryan et al., 2016).

Given the confirmed link between metacognitive beliefs, achievement goal orientation, and academic help-seeking, teachers are suggested to create appropriate tasks, teach study strategies, and implement new teaching methods to encourage students to use learning goal orientation. They can encourage students to study in groups, help-seeking, supervision, self-assessment, effort management, etc.

The statistical population in this study consisted of Choram second-grade high school students. Therefore, the findings can be generalized to all individuals with the same characteristics. It is recommended to conduct this research with a larger sample size to ensure the greater extensibility of the findings.

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