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Research Paper

Relationships Between Test-Taking Strategies, Test Anxiety, and Goal Orientations in EFL Learners

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Abstract

This study aimed to find the relationship between test-taking strategies, test anxiety, and goal orientations in EFL learners. For this purpose, 150 intermediates Iraqi EFL learners were selected by convenience sampling, and the data was collected using the Test-Taking Strategy Questionnaire, Test Anxiety Inventory, and Achievement Goal Questionnaire. The data were analyzed using multiple regression and the Pearson correlation coefficient. Findings indicated that time and test-wiseness strategies were negatively correlated with test anxiety. Mastery-approach and performance-approach goals were positively correlated with affective strategies; the mastery-avoid goal was negatively correlated with test-wiseness, and the performance-avoid goal was negatively correlated with affective strategies. Finally, performance-avoid and mastery-approach goals were negatively correlated with test anxiety. These results emphasize the understanding of the relationships between test-taking strategies, goal orientations, and test anxiety in academic contexts. By fostering adaptive goal orientations and equipping students with effective test-taking strategies, educators can significantly enhance learners' testing experiences and reduce anxiety levels.

Keywords: EFL learners, Goal orientations, Test anxiety, Test-taking strategies

روابط بین راهبردهای شرکت در آزمون، اضطراب امتحان و جهتگیریهای هدف در زبان آموزان انگلیسی به عنوان زبان خارجی هدف این پژوهش بررسی رابطه بین راهبردهای شرکت در آزمون، اضطراب امتحان و جهتگیریهای هدف در زبانآموزان انگلیسی به عنوان زبان خارجی بود. برای این منظور، ۱۵۰ زبانآموز عراقی در سطح متوسطه به روش نمونه گیری در دسترس انتخاب شدند و دادهها با استفاده از پرسشنامه راهبردهای شدی در دادهها با استفاده از رگرسیون چندگانه و ضریب همبستگی پیرسون تحلیل شدند. یافته ها نشان دادند که راهبردهای مدیریت زمان و هوشمندی آزمون با اضطراب امتحان رابطه منفی دارند. اهداف پیشرفت-گرایش به تسلط و پیشرفت-گرایش به عملکرد با راهبردهای عاطفی رابطه مثبت داشتند؛ هدف اجتناب از تسلط با راهبردهای هوشمندی آزمون رابطه منفی و هدف اجتناب از عملکرد با راهبردهای عاطفی رابطه منفی داشت. در نهایت، اهداف اجتناب از عملکرد و گرایش به تسلط با اضطراب امتحان رابطه منفی نشان دادند. این نتایج بر اهمیت درک روابط بین راهبردهای آزمون، جهتگیریهای عملکرد و گرایش به تسلط با اضطراب امتحان رابطه منفی نشان دادند. این نتایج بر اهمیت درک روابط بین راهبردهای آزمون، جهتگیریهای هدف، و اضطراب امتحان در بافتهای آزمون، جهتگیریهای آزمون، معلمان میتوانند به طور چشمگیری تجربه آزمون زبانآموزان را بهبود بخشیده و سطح اضطراب آنها را کاهش دهند. و واژگان کلیدی: زبانآموزان انگلیسی به عنوان زبان خارجی، جهتگیری هدف، اضطراب امتحان، راهبردهای شرکت در آزمون



Introduction

Tests are commonly utilized for the assessment of academic performance; thus, it is crucial to exert every effort to assist students in performing well on them. Consequently, exploring factors or attributes related to tests could serve as an initial stride toward accomplishing this objective. Within the realm of testing, it is evident that proficiency is not the sole determinant influencing students' test outcomes. Various cognitive and psychological elements play a role in shaping test performance (Hambleton et al., 1991). As evidenced in existing literature, factors such as test anxiety, test-taking strategies, and goal orientations emerge as pivotal determinants, each exerting a unique impact on test performance while influencing other variables.

The concept of test-taking strategies denotes "the consciously selected processes that the respondents used for dealing with both the language issues and the item-response demands in the test-taking tasks at hand" (Cohen, 2006, p. 308). The essential skill underlying the deployment of such strategies, known as "strategic competence", has been recognized as a critical element in various theoretical models aimed at illustrating communicative competence or proficiency in L2.

Besides, the recent decades witnessed test-taking strategies as a focal point in numerous academic dialogues and empirical inquiries within the language testing research community, with findings consistently underscoring the pivotal role these strategies play in test completion, showcasing their intricate interplay with levels of proficiency, and shedding light on their substantial correlation with test performance (Huang, 2016).

Despite the acknowledged benefits of test-taking strategies in bolstering overall functioning in reading assessments, as highlighted by Cohen (2006), no one can claim that all test-takers possess a comprehensive understanding of suitable strategies or how to effectively employ them to optimize their scores during actual testing scenarios. Consequently, it is not surprising that some students outperform their peers on the same assessment. Furthermore, Lee (2011) emphasized that a considerable number of language educators are still insufficiently attuned to their students' struggles in approaching tests adeptly. This oversight inadvertently leads to a lack of emphasis on equipping students with efficient strategies to take tests.

Test anxiety constitutes a social-evaluative anxious reaction when performance is perceived to be under assessment or evaluation by others. While test anxiety focuses on educational assessment, it can be broadly labeled as performance anxiety, sharing similar antecedents to other performance anxieties, such as sports anxiety or public speaking (Stöber & Pekrun, 2004). The common elements initiating and maintaining performance anxieties are thought to be fear of failure, whereby failure may result in negative consequences, negative judgments by others (Lowe et al., 2007), and threats to self-esteem (Bonaccio & Reeve, 2010).

EFL learners experience considerable stress when taking language tests. The affectionrelated factors may diminish the validity of these tests as determinants of EFL learners' language ability. Therefore, test anxiety may cause what test-makers call "construct-irrelevant variance" (Messick, 1996, p. 224), hindering students from exhibiting the language proficiency they can realize in non-test situations. Some researchers have concluded that students experiencing test anxiety tend to display poorer performance on exams compared to their less anxious counterparts (Eysenck, 2001; Putwain, 2008).

The concept of "achievement goal orientations" encompasses a range of constructs that pinpoint the motivational sources behind seeking or showcasing competence. Students display varying achievement goal orientations, including pursuing learning for its intrinsic value (mastery goal orientation), striving to learn how to take a test successfully (performance-approach goal orientation), and aiming to avoid displaying incompetence in front of peers (performanceavoidance goal orientation), all of which play a crucial role in predicting academic achievements (Hsieh et al., 2007; Van Yperen et al., 2014). Particularly, performance and mastery-approach goal orientations have a positive correlation with performance in academic contexts (Harackiewicz et al., 2002; Pintrich & De Groot, 1990), while performance-avoidance goal orientations are negatively correlated with performance in different domains (Van Yperen et al., 2014).

Numerous studies have indicated that mastery-avoidance goals are associated with favorable outcomes like increased interest in learning (Baranik et al., 2010), while some researchers suggest that mastery-avoidance goals are more likely to lead to negative outcomes like procrastination, lack of organization, and reduced academic performance (Van Yperen et al., 2009). In general, more research is required to find out about performance and mastery goals in EFL contexts, especially among Iraqi EFL learners. No study has yet been conducted on the goal orientations of Iraqi EFL learners and also the relationship of the three variables of the present study.

Literature review

Test-Taking Strategies

In the words of Cohen (2006), the consideration of test validity entails focusing on how respondents formulate their responses. Nevertheless, existing research in the field of language assessment has predominantly centered on the test results, overlooking the concerns pertaining to the test takers. He states that "what was missing was the aspect of test validation that related to test-takers behaviors in taking the tests" (Cohen, 2012, p.96). Additionally, he indicates that "such research [in test-taking strategies] has been used in constructing validation studies, providing a new source of data for convergent validation of the construct being assessed" (p. 314). Essentially, test developers should be mindful of the strategies employed by test takers in undertaking a language assessment, encompassing the conscious strategies adopted by test takers to address both linguistic and item response requirements.

Allan (1992) defined the term "test-taking strategy" as the "ability to note and exploit weaknesses in objective language test items to arrive at the keyed answers, without using the skills or knowledge that the items were designed to elicit or measure" (p. 1). Moreover, Cohen (1998) describes test-taking strategies as "those test-taking processes that the respondents have selected and of which they are conscious, at least to some degree, and the notion of strategy implies an element of selection" (p. 92). Rogers and Harley (1999) offer a slightly different definition in which test-taking strategies are conceptualized as applying knowledge of test formats and characteristics to select answers. The authors provide several examples, which include allocating time to good effect, paying close attention to any instructions provided, scanning for keywords in questions that provide clues to the correct answers, saving more challenging questions to answer last, and checking answers before handing the test in. Nikolov (2006), on the other hand, defines test-taking strategies in a language learning-specific way, stating that they are techniques used to respond to language assessments and whose outcomes depend on their appropriate use.

Test-taking strategies are typically categorized into three main groups: language learner strategies, test management strategies, and test-wiseness strategies, as outlined by Cohen and Upton (2006). In his work, Cohen (2012, p. 97) elaborates on these three strategy types.

- a) Language learner strategies: the way that respondents operationalize the basic skills of listening, speaking, reading, and writing, as well as the related skills of vocabulary learning, grammar, and translation. So, for example, with regard to reading skills associated with summarizing, strategies would include distinguishing key points from lesser ones, as well as being able to conceptualize or paraphrase material at a higher level of generality.
- b) *Test-management strategies:* strategies for responding meaningfully to the test items and tasks. So strategies on a reading test could deal with how respondents return to the question



to obtain more information, how they compare multiple-choice options rigorously to determine the most plausible response, and how they crosscheck the reading text to make sure the choices seem appropriate.

c) Test-wiseness strategies: strategies for using knowledge of test formats and other peripheral information to answer test items without going through the expected linguistic and cognitive processes. Again, with regard to a reading test, it would mean using the process of elimination rather blindly, using cues in other items to answer an item under consideration, and selecting an option because it appears to have the word or phrase from the passage in it, possibly a keyword.

Test anxiety

The notion of test anxiety is characterized by the individual's subjective encounter with intense cognitive, physiological, and behavioral manifestations of anxiety before or during examinations, which obstruct the test performance of test takers (Sawka-Miller, 2011). This phenomenon is commonly separated into two distinct elements: emotionality and worry, as identified by Minor and Gold (1985). Emotionality pertains to the immediate physiological responses triggered by exam situations, such as elevated heart rate, nausea, or panic. These emotional reactions typically manifest during or when approaching the test scenario, inducing anxiety. Conversely, worry involves the cognitive facet of test anxiety, encompassing negative self-perceptions and beliefs associated with failure (Putwain, 2007). Essentially, it involves the pessimistic thoughts that individuals harbor regarding their performance evaluation, feelings of inadequacy for the exam, and the adverse outcomes of failing. These sentiments may arise during exams or well in advance (depending on the test's stake), potentially influencing the learning process, revision, and exam readiness (Cassady, 2004; Smith, 2018). Despite being correlated, worry and emotionality exhibit distinct, autonomous relationships with test outcomes – with emotionality generally displaying a weaker effect compared to worry (Smith, 2018).

Test anxiety, characterized by profound contemplation and frustration coupled with physical discomfort and eagerness, leads to a feeling of fear and inadequacy among students. This circumstance prompts individuals to perceive examinations as potential calamities (Maxfield & Melnyk, 2000). Some investigations have even documented alternative forms of anxiety disorders arising from test-related anxiety in student populations (Spielberger, 2010). In general, test anxiety is linked to substandard academic achievement (Segool et al., 2013), diminished motivation (Keller & Szakál, 2021), reduced self-confidence (Thomas et al., 2022), learning challenges (Chapell et al., 2005), attrition rates, and elevated levels of despondency (Leadbeater et al., 2012). Furthermore, individuals afflicted with test anxiety may exhibit a range of psychological and physiological manifestations, such as memory lapses, muscle tension, accelerated respiration and heart rate, queasiness, gastrointestinal distress, perspiration, and difficulties with concentration (Huberty & Dick, 2006). Beers (2003) also contended that students grappling with test anxiety may encounter obstacles in comprehending questions, identifying correct options, structuring and articulating their ideas, and selecting appropriate vocabulary. Test anxiety emerges as a debilitating factor impacting academic performance across educational levels, spanning from primary schooling to tertiary education (Kader, 2016).

Aydin et al. (2020) conducted an investigation into the origins of test anxiety among EFL learners to assess the impact of test anxiety and delve into the strategies employed by learners to cope with test anxiety. The research sample comprised 57 students enrolled in EFL courses at a preparatory institution affiliated with a public university in Turkey. Qualitative data was gathered through a background questionnaire, focus group discussions, essay submissions, and interviews. The results of the study indicate that EFL learners grapple with test anxiety due to various

factors, leading to physical, test-related, and emotional difficulties while utilizing a limited array of strategies to alleviate test anxiety. The researchers recommend that EFL educators enhance their understanding of anxiety-inducing factors, their impacts on learners, and the approaches to mitigating their effects.

Goal orientations

Goal orientations pertain to the motivations or intentions that learners have when engaging in learning tasks through goal-directed and cognitive actions (Midgley et al., 2000). The concept of goal orientation encompasses a cohesive set of beliefs that result in "different ways of approaching, engaging in, and responding to achievement situations" (Ames, 1992, p. 261). Engagement in "goal-directed behaviors" holds significance for language learners as their objectives influence their methods of approaching and participating in learning activities. Various goals give rise to distinct response patterns (Midgley et al., 2000). Furthermore, goal orientation "can reflect a type of standard by which individuals will judge their performance or success, which then has consequences for other motivational beliefs such as attributions and affect as well as actual performance and behavior" (Pintrich & Schunk, 1996, p. 234).

Achievement goals are operationalized based on two facets of competence, referred to as valence and definition (Miller et al., 2021). The definition facet of "achievement goals" revolves around competence and the criteria used for evaluation, while the valence aspect of competence pertains to the inclination toward success and failure. By considering these dual aspects of competence, four distinct types of achievement goal orientations can be delineated (Miller et al., 2021). These orientations encompass mastery-approach, mastery-avoidance, performanceapproach, and performance-avoidance. Mastery orientation is commonly denoted as a learning orientation due to its association with an individual's readiness to cultivate the necessary skills for task completion (Miller et al., 2021). Mastery goals underscore the enhancement of personal competence and the attainment of outcomes like diligent effort, effective study tactics, positive emotions and well-being, receptiveness to cooperation, and commendable academic performance (Senko, 2019).

In the realm of performance objectives, individuals aspiring to garner positive perceptions from their evaluators and peers based on task completion exhibit a performance orientation (Miller et al., 2021). The pursuit of "performance goals" can yield unfavorable results such as anxiety, avoidance of challenges, ineffective tactics, and subpar attainment, particularly evident in students lacking self-assurance (Senko, 2019). Students' goals are linked to the aspiration for enhanced performance (performance-approach) or the avoidance of inferior performance relative to others (performance-avoidance) (Darnon et al., 2012). Under the performance goals, students heavily depend on external evaluations to gauge their achievements. These objectives prompt individuals to adopt an exploitative outlook characterized by distrust in sharing information with others (Darnon et al., 2012).

In contrast to individuals with a mastery orientation, students aligned with performance goals emphasize their competence in task completion, viewing achievement as a means to showcase their skills and compare themselves to peers (Stoeber et al., 2008). Their focus lies on surpassing peers rather than personal development. Those embracing a performance orientation often equate their competence with outperforming others, exceeding norm-based criteria, or achieving success effortlessly (Ford et al., 1998). Their aim is not to enhance their own performance but to outshine others and project success in comparison. Considering the above descriptions of the research variables, the present study sought to answer the following questions.

RQ1. Is there any significant relationship between intermediate Iraqi EFL learners' testtaking strategies and their test anxiety?

RQ2. Is there any significant relationship between intermediate Iraqi EFL learners' test-



taking strategies and their goal orientations?

RQ3. Is there any significant relationship between intermediate Iraqi EFL learners' test anxiety and their goal orientations?

Method

Participants

The participants comprised 150 intermediate Iraqi female (n=63) and male (n=87) EFL learners of language schools in Baghdad, Iraq, who were selected by convenience sampling and whose ages ranged between 20 and 30 (M=24.5). Opting for a convenience sampling procedure benefited the researcher by relying on those available participants at the time of the research process and by saving time as another significant point in research (Mackey et al., 2006). They were all Arabic native speakers, and they did not live or teach in an English-speaking country.

Instruments

The following instruments were used for data collection.

Test-Taking Strategy Questionnaire (Kheirzadeh et al., 2017)

This Likert-type 35-item questionnaire included eleven items that focus on cognitive and metacognitive approaches to test-taking, including memory utilization, repetition, self-assessment, and strategy choice; a set of twelve items examine strategies associated with test wiseness, such as preempting answers, making educated guesses, or utilizing clues; an additional five items pertain to strategies of time management, specifically the utilization of time, evaluation of time, and distribution of time; lastly, the remaining seven items were centered on affective strategies during test-taking, encompassing aspects like confidence levels, test-related stress, and the level of effort exerted. The responses are rated on a four-point rating scale ranging from almost never (1) to almost always (4). The reliability of the questionnaire estimated by Cronbach's Alpha was .81 (Kheirzadeh et al., 2017). The Cronbach's alpha reliability of this questionnaire was .91 in this study.

Test Anxiety Inventory (TAI; Spielberger et al., 1980)

This is a 20-item self-report measure consisting of worry (n=10) and emotionality (n=10) subscales. The TAI also demonstrates good internal consistency (α = .92), adequate test-retest reliability over two to three weeks (r = .80), and good convergent validity with previous scales (Spielberger et al., 1980). The responses are ranked on a four-point Likert scale from 1 (almost never) to 4 (almost always). The worry sub-scale contains items referring to the test-takers' behavioral reaction to the test ("I seem to defeat myself while working on important tests"), whilst the emotionality sub-scale contains items referring to emotions ("I feel panicky before taking a test"). The Cronbach's alpha reliability of this questionnaire was .83 in the present study.

The Achievement Goal Questionnaire (AGQ; Elliot & McGregor, 2001)

It contains a total of 12 items that measure each of the four achievement goals: mastery approach (e.g., "I want to learn as much as possible from this class"), mastery avoidance (e.g., "I worry that I may not learn all that I possibly could from this class"), performance approach (e.g., "My goal in this class is to get a better grade than most of the students"), and performance-avoidance (e.g., "My goal for this class is to avoid performing poorly"). The items were rated on a seven-point scale from 1 (not at all true of me) to 7 (very true of me); mean item scores were calculated for each type of goal orientation. The reliability coefficients of the four sub-scales, reported by developers, ranged between .84 and .94 (Elliot & McGregor, 2001), and Cronbach's alpha

reliability of this questionnaire was .85 in this study.

Procedure

The process of data collection spanned a period of two months, during which the instruments were manually disseminated to a group of 150 intermediate Iraqi male and female EFL learners. They were requested to complete the questionnaires at their earliest convenience. Moreover, the contact information, including the phone number and email, of the first researcher was shared to facilitate communication in case of queries related to these instruments. It is important to highlight that each participant duly signed the consent form included in the instrument package, and the study's goals and objectives were elucidated to them through both verbal and written means. It is noteworthy that the data were analyzed using multiple regression and Pearson correlation coefficient.

Results

As stated above, the first research question sought to find the correlation between intermediate Iraqi EFL learners' test-taking strategies and their test anxiety. Pearson correlation coefficient and multiple regression were run to find the possible relationship between the two variables.

Table 1Descriptive Statistics of Test-Taking Strategies and Test Anxiety Components

	Mean	SD	N
cognitive/metacognitive strategies	17.72	4.74	150
time strategies	15.3	1.86	150
test wiseness strategies	27.46	6.81	150
affective strategies	11.7	2.70	150
Worry	14.04	3.34	150
Emotionality	10.8	2.48	150

As the above table shows, among the test-taking strategies and test anxiety components, test-wiseness strategies (M= 27.46, SD= 6.81) and worry (M=14.04, SD=3.34) had the highest mean scores. Pearson correlation coefficient reveals the possible relationship among the components of these two variables.

 Table 2

 Correlation between Test-Taking Strategies and Test Anxiety Components

		ال حال علوم اسالي	1	test	
		cognitive/metacognitive strategies	time strategies	wiseness strategies	affective strategies
Worry	Pearson Correlation	09	14*	23**	.02
	Sig. (2-tailed) N	.22 150	.04 150	.00 150	.75 150
emotionality	Pearson Correlation	.01	2*	.06	.02
	Sig. (2-tailed)	.82	.01	.46	.75
	N	150	150	150	150

^{**.} Correlation is significant at the 0.01 level (2-tailed).



^{*.} Correlation is significant at the 0.05 level (2-tailed).

Table 2 reveals a significant negative relationship between worry and time strategies (r=.14, p<.05) and worry test-wiseness strategies (r=-.23, p<.01) and a significant negative relationship between emotionality and time strategies (r=-.2, p<.01). In other words, the higher the level of test anxiety (worry and emotionality), the lower the level of intermediate Iraqi EFL learners' utilization of time and test-wiseness strategies.

Table 3 *Coefficients of Test-Taking Strategies and Test Anxiety Components*

		Unstandardized Coefficients		Standardized Coefficients		
Model		В	Std. Error	Beta	t	Sig.
Worry	time strategies	27	.14	15	-1.91	.03
	test wiseness strategies	11	.04	23	-2.84	.00
emotionality	time strategies	27	.11	2	-2.52	.01

As shown in Table 3, the relationship between two factors of test anxiety, namely worry and emotionality, and test-taking strategies was statistically significant. Of these two components, 15% and 20% of the variance in time strategies was explained by worry and emotionality, respectively, and 23% of the variance in test-wiseness strategies was explained by worry.

The second research question aimed to uncover the correlation between intermediate Iraqi EFL learners' goal orientations and test-taking strategies. In so doing, Pearson correlation coefficient and multiple regression were run, whose findings are shown below.

Table 4Descriptive Statistics of Test-Taking Strategies and Goal Orientations

	Mean	SD	N
cognitive/metacognitive strategies	17.72	4.74	150
time strategies	15.3	1.86	150
test wiseness strategies	27.46	6.81	150
affective strategies	11.7	2.7	150
mastery-approach	16.28	1.75	150
mastery-avoid	4.53	1.09	150
performance-approach	18.53	1.26	150
performance-avoid	6.44	1.59	150

Of the test-taking strategies, test-wiseness strategies (M= 27.46, SD= 6.81) had the highest mean score, and performance-approach goal orientation (M= 18.53, SD=1.26) also had the highest mean among the four goal orientations (Table 4).

Table 5 *Correlation between Test-Taking Strategies and Goal Orientations*

	cognitive/metacognitive strategies		Test-wiseness strategies	affective strategies
mastery-approachPearson Correlation	.11	.11	1	.31**
Sig. (2-tailed)	.16	.15	.2	.00



	N	150	150	150	150
mastery-avoid	Pearson Correlation	01	.01	00	16*
	Sig. (2-tailed)	.84	.88	.98	.04
	N	150	150	150	150
performance- approach	Pearson Correlation	.1	00	.03	.21**
••	Sig. (2-tailed)	.2	.98	.7	.00
	N	150	150	150	150
performance- avoid	Pearson Correlation	1	.00	23**	.1
	Sig. (2-tailed)	.18	.92	.00	.2
	N	150	150	150	150

^{**.} Correlation is significant at the 0.01 level (2-tailed).

The results revealed a significant positive correlation between mastery-approach goals and affective strategies (r= .31, p<.01) and performance-approach goals and affective strategies (r=.21, p<.01). In other words, higher levels of approach goals (mastery and performance) are associated to the adoption of more affective strategies. Besides, there was a significant negative relationship between mastery-avoid goal and affective strategies (r=-.16, p<.05) and between performance-avoid goals and test-wiseness strategies (r=-.23, p<.05). To put it differently, the adoption of avoid "goals (mastery and performance)" resulted in the reduced use of affective and test-wiseness strategies, respectively (Table 5).

Table 6Coefficients of Test-Taking Strategies and Goal Orientations

		Unsta	ındardized	Standardized		
	A40	Coeff	ricients	Coefficients		
Model		В	Std. Error	Beta	_ t	Sig.
mastery-approach	affective strategies	.18	.05	.29	3.66	.00
mastery-avoid	affective strategies	06	.03	16	-2.03	.04
performance-approach	affective strategies	.1	.03	.22	2.75	.00
performance-avoid	test-wiseness strategies	05	.02	21	-2.5	.01

The mastery-approach goal explained 29% of the variance in affective strategies, and the mastery-avoid and performance-approach goals respectively explained 16% and 22% of the variance in the same strategies. Additionally, 21% of the variance in test-wiseness strategies was explained by the performance-avoid goal (Table 6).

Finally, the third research question aimed to find the relation between intermediate Iraqi EFL learners' test anxiety and their goal orientations. In so doing, the Pearson correlation coefficient and multiple regression were run, the results of which are presented below.

Table 7 *Correlation between Test Anxiety and Goal Orientations*

		mastery-		performance-	performance-
		approach	mastery-av	oid approach	avoid
Worry	Pearson Correlation	.12	.17*	07	.18*
-	Sig. (2-tailed)	.13	.02	.38	.02
	N	150	150	150	150



^{*.} Correlation is significant at the 0.05 level (2-tailed).

emotionality Pearson Correlation	16 [*]	05	.07	.00	
Sig. (2-tailed)	.04	.54	.35	.98	
N	150	150	150	150	

^{*.} Correlation is significant at the 0.05 level (2-tailed).

The results demonstrated a significant positive correlation between worry and performance-avoid goal (r=.18, p<.05) and a significant negative correlation between emotionality and mastery-approach goals (r=-.16, p<.05) (Table 7). In other words, worry was related to the adoption of more performance-avoid goals, and emotionality was related to the less adoption of mastery-approach goals by intermediate Iraqi EFL learners.

Table 8Coefficients of Goal Orientations and Test Anxiety

		Unstandardized Coefficients		Standardized Coefficients		
Model		В	Std. Error	Beta	t	Sig.
Worry	mastery-avoid	.2	.11	.14	1.82	.04
	performance-avoid	34	.16	16	-2.03	.04
emotionality	mastery-approach	.2	.1	.16	1.96	.03

As presented in Table 8, 14% of the variance in the mastery-avoid goal was determined by worry; 16% of the change in the performance-avoid goal was explained by worry, and 16% of the variance in the mastery-approach goal was explained by the emotionality component of test anxiety.

Discussion

This study aimed to find the relationship between test-taking strategies, test anxiety, and goal orientations of EFL learners. The study findings for the three research questions were (a) time strategies were negatively correlated with emotionality and worry (as the two sub-components of test anxiety) and test-wiseness strategies were negatively correlated with worry, (b) mastery-approach and performance-approach goals were positively correlated with affective strategies, the mastery-avoid goal was negatively related with affective strategies, and (c) performance-avoid goal was positively related with worry and the mastery-approach goal was negatively correlated with emotionality. These findings are discussed below.

Regarding the negative relationship between time strategies and test anxiety, Roshanisefat et al. (2021) found that time management and academic procrastination were negatively related, indicating that better time management was associated with lower levels of academic procrastination, which can be linked to reduced test anxiety. Similarly, Ghiasvand et al. (2017) found time management skills and state anxiety were negatively related for nursing students, suggesting that improved time management was related to lower anxiety levels, including test anxiety. Additionally, time strategies often involve reflecting on past performance and adjusting plans accordingly. This reflective practice can help individuals identify triggers for worry or anxiety and develop coping mechanisms (Gallardo-Lolandes et al., 2020). Such findings underscore the significance of effective time management in reducing test anxiety among students, emphasizing the need for interventions focusing on enhancing time management skills to alleviate anxiety levels during academic assessments (Jenaabadi et al., 2016).

The first research question also demonstrated a negative relationship between test-

wiseness strategies and test anxiety (worry). Test anxiety and test-wiseness strategies are both related to performance on exams, but they represent opposite ends of the spectrum in terms of how individuals approach testing. Test anxiety is exemplified by excessive worry and fear of failure, while test-wiseness strategies are deliberate techniques used to improve test performance (Ahmadi-Safa & Majidi-Kia, 2023; Romera & de la Fuente, 2021). Test anxiety and testwiseness strategies are both related to performance on exams, but they represent opposite ends of the spectrum in terms of how individuals approach testing.

The second research question demonstrated the positive relationship between performance-approach and mastery-approach goals and the adoption of affective strategies. Performance-approach goals are typically focused on achieving success and outperforming others, which can lead individuals to adopt strategies that assist them in managing their emotions and anxiety during test-taking (Hall et al., 2016). By setting high standards for themselves and striving to excel, individuals with performance-approach goals may be more likely to engage in positive self-talk, relaxation techniques, and other emotion-regulation strategies to stay focused and confident during exams (Hall & Goetz, 2013). Additionally, mastery-approach goals are centered around learning and mastering new skills (Katz-Vago & Benita, 2024), which can also influence the adoption of affective test-taking strategies. Individuals with mastery-approach goals probably view challenges as opportunities for growth and improvement rather than threats to their self-worth (Chazan et al., 2022). This growth mindset can help them approach test-taking with a positive attitude and a willingness to seek help and support when needed.

In contrast, mastery-avoid and performance-avoid goals were negatively related to testwiseness and affective strategies. It can be stated that mastery-avoid goals involve avoiding failure and seeking to avoid making mistakes, which can lead individuals to focus more on avoiding errors rather than actively engaging with the material and utilizing effective study strategies (Senko & Freund, 2015). This can result in a lack of effort and engagement in learning tasks, leading to lower levels of test-wiseness and affective strategies. Similarly, performanceavoid goals involve avoiding negative evaluation and seeking to avoid looking incompetent in front of others, leading individuals to adopt defensive strategies (Bertone, 2021), such as procrastination or avoidance of challenging tasks, which can hinder the development of effective test-taking strategies and reduce motivation to engage with the material in a meaningful way.

Finally, the last research question indicated that the performance-avoid goal was positively related to worry, and the mastery-approach goal was negatively related to emotionality. Mastery goals have been recognized as indicators of negative anxiety, while performance goals have shown a positive relationship with anxiety, a notion that has garnered widespread consensus (Stan & Oprea, 2015; Zare et al., 2011). Concerning the four specific achievement goals, it is widely acknowledged that performance-avoidance goals exhibit a positive correlation with anxiety across the spectrum from primary school to college students (von der Embse et al., 2018). Students may develop adverse self-deprecating insights, foster expectations of failure, and subsequently endeavor to evade potential risks and setbacks (Liu et al., 2024).

Regarding the study limitations, the sample was limited to intermediate Iraqi EFL learners. Future researchers might replicate the study with other proficiency levels or EFL learners in other contexts. Additionally, self-report measures, i.e., questionnaires, were used for data collection while conducting a mixed-methods study with qualitative instruments such as observation or interview, which might enrich the findings. The findings have implications for EFL teachers, test-takers, and test developers. Teaching students how to manage their time prior to and during the testing session and how to use test-wiseness strategies can reduce their test anxiety. Test developers and teachers can take into consideration different "goal orientations" and their possible effect on test performance and anxiety.

Conclusion

This study provides evidence that supports the positive link between approach goal orientations and test-taking strategies and a negative link between the adoption of test-taking strategies and test anxiety. Besides, approach goal orientations were negatively correlated with test anxiety, and avoid goal orientations were positively related to test anxiety. Achievement goals were related to different components of test anxiety and test-taking strategies, which was possibly due to different goals promoting different ascriptions of value and control in test situations, leading to differential test performance.

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