

Scope of Social Cognitive Theory and Research Designs in Student Motivation over the Past Twenty Years in Saudi Arabia: A Synthetic Literature Review

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Abstract

A substantial body of research has raised concern over students' lack of motivation in educational settings in the Middle East in general and more particularly in Saudi Arabia. This review utilized synthetic techniques to gather a methodical collection of existing research and emphasized two research questions: to what extent has Saudi students' learning-related motivation been investigated? What factors affect learners' motivation? To answer the questions, the included articles were classified based on fields of study, research methodologies, designs, and sample sizes. The included articles were then divided into categories dealing with motivation-related variables such learners' self-efficacy beliefs, self-regulation, motivation, group work, and technologies. The findings suggest that despite the limited number of investigations, most motivation-related studies were conducted in the area of English as a second language and not in subjects such as sciences and technologies. Based on the types of data collection, generalizations of the findings from the published articles are deemed questionable. Furthermore, predictors of learners' motivations were revealed, and limitations were discussed regarding the scope of research publications, methods, designs, and data collections. Directions for further investigations are presented.

Keywords: Motivation; Self-efficacy; Self-regulation; Achievement; Synthetic techniques.

1. Introduction

Despite the considerable amount of funds invested in the education system over the past several decades in Saudi Arabia [1], students in the Kingdom have not been motivated to study as expected [2].

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A substantial number of studies found that students lack motivation in subjects such as English [3, 4], Physical Education [5], Accounting [6], Mathematics [7], Reading [8], college research [9], courses in medical schools, and in-classroom attendance [10]. Recently, the Saudi Arabian government raised concern over the static low level of achievement, namely in English both among secondary school and college students [3]. This situation shed light on the learning and teaching interrelationship, including motivation. It was asserted that teaching only happens when learners are motivated to learn [11].

Based on the 2007 Trends in International Mathematics and Science Study (TIMSS) findings [12, 13, 14] asserted that the achievement of learners from Arab regions is significantly low on the Math and Science achievement tests. Marsh and his colleagues [14] therefore wondered whether the low level of achievement was associated with motivation-related variables. Despite people's expectations that there is a correlation between low achievement and low level of motivation, Marsh and his colleagues believed that the student development of self-beliefs was not well-known. Regarding student achievement, Social cognitive theory linked motivation, self-efficacy beliefs, and self-regulation as factors leading to individuals' achievements. What is motivation? How does motivation instigate student achievement? The following paragraphs attempt to relate motivation, self-efficacy beliefs, and self-regulation to student motivation and achievement.

1.1. Motivation

Motivation was referred to as the strength, instigation, and determination of an individual's behavior [15]. It was defined as the rationale for guiding someone's behavior towards a specific objective, appealing to a given action, or spending more force and endeavor to accomplish the objective [16]. Student motivation, also perceived as the motivation to study, was referred to as the predisposition for a learner to make sense of academic activities, to make them valuable, and to strive to obtain the projected educational profit from them [17]. It is an agreement that learner's motivation is of paramount importance when it comes to learning [18]. Several factors that hinder student motivation have been investigated. In this light, Khan [11] found several barriers such as socio-cultural, family-related factors, student attitudes, motivational, psychological, and personal factors, and factors that relate to teaching in the Middle East.

Furthermore, students have been found to lack interest in studies in multiple situations. Findings suggest that students have a low level of curiosity, low level of self-efficacy beliefs related to assignments and major exams. Some possess short attention spans. Students were found to spend very little effort. Although, not every single student, the largest number of students have issues as reflected in the quality of their grades, teacher reports, and attendance records. The same behaviors are displayed throughout the several years that it takes college students to graduate [19]. Khan [11] emphasized both students' and instructors' motivation alongside devotion and pledge, the educator's roles and characteristics, the strategies that they utilize, further training, and their improvement through professional development. What are self-efficacy beliefs? How can self-efficacy beliefs affect student motivation and achievement?

1.2. Self-efficacy beliefs

Several other factors such as self-efficacy beliefs are said to correlate with motivation [21] and self-efficacy beliefs are found to be reliable predictors of the outcome of individuals' behavior such as their educational performances [22]. Self-efficacy beliefs are known as essential elements of social cognitive theory, and they have been defined as "beliefs in one's capabilities to organize and execute the courses of action required to produce given attainments" [23]. In other words, the extent to which individuals believe in their capabilities to accomplish given tasks is very important. There is a strong association between self-efficacy beliefs, motivation, and commitment; and both self-efficacy and commitment are found to cause job involvement. Much research has also attributed significant importance to the concept, especially in academic motivation [24]. Self-efficacy beliefs have been found to impact people's career choices [25]. They have also been found to influence instructors' teaching practices and their learners' accomplishments [26]. Individuals do not take action to achieve success except when they have some beliefs that they can succeed [27]. Individuals who believe that they can achieve are likely to regulate their behavior toward success. We hypothesize that Saudi students have low self-efficacy beliefs in many domains of study. Although self-efficacy beliefs and self-regulation are different concepts, they tend to intertwine and do not exist independently. Both relate to motivation. What is self-regulation? How can self-regulation affect student achievement?

1.3. Self-regulation

Researchers have oftentimes defined self-regulated learning as students' enthusiasm to engage in activities, to utilize mental strategies, and metacognition [28]. Zimmerman [29] refers to self-regulation as context-specific processes that individuals utilize intermittently to accomplish their objectives. Zimmerman argued that the processes of self-regulatory include metacognitive information, abilities, emotional and behavioral processes, and a self-efficacy related resilience. For example, a student who uses self-regulation first uses forethought, then performance, and finally self-reflection. The social-cognitive approaches of self-regulation strongly support the view that teachers, peers, or parents play the role of socializing agents who can help children strengthen their self-regulation by providing children with self-regulated models. The models are teachers, peers, or parents [29]. Recent research found that Saudi students were not motivated to engage in physical activities. One of the major reasons was accounted for by their lack of support from family members and peers [5]. This result is supported by other findings in English learning.

Regarding English reading, Alsamadani [30] found that the level of students' motivation was low. Half of the respondents reported that they only read when the task is required. In general, reading among Saudi EFL students is not an appreciated activity and students refuse to read English at home suggesting that the social environment that is needed to foster one's achievement is also lacking. Most Saudi students converse in Arabic with their siblings, classmates, and contacts although English is used as an instruction language. Consequently, students have few occasions to communicate in English daily [31]. In another study conducted to evaluate the experience and the mindsets of students in the health sciences, the researchers found that students had positive attitudes. The latter yet reported an insignificant level of active involvement in a scientific study [9]. The finding was also corroborated by another study [32]. Burgoyne and his colleagues showed that the research competency among undergraduate health major students does not run parallel with the motivation they display.

Furthermore, students were assessed to find out factors they deem major obstacles to effectively completing accounting courses. Research found that students do not put enough effort into their schoolwork and lack motivation. Regarding the variables related to student effort and motivation, the study found that over 65 percent of the participants reported that their most important difficulties were poor effort-reward system, absence of learner's motivation to study, and a negative student studying behaviors [6]. These findings are not different from the ones found in mathematics.

Research in mathematics showed that in general, student level of motivation relative to mathematics was below average. Student attitudes regarding mathematics and their attitude towards sciences were also found to be below average [7]. As for Arab girls, because they are given less freedom than their male counterparts [33], they stay at home and do more schoolwork [34], resulting in significantly better verbal and math achievement test results. Arab females are found to be more motivated in educational settings and put more effort into their studies. Their math and verbal self-concept are also found to be better than Arab males [35].

1.4. The purpose of the present study

Given the several factors that hinder student motivation and the numerous subject areas in which student motivation was reported to be low, the investigators believe that lack of motivation is a major issue. The purpose of this literature review was to investigate the extent to which motivational issues have been addressed. In this research, the investigators intend to research, in addition to the number and frequency of publications, the subject areas, the population, sample size characteristics, and the methodologies used. The second purpose was to investigate the factors that affect student motivation. The researchers attempted to answer the following questions: To what extent has student motivation been investigated in KSA? What factors do affect Saudi learners' motivation? Lack of motivation has been documented and some solutions suggested. Yet, there is much work to do to provide the education system with usable strategies. In this light, Springsteen [36] put it that until they examined the topic of student-centered research on the theme of motivation in Saudi Arabia, they could not understand that the area of student motivation has not been explored. A review will provide a foundation to the limitation of the existing knowledge base and provide accurate direction for further investigations. Types of pedagogy that are perceived as being very effective for industrialized countries may not be as effective in developing countries [37]. To our knowledge, this is the very first study that reviews the theme of student motivation from a psychological perspective based on Social cognitive theory, using significant selection criteria that are as rigorous as synthetic techniques.

2. Materials and Methods

For this review, the researchers utilized synthetic techniques to gather a methodical collection of existing research on student motivation in KSA. The researchers searched Google Scholar, Scopus, PubMed, PsycInfo, UN publications, JSTOR, BMJ, and Google using the following terms: motivation and student achievement in Saudi Arabia, motivation in educational settings, learning, and incentive, learning and motivation, extrinsic and intrinsic motivation in KSA, student motivation and self-regulation, self-efficacy beliefs in Saudi Arabia, improving student motivation in KSA. We also conducted an ancestral search to add more studies that could be

found on the reference page of each of the included published articles. Other words or phrases that we used included the following: English and motivation, mathematics and motivation, sciences and motivation, and general motivation. Educational achievement, student achievement, social-cultural factors, and school success as well as various combinations of words that were used.

The researchers selected empirical research published between the years 2000 and 2020 depending on the following selection criteria: (1) the study had to be empirical, (2) the study had to be in English, and (3) motivation had to be one of the major variables; that is, independent or independent variable. Considering the inclusion criteria, the researchers read the abstracts, initial paragraphs, methods, and the result sections to exclude irrelevant articles and include studies that met the criteria. Initially, only 10 studies were found. Using the different scientific search engines and Google for articles whose titles and abstracts could be found but whose content could not be accessed, the researchers gathered 32 studies. Three articles were later excluded because they did not meet one criterion. These studies were conducted in the Middle East but not in KSA and participants were not Saudi students. We finally selected 29 articles that we included in the study.

The researchers then examined the studies independently, deeply, classified them with the objectives of the study, and summarized each of them. The purpose of a review of the literature is to make a summary of studies that addressed a given subject and that have been selected from the knowledge base [38]. This literature review studied the extent to which motivational issues have been addressed. It also investigated the factors that influence negatively and positively student motivation.

3. Results

A total of 29 articles were selected and included in the current study. See table 1. Each study was examined and compared with others. To answer the first question, subject areas or academic fields that conducted the studies were investigated alongside the research methodologies, populations and sample sizes, and the frequency of publication of these articles over the past 20 years. To answer the second question related to factors that influence student motivation in the literature, the researchers divided the articles into different categories. Each category represented a variable that affects motivation.

3.1. Scope of Research in Motivation

In this section, the researchers addressed the areas in which the investigations were conducted, the methodologies and designs used, the population and sample size, and the frequency of research and publication of the selected articles.

3.1.1. Academic subject areas

The criteria for separating the selected studies were the subjects or academic areas in which the investigations were conducted. Six areas were found that were (1) English language learning, (2) Health Sciences, (3) general college studies, (4) parent perception, (5) math, sciences, and technologies, and finally (6) online studies.

English Language:

In this analysis, 14 studies were found in which the researchers assessed the effect of motivation on the study of the English language. Studies conducted in this section were also divided into four research interests which were: The assessment of motivational strategies. Seven studies were found [39, 40, 41, 42, 43, 44, 45]. The investigation of motivating or demotivating factors. Three studies were found [46, 47, 48]. The investigation of the effect of technology on the learning of English. Two studies were found [49, 44]. We finally found two studies about the levels, types, and frequencies of motivational factors [50, 51].

Health Sciences

In this section, three studies were found in which the investigators studied the role of motivation concerning different topics. The following sub-areas were explored: Factors that theoretically influence the value of learners in the medical field [52], the influence of dynamic pedagogic approaches like self-reflection and peer evaluation on the achievement of students majoring in Pharmacy [53], and factors including the students' demographic information, motivation, educational, social, cultural factors, and the relationship between these factors and undergraduate medical students' academic achievement [54].

Motivation in General Studies

Four studies [55, 56, 57, 58] were selected under this section which dealt with the variable of motivation in college in general. The studies were conducted on factors that influence college students' motivation, factors that predict college students' self-regulation, the association between motivation and accomplishment in students' low-stakes tests, and the strength of students' beliefs about their capabilities to achieve.

Parent Perception

One study [59] was selected in which the Saudi parents' perceptions were investigated about the type of help they provide their school children with. This was the only study that addressed a non-academic area.

Sciences, Technologies, and Mathematics

In this section, four studies [7, 14, 60, 61] were found in which the researchers investigated motivation concerning subjects such as science, mathematics, and information and communication technologies. The studies examined gender differences in motivation in math, how communication technology devices improve student motivation, and student acceptance of technologies in learning.

Online Studies

Three studies were selected that investigated the effect of motivation on online courses. These studies aimed at investigating the efficacy of using Instagram as an online application [62], examining the various categories of social networking sites, investigating learners' satisfaction toward online e-learning [63], and studying the

acceptance of mobile learning [64].

3.2. Research methodologies

The selected articles were split into three major categories that were qualitative, quantitative, and mixed-methods or multi-methods methodologies. Two qualitative, three mixed-methods and multi-methods, and 24 quantitative designs were used to conduct the 29 studies.

Qualitative Designs

Two studies used qualitative designs. One study used a semi-structured interview to collect qualitative data from six English as a Foreign Language teachers (EFL) and five EFL students in three colleges or universities in Saudi Arabia. Thematic analysis was used to scrutinize the data [65]. The other study used observations and reviews of documents in addition to primary data which were gathered utilizing open-ended interviews. Participants in the second study included college students, administrators, and lecturers. The responses were transcribed, the data were coded and categorized into relevant themes that emerged [56]. The second study was the only research which was conducted outside KSA with only Saudi students as participants in a foreign country.

Mixed or Multiple Methods Research

Four studies used mixed or multiple methods research designs. One of these investigations [47] utilized quantitative and qualitative designs in which they gathered data through a survey questionnaire, assessment of test results, learner observation in classroom settings, instructors' feedback, but also casual discussions with students. Statistical software was used to scrutinize the quantitative data that appeared from the students' responses. Response frequencies, weighted percentages, and rank were considered. In another study, whose aim was to examine the motives behind Saudi learners' poor reading abilities, the researchers surveyed and interviewed students. The questionnaire for the quantitative design was a six-point Likert scale. Each interview was digitally audio-recorded [66]. The third study that was a two-stage, chronological mixed methodology integrated both qualitative and quantitative methodologies [58]. The instruments used to collect data were questionnaires for the quantitative strand, focus groups, and observations for the qualitative one. The researchers utilized Statistical Package for Social Sciences (SPSS) to analyze the quantitative data whereas focus group interviews were transcribed and analyzed utilizing a qualitative methodology. The fourth article [19] made use of a mixed-methods approach to investigate students' levels and types of motivation in a higher institution of health sciences. The researcher first used a focus group to collect qualitative data. The researcher also used eight instructors from specializations such as nursing and pharmacy technicians at the same institution to participate in a reflective exercise which was made up of one journal entry. Both types of qualitative data were analyzed based on a general inductive approach. A survey questionnaire was then used to collect quantitative data that were analyzed and provided demographic information.

Quantitative Designs

Twenty-three studies utilized quantitative methods. Of these quantitative methods, five utilized quasi-experimental or experimental designs [62, 42, 44, 49, 51]. In addition to the experimental designs, two studies used descriptive studies which include cross-sectional [41, 54]. Two studies used correlation, one with Partial Least Square [63] and the other one with multiple regression analysis [7]. One study was longitudinal (exploratory prospective cohort study) [53]. Four studies used descriptive surveys to simply investigate variables of interest [59, 55, 60, 61]. Four studies ran analyses which included multiple measures such as correlation and comparison [57], descriptive survey and descriptive correlational methods [8], descriptive and comparison [48, 43]. Analyses that were meant for comparison purposes were also utilized in three studies. For example, the review revealed that some studies used Tests of factorial and measurement invariance [14], Multivariate Analysis of Variance (MANOVA) [45], and case-control design [52]. Two studies used Factor analysis [50, 64].

Populations and Samples

Twenty in 29 studies enrolled their participants from only one college or university. In six studies, data were collected from several schools and universities [50, 42, 65, 57, 51, 61]. In one study, mothers who accompanied their children to school were randomly selected [59], and one study used international data that included and compared Saudi students to students in other countries [14].

Frequency of the Research

Twenty-nine studies were found that met the criteria for inclusion. These studies were published from 2000 to 2020. However, not a single article was found that was published before 2005. Only three studies were published in the second quarter of the interval; that is from 2005 to 2009 [51, 61, 58]. Two articles were published in 2010 [57, 64] and 24 studies were published between 2012 and 2019.

3.3. Factors that influence student motivation

To answer the question relative to the factors that influence student motivation, the researchers summarized the results concerning the theme of student motivation.

Summary of the findings

The review revealed several factors that had a direct influence on the motivation of learners. We described the findings.

Teacher Behaviors as Motivators or Demotivators

Teacher behavior has been reported in four studies as a factor that motivates or demotivates learners' attitudes and actions towards their achievement [50, 48, 42, 65]. All four studies revealed the major role of the instructor. Alshehri [65]'s qualitative design showed that instructor behavior is a major motivational approach in that classroom climate depends on the teacher. The atmosphere in the classroom setting was a strong motivational

variable for learners. Using a descriptive analysis Al-Khairy [48] also explored some ordinary sources that are said to be demotivating Saudi college undergraduates. The findings indicated that Saudi college students felt demotivated due to several variables that encompass English instructors' behaviors, the methods utilized by the instructors, their inadequate utilization of more sophisticated teaching devices, and the difficult English vocabulary that they use. Teacher behavior can be a strong determinant of students' motivation.

In the same light, Alrabai [50] examined the attitude of 36 English instructors about their motivational practices. The frequency of teachers' behaviors relative to motivational approaches such as the development of a constructive relationship with learners, the development and teaching of interesting learning tasks, the support of students' self-confidence, the improvement of student autonomy, and the diminution of language anxiety was investigated. Findings showed that teachers of the English language in Saudi Arabia do not frequently use motivational strategies. Also, English instructors do not regularly attempt to reduce anxiety related to students' language learning. Moskovsky and his colleagues [42] also provided a persuasive indication that teachers' motivational behaviors do not only associate with students' motivation but, the teachers' motivation causes students' heightened motivation. This study supports the prominence of the language instructor's actions as a very important instrument to be used to motivate students. Supports to the present results were found in the literature.

A substantial number of studies were retrieved that support the findings. Teacher behavior is said to be a strong reinforcer of student motivation [67, 68, 69, 70, 71]. Correlational and path analysis found that teacher involvement in the process of teaching and learning was essential to the learner experience in the learning setting. The instructor's provision of help and most favorable the classroom arrangement predicted motivation throughout the academic year.

Group Work and Class Size

Group work and class size were investigated and found to be possible modifiers of student motivation and interest. Two studies have been retrieved which addressed the issue of motivation. A study that used a qualitative methodology with semi-structured interviews found that working in a group as opposed to individual work could be motivating if group members are willing to cooperate [65]. The reduction of class size was also found to motivate learners. Daif-Allah and Alsamani's [47] aim was to study deterring external factors that dissuade preparatory year program students from learning. A mixed-methods design was utilized for the research and the investigators applied a certain number of motivational techniques to answer one of their research questions. Class size reduction was found to significantly improve students' motivation. Past studies supported this result.

Much research also showed that group work and small class size motivate students to learn [72, 73]. The research suggested that in small class sizes, students benefit more from major changes as learners engage in the learning process. The finding on group work was yet controversial. Bahar [74] conducted a study whose results showed that students who are likely to achieve tend to hate being implicated in group work with their peers whereas students who are inquisitive, group-oriented, and meticulous tend to prefer to work in a group with their

peers.

Intrinsic/Extrinsic Motivation, Self-efficacy, and Gender

A few studies have considered student intrinsic and extrinsic motivation, self-efficacy beliefs, and student gender. Razek and Coyner [56] used qualitative research to undertake a study whose purpose was to investigate the self-efficacy beliefs of Saudi students who study in a college abroad. The researchers aimed at discovering the complex magnitudes of students' self-efficacy beliefs and the methods that could be used to improve these beliefs. Results suggested that Saudi students had a high level of motivation when they received feedback from their professors. Moreover, Saudi student's perception of self-efficacy beliefs was frequently raised when comments were made that emphasize the amount of progress made by the students and not the specific number of tasks they have achieved successfully. Regarding student intrinsic and extrinsic motivation, Moskovsky and Alrabai [51] conducted an experimental study intended to assess levels of intrinsic motivation in students of English as a second language. Despite low levels of achievement in English as found in past research, the results from the current research show that participants possess exceedingly positive attitudes to learn English. It was hypothesized that participants may have considerable reserves of existing but not yet developed motivation.

In the same light, Javid and his colleagues [45] developed a Likert scale questionnaire that they administered to male and female Saudi college students majoring in English, Medicine, and Information Technology. The purpose of their study was to examine college students' motivation for learning English and to compare three university majors on the variable of motivation to learn English. No significant differences were found in the students' intrinsic motivation both in university majors and gender. Significant differences were found for students' extrinsic motivation about their university majors. There was no statistically significant difference between English major and Information Technology major. A medical major yet was found to be significantly different from an English major and Information Technology on the variable of extrinsic motivation. Gender affects extrinsic motivation, not intrinsic. Females were more motivated in this study and the finding was confirmed in other studies.

For example, regarding the relation between student gender and their motivation, Marsh and his colleagues [14] appraised the psychometric characteristics of which the genders of students in eight countries including Saudi Arabia. Tests of factorial and measurement invariance were utilized in the study. Gender differences in motivation were found to favor boys in the four English speaking countries, but they favor girls in Arab countries. Also, the study provided evidence of gender differences when it comes to motivation constructs. Saudi boys were found to be more motivated than Saudi girls even though Saudi girls score considerably better on math and science achievement. Other differences were also found based on student value of their task.

In Abdelfattah [57], correlation and comparison were utilized to appraise the association between motivation and achievement in students' low-stakes tests. A significantly high level of student motivation to sit for the tests consistently increased mean performance in both math and science examinations. Al Shawwa and his colleagues [52] also studied several factors that theoretically impact the quality of medical students. A case-control design was used. High GPA students were found to spend less than two hours on social networking daily. They decide

to learn on their own. They demand silence when they study. They were found to revise their course notes at least once before an exam. Outstanding medical students have strong motivation and study satisfaction.

Regarding intrinsic motivation and self-efficacy, many studies conducted elsewhere during the same period (from 2000 to 2020) found that intrinsic motivation better than extrinsic motivation improves student learning [75, 76, 77]. In their study Patrick, Hisley, and Kemppler [76] found that students who receive course content from an enthusiast teacher reported displaying a higher level of intrinsic motivation. As far as student self-efficacy beliefs were concerned, there have been abundant research on the construct and its positive effects on student learning particularly. For example, high intrinsic motivation and self-efficacy were found among students who took part in a study. The objective of the investigation was to evaluate game playing as a way of experiential learning theory (ELT) on both learners' motivation and self-efficacy beliefs to execute many assignments [78]. Student self-efficacy and their intrinsic motivation seem to be related.

Use of Technology

The use of technologies as student motivators in classroom settings has been studied in several studies. Alshumaimeri and Almasri [49] utilized a quasi-experimental design to examine the effects of WebQuest on students learning of ESL. The investigators aimed to know the extent to which WebQuest could improve the English learners' reading abilities. Results showed strong significant differences. The findings indicated that using WebQuest can enhance learners' achievement on reading comprehension. Al-Eisa and his colleagues [62] also studied the motivational effect of Instagram as an application on a home-exercise program, using a quasi-experimental design. The findings suggested that the utilization of Instagram with the home exercise program could be a motivational instrument that attracts learners and could be an effective tool that reinforces student motivation and maintains an appropriate level of physical activities. In Al-Mansour and Al-Shorman [44] the influence of computer-assisted language instruction on Saudi learners of English in a university was proven to be effective. Conducting an experimental design, the researchers found that when computer-based English teaching is used with the conventional teaching approach student could achieve significantly. Besides the effectiveness of technology in education, its acceptance by learners has also been investigated.

Studies have been interested in the acceptance of online education by both learners and teachers as motivational tools. Nassuora (2012) [60] assessed student level of mobile tolerance for studying (m-Learning) in KSA universities and colleges. The descriptive survey result revealed a positive attitude which brought about a behavioral plan to use m-Learning in education. Fifty percent of student participants did not have an experience with m-Learning, yet they had a positive opinion about the online technology. Furthermore, the finding revealed that students highly accepted the effort expectancy and facilitating conditions. In the same light, Al-Fahad [64] examined college students' satisfaction with online e-learning. The objective of the study was to measure whether the replacement of traditional learning by e-learning would increase the level of students' achievement. Factor analysis was utilized in the study. Findings showed that students satisfactorily accepted e-learning. E-learning provided more advantages when compared to the traditional type of learning. Eid and Al-Jabri [63] also scientifically inspected the use of the numerous types of social networking sites such as talking, virtual conversation, and file-sharing by college students in a Saudi university. The study used a cross-sectional survey

questionnaire to gather data and a correlation design for data analysis (Partial Least Square). A significant positive association was found between both talking and virtual conversation and between the fact of sharing files and knowledge, and leisure and fun. These results indicate that online technology can be a source of motivational learning for college students. Besides student perception, instructor perception was also studied.

Almaghlouth [61] utilized a descriptive survey to examine the Saudi science teachers' perception relative to the utilization of Information and Communication Technology apparatus to improve student instruction and understanding. The findings showed that communication technology devices can improve student motivation. The results also showed that using these tools makes it easy to obtain online information, save time, provide pleasure, and motivate learners. There is considerable data that suggests that the utilization of technology as an instructional device can improve learner's motivation and their learning outcomes. It was argued that students who are provided with personal laptops during class activities display more engagement in group work than their peers who have a less privileged treatment. The former group contributes more to project-based instruction, yield high-quality writing, have easy access to information, and improve their ability to do research (Gulek & Demirtas [79]). In another study [80] that was titled *The Kids as Global Scientists (KGS)*, children were enrolled in the experiment of atmospheric knowledge in which they were exposed to technology, and they acted as scientists. The finding showed that students' learning improved very much. They were motivated and had pleasure participating in the project. Similarly, Beeland [81] conducted action research the aim of which was to establish the influence of the use of interactive whiteboards as an instructional instrument on student commitment. The findings showed that the utilization of cooperative whiteboards in the learning settings caused student engagement to improve significantly. And student engagement can determine or be determined by their level of self-regulatory learning.

Parental Involvement

The role of parents in their child's schooling has been studied. Results showed that parents can play an important role. Mahmoud [59] conducted a quantitative survey design to investigate the types of perception that Saudi parents' have about helping their children who are in elementary schools. Most participating parents suggested a positive and productive parent-teachers association to be very essential for a child to be successful at school. The qualitative finding also showed that when parents help their children to do their homework or when they motivate the latter, their contribution is crucial for their children's academic success. Al-Qahtani [46] used a survey and interviews to collect data about Saudi students' reading habits in Arabic and English. He then examined the reasons behind Saudi students' low reading abilities. The researcher found that students lack parental involvement. Parental involvement was perceived as one of the major factors that account for Saudi students' poor reading.

Regarding parental involvement, a substantial body of research has proven that parental participation in their child's schooling has positively contributed to the latter motivation. In other words, students' learning process is reinforced as their parents participate in it [82, 83, 84, 85].

Socio-cultural Status

Student socio-cultural status has been found to influence motivation, learning, and achievement. Salem and his colleagues [54] studied several factors that could relate to college learners' achievement of which were demographic information, motivation, socio-cultural, educational factors, and learners' identities. Using a cross-sectional study design, the researchers attempted to find out whether the factors of interest impact learners' performance. Transportation used by students to go to college was found to be one socio-economic component that revealed a substantial impact on student GPA. Factors like student sex, matrimonial status, concern, and motivation significantly contributed to academic performance. Similarly, Abdul Razzak [19] attempted to investigate how culture affects people's motivation and the manners in which they meet their needs. The researcher used a mixed-methods approach. The following were found to influence students' level of motivation: lack of independent study, attention deficit in the classroom, hate of subject, lack of interest, disciplinary problem, doubt about the right choice of major and lack of interest in the major, uncertainty of parents' judgment on choice of major. Almutairi [58] used quantitative and qualitative, sequential mixed methods to study the learning manners and approaches that female college students use concerning their education but also their sociocultural backgrounds. The cultural backgrounds of female students were found to have a vigorous effect on the preferred manners in which they learn. Also examining the causes behind Saudi students' poor reading abilities, Al-Qahtani [46] reported the student's reading culture in his or her native language community, the reading standard of the student's native language, and student's background (O'Sullivan [86]). In other words, Saudi students do not read in the Arab language which negatively impacts their reading in English.

A countless number of studies undertaken before 2000 supported the findings and proved that socioeconomic status has a significant impact on student motivation and achievement [87, 88]. It was found that students from poor backgrounds have poorer performances than their peers from rich families. In a study [87], the investigators tested the impact of stereotype threat on student achievement after hypothesizing that poor background learners' low achievement is accounted for by stereotype threat. Results showed that learners from low socioeconomic status (SES) performances were worse than the performances of learners from high socioeconomic status when SES was perceived as possibly responsible for student intellectual ability. Dowson and McInerney [88] also undertook an investigation that included cognitive and motivational variables to better get insight into learners' academic achievement. Variables such as student age, SES, cultural background, and gender were included. A strong positive correlation was found between the studied variables and learners' academic motivation, cognition, and achievement.

Self-regulated and Metacognitive Learning Strategies

A few studies were conducted that addressed factors such as self-regulation and metacognition learning strategies concerning motivation. Meniado [8] attempted to determine the level of student consciousness and utilization of metacognitive reading approaches in the context of reading to determine student level of motivation, to establish the level of happiness related to their reading, and their general performance in reading. Descriptive survey and descriptive correlational methods were utilized. A problem-solving strategy was found to be the metacognitive reading approach that is used most of the time. In this study, participants were found to be motivated. They reported that they like to read funny stories. No correlations though were found between

reading comprehension and metacognitive reading approaches, between motivation to read and reading comprehension. The investigation reported a positive association between motivation to read and reading strategies. In the same light, Jdaitawi [55] conducted a study whose aims were to model the relationship between variables such as social connectedness, self-regulation strategies, self-efficacy beliefs, and self-control to assess the influence of social connectedness, self-efficacy beliefs, and self-control on self-regulation strategies; and finally, to compare the significant differences of the effect of the independent variables on self-regulation between male and female students. The study utilized a quantitative survey design. The findings revealed a high level of social connectedness among participants. A high level of social connectedness was found to play a very important role in predicting self-regulated learning. Students and their peers were also assessed on teaching factors that promote learning.

Yusuff [53] investigation included two objectives: The first one was to evaluate the influence of the utilization of self-reflection and pharmacy student peer evaluation of achievement on exams. The second one was to assess learners' feedback on the influence of active teaching strategies on students' general learning involvement. A longitudinal method was used in the study. Overall, results revealed that active learner-centered teaching and evaluation approaches spur learners to be enthusiastically involved in the learning, develop their learning, and produce a constructive self-image. The results show that students could engage themselves in learning activities when they wanted. Alhaisoni [43] attempted to add to the existing knowledge base regarding the connection between three variables which were the use of language learning strategies, gender, and level of ability. In addition to descriptive statistics, the study used Analysis of variance (ANOVA). The findings showed that learners' utilization of language learning strategies ranged from low to medium occurrence. Learners yet, used cognitive and metacognitive strategies most frequently. Metacognition strategies were also perceived as self-regulatory strategies. Al-Qahtani [46] utilized a cross-sectional descriptive study to examine the learning approaches used by students to learn English as a foreign language. Findings suggested that students made use of multiple kinds of language learning approaches. Cognitive approaches yet were the most regularly utilized. Learners believed that their learning environment was very important in terms of motivation. Students reported that they were happy with their instructor as well as with their English courses. Finally, students' test-taking skills were found to increase motivation to take mathematics [7].

Support for self-regulated learning strategies in the literature is abundant. Over the past recent years, the emphasis has been put on self-regulation as an important contributor to student motivation and learning. Self-regulation has been described as a characterization of information processing because it combines, in addition to cognitive factors, motivational, affective, and contextual factors [89]. It was generally agreed upon that self-regulated students are learners who can set a task-related, realistic objective, are accountable for their learning, and sustain motivation. Besides, self-regulated learners can utilize a range of mental and metacognitive strategies to achieve their learning goals [90, 29]. It is in this light that Daniela [91] argued that learners alone can be liable for their achievements and can take responsibility for their work as they regulate themselves to fit in the evolving educational settings. Sometimes, however, some environments or factors such as sociocultural factors do not depend on student choice.

Table 1: Summary of reviewed studies

Studies	Area	Objectives of studies	Methods & Designs	Findings
Mahmoud (2018)	Parent perception	To investigate the types of perception that the Saudi parents have about helping their children who are in elementary schools	<ul style="list-style-type: none"> • Quantitative survey design • 100 mothers were chosen randomly from the population. 	When parents help their children do their homework or when they motivate the latter, their contribution is crucial for their children's academic success.
Abdul Razzak (2016)	English Language Learning	To examine how culture affects individuals' motivations and the manners in which they meet their needs.	<ul style="list-style-type: none"> • Mixed-methods approach • 12 male and 8 female students' discussion. • 60 health science students 	The following were found to affect learning: lack of independent study; attention deficit in the classroom; hate of subject; lack of interest; disciplinary problem; doubt about the right choice of major and lack of interest in major; the uncertainty of parents' judgment on choice of major.
Al-Eisa and his colleagues (2016)	Online studies	To scrutinize the efficacy of Instagram as an online application that motivates and improves physical activities.	<ul style="list-style-type: none"> • Quasi-experimental design • 58 female undergraduate students. 	Findings revealed that the utilization of Instagram alongside the home exercise program could be an instrument that motivates, that could attract learners and be an effective tool to reinforce student motivation and sustain a correct degree of physical activities.

Table 2

Studies	Area	Objectives of studies	Methods & Designs	Findings
Al-Qahtani (2016)	English language learning	To investigate the reasons behind Saudi learners' poor reading skills	<ul style="list-style-type: none"> • Multi-methods design • Three third-grade classes comprising 90 EFL learners • 8 EFL teachers 	Findings suggest a lack of parental involvement that was perceived as a major factor that accounts for poor reading.
Eid & Al-Jabri (2016)	Online learning	To scientifically inspect the numerous types of social networking sites used such as talking and virtual conversation and file sharing	<ul style="list-style-type: none"> • Cross-sectional survey • Questionnaire to collect data 	A significant positive association was found between talking and virtual conversation, between sharing of files and knowledge and leisure and fun with student learning. These results indicate that online technology can be a source of motivational learning for college students.

Meniado (2016)	English language learning	in college	To establish the level of student consciousness and utilization of metacognitive reading approaches in the context of reading. To determine student level of motivation, and the level of happiness related to their reading.	<ul style="list-style-type: none"> • Correlation design for data analysis (Partial Least Square). • 308 valid responses • Descriptive survey and descriptive correlation • 60 randomly chosen college students 	Problem-solving strategies were found to be the metacognitive reading approaches that are used most of the time. Participants were motivated and reported that they like to read funny stories. No correlations were found between reading comprehension and metacognitive reading approaches, between reading motivation and reading comprehension.
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Table 3

Studies	Area	Objectives of studies	Methods & Designs	Findings
Al Shawwa and his colleagues (2015)	Health sciences	To investigate factors that theoretically could affect the quality of students in the medical field.	<ul style="list-style-type: none"> • A case-control design • 359 undergraduate students 	High GPA students were found to spend less time on social media per day. Students chose to learn on their own, need silence if they study, and finally, they were found to review courses before exams. Outstanding medical students have strong motivation and study satisfaction.
Jdaitawi (2015)	General college/ all areas	To model the relationship between variables such as social connectedness, self-regulation behavior, self-efficacy beliefs, and self-control	<ul style="list-style-type: none"> • Quantitative survey design • 209 undergraduate students in their preparatory year 	Findings revealed a high level of social connectedness among participants, which plays a very important role in predicting self-regulated learning.
Yusuff (2015)	Health sciences	To assess the influence of the utilization of self-reflection and peer-assessment and learners' feedback on the influence of effective teaching techniques.	<ul style="list-style-type: none"> • A longitudinal design • 55 4th year students 	Evaluation approaches motivate learners to actively involve in the learning, development of their learning and generate a constructive self-image during self-reflection periods. Results show that students can engage themselves in learning activities when they want.

Table 4

Studies	Area	Objectives of studies	Methods & Designs	Findings
Alrabai (2014)	English language learning	To investigate the frequency of teachers' behaviors relative to motivational approaches	<ul style="list-style-type: none"> • Developed two questionnaire surveys and utilized them for data collection • 36 teachers of English • 826 students 	Findings showed that teachers of the English language in Saudi Arabia do not frequently use motivational strategies. English instructors do not regularly attempt to reduce anxiety related to students' language learning.
Daif-Allah & Alsamani (2014)	English language learning	To investigate factors that demotivate and discourage students in Preparatory Year Program (PYP)	<ul style="list-style-type: none"> • A mixed-methods design • 102 Saudi PYP Students 	Class size reduction was found to significantly improve students' motivation.
Dodeen, Abdelfattah, Alshumrani (2014)	Math, Sciences, and Technology	To evaluate the association between students' skills to take a test and their motivation to study mathematics	<ul style="list-style-type: none"> • Descriptive • Multiple regressions • 626 students 	Generally, motivation levels to learn mathematics is less than average. Findings showed that the relationship between student skills to take tests and their motivation to study mathematics were positive and significant.
Razek & Coyner (2014)	General College all areas	To determine the compound extents of students' self-efficacy beliefs and the methods that could be used to improve these beliefs	<ul style="list-style-type: none"> • Qualitative research • Two university professors, • Two university administrators, • Five male and three female Saudi students 	Results suggested that Saudi students have a high level of motivation when they received feedback from their professors. Saudi student perception of self-efficacy beliefs was frequently raised when comments were made that emphasized the amount of progress made by the student.

Table 5

Studies	Area	Objectives of studies	Methods & Designs	Findings
Al-Khairiy (2013)	English language learning	To study the ordinary demotivating factors among Saudi undergraduate learners.	<ul style="list-style-type: none"> • Descriptive analysis and independent-samples t-test • 150 English major students • 150 non-English major students 	Findings indicated that Saudi college students are demotivated due to several factors that encompass English instructor behaviors, methods utilized by the latter, their teaching methods.
Al-Qahtani (2013)	English language learning	To explore learning techniques, potential relationships among English language proficiency grades of students	<ul style="list-style-type: none"> • A cross-sectional descriptive study • 110 undergraduates completed survey questionnaires in Applied Medical Science 	Learners utilized several sorts of language learning techniques. Cognitive strategies yet were found to be used more. Learning situations were perceived to be more positive than negative and learners were found to be satisfied with their instructors and their English lessons.
Marsh and his colleagues (2013)	Math, sciences, and Technology	To evaluate the psychometric properties	<ul style="list-style-type: none"> • Tests of factorial and measurement invariance • 59 countries. • 4,269 learners, 47% male from 203 classrooms 	A gender difference in motivation was found that favors boys in the four English speaking countries, but it favors girls in Arab countries. The study provided evidence of gender differences when it comes to motivation constructs. Saudi males were found to be more motivated than Saudi females who score considerably better in math and science.

Table 6

Studies	Area	Objectives of studies	Methodologies & Designs	Findings
Moskovsky and his colleagues (2013)	English language learning	To assess the impact of motivational techniques in the context of teaching and learning of EFL	<ul style="list-style-type: none"> • A quasi-experimental design with Multivariate analyses. • Fourteen EFL teachers. • 296 students 	A persuasive indication that teachers' motivational behaviors do not only associate with students' motivation but, the teacher motivation creates student heightened motivation.
Salem (2013)	Health science	To assess students' demographic data, and variables such as motivation, educational, and socio-cultural factors	<ul style="list-style-type: none"> • Quantitative: cross-sectional design • 232 Medical students from two consecutive cohorts. 	Transportation used by students to reach college was found to be one socio-economic factor that revealed a significant impact on student GPA. Factors like student sex, matrimonial status, concern, and motivation significantly contributed to academic performance.
Alhaisoni (2012)	English language learning	To examine the association between language learning techniques (LLS) and learner gender and level of learner competence	<ul style="list-style-type: none"> • Descriptive and ANOVA (Comparison) • 701 male (61.8%) and female (38.2%) EFL students 	Findings showed that learners' utilization of language learning strategies ranged from low to medium. Learners yet use cognitive and metacognitive strategies most frequently.
Al-Mansour & Shorman (2012)	Al-English language learning	To assess the influence of computer-based language teaching on learners of English in KSA	<ul style="list-style-type: none"> • Experimental design • 60 students randomly selected 	When computer-assisted English language instruction is used with the traditional teaching approach students can achieve significantly high.

Table 7

Studies	Area	Objectives of studies	Methodologies & Designs	Findings
Alshehri (2012)	English learning	language To scrutinize the potential discrepancies between students' and instructors' points of view regarding motivational strategies	<ul style="list-style-type: none"> • Qualitative research with Semi-structured interviews. • 11 female participants, • Six EFL instructors and five EFL male learners 	Instructor behavior appeared to be a major motivational approach in that the classroom climate depends on the teacher.
Alshumaimeri & Almasri (2012)	English learning.	language To investigate the extent to which WebQuest could improve the English learners' reading abilities.	<ul style="list-style-type: none"> • Quantitative: quasi-experimental design • 83 PYP (preparatory year program) students 	Findings suggested using WebQuest can improve learners' achievement on reading comprehension
Javid and his colleagues (2012)	English learning	language To examine motivational orientations for studying English and to find possible significant differences in variables such as participants' gender and university major	<ul style="list-style-type: none"> • Descriptive: developed a Likert scale questionnaire and administered • 709 male and female Saudi undergraduates 	No significant differences were found in the students' intrinsic motivation both in university major and gender. Significant differences were found for students' extrinsic motivation concerning their university major. There was no statistically significant difference between English major and Information technology major. A medical major yet was found to be significantly different from an English major and information technology on the variable of extrinsic motivation. Females were more motivated.

Table 8

Studies	Area	Objectives of studies	Methodologies & Designs	Findings
Nassuora (2012)	Math, Science, and Technology	To study student level of tolerance of mobile learning (m-Learning) in Saudi universities and colleges.	<ul style="list-style-type: none"> • Descriptive survey • Convenience sampling and 80 participants from 1 university. 	Fifty percent of student participants did not have experience with m-Learning, yet they had a positive opinion about the technology.
Abdelfattah (2010)	General college student	To assess the association between motivation and achievement in student low-stakes tests	<ul style="list-style-type: none"> • Correlation and comparison to assess. • 797 of ninth-grade students. 	A significantly high level of student motivation to sit for the tests consistently increased mean performance in both math and science examinations
Al-Fahad (2010)	Online learning	To measure whether replacement of traditional learning by e-learning could increase the level of students' achievement	<ul style="list-style-type: none"> • Factor analysis • 201 students from 	Students' satisfaction was very positive regarding e-learning as teaching assisted device. E-learning provided more advantages when compared to the traditional type of learning
Moskovsky & Alrabai (2009)	English language learning	To measure levels of intrinsic motivation in students of ESL	<ul style="list-style-type: none"> • Experimental study • 55 Saudi learners from public schools and universities 	Despite low levels of achievement in English as found in past research, the results from the current research show that student participants possess exceedingly positive attitudes to learn English.

Table 9

Studies	Area	Objectives of studies	Methodologies & Designs	Findings
Almaghlouth (2008)	Math, Sciences, and Technology	To examine the perception of science teachers about the use of Information and Communication Technology to enhance instruction	<ul style="list-style-type: none"> • Descriptive survey • 131 science instructors from girls' and boys' high schools 	Findings showed that communication technology devices improve student motivation. The results showed that using these tools makes it easy to obtain online information, save time, provide pleasure, and motivate learners
Almutairi (2007)	General College all areas	To investigate the effects of the results of teaching strategies, learner orientation, and teacher training to help increase Saudi women's mental abilities and aptitudes.	<ul style="list-style-type: none"> • Sequential mixed methodology • 209 first-year female students 	The cultural background of female students was found to have a robust influence on the preferred manners in which students learn.

4. Discussion

The present research revealed limitations which include a reduced number of studies on the topic over the past 20 years, a limited number of qualitative research, weakness of survey designs, correlation, and a problem with the generalization of the findings given that most studies collected data in only one educational institution.

Considering the number of publications that used empirical research, 29 is a small number. An average of 1.5 per year would not be accurate because we did not find any published articles which met the selection criteria from 2000 to 2006. We also notice that the largest number of investigations was conducted in ESL. The fact that Saudi students lack motivation is not only true for the area of ESL but other subject areas. Thus, motivation research should also address these subject areas. We did not find any articles published in areas such as Engineering and Physics that deal with the lack of student motivation. We hypothesize that students in these fields are more motivated [7], resulting in a lack of researchers' interest. The current review showed that regarding data collection procedures, at least 20 studies used convenience sampling techniques in which they collected data from only one college or university. It is therefore difficult to accurately generalize the findings to the Saudi student population as convenient sampling techniques have been found in the research data base to limit the generalization of findings [92]. More studies that use qualitative methodologies are encouraged to reveal more variables or factors related to motivation. The current research showed that only two qualitative designs were conducted, and four others were included in mixed-methods or multi-methods designs. Since student sociocultural factors may be important determinants of student motivation, we believe that qualitative designs can be excellent research tools that explore those factors [93]. Qualitative research was found to be very beneficial in community needs assessment [94].

In the same light, it was found that research designs utilized over the past 20 years are diverse and varied. One-third of the studies; that is, nine used descriptive research alone or descriptive research alongside other inferential statistics. Yet, some types of descriptive research that utilize survey depend on the participant's honesty to address the issue of validity. It was argued that many volunteer participants can be imposters, thus affecting the results of studies [95]. Also, only two cross-sectional and one longitudinal studies were conducted. The researchers invite other researchers to undertake more empirical studies using the latter designs. Cross-sectional and longitudinal studies are observational studies. A longitudinal study possesses many advantages [96] because it may allow the investigators to discover an improvement in student motivation or other transformations in the uniqueness of a given population or an individual. Mixed-methods or multi-methods research also have their own positive benefits [97]. They corroborate or infirm the finding in the first strand of the research methodology and permits the researchers to deepen the findings. We encourage more mixed methods designs. Experimental design or quasi-experimental designs (in case it is impossible to use experimental design) are also encouraged because they provide findings that are based on manipulation and thus predict the effectiveness of motivational techniques on learning [98]. Four mixed methods design in 29 and five experimental designs in 29 may seem numerous studies. But when considered in 20 years, we deem the number small.

Furthermore, the review revealed several factors that influence student motivation. They are teacher behavior [50, 48, 42, 65]., group work, class size [72, 73]., factors related to student such as intrinsic/extrinsic motivation, self-efficacy beliefs [21], and gender, parental involvement, use of technology, sociocultural factors, and self-regulated learning. This review revealed some subject areas in which students have low level of motivation. The review also shed light on some of the major factors that impact student motivation negatively and research-based approaches that have been used to investigate learning-related motivation. It is very important to initiate and continue to provide instructors with professional developments whose goal is to equip them with motivation strategies [99]. It was argued that present educational theories of motivations should be expanded to include motivations that relate to subjects and those that are non-specific motives [100].

5. Limitation

Retrieving, including, and screening studies that have been published over a period of 20 years have not been easy tasks. In this light, a few limitations have been observed that could have impacted the results of the present study of which are the inaccessibility of some published articles whose references were retrieved. Another aspect relates to the demanding nature of the synthetic review that could have possibly left some rich information unreported.

6. Conclusion

Findings suggested that medical students who study English displayed a higher level of motivation and in general, they display a higher level of self-regulated study behaviors. We recommend that future researchers use qualitative research to explore their behaviors. Despite class planning or organization, good curriculum, assimilated manuals, certified instructors, the KSA students' achievement is lower than it is expected. It is in this light that Khan [11] put it that future investigations that will analyze the issue of motivation in KSA must do it in different languages and the prospective studies should better be undertaken in a different language and ability areas for teachers to distinguish the kinds of problems and skills so that the teacher may know the types of problems and the causes that associate with each of them. We propose a motivational model that should start from elementary education in the kingdom; which involves parents, the use of technology, motivational strategies; which promotes educational achievement in the Saudi society; and which, while valuing the local culture, opens a door to the acceptance of an education system model. We also propose to inculcate the habits of hard work and persistence into the learners starting from elementary school. The latter propositions should be undertaken alongside a large-scale longitudinal study that involves students from the whole Kingdom.

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