Conscientiousness and English Language Performance amidst the COVID-19 Pandemic: Mediation of Self-regulated Learning

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ABSTRACT

Conscientiousness and self-regulated learning have been shown to directly impact students' academic performance; however, whether or not such impact persists in the COVID-19 pandemic era requires further examination. Thus, this study aimed to investigate the association between conscientiousness, self-regulated learning and students' English language performance and examine the mediating effect of self-regulated learning in the relationship between conscientiousness and English language performance during the COVID-19 pandemic. By employing non-probability snowball sampling, 138 first and second-year undergraduate students enrolled at the University of Sidi Mohamed Ben Abdellah, Fez, Morocco, participated in the study by completing a 21-item questionnaire. Using linear regression, the study found a statistically significant relationship between conscientiousness and self-regulated learning *[F (1, 136) = 77.41, p < .001, R^2 = .37]*. Next, a multiple regression analysis was conducted and revealed that while self-regulated learning significantly predicted English language final grades *(β = .41, p < .001),* conscientiousness was not a significant predictor *(β = .14, p > .001)*. A Sobel test was performed and showed that self-regulated learning was able to mediate the relationship between conscientiousness and English language grades (p < .001). The study concludes that although conscientious students are driven by their diligent work habits, those who lacked effective self-regulated learning strategies received lower grades in their English language class. Hence, educators must concentrate much of their efforts on helping students develop efficient self-instruction, self-monitoring, and self-evaluation techniques that can propel learners into achieving their academic goals.

1. Introduction

The Ministry of Health confirmed Morocco's first case of COVID-19 on March 2, 2020 (GradaWorld, 2020). Only a few weeks later, the government decided to suspend face-to-face education and immediately shift to online instruction in an attempt to circumscribe the spread of the virus. Given the global nature of the COVID-19 pandemic, the same decision was made in almost every country worldwide.

Although migrating classes from offline to online was not regarded as ideal, Moroccan students and educators were well aware that this action was the only alternative available to pursue studies while ensuring the safety of everyone involved in the education process. It is worth establishing that teachers deserve praise for using their own private resources such as their computers and internet in order to sustain students' engagement and to ensure that students are still learning despite the significant challenges. However, educators were obligated to engage in the online teaching process despite their lack of professional preparedness for the unprecedented demand in shifting from in-person to online instruction (Okebukola et al., 2020). Prior to the pandemic, several professors had limited experience with or awareness of internet resources. As a result, their online teaching was confined to copying offline teaching materials onto the network area without making the necessary adjustments to make their instruction engaging and useful for students (Almutairi et al., 2021). In fact, simply giving a lecture on video-conferencing platforms such as Zoom and Google Meet is not considered online teaching; it is rather traditional teaching using new technology.

Online education has existed for decades and proved to be as effective as face-to-face education, and one that comes with essential advantages such as the ability to receive a quality education from anywhere and learn at one's own pace; however, it only existed as an option for learners with busy

schedules or those who decided to balance pursuing their educational aspirations while growing in the corporate world. This was not the case during the COVID-19 pandemic in that online education was an obligation since it was the only solution to pursue learning while ensuring the health and safety of teachers, students and their communities.

It has been argued that the form of education that the world has been engaged in during the COVID-19 pandemic is not the authentic online education model; it is one that is better described as "emergency remote learning" (e.g., Almutairi et al., 2021; Schultz & DeMers, 2020; Kosycheva et al., 2021), which was adopted temporarily to solve an immediate and pressing problem (Bozkurt & Sharma, 2020). Although the terms online education and emergency remote learning share some similar features and have been used interchangeably, there are key distinctions that separate the two education models (Adedoyin & Soykan, 2020). The first one lies in the fact that the temporal and special distance between learning resources and students is what characterizes online or learning, unlike emergency remote learning, which specifically refers to the distance in terms of space (Bozkurt & Sharma, 2020). Another distinction is related to the course design (Shisley, 2020). In online education, courses are envisioned from the initial designing stages to be delivered online. In the case of emergency remote learning, educators attempted to fit teaching materials that were originally developed to be delivered in-person into an online format. Almutairi et al. (2021) confirm that a considerable amount of the curriculum teachers planned for students was intended to be taught face-to-face in physical classrooms. The creation of an online lesson involves a substantial amount of planning, determination and forethought. It takes several months to develop engaging lessons that guarantee and sustain student attention while studying without the presence of a teacher (Schultz & DeMers, 2020; Hodges et al., 2020; Bozkurt & Sharma, 2020).

Therefore, it is the attempt to fit lessons that were originally supposed to be given to students in brick-and-mortar classrooms into an online format that formed the major challenge for educators as well as students. Nevertheless, it would be entirely unfair to expect outstanding outcomes in an absence of basic components of what constitutes a rigorous online learning experience. In addition, it may be impossible for educators who have taught in-person their entire career and have not integrated technology in their teaching to immediately transition into an online instructional delivery system (Schultz & DeMers, 2020). Thus, it is vital to consider the differences that help eliminate the blurry lines between online education and emergency remote learning while evaluating students' learning outcomes and experiences during the pandemic. Students who opted for online education prior to the pandemic have reported positive experiences since they possessed sufficient technical equipment such as computers and access to the reliable internet connection to go about their learning, unlike students experiencing emergency remote learning who may lack access to computers and stable internet connection (Hodges et al., 2020). Furthermore, the challenge was particularly immense for language teachers and students who usually require and rely on the face-to-face interaction that normally takes place in classrooms. In non-English speaking countries like Morocco, an authentic classroom setting is virtually the only place where students have the opportunity to practice their English language skills and enhance their proficiency. However, with the lockdown having no end in sight, students struggle to keep up with the unique demands placed on them.

Students differ in terms of their adaptation to the pandemic depending on their distinct personalities (Rettew et al., 2021; Prentice, 2020), which can largely influence their ability to regulate their learning during confinement. Studies have shown that conscientiousness, one of the five personality traits known as the "big five" (Costa & McCrae, 1992), is a prominent factor that predicts students' self-regulation. Hence, conscientiousness and self-regulated learning are two significant factors that have been widely investigated, particularly before the COVID-19 pandemic aroused.

Generally speaking, students manifest their conscientiousness by showing qualities of being goal-oriented, responsible, dependable, efficient, organized, and dutiful (Jackson & Roberts, 2017). In fact, despite Moroccan teachers' efforts to deliver high-quality instruction, a considerable amount of independent learning is necessary for students to survive the pandemic academically. Nevertheless, only a few students are equipped with adequate self-regulated learning strategies. Zimmerman (1990), Zimmerman (2000) and Pintrich (1995) point out that self-regulated learners set their own goals, strive to maintain control over their behaviour, motivation, cognition, and emotion in order to meet the demands of the situation. Kesuma et al. (2021) argue that in the context of formal and informal education, self-regulated learning involves the ways in which students engage, alter, and implement their strategies of learning, as well as how they interact and control their own social environment. The authors also point out that learning is something that students do, rather than something that occurs to them. In other words, students must be held accountable for their own learning and progress by actively participating in the learning process.

Self-regulated learners are capable of successfully managing resources, utilizing the learning environment, taking responsibility for their learning, and being self-motivated (Nepal & KC, 2020). Kosycheva et al. (2021) suggest that students' self-

efficacy strongly and positively impacts motivation and academic achievement. Kosycheva et al., (2021) indicate that self-efficacy refers to the students' conviction in their ability to manage their life, both generally and particularly in terms of coping successfully with academic assignments. Qetesh et al. (2020) assert that individuals with high self-efficacy expectations are more likely to accomplish their aspired goals since self-efficacy affects a lot of not only the decisions pertaining to academic goals but also general life-long decisions.

Barros et al. (2021) discovered that conscientiousness was the personality trait that significantly correlated with self-regulated learning among Brazilian and Portuguese students. Similarly, in a sample of 231 undergraduate students of English in Iran, it was found that students who scored high in conscientiousness were more likely to be effective in terms of time and study management (Ghyasi et al., 2013). In another study carried out by Bruso et al. (2020), it was shown that conscientious students scored highly on the self-regulation scale. Moreover, Babakhani (2014) surveyed 200 students enrolled at Islamic Azad University and found that conscientiousness features were positively associated with self-regulated learning and academic performance. Additionally, Rosito (2020) indicated that conscientious students were more likely to effectively manage their time and environment to ensure they acquire an adequate understanding of the learning material at hand. Therefore, there is substantial evidence that conscientiousness is a significant predictor of self-regulated learning; however, this relationship remains to be tested under the COVID-19 pandemic and in the unique context of Moroccan undergraduate students. Thus, based on the literature, the following hypothesis is proposed:

H_1 Conscientiousness is significantly associated with self-regulated learning of Moroccan undergraduate students.

Numerous researchers have used the variable of conscientiousness as a predictor of academic performance, particularly during the COVID-19 confinement. Iterbeke and De Witte (2020) conducted a study with a sample of 347 students in 35 schools in January 2020, the period during which the virus was rampant, and discovered that high scores in conscientiousness increased the probability of students expecting higher results. Another study also demonstrated that conscientious students outperformed those with a high level of extroversion and neuroticism (Yu, 2021). River (2021) indicated that conscientiousness had an effect on course achievement. Furthermore, Smidt (2021) indicated that GPAs of German university students were strongly and significantly associated with students' level of conscientiousness. In fact, conscientiousness had been used as a predictor of academic performance prior to the COVID-19 crisis. Bhatti et al. (2018)

demonstrated that consciousness had a positive correlation with academic performance among postgraduate students in Pakistan. However, there is no study that investigates the association between conscientiousness and academic performance, measured by English language final grades, of Moroccan undergraduate students. Therefore, the following hypothesis is put forward:

H_2 Conscientiousness has a significant effect on Moroccan Students' English language final grades.

It has been demonstrated in the literature that self-regulated learning can directly impact students' grades. Alotaibi et al. (2017) carried out a study in which they discovered that constructs of self-regulated learning such as goal setting and planning were significant predictors of academic achievement, particularly students' English language and mathematics performance. Other studies revealed similar results (Muhammad & Abu Bakar, 2015; DiBenedetto & Bembenutty, 2011; Dent & Koenka, 2015; Peng, 2012). Qetesh et al. (2020) investigated the association between self-regulated learning and academic performance amongst students of the Faculty of Pharmacy during distance education amid the COVID-19 pandemic. The authors demonstrated a strong and positive correlation between students' academic achievement and variables of self-regulated learning and motivation. Also, self-efficacy, self-regulated and cognitive strategies were strongly correlated.

Conversely, it was revealed in other studies that the association between self-regulated learning and academic performance was weak and not significant (Alafgani & Purwandari, 2019; Ningrum et al., 2018). Other studies revealed that the correlation between the two variables was positive but very low (Alegre, 2014; Putri, 2021). The findings indicated by such studies assert that inferences about the impact of self-regulated learning on academic performance must be made depending on the unique geographical, cultural and temporal contexts. Hence, it is necessary to examine the relationship between the aforementioned variables under the COVID-19 pandemic circumstances in Morocco. This area of research has not been examined in the context of Moroccan students who have been engaged in online learning; a shift from face-to-face learning that came as a response to the pandemic.

In this light, a hypothesis is proposed in order to test this relationship in the Moroccan context. Moreover, another hypothesis is proposed to investigate the role of self-regulated learning in mediating the relationship between conscientiousness and students' English language final grades during the COVID-19 pandemic.

H_3 There is a significant relationship between self-regulated learning and Moroccan Students' English language final grades.

H₄ Self-regulated learning mediates the relationship between conscientiousness and Moroccan students' English language final grades.

The study sought to address significant gaps in the literature. First of all, previous studies examining the impact of conscientiousness and self-regulated learning on students' academic performance were largely conducted in Asia, Europe and the United States, but the context of Morocco has not been examined. Hence, the purpose of the present study is to expand the literature by investigating the effect of conscientiousness and self-regulated learning on Moroccan undergraduate students' academic language performance, as measured by English language final grades. Also, past studies which were carried out during the COVID-19 pandemic have either examined the impact of self-regulated learning on academic performance without considering the role of students' level of conscientiousness, or vice versa; however, very little research has looked into the extent to which the interplay between, both, conscientiousness and self-regulated learning can predict students' academic performance. In order to fill in this gap in the literature, the present study set out to examine how the dynamic relationship between conscientiousness and self-regulated learning can determine English language performance, particularly amidst the global public health crisis. In addition, previous studies measured academic performance based on students' math and science achievement (e.g., Bol et al., 2016; Kamalia & Nuriadin, 2021), whereas the present study focuses on students' English language final grades. Third, studies that looked into the relationship among all three variables were undertaken before the pandemic and under regular learning conditions. Nonetheless, it is pivotal to re-examine this relationship under the unique context of emergency remote learning.

The role of conscientiousness and self-regulated learning in helping students reach high academic success is more important now than before in that the demands placed on students under the current circumstances are more substantial. Therefore, this study is conducted in order to examine the relationship between conscientiousness, self-regulated learning, and English language final grades of Sidi Mohamed Ben Abdellah University (Fez, Morocco) students during the period of January 2020 and June 2021. Students in Morocco have taken three semesters in the aforementioned period. Finally, the mediating effect of self-regulated learning on the relationship between conscientiousness and English language performance is investigated. The following section lays out the research methods that were employed to fulfil the objectives of the study. Next, the results are presented. Subsequently, the importance of prioritizing the teaching of self-regulated learning as implied by the findings of this study is illustrated in the discussion section. Finally, the significant contribution to the literature pertaining to the impact of the interplay between conscientiousness and self-regulated learning on Moroccan students' English language performance in the pandemic era is highlighted in the conclusion section.

2. Method

The research was carried out with a quantitative design. According to Creswell (2014), a quantitative approach is adopted to examine the relationship between independent and dependent variables. While several quantitative statistical methods exist, the current study deployed regression analysis in order to investigate the relationship between conscientiousness, self-regulated learning and English language final grades. Regression analysis is used to depict how an increase or decrease in one or more independent variables changes the value of a dependent variable, while the other independent variables are held constant (Soto, 2013). Statistical Package for the Social Sciences (SPSS) version 26 was utilized to perform such analysis. In this study, conscientiousness and self-regulated learning are the independent variables that were regressed against English language final grades, which is the dependent variable.

In addition to regression analysis, the study used a Sobel test approach to investigate the mediating effect of self-regulated learning (mediator) in the relationship between conscientiousness (independent variable) and English language final grades (dependent variable). It is important to note that mediation exists when a dependent variable is affected by a predictor or independent variable indirectly via at least one intervening variable or mediator. Hypotheses incorporating mediation are prevalent in the behavioural sciences (Preacher & Hayes, 2008). Therefore, regression analysis and the Sobel test were the two statistical methods used in the present study.

2.1 Participants

The target population of the current study were first, and second-year undergraduate students enrolled at the University of Sidi Mohamed Ben Abdellah Fez, Morocco. Participants were selected by employing snowball sampling, which is a widely used sampling method by researchers in the social sciences since it is considered one of the most cost-effective and convenient methods. According to Kothari (2004), this sampling method is one of the non-probability methods in which respondents assist the researcher in locating more respondents by contacting individuals who may be willing to participate in the study. The strength of such a sampling method lies in its ability to allow the researcher to obtain questionnaire results in a relatively shorter amount of time and to ensure a high response rate.

Table 2.1 Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	3.361	1.236		2.718	.007		
	Self-regulated learning	1.380	.314	.408	4.390	.000	.637	1.569
	Conscientiousness	.531	.352	.140	1.509	.134	.637	1.569

a. Dependent Variable: English language final grades.

As a result, one hundred and thirty-eight Moroccan undergraduate students *(n = 138)* agreed to be part of the sample in this study. Sixty-eight were female students *(49%),* while seventy were male students *(51%).* The average age of students was twenty with a standard deviation of one *(M = 20, SD 1).*

2.2 Data collection

The data collection involved participants filling out a questionnaire designed using Google Forms online survey. Participants received a link that redirected them to the questionnaire page, allowing for easy and convenient distribution of the research instrument. The questionnaire consisted of three scales: conscientiousness, self-regulated learning and English language final grades.

The conscientiousness scale comprised of eight items (e.g., I complete tasks successfully, I excel in what I do, I am not easily distracted; I strive for excellence; I take deadline seriously; I often put things back in their proper place) taken and adapted from the five-factor model inventory (Costa & McCrae, 1992). The self-regulated learning scale was made up of ten items (e.g., I look for places with few distractions where I can concentrate; I make a list of tasks I need to finish every week; I set clear learning goals; I efficiently manage my time; I often seek help from people who are more knowledgeable than I am; I test myself in many ways to assess my learning and progress.) which were developed following the theoretical perspectives of Zimmerman (1990) and Pintrich (1995). Both scales were assessed on a seven-point Likert scale, ranging from 1 (completely disagree) to 5 (completely agree). The Likert scale is used to measure attitudes by allowing respondents to indicate their level of agreement or disagreement with a specific statement (Sullivan & Artino Jr, 2013).

Furthermore, the third scale in this study was students' English language final grades over the course of three semesters (January-June 2020; September-December 2020; and January-June 2021). Unlike in most countries where the grading system is from 0 to 100, the grading system in Morocco follows a basic 1-20 scale, with 0 being the lowest and 20 being the highest-grade students can receive. The passing grade is 10; any grade below 10 means that the student will have to retake the class the next year.

The final grade that students receive at the end of each semester is inclusive of attendance, participation, projects, presentations, and the final exam. The grade of the final exam is determinant in that it accounts for 60-75% of the final grade. Furthermore, the final exam consists of three sections. The first section involves a reading task where students are given a passage and are required to answer multiple-choice questions or questions where students give written answers. The second section is language. In this section, students are tested on the vocabulary and grammar concepts that were covered over the course of the semester. The third is a writing section where students are required to write an essay about one of the topics that were discussed in class.

2.3 Reliability analysis

Prior to the questionnaire's formal dissemination, it was critical to test the scales' reliability. The term "reliability" refers to whether or not an instrument's scores are internally consistent and stable over time, as well as if the test administration and scoring were consistent (Creswell, 2014). The current study examines the reliability of scales using Cronbach's alpha, a commonly used criterion by researchers to determine the scale's reliability and verify that the instrument is able to produce consistent findings over time. Table 2 shows the number of items in each scale as well as Cronbach's alpha values. The results of the reliability analysis reveal that the instrument meets the required standards.

Table 2.2 Reliability analysis of the scales

Names of scales	Cronbach's alpha	Number of items
Conscientiousness	.87	8
Self-regulated learning	.86	10
English language grades	.94	3

Looking at Table 2.2, the questionnaire consisted of 21 items in aggregate. The conscientiousness scale comprised eight items, self-regulated learning was assessed on a ten-item scale, and the English language performance scale was made up of three items. The reliability analysis results showed that Cronbach's alpha coefficient values were *0.87, 0.86,* and *0.94,* respectively, indicating satisfactory and high internal consistency of the scales. Hence, the instrument used in this study proved to meet the scale reliability standards.

The present study sought to examine four hypotheses: 1) Conscientiousness is significantly associated with self-regulated learning; 2) Conscientiousness has a significant effect on undergraduate students' English language final grades; 3) There is a significant relationship between self-regulated learning and students' English language final grades, and 4) Self-regulated learning mediates the relationship between conscientiousness and students' English language final grades.

3. Findings

Table 3.1 ANOVA[a]

	Model	Sum of Squares	df	Mean Square	F	Sig.
1	Regression	243.078	2	121.539	23.168	.000[b]
	Residual	708.208	135	5.246		
	Total	951.286	137			

a. Dependent Variable: English language final grades

b. Predictors: (Constant), Conscientiousness, Self-regulated learning

First of all, a simple linear regression analysis was performed in order to examine the relationship between conscientiousness, defined as an independent variable, and self-regulated learning as a dependent variable. The assumptions associated with conducting linear regression were checked before proceeding with the analysis. The result showed that cons. conscientiousness explained *37%* of the variance in self-regulated learning of Moroccan undergraduate students, $F (1, 136) = 77.41, p < .001$ with an adjusted $R^2 = .36$. Hence, this indicates that H_1 stating that conscientiousness was a significant predictor of self-regulated learning was accepted.

Table 3.2 Sobel Test

	Input		p-value
a	.674	Sobel test	0.00008579
b	1.380	Aroian test	0.00009332
S_a	.077	Goodman test	0.00007872
S_b	.314		

a = raw (unstandardized) regression coefficient for the association between IV and mediator.
Sa = Standard error of a.
b = raw coefficient for the association between the mediator and the DV (when the IV is also a predictor of the DV).
Sb = standard error of b.
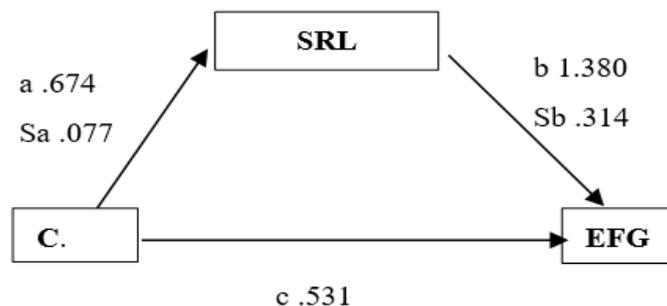
Figure 3.1 Mediation model

Subsequently, multiple linear regression analysis was carried out to predict the dependent variable of English language final grades from conscientiousness and self-regulated learning. Preliminary analysis was conducted in order to ensure that the assumptions of multiple regression were not violated. Looking at table 1, the variance inflation factor (VIF) for each variable is less than five, indicating that multicollinearity is within the conventionally accepted range. Also, the independence of residual errors was tested using the Durbin-Watson test, which showed that no autocorrelation existed in the data (DW= 1.77). Based on ANOVA table 3, the multiple regression results revealed that the model was statistically significant, $F (2, 135) = 23.17, p < .000$ with an adjusted R^2 of .25. Table 1 shows that, while conscientiousness $(\beta = .14, p > .001)$ was not found to be a significant predictor of English language grades, self-regulated learning $(\beta = .41, p < .001)$ significantly predicted English language grades. Therefore, H_2 that states conscientiousness would significantly predict English language grades was rejected, whereas H_3 stating that there is a statistically significant relationship between self-regulated learning and English language grades was supported.

Next, since conscientiousness was not a significant predictor of English language grades based on the multiple regression analysis, a Sobel test was conducted to examine the mediating effect of self-regulated learning in the relationship between conscientiousness and English language grades. The Sobel test method is designed to find out whether an independent variable indirectly affects a dependent variable via a mediating variable (Preacher & Leonardelli, 2001). Looking at table 4 and figure 1, the Sobel test result revealed that the indirect effect between conscientiousness and English language grades via the mediating variable of self-regulated learning was statistically significant $(p < .001)$. Thus, H_4 proposing that self-regulated learning is able to mediate the relationship between conscientiousness and English language grades was accepted.

4. Discussion

The purpose of this study was to investigate the association between conscientiousness, self-regulated learning and English language final grades during the COVID-19 pandemic. The study targeted Moroccan first, and second-year undergraduate students enrolled at the University of Sidi Mohamed Ben Abdellah located in Fez, Morocco. It was hypothesized that conscientiousness had a significant effect on the self-regulated learning of Moroccan undergraduates. This study revealed a positive and significant correlation between conscientiousness and self-regulated learning. This implies that conscientiousness, as a personality trait, influences students' capacity to manage their learning during times of extreme uncertainty. This finding is not particularly surprising in that conscientious students are industrious, able to delay

gratification, and tend to adopt responsibility. They are also self-controlled and follow the rules (Fayard et al., 2012). Kesici (2020) asserts that conscientiousness characterizes students who are disciplined, responsible and possess a strong tendency to succeed. Hwang et al. (2018) suggest that responsibility is the most crucial facet of conscientiousness.

This finding is in line with the results of other studies in that there is substantial evidence in the literature that conscientiousness is a prominent predicting factor of self-regulated learning. Ghyasi et al. (2013), Barros et al. (2021), and Rosito (2020) indicate that conscientious students are effective self-regulated learners and capable of managing their time and creating a favourable environment that is conducive for learning. Mirhashemi and Goodarzi (2014) found that conscientiousness had a direct effect on self—regulated learning, particularly on cognitive, metacognitive and help-seeking strategies. Mirhashemi and Goodarzi affirm that the disciplinary traits make students plan and schedule, work hard, manage their study environment and evaluate progress. Similarly, Hertel and Karlen (2021) discovered a statistically significant relationship between conscientiousness and self-regulated learning constructs such as goal setting and help-seeking.

Furthermore, the researcher also hypothesized that conscientiousness would significantly affect Students' English language final grades. The result showed that the relationship between the two variables was not statistically significant on the basis of the multiple regression analysis. This is rather unexpected since conscientiousness has been widely used as a predictor of academic performance (Hakimi et al., 2011; Iterbeke & De Witte, 2020; Yu, 2021). This result suggests that the qualities that conscientious students demonstrate, such as organization, the tendency to complete tasks and the ability to meet deadlines, are insufficient characteristics to achieve positive learning outcomes during the pandemic. This can be explained by the fact that students are not prepared for the immediate and unprecedented shift to online education. Kundu and Bej (2021) contend that students are not ready for the sudden transition towards online learning. Aboagye et al. (2021) attribute students' lack of preparation to study online to a number of factors. For instance, students may already be attached to the conventional approach, they may be apprehensive that they could face too many challenges, or they may not be comfortable studying in an absence of important social aspects such as the presence of teachers and students as in brick-and-mortar classroom setting.

In addition, the study found a significant correlation between self-regulated learning and students' English language final grades. This implies that students who set clear goals managed their time and environment and had no issue seeking help when needed were able to receive high grades in their

English language class in spite of the unfavourable learning conditions. This result is consistent with the findings of Dent and Koenka (2015), Alotaibi et al. (2017) and Banarjee and Kumar (2014). Moreover, in light of the indicated finding that the relationship between conscientiousness and English language final grades was statistically insignificant, a mediation analysis using a Sobel test approach was conducted to determine whether self-regulated learning could mediate this relationship. The Sobel test results demonstrated that the indirect effect of conscientiousness on English language grades via the mediating variable of self-regulated learning was statistically significant. This result is in line with the findings of De Feyter et al. (2012). This means that conscientious students improve their chance of receiving high grades in their English language class if they are proficient self-regulated learners. Again, self-regulated learning has proved to be a crucial factor to consider while evaluating the overall academic performance of students, especially during the school closures that came as a response to the COVID-19 crisis. Palos et al., (2019) demonstrated that self-regulated learning was able to significantly and directly predict academic performance. Zheng (2018) points out that high achieving students possess distinctive self-regulatory capabilities, including learning to monitor and adapt to sudden situations.

The findings of this study bear significant implications for Moroccan English language instructors. The effect of conscientiousness was only statistically significant when mediated by the variable of self-regulated learning. This indicates that although conscientiousness has been a prominent predictor of academic performance, this study shows that the effect of conscientiousness on Moroccan undergraduate students' academic performance, as measured by English language final grades, was different in the context of remote learning. Conscientious students were still in need of possessing the capacity to be effective self-instructors. It is plausible that for conscientious students who were also efficient self-regulated learners, the disruption in education that was caused by the COVID-19 pandemic was not as much of a crisis as it was just another challenge that required them to alter their learning strategies to fit the demands in the shift from in-person to online education. Agustiani et al. (2016) assert that self-regulated learners tend not to surrender when encountered by threatening situations and work harder to defend the learning actions to absorb the course material. Hence, for those students, the global crisis was viewed as being merely another hurdle in their way to academic success.

It is possible that some forms of remote learning such as synchronous, asynchronous or blended learning are here to stay after the pandemic is over. Cho and Hong (2021) point out that online education will continue to prevail after the pandemic and will further shrink the geographical boundaries for us. Teachers who will choose to incorporate aspects of online instruction should concentrate their attention on equipping students with the fundamental tools that allow students to be proficient self-regulated learners. Teachers can start by helping students set their own learning goals. Goals are considered to be critical for regulatory proficiency and success (Andrade & Brookhart, 2016). This does not imply merely telling students what their learning goals must be. Although it is true that teachers will have specific expectations of students and pre-set goals for them, there is a dire need for students to learn how to develop their own vision of what their goals look like, especially long-term goals. Spruce and Bol (2015) suggest that personal goal orientations impact the kind of goals students set for their learning. While this may include academic goals, such as receiving satisfactory grades, it may also be inclusive of general life-long goals that transcend the rudimentary requirements to simply pass a class.

Time management is another vital skill to be taught to students in the context of online learning. It is important to point students in the right direction towards discovering their own time management style, such as how and when to allocate time to complete certain tasks. Even in changing situational demands, effective time management is mirrored in students' ability to utilize their time in a way that propels them into attaining their goals and ensures the prevention of procrastination and other forms of time misappropriation (Wolters & Brady, 2020). Efficient time management generally means that a student allocates enough time to complete specific tasks that are closely related to the learning goals that were previously set (Khiat, 2019). Verrell and McCabe (2015) found that time management was the most significant underdeveloped skill in schools. Khiat (2019) indicates that effective time management is positively associated with academic performance. Moreover, it may not be particularly effective to dictate to students one presumably correct time management style. In fact, students are intrinsically different; hence, the way one student tends to structure their time is likely to be different from how another student would choose to manage their time.

Self-evaluation is also a crucial skill for students to acquire. This means that students need to develop the ability to reflect on their recent learning experiences and assess their actual learning (Milligan et al., 2015). Teachers can introduce students to methods and online resources that may help them assess their learning and monitor their progress. Manso-Vazquez and Llamas-Nistal (2015) affirm that it is vital for educators to encourage reflection and critical thinking amongst their students by coaching students through recognizing what they know *vis-à-vis* what they want to learn and how to assess their knowledge. Furthermore, it is critical to encourage students to

seek help whenever needed. Gonida et al. (2019) suggest that gifted students who set high-performance goals tend to perceive help-seeking as an indicator of academic inability and, therefore, feel embarrassed and reluctant to seek help even when they are well aware they need it. Teachers can start by making themselves available to students as much as possible. Students are less anxious and hesitant to contact their teachers, who are known for being approachable. In fact, help-seeking should no longer be viewed as a sign of dependency since it proved to be a crucial self-regulated learning strategy (Karabenick & Gonida, 2018).

Since online learning will probably characterize post-pandemic education, the indicated results of the present study strongly emphasize the significance of prioritizing the teaching of self-instruction and self-evaluation. Acquiring outstanding language competence requires more than simply being orderly and industrious. If students lack adequate self-learning strategies, they are unlikely to see noticeable progress in their language performance. As a matter of fact, even in the regular and in-person learning environment, English language teachers can only pass on a limited amount of vocabulary and grammatical nuances to students. Proficient students accumulate a great deal of language skills independently and without the presence of an instructor. When it comes to improving English language skills and grades, the present study found that conscientiousness was only helpful when combined with students' ability to self-regulate their learning.

Thus, it is pivotal that language teachers focus on teaching students how to identify and set their own learning goals, find the time management style that best suits their personality attributes, assess their learning, and monitor their progress. This is likely to prepare students to enhance their vocabulary, grammar and writing skills on their own and, hence, receive high grades in case online education persists after the pandemic or the world faces another global crisis in the future.

5. Conclusion

The results of the current study indicate that conscientiousness significantly predicated self-regulated learning, while the latter was found to be a significant predictor of English language final grades. The association between conscientiousness and English language performance was not statistically significant. The mediation analysis demonstrated that self-regulated learning was able to mediate the relationship between conscientiousness and English language performance among Moroccan undergraduate students. These findings help expand the literature in that, to the author's best knowledge, there has been no research investigating the impact of the interplay between conscientiousness and self-regulated learning on Moroccan students' English

language performance in the COVID-19 pandemic era. Thus, the current study concludes that although conscientious students are motivated by their meticulous work habits, those who lacked the necessary self-regulated learning strategies received lower grades in their English language class during the pandemic. In addition, the findings of this study suggest that while it is integral for students to receive quality instruction related to distinctive grammatical structures, writing techniques, vocabulary and pronunciation, placing a primary focus on teaching students how to acquire that knowledge outside the classroom is of greater significance, especially during the COVID-19 pandemic.

The present study has some limitations which present opportunities for future research. First, this study was conducted with a quantitative method. Future research can conduct qualitative interviews in order to provide a more in-depth understanding of the research problem. Second, it is recommended to replicate this study by examining the relationship between conscientiousness, self-regulated learning and final grades of English language students at other universities in Morocco. Finally, the present study did not take into account the influence of gender differences in the relationship between the variables in question. Hence, future studies can investigate the relevance of gender and how female and male students are different in terms of the impact of the level of conscientiousness and self-regulation on their final grades and overall English language performance.

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