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Learning-related soft skills among online business students in higher education: Grade level and managerial role differences in self-regulation, motivation, and social skill

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Learning-related soft skills among online business students in higher education: Grade level and managerial role differences in self-regulation, motivation, and social skill

### **Abstract**

The purpose of the study was to investigate how undergraduate and graduate business management students, as well as those who had a managerial role in their career and who did not, differ on levels of soft skills (SRL strategies, motivation, and social skills) after gender was controlled. Moreover, we intended to investigate how well soft skills factors influence business students' successes in an online learning environment after students' individual characteristics and learning characteristics were controlled. To serve this purpose, this study conducted MANCOVA and hierarchical multiple regression analyses on data collected from 162 students in fully online business courses. First, the results of the study indicated that graduate students had higher level of soft skills than undergraduate students, especially in self-regulation and motivation. Likewise, students with managerial experiences demonstrated a higher level of soft skills. Next, hierarchical regression analysis revealed that the final regression model with all soft skills factors included could predict approximately 34% of the variance in students learning outcomes to a statistically significant level. In addition, goal setting, self-efficacy, and social skills were found to be significant predictors. We suggest that instructors and instructional designers should realize that soft skills are important contributor to the learning outcomes. Therefore, mechanisms to enhance student soft skills should be embedded into the online course in order to improve student learning outcomes. This should be especially a priority for undergraduate online courses because undergraduate students do not demonstrate higher soft skills compared to graduate students.

**Keywords:** soft skills; online learning; self-regulation; motivation; social skill

## **1. Introduction**

The business world has experienced a dramatic change due to the rapid development of technology, globalization, and business model innovation over the past decades. Business administrators and leaders face competition from all over the world on the aspects of analytical/technical skills, determination, and vision (hard skills). It is also crucial for them to develop “soft skills”, including self-awareness, self-regulation, motivation, empathy, and social skills (Goleman, 2000; Marques, 2013; Robles, 2012). Goleman (2000) stated that the more styles leaders exhibit, the better they are. To extend the advantages of liberal education that help students develop a sense of social responsibility, transferable intellectual and practical skills, and a demonstrated ability to apply knowledge in real-world setting (AAC&U, 2011), a major objective of business education is to prepare students for the workplace and foster their abilities to adapt to the workforce environment and relationship changes. Business schools recognize soft skills as vital for workplace success, especially for higher management positions. They are trying to embed soft skills into curriculum and learning materials (Bedwell, Fiore, & Salas, 2013). It is also important for students to develop motivated (Moos & Marroquin, 2010) and self-regulated (Sitzmann & Ely, 2011) strategies from learning and gradually transfer the principles of learning into real-life skills.

Perreault (2004) brought an important point to the table by addressing that soft skills can be unique as personal qualities, attributes, or the level of commitment and such skills would set one apart from other individuals who have similar skills and experiences. In addition, hard skills had been over emphasized in the business environment over the past decades. It has led to a widespread notion that “leadership should be all about boldness, charisma, and superior knowledge, and nothing about inter-human sensitivity” (Marques, 2013, p. 164). However,

Marques also argued that students are not receiving an adequate education when it comes to developing the management skills they will need to be successful after they graduate. Korn and Light (2011) reviewed five MBA programs that offer soft skills business courses focusing on enhancing self-awareness, social and communication skills. They concluded that the number of business schools that embrace soft skills courses is still far from satisfactory. Previous studies have shown that online learners need personal attributes such as self-directed learning competencies (Gandomkar & Sandars, 2018; Heo & Han, 2018), as well as social connection (Cobb, 2009) and interaction to motivate their learning efforts. While these studies pointed out the importance of soft skills to students' learning and potential career success, much of the research concerning online learning has not involved core undergraduate and graduate business courses. Also, no research has examined the effects of soft skills on online business students' learning motivation and outcomes. Moreover, there is a gap that has not been investigated extensively about business students' strategies on learning and their soft skills in a learning context. As online instructors, instructional designers, curriculum developers, and policy makers in the twenty-first century learning environment, it is essential for us to understand students' levels of soft skills and to investigate how well attributes of soft skills influence business students' successes in online learning environments. Hence, we can apply teaching pedagogies and active learning strategies that can help students develop and transfer soft skills gradually when designing learning activities.

## **2. Research context and background**

### *2.1. Learning-related soft skills in workforce and higher education setting*

Soft skills are usually discussed in a different form and context. Prior studies described various interchangeable terms related to soft skills, including “transferable skills” (Treleaven & Voola, 2008), “generic skills” (Jones, 2010), and “graduate attributes” (Curtis & McKenzie, 2002). In general, these skills are described as “personality traits, goals, character, motivations, and preferences that are valued in the labor market, in school, and in many other domains” (Kautz, Heckman, Diris, ter Weel, & Borghans, 2014, p. 2). From the perspectives of workforce and organization, Hurrell, Scholarios, and Thompson (2012) defined soft skills as “nontechnical and not reliant on abstract reasoning, involving interpersonal and intrapersonal abilities to facilitate mastered performance in particular contexts” (p. 161) and they play a positive role on individual’s employability and other labor market outcomes (Weinberger, 2014). As a result of economic restructuring, soft skills have been recognized as centrally important for human capital development and workforce success (USAID Workforce Connections, 2015). Nevertheless, not only in the United State, but also many employers around the world report that job candidates lack soft skills needed to fulfill their job duties and responsibilities (The Value of Soft, 2015).

On the other hand, researchers in higher education consider soft skills as non-cognitive or “non-academic” competencies that propel students to achieve on their learning and nurture healthy and open relationships among classmates. Skills such as goal setting, time management, motivation, self-regulation, social capital have been the focus in the field of education (Anthony & Garner, 2016; Lerman, 2013). Furthermore, in the Information Communication Technology (ICT) discipline, soft skills refer to “interaction, articulation and interpersonal skills” (Myers, Blackman, Andersen, Hay, & Lee, 2014, p. 38). According to Naiem, Abdellatif, and Salama

(2015), ignoring the importance of the human factor and non-technical skills is the reason for the failure of software development projects in the computer science field. For students to develop soft skills, it requires explicit learning and course instructions should provide opportunity to observe others, to practice skills, and to receive feedback consistently (Hurst, Cleveland-Innes, Hawranik, & Gauvreau, 2013). However, as the new paradigm shift towards online learning, these skills are often overlooked when academic curriculum and courses are designed (Ahmed, Capretz, Bouktif, & Campbell, 2012). There is no doubt that instructional strategies implemented in online learning environment promote distributed (Mora, Ferrández, Gil, & Peral, 2017) and collaborative learning (Myers, Blackman, Andersen, Hay, & Lee, 2014) that stimulate knowledge production and practical skills application. In the new economic system, it is also true that online learning and/or training platform could serve its purpose on both “vertical growth” of people in specific knowledge fields and “horizontal growth” in terms of soft skills and strength (Audretsch & Thurik, 2001). It is important for instructors and instructional designers to realize that soft skills should be related to the learning content and be embedded in the curriculum disciplines explicitly (David, 2011; Hassan & Maharoff, 2014). Separating soft skills development from disciplinary learning might run the risk of promoting a shallow, technical approach to teaching and learning (Star & Hammer, 2007), especially in the technology-enhanced online learning environments. The literature supports the conclusion that soft skills proficiency in terms of career and academic attributes is essential for individual success. However, there is largely an absence of studies that explicitly assess online learners’ levels of soft skills and investigate the relationships among their demographics, individual and learning characteristics, and social skills. Thus, the primary focus of the study was to explore business students’ soft skills in the online learning context. The researchers intended to investigate three

generic skills - self-regulated learning (SRL) strategies, motivation, and social skills that are essential for students to become successful online learners.

## *2.2. Theoretical framework and research hypotheses*

According to Schunk (2005), self-regulated learning (SRL) is seen as “a mechanism to help explain achievement differences among students and as a means of improving achievement” (p. 85). Most importantly, the SRL strategies and motivation are grounded in the active and resourceful behaviors on the part of individuals to achieve their learning and are strong predictors on academic achievement in online learning environments (Broadbent, 2017; Pardo, Han, & Ellis, 2017; Wilson & Narayan, 2016). Self-regulated learners are self-motivated. They are able to strategically plan and modify their learning goals (Tiniakou, Hirschler, Endedijk, & Margaryan, in press), and are able to manage and control external learning resources effectively (Broadbent, 2017). It is important for online learners to apply effective learning strategies persistently and flexibly depending on how course activities are structured and how deeply peer interactions are required. They might need to determine for themselves how to manage their study time efficiently and seek help from others when necessary (Huda et al., 2017; Kizilcec, Pérez-Sanagustín & Maldonado, 2017), as well as how frequently they would utilize these strategies (Dörrenbächer & Perels, 2016). In addition, motivated learners are characterized by high perseverance with learning engagement and high responsibility at any opportunity to learn and to improve themselves.

Moreover, those students who apply the SRL strategies tend to set productive goals and make serious plan before performance, apply appropriate strategies on learning during performance, and self-evaluate after performance (Zimmerman, 1998). Prior research suggested that SRL strategies and motivation are relevant to and have positive effects on students' learning

achievement in higher education contexts (Broadbent, 2017; Richardson, Abraham, & Bond, 2012). For instance, Song, Kalett, and Plass (2016) conducted a structural equation modeling (SEM) to examine the effects of 386 medical clerkship students' self-regulation and motivation on learning performance in complex multimedia learning environments. The results revealed that students who had a greater self-regulation tended to show better learning outcomes ( $\beta = .581, p < .001$ ). In addition, they also concluded that students' motivation is significantly positively related to their learning performance. Motivation is an important factor in promoting learning and students with higher levels of motivation will engage in more metacognitive activity and manage more effective learning strategies. Learning motivation is "dynamic and contextually bound" (Duncan & Mckeachie, 2005, p. 117) and students' learning behaviors and levels of motivation may change from courses to courses or even from learning tasks to learning tasks in a course. Thus, Students must retain an effective motivational strategy and adjust their study plans in order to perform better in learning.

Social skills are essential for harmonious relationships among humans. In the workplace, social skills act as a kind of social antigravity, closing gaps among people with different personality traits and allowing workers to specialize and co-produce more efficiently (Deming, 2015). In addition, social skills, which involve the ability to self-regulate and to connect with peers and external resources, have been identified as necessary generic skills for learning. In contrast, poor social skills have been found to have negative impact in not only academic achievement but also success in employment and long-term career, personal relationships, and mental health (Gresham, Van, & Cook, 2006).

Social skills are needed mostly in a self-directed and authentic online learning environment for students to learn collaboratively rather than competitively (Johnson & Johnson,

1989) because students possibly never meet each other in person but only through communication via emails and the Learning Management System (LMS). From the social nature standpoint of online learning, Laffey, Lin, and Lin (2006) defined online students' social ability as "the person's capacity to associate with fellows and to use the members, resources and tools of the social context to achieve something of value" (p. 1). Their research also showed that online learners with strong social skills are able to learn others' strength and are more willing to interact with others purposively. Thus, they are more likely to enhance their learning in a diverse online learning environment. More benefits other than the aspects of learning, social skills may increase students' academic self-efficacy, quality of psychological adjustment to college life, ability to achieve meaningful goals, and ability to deal with uncertain life situations, etc. (Tinto, 1993). Those interpersonal attributes are important not only for students in maintaining high achievement and persistence in learning, but also for lifelong learners that pull them toward personal and professional goals.

Soft skills could be gradually built over a period of time while students are consistently participating in a brainstorming, consensus-building, and problem-solving instruction (Arbaugh, Bangert, & Cleveland-Innes, 2010). In addition, students who study in the soft and applied disciplines are expected to be more self-conscious about their improvement in soft skills according to Chamorro-Premuzic, Arteche, Bremner, Greven, and Furnham (2010). Furthermore, Kahu and colleagues (2013) reported that older online students used deeper learning strategies than their younger counterparts. Artino and Stephens's (2009) study provided a comparative analysis of undergraduate ( $n = 87$ ) and graduate ( $n = 107$ ) students' levels of academic motivation and self-regulation while learning online. The findings revealed that graduate students would exhibit greater adaptive self-regulated learning profiles and would be more

motivated when learning online as Artino and Stephens (2009) hypothesized. Hence, we hypothesized that graduate students would exhibit higher level on the studied sets of soft skills than their undergraduate counterparts would.

The current study has two aims. The first aim was to investigate how undergraduate and graduate business management students, as well as those who had managerial role in their career and who did not, differ on levels of soft skills (SRL strategies, motivation, and social skills) after gender was controlled. The second aim was to investigate how well can online self-regulation, motivation, and social skills factors influence business students' successes in online learning environment after students' individual characteristics and learning characteristics were controlled. After clearly reviewing theoretical framework and research findings from previous related literatures, we proposed the following three research hypotheses:

**H1.** Graduate business management students were more likely to have a higher level of soft skills compared to undergraduate students, after gender was controlled.

**H2.** Business management students who had managerial role in their career were more likely to have a higher level of soft skills compared to students who did not, after gender was controlled.

**H3.** After controlling for individual characteristics and learning characteristics, variables associated with self-regulation, motivation, and social skills would have positive effect on learning outcome among online business students.

### 3. Methods

#### 3.1. Participants

The sample consisted of 162 students enrolled in four graduate ( $n = 37$ ) and six undergraduate ( $n = 125$ ) online courses in the business program at a public university, located in the Southern United States. Of all the participants, 84 were female (51.9%); and 78 were male (48.1%) (See Table 1). The majority of them ( $n = 95$ , 58.6%) reported being in the age range of 20 to 24 and 125 (77.2%) of them are undergraduate students. Eight-one participants (50.1%) had managerial role in their career and had one to ten years of managerial working experiences.

Moreover, in terms of the frequency of visiting the course on the learning platform (Blackboard), the majority of them ( $n = 63$ , 38.9%) visited the course on Blackboard 6-10 times per week. The majority of the participants indicated that they had good ( $n = 61$ , 37.7%) to excellent ( $n = 90$ , 55.6%) Internet skill. With regards to participants' experiences with online learning, 105 participants (64.8%) reported that they had completed six or more fully online courses in the past.

– Insert Table 1 here –

#### 3.2. Instruments

*Online Self-regulated Learning Questionnaire (OSLQ)*. The *OSLQ* is a 24-item, 5-point Likert scale questionnaire developed by Barnard, Paton, and Lan (2008) to assess online learners' self-regulatory behaviors. It consists of six subscales: (1) goal setting - 5 items; example question, "I set goals to help me manage studying time for my online courses";  $\alpha = .908$ , (2) environment structuring - 4 items; example question, "I choose the location where I

study to avoid too much distraction”;  $\alpha = .899$ , (3) task strategies - 4 items; example question, “I prepare my questions before joining in the chat room and discussion”;  $\alpha = .830$ , (4) time management - 3 items; example question, “I allocate extra studying time for my online courses because I know it is time-demanding”;  $\alpha = .830$ , (5) help seeking - 4 items; example question, “I share my problems with my classmates online so we know what we are struggling with and how to solve our problems”;  $\alpha = .775$ , and (6) self-evaluation - 4 items; example question, “I ask myself a lot of questions about the course material when studying for an online course”;  $\alpha = .821$ . Moreover, the reliability of all survey items in this study was  $.941$ , using Cronbach’s Alpha, indicating a strong degree of internal consistency.

*Motivated Strategies for Learning Questionnaire (MSLQ)*. The *MSLQ* (Pintrich, et al., 1993) is a 7-point Likert-type scale with 1 representing “not at all true of me” and 7 representing “very true of me”. It consists of 6 motivational and 9 learning strategies subscales. Except for the *test anxiety* subscale, the other 5 motivation subscales were utilized and included measurements of (1) intrinsic goal orientation - 4 items; example question, “In a class like this, I prefer course material that really challenges me so I can learn new things”;  $\alpha = .856$ , (2) extrinsic goal orientation - 4 items; example question, “Getting a good grade in this class is the most satisfying thing for me right now”;  $\alpha = .804$ , (3) task value - 6 items; example question, “I think I will be able to use what I learn in this course in other courses”;  $\alpha = .958$ , (4) control of learning beliefs - 4 items; example question, “If I try hard enough, then I will understand the course material”;  $\alpha = .826$ , and (5) self-efficacy for learning and performance - 8 items; example question, “I’m confident I can do an excellent job on the assignments and tests in this course”;  $\alpha = .945$ . The scale displayed strong internal consistency ( $\alpha = .958$ ) in this study.

*Measures of Social Skills (MSS).* Participant's social skills were assessed using a 7-item, 5-point Likert scale questionnaire developed by Ferris, Witt, and Hochwater (2001). The items are, for example, "I am keenly aware of how I am perceived by others" and "I am particularly good at sensing the motivations and hidden agendas of others." In this study, Cronbach's Alpha of .850 indicated an acceptable internal consistency.

*Learning Tasks and Outcomes.* We used students' final grades in our regression analysis as the dependent variable. In the graduate course, the final grade is based on participation in several online discussions and one research paper. The discussions were graded on the quality of research the students conducted independently on the topics, the written communication skills presented in the posts, and the mastery of the subject matter. The research paper is graded on students' demonstration of ability of conducting academic research, writing academic papers and appropriately citing references. In the undergraduate courses, the final grade is based on several tests on the course content, quality of input in the discussions of assigned topics by the instructor, and a mini research paper or comprehensive case analysis. In both the graduate and undergraduate courses, the multiple methods of assessment of student learning have proven to be successful to reflect the students' learning outcomes.

### *3.3. Data collection and analysis*

Prior to the data collection process, this study was approved by the Institutional Review Board (IRB) at the university. During the last three weeks of the 15-week semester, the Online Self-Regulated Learning Questionnaire (OSLQ), Motivated Strategies for Learning Questionnaire (MSLQ), and Measures of Social Skills (MSS) were distributed to students online

by the course instructor. After the semester was over, course statistics (students' final grades and online learning behaviors) were retrieved from the course.

First, descriptive statistics was utilized to examine business management students' levels of soft skills. Means and standard deviations of students' self-regulated learning, motivated strategies for learning, and social skills were calculated and reported. To test Hypothesis 1 and 2, a multivariate analysis of covariance (MANCOVA), gender controlled, was conducted to determine whether there were significant differences between graduate and undergraduate business management students and between those who had manager position and those who did not in terms of soft skills. For MANCOVA that yielded significant main effects at  $p < 0.05$ , F value was used to determine the variables contributing to the significance of the overall analysis. To test the third hypothesis, hierarchical multiple regression analysis was conducted. Variables in individual characteristics, such as gender, age, and years of managerial experiences, were entered into Model 1, followed by the variables in learning characteristics into Model 2. We would like to determine whether variables associated with self-regulation, motivation, and social skills could still predict online business students' learning outcome after controlling for individual characteristics and learning characteristics, thus we entered them into the last model.

## **4. Results**

### *4.1. Means differences on levels of soft skills*

We tested Hypothesis 1 and Hypothesis 2 by conducting a multivariate analysis of covariance (MANCOVA), with gender controlled, to determine whether graduate and undergraduate business students, as well as their career role in management, differed significantly in terms of soft skills. For Hypothesis 1, significant differences were found between undergraduate

and graduate business students, after controlling gender, partial  $\eta^2 = .072$ , Pillai's Trace = .072,  $F(3, 157) = 4.03$ ,  $p < .01$ . Power to detect the effect was .833. Gender, partial  $\eta^2 = .046$ ,  $F(3, 157) = 2.50$ ,  $p < .05$  (See Table 2). The current sample size provided adequate power to detect a medium to large effect size ( $f^2 = .35$ ) at the  $p < .05$  level using a two group MANCOVA in g-power (Faul, Erdfelder, Lang, & Buchner, 2007).

Specifically, graduate business students ( $M = 3.96$ ,  $SD = .51$ ) scored significantly higher than undergraduate business students ( $M = 3.71$ ,  $SD = .64$ ) on self-regulation, partial  $\eta^2 = .024$ ,  $F(1, 157) = 3.99$ ,  $p < .05$ . Moreover, graduate business students as well scored higher than undergraduate business students on motivation ( $M = 6.01$ ,  $SD = .58$ ;  $M = 5.47$ ,  $SD = .84$ , respectively), partial  $\eta^2 = .061$ ,  $F(1, 157) = 10.38$ ,  $p < .01$ . However, no significant mean differences were found between two class levels on social skills, partial  $\eta^2 = .005$ ,  $F(1, 157) = .818$ ,  $p = n.s.$

– Insert Table 2 here –

For Hypothesis 2, we found significant differences between students who had and who didn't have managerial roles, after controlling gender, partial  $\eta^2 = .157$ , Pillai's Trace = .157,  $F(3, 157) = 4.22$ ,  $p < .01$ . Power to detect the effect was .838. Gender, partial  $\eta^2 = .092$ ,  $F(3, 157) = 3.73$ ,  $p < .05$  (See Table 3).

Moreover, participants who had managerial working experiences scored higher means on self-regulation ( $M = 3.78$ ,  $SD = .72$ ), motivation ( $M = 6.07$ ,  $SD = .64$ ), and social skills ( $M = 3.99$ ,  $SD = .37$ ) compared to who did not have ( $M = 3.77$ ,  $SD = .59$ ;  $M = 5.47$ ,  $SD = .85$ ;  $M = 3.92$ ,  $SD = .56$ ; respectively). Specifically, the MANCOVA results only showed significant differences between two groups on motivation, partial  $\eta^2 = .071$ ,  $F(1, 157) = 5.36$ ,  $p < .05$ .

– Insert Table 3 here –

#### 4.2. Hierarchical multiple regression analysis of learning outcome

Table 4 displays the regression results indicating the extent to which individual characteristics, learning characteristics, online self-regulation, motivation, and social skills, are able to explain learning outcome among online business students. The results of Model 1 ( $R^2 = 0.034, p > .05$ ) – with the individual characteristics (gender, age, and years of managerial experiences), and Model 2 ( $R^2 = 0.052, p > .05$ ) – with the individual characteristics and learning characteristics combined, resulting in a small but no significant effects in students learning outcome.

Hierarchical regression analysis revealed partial support for Hypothesis 3. Six subscales in *OSLQ*, five subscales in *MSLQ*, and social skills were entered into Model 3 that added another 28.1% to the variance in students learning outcome. Overall, the final regression model could statistically significantly predict approximately 34% of the variance in students learning outcome ( $R^2 = 0.333, F(18, 143) = 2.67, p < .01, \text{effect size} = .50$ ). Specifically, years of managerial experiences ( $\beta = .26, p < .05$ ), goal setting ( $\beta = .40, p < .01$ ), self-efficacy ( $\beta = .60, p < .01$ ), and social skills ( $\beta = .27, p < .05$ ) were significant predictors.

– Insert Table 4 here –

## 5. Discussions

The results from the multivariate analysis of covariance (MANCOVA) supported H1: Graduate business management students were more likely to have a higher level of soft skills compared to undergraduate students, after gender was controlled. This indicated that in online business management courses, graduate students had higher soft skills than undergraduate students, especially in self-regulation and motivation. It is clear that graduate students are more

mature and have more real-life experiences and thus, demonstrated higher soft skills than undergraduate students in online business management courses. It is interesting that there is no significant difference in social skills. A possible explanation is that social skills may not increase with age but are affected by personality, family, environment, and others. Therefore, undergraduate students may be great in social skills while graduate students may not. This could be another topic for future investigation. Likewise, the results from the multivariate analysis of covariance (MANCOVA) also supported H2: Business management students who had managerial role in their career were more likely to have a higher level of soft skills compared to students who did not, after gender was controlled. This indicated that students with managerial experiences demonstrated higher level of soft skills in general than those without managerial experiences as indicated in the results with the significance in motivation. It is not surprising that significance was found in motivation for students with managerial experiences. Managerial experiences could have motivated them in their studies because experienced managers may have encountered problems in the workplace that they wanted to find solutions in the management courses, which motivated them to work hard and learn more, and consequently contributed to their coursework. This confirms Mann's (2012) finding that work experiences help students do well in schools. As for academic performances in online classes, the results of the study also indicated the positive relationship of academic performances and soft skills. This echoes with many studies on the important roles of self-regulation, motivation, and social skills (soft skills) in online learning environments (Anthony & Garner, 2016; Broadbent, 2017; Johnson & Johnson, 1989), especially when soft skills are so important in the business world. This implies that developing business management students' soft skills helps their academic performances in online learning environments. It is important for instructors and instructional designers to realize

that soft skills should be related to the learning content and be embedded in the curriculum disciplines explicitly (David, 2011; Hassan & Maharoff, 2014). This should be especially a priority for undergraduate online courses because undergraduate students do not demonstrate higher soft skills compared to graduate students. By integrating soft skills in the curricula, instructors can help improve business management students' learning outcomes in online classes.

Also, the researchers investigated the relationships between individual characteristics, learning characteristics, online self-regulation, motivation, and social skills in order to understand the important student characteristics and cognitive factors that can influence business students' successes in online learning environment. The results from the hierarchical multiple regression analysis partially supported H3: After controlling for individual characteristics and learning characteristics, variables associated with self-regulation, motivation, and social skills would have positive effect on learning outcome among online business students. For the first two regression models, combination of student's individual and learning characteristics only accounted for 5.2% of the variance in student learning outcome with no significant predictor found. Next, when online self-regulation, motivation, and social skills factors were added to the regression analysis (Model 3), we found that this model significantly explained 33.3% of the variance in student learning outcome. It is noteworthy that managerial working experiences were positively and significantly associated with student learning outcome, showing that business students who had more managerial experience are more likely to perform well in those online business courses. The reasonable explanations are that in addition to students' increased motivation to work hard as we previously discussed due to managerial experience, business programs in higher education have been emphasized and structured to create an authentic learning environment in which students actively apply their prior knowledge and real-life

experiences rather than simply memorizing and summarizing what they learn from textbooks. Thus, when solving a real-world problem that is unstructured and open-ended, learning becomes situated and related to personal interests. It is also noteworthy that across three regression models, results showed that gender has a slight effect with a negative  $\beta$  coefficient, indicating that female students' performance was higher on final grade than male students. This may be because female students are more motivated, more adept at communicating online, and more effective in managing their time (McSporran & Young, 2001).

Moreover, goal setting, self-efficacy, and social skills were found to be significant predictors on learning outcomes. These findings are consistent with the previous research showing that goal setting affects learning outcome and task performance (Sitzmann & Bell, 2017; Taing, Smith, Singla, Johnson, & Change, 2013). In terms of goal setting, students who know how to set SMART goals (clear and reachable) are more likely to know their strength and weakness. They will be more motivated to invest time and efforts in learning, and are willing to apply effective strategies in order to achieve their goals. Further, our findings supported conclusions from previous research (Dogan, 2015; Feldman & Kubota, 2015) that students with high learning self-efficacy are able to and willing to act academically and to learn in a motivational manner that will help them become successful. Komarraju and Nadler (2013) concluded that strong self-efficacy leads students to make efforts and be persistent in pursuing their goals. As a result, those students have the desire to overcome challenges and are less worried about failure.

## **6. Conclusion and implications**

The results of this study show that graduate students and students with managerial experiences demonstrated higher level of soft skills. Also, goal setting, self-efficacy, and social

skills were found to be significant predictors on learning outcomes. As educators and course designers in higher education, we need to bring a far greater understanding of how effective teaching strategies and pedagogies can help students and life-long learners develop not only hard skills, but soft skills as well. Our study contributes to the field of instructional technology and adds empirical evidence to prior research on the effects of soft skills on online students' learning achievement. Although the role of self-regulated learning (SRL) strategies, motivation, and social skills have been investigated within different learning contexts (i.e. traditional, online, hybrid, or MOOCs), very few studies have theoretically combined these three factors and examined their role within a fully online setting. In addition, to the best of our knowledge, no research has yet studied the impacts of soft skills and learning and professional experiences on online business management students' academic achievement. This study also provides instructors with a theoretical construct to oversee and evaluate online students' soft skills. Practical implications and suggestions for future studies are provided in the next section.

### *6.1. Practical implication*

Based on the findings and discussions of this study, suggestions and practical implications are drawn for instructors, instructional designers, curriculum developers, and policy makers.

The results of this study have illustrated that the studied soft skills have essential effects on online business students' learning outcomes. However, in the twenty-first century learning environment, students usually overlook the importance of soft skills because they often become inundated by the various aspects of the learning objectives (Ritter, Small, Mortimer, & Doll, 2018) and been burdened in passive and poor communication among peers. Thus, instructors and instructional designers should embed opportunities of developing soft skills in active learning

tasks by setting game-based tasks, business simulation activities, and group projects. Furthermore, in this digital era, technology-enhanced learning and information and communications technology (ICT) have extended learning from formal to informal learning situations not only for a traditional classroom environment but also for an online learning environment. Informal learning takes place when students interact and challenge each other through cognitive activities and it can promote students' higher-order thinking and other soft skills. Therefore, there is need for educators to create a learning environment that links formal and informal learning and provides "opportunities for learners to learn and work within meaningful socio-technical networks.... to reflect upon how learning is connected with other areas of personal, social, and working lives and manage and negotiate these relationships" (Facer & Sandford, 2010, p. 86).

As mentioned earlier, social skills may increase students' academic self-efficacy, ability to achieve meaningful goals, ability to deal with uncertain life situations (Tinto, 1993) and push them toward personal and professional goals. Social skills are also essential for students to personally connect with peers and the instructor in an online learning community in which they "learn from each other, negotiate meaning, and co-construct knowledge" (Lee, 2014, p. 41). Instructors and instructional designers could utilize more ICT tools, such as social media networks, notifications tools in the learning management system, and instant message app on the mobile device to create an open and timely communication channel. Therefore, students will not hesitate to express their opinions, to listen to other's diverse voices, and to learn how to negotiate.

Curriculum developers and policy makers, especially for undergraduate education, should enhance the level of knowledge of acquisition and help students build higher-order thinking

skills and improve students' ability of constructing their own knowledge. Moreover, more resources should be invested on building innovative and technology-integration computer labs that have business simulation technology, so students can learn from real-world situations and from solving authentic problems.

## *6.2. Limitations and future research directions*

As one of the limitations of the study, the demographic information indicates that participants in this study were mostly younger (age: 20-24, 58.6%) and undergraduate students (77.2%), which may have skewed the distribution of the results. In addition, this study only focused on the investigation of self-regulation, motivation, and social skills (soft skills) and some online business management courses. Therefore, future studies should recruit more balanced participants in terms of age, class level, and major.

Surprisingly, no learning characteristics factors contributed as significant predictors. Our results showed that "numbers of online courses completed" has a slight effect with a positive  $\beta$  coefficient ( $\beta = .12$ ) on student learning outcome and is the strongest compares to other two learning characteristics. Therefore, future studies may consider adapting educational data mining (EDM) and learning analytics (LA) techniques to collect intelligent data and learner-produced data to discover information and social connections that are more meaningful to predict and advise on learning (Siemens, 2010). Also, more elements of soft skills can be explored and the investigation can be done in different online courses across disciplines. The instructor's factors, such as teaching strategies, teaching presence in the online course, and computer self-efficacy can be explored in the future as well.

## References

- Ahmed, F., Capretz, L. F., Bouktif, S., & Campbell, P. (2012). Soft skills requirements in software development jobs: A cross-cultural empirical study. *Journal of Systems and Information Technology*, *14*(1), 58-81. doi: 10.1108/13287261211221137
- American Association of Colleges and Universities (AAC&U). (2011). What is liberal education? Retrieved from [http://www.aacu.org/leap/What\\_is\\_Liberal\\_Education.cfm](http://www.aacu.org/leap/What_is_Liberal_Education.cfm)
- Anthony, S., & Garner, B. (2016). Teaching soft skills to business students: An analysis of multiples pedagogical methods. *Business and Professional Communication Quarterly*, *79*(3), 360-370.
- Arbaugh, J. B., Bangert, A., & Cleveland-Innes, M. (2010). Subject matter effects and the Community of Inquire (CoI) framework: An exploratory study. *Internet and Higher Education*, *13*, 37-44.
- Artino, A. R., & Stephens, J. M. (2009). Academic motivation and self-regulation: A comparative analysis of undergraduate and graduate students learning online. *Internet and Higher Education*, *12*, 146-151.
- Audretsch, D. B., & Thurik, A. R. (2001). What's new about the new economy? Sources of growth in the managed and entrepreneurial economies. *Industrial and Corporate Change*, *10*(1), 267-315.
- Barnard, L., Paton, V., & Lan, W. (2008). Online self-regulatory learning behaviors as a mediator in the relationship between online course perceptions with achievement. *The International Review of Research in Open and Distributed Learning*, *9*(2), 1-11.

- Bedwell, W. L., Fiore, S. M., & Salas, E. (2013). Developing the future workforce: An approach for integrating interpersonal skills into the MBA classroom. *Academy of Management Learning & Education, 13*, 171-186.
- Broadbent, J. (2017). Comparing online and blended learner's self-regulated learning strategies and academic performance. *Internet and Higher Education, 33*, 24-32.
- Chamorro-Premuzic, T., Arteche, A., Bremner, A. J., Greven, C., & Furnham, A. (2010). Soft skills in higher education: importance and improvement ratings as a function of individual differences and academic performance. *Educational Psychology, 30*(2), 221-241.
- Cobb, S. C. (2009). Social presence and online learning: A current view from a research perspective. *Journal of Interactive Online Learning, 8*(3), 241-254.
- Curtis, D., & McKenzie, P. (2002). *Employability Skills for the Future*, Department of Education, Science and Training (DEST), Canberra.
- David, M. (2011). Overview of researching global higher education: Challenge, change or crisis?, *Contemporary Social Science, 6*(2), 147-163.
- Deming, D. J. (2015). The growing importance of social skills in the labor market. *The Quarterly Journal of Economics*. Retrieved from [https://www.cesifo-group.de/de/dms/ifodoc/docs/Akad\\_Conf/CFP\\_CONF/CFP\\_CONF\\_2015/ee15-Hanushek/Papers/Deming3.pdf](https://www.cesifo-group.de/de/dms/ifodoc/docs/Akad_Conf/CFP_CONF/CFP_CONF_2015/ee15-Hanushek/Papers/Deming3.pdf)
- Dogan, U. (2015). Student engagement, academic self-efficacy, and academic motivation as predictors of academic performance. *Anthropologist, 20*(3), 553-561.

- Dörrenbächer, L., & Perels, F. (2016). Self-regulated learning profiles in college students: Their relationship to achievement, personality, and the effectiveness of an intervention to foster self-regulated learning. *Learning and Individual Differences, 51*, 229-241.
- Duncan, T. G., & McKeachie, W. C. (2005). The making of the Motivated Strategies for Learning Questionnaire. *Educational Psychologist, 40*, 117-128.
- Facer, K., & Sandford, R. (2010). The next 25 years? Future scenarios and future directions for education and technology. *Journal of Computer Assisted Learning, 26*(1), 74-93.
- Faul, F., Erdfelder, E., Lang, A. G., & Buchner, A. (2007). G\* Power 3: A flexible statistical power analysis program for the social, behavioral, and biomedical sciences. *Behavior Research Methods, 39*, 175-191.
- Feldman, B. D., & Kubota, M. (2015). Hope, self-efficacy, optimism, and academic achievement: Distinguishing constructs and levels of specificity in predicting college grade-point average. *Learning and Individual Difference, 37*, 210-216. doi: 10.1016/j.lindif. 2014.11.022
- Ferris, G. R., Witt, L. A., & Hochwater, W. A. (2001). Interaction of social skills and general mental ability on job performance and salary. *Journal of Applied Psychology, 86*(6), 1075-1082.
- Gandomkar, R., & Sandars, J. (2018). Clearing the confusion about self-directed learning and self-regulated learning. *Medical teacher, 1-2*. doi: [10.1080/0142159X.2018.1425382](https://doi.org/10.1080/0142159X.2018.1425382)
- Goleman, D. (2000). Leadership that gets results. *Harvard Business Review, 78*(2), 78-90.

- Gresham, F. M., Van, M. B., & Cook, C. R. (2006). Social skills training for teaching replacement behaviors: Remediating acquisition deficits in at-risk students. *Behavioral Disorders, 31*, 363-377.
- Hassan, A., & Maharoff, M. (2014). The understanding of curriculum philosophy among trainee teachers in regards to soft skills embedment. *International Education Studies, 7*(12), 84-94.
- Heo, J., & Han, S. (2018). Effects of motivation, academic stress and age in predicting self-directed learning readiness (SDLR): Focused on online college students. *Education and Information Technologies, 23*(1), 61-71.
- Huda, M., Sabani, N., Shahrill, M., Jasmi, K. A., Basiron, B., & Mustari, M. I. (2017). Empowering Learning Culture as Student Identity Construction in Higher Education. In *Student Culture and Identity in Higher Education* (pp. 160-179). IGI Global.
- Hurrell, S. A., Scholarios, D., & Thompson, P. (2012). More than a 'humpty dumpty' term: Strengthening the conceptualization of soft skills. *Economic and Industrial Democracy, 34*(1), 161-182.
- Hurst, D., Cleveland-Innes, M., Hawranik, P., & Gauvreau, S. (2013). Online graduate student identity and professional skills development. *Canadian Journal of Higher Education, 43*(3), 36-55.
- Johnson, D., & Johnson, R. (1989). *Cooperation and Competition, Theory and Research*, Edina, MN: Interaction Book Company.
- Jones, A. (2010). Generic attributes in accounting: the significance of the disciplinary context. *Accounting Education: An International Journal, 19*(1/2), 5-21.

- Kahu, E. R., Stephens, C., Leach, L., & Zepke, N. (2013). The engagement of mature distance students. *Higher Education Research & Development*, 32(5), 1-14.
- Kautz, T. D., Heckman, J., Diris, R., ter Weel, B., & Borghans, L. (2014). *Fostering and measuring skills: Improving cognitive and non-cognitive skills to promote lifetime success*. Cambridge, MA: National Bureau of Economic Research.
- Kizilcec, R. F., Pérez-Sanagustín, M., & Maldonado, J. J. (2017). Self-regulated learning strategies predict learner behavior and goal attainment in Massive Open Online Courses. *Computers & Education*, 104, 18-33.
- Komarraju, M., & Nadler, D. (2013). Self-efficacy and academic achievement: Why do implicit beliefs, goals, and effort regulation matter? *Learning and Individual Differences*, 25, 67-72.
- Korn, M., & Light, J. (2011). Business education: On the lesson plan: Feelings – ‘soft skills’ business courses aim to prepare students for managerial roles. *Wall Street Journal*, B.6.
- Laffey, J., Lin, G., & Lin, Y. (2006). Assessing social ability in online learning environments. *Journal of Interactive Learning Research*, 17(2), 163-177.
- Lee, S.-M. (2014). The relationships between higher order thinking skills, cognitive density, and social presence in online learning. *Internet and Higher Education*, 21, 41-52.
- Lerman, R. I. (2013). Are employability skills learned in US youth education and training programs? *IZA Journal of Labor Policy*, 2(1), 1-20.
- Mann, A. (2012). *Work experience: impact and delivery - insights from the evidence*. Retrieved from Education and Employers Taskforce

website: [https://www.educationandemployers.org/wp-content/uploads/2014/06/work\\_experience\\_report\\_april\\_2012\\_.pdf](https://www.educationandemployers.org/wp-content/uploads/2014/06/work_experience_report_april_2012_.pdf)

Marques, J. (2013). Understanding the strength of gentleness: Soft-skilled leadership on the rise. *Journal of Business Ethics, 116*(1), 163-171.

McSporran, M., & Young, S. (2001). Does gender matter in online learning? *Association of Learning Technology Journal, 9*(2), 3-15.

Moos, D. C., & Marroquin, E. (2010). Multimedia, hypermedia, and hypertext: motivation considered and reconsidered. *Computers in Human Behavior, 26*(3), 265-276.

Mora, H., Ferrández, A., Gil, D., & Peral, J. (2017). A computational method for enabling teaching-learning process in huge online courses and communities. *The International Review of Research in Open and Distributed Learning, 18*(1). doi: <http://dx.doi.org/10.19173/irrodl.v18i1.2637>

Myers, T., Blackman, A., Andersen, T., Hay, R., & Lee, I. (2014). Cultivating ICT students' interpersonal soft skills in online learning environments using traditional active learning techniques. *Journal of Learning Design, 7*(3), 38-53.

Naiem, S., Abdellatif, M. M., & Salama, S. E. (2015). Evaluation of computer science and software engineering undergraduate's soft skills in Egypt from students' perspective. *Computer and Information Science, 8*(1), 36-52.

Pardo, A., Han, F., & Ellis, R. A. (2017). Combining university student self-regulated learning indicators and engagement with online learning events to predict academic performance. *IEEE Transactions on Learning Technologies, 10*(1), 82-92.

Perreault, H. (2004). Business educators can take a leadership role in character education. *Business Education Forum*, 59(1), 23-24.

Pintrich, P. R., Smith, D. A. F., Garcia, T., & McKeachie, W. J. (1993). Reliability and predictive validity of the Motivated Strategies for Learning Questionnaire (MSLQ). *Educational and Psychological Measurement*, 53, 801-813.

Richardson, M., Abraham, C., & Bond, R. (2012). Psychological correlates of university students' academic performance: A systematic review and meta-analysis. *Psychological Bulletin*, 138(2), 353-387. doi: 10.1037/a0026838

Ritter, B. A., Small, E. E., Mortimer, J. W., & Doll, J. L. (2018). Designing management curriculum for workplace readiness: Developing students' soft skills. *Journal of Management Education*, 42(1), 80-103.

Robles, M. M. (2012). Executive perceptions of the top 10 soft skills needed in today's workplace. *Business Communication Quarterly*, 75, 453-465.

Schunk, D. H. (2005). Self-regulated learning: The educational legacy of Paul R. Pintrich. *Educational Psychologist*, 40(2), 85-94.

Siemens, G. (2010). What are learning analytics? Retrieved from <http://www.elearnspace.org/blog/2010/08/25/what-are-learning-analytics/>

Sitzmann, T., & Bell, B. S. (2017). The dynamic effects of subconscious goal pursuit on resource allocation, task performance, and goal abandonment. *Organizational Behavior and Human Decision Processes*, 138, 1-14.

Sitzmann, T., & Ely, K. (2011). A meta-analysis of self-regulated learning in work-related training and educational attainment: What we know and where we need to go.

*Psychological Bulletin*, *137*, 421-442.

Song, H. S., Kalett, A. L., & Plass, J. L. (2016). Interplay of prior knowledge, self-regulation and motivation in complex multimedia learning environments. *Journal of Computer Assisted Learning*, *32*(1), 31-50. doi: 10.1111/jcal.12117

Star, C., & Hammer, S. (2007). Teaching generic skills: Eroding the higher purpose of universities, or an opportunity for renewal?, *Oxford Review of Education*, *34*, 237-251.

Taing, M. U., Smith, T., Singla, N., Johnson, R. E., & Change, C.-H. (2013). The relationship between learning goal orientation, goal setting, and performance: a longitudinal study. *Journal of Applied Social Psychology*, *43*(8), 1668-1675. doi: 10.1111/jasp.12119

The value of soft skills to the UK economy (2015). Retrieved from

<http://www.backingsoftskills.co.uk/TheValueofSoftSkillstotheUKEconomy.pdf>

Tiniakou, E., Hirschler, T., Endedijk, M., & Margaryan, A. (in press). Becoming self-regulated: Patterns of parenting in the lives of professionals who are highly self-regulated learners. *Journal of Self-regulation and Regulation*.

Tinto, V. (1993). *Leaving college: Rethinking the causes and cures of student attrition* (2nd ed.). Chicago, IL: University of Chicago Press.

Treleaven, L., & Voola, R. (2008). Integrating the development of graduate attributes through constructive alignment. *Journal of Marketing Education*, *30*(2), 160-173.

USAID Workforce Connections (2015). Key “soft skills” that foster youth workforce success:

Toward a consensus across fields. Retrieved from

[http://www.youtheconomicopportunities.org/sites/default/files/uploads/resource/Workforce\\_Connections\\_Key\\_Soft\\_Skills\\_and\\_Appendices.pdf](http://www.youtheconomicopportunities.org/sites/default/files/uploads/resource/Workforce_Connections_Key_Soft_Skills_and_Appendices.pdf)

Weinberger, C. J. (2014). The increasing complementarity between cognitive and social skills.

*The Review of Economics and Statistics*, 96(5), 849-861.

Wilson, K., & Narayan, A. (2016). Relationships among individual task self-efficacy, self-

regulated learning strategy use and academic performance in a computer-supported

collaborative learning environment. *Educational Psychology*, 36(2), 236-253

Zimmerman, B. J. (1998). Academic studying and the development of personal skill: A self-

regulatory perspective. *Educational Psychologist*, 33(2/3), 73-86.

**Table 1***Demographic Information of Participants (N = 162)*

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**Gender**

Female	84 (51.9%)
Male	78 (48.1%)

**Age**

20-24	95 (58.6%)
25-29	38 (23.5%)
30-39	17 (10.5%)
40-49	9 (5.6%)
Over 50	3 (1.9%)

**Class Level**

Undergraduate	125 (77.2%)
Graduate	37 (22.8%)

**Current Job**

Executive	4 (2.5%)
Manager	31 (19.1%)
Professional	41 (25.3%)
Others	58 (35.8%)
	28 (17.3%)

**Years of Working Experiences  
as a Managerial Position**

None	
1-2 years	63 (38.9%)
3-5 years	33 (20.4%)
6-10 years	27 (16.7%)
More than 10 years	21 (13.0%)
	18 (11.1%)

**Internet Skill**

Average	
Good	11 (6.8%)
Excellent	61 (37.7%)
	90 (55.6%)

**Number of Online Courses  
had Completed**

None	
1-5	1 (0.6%)
6-10	56 (34.6%)
More than 10	63 (38.9%)
	42 (25.9%)

**Frequency of visiting Course on  
Blackboard per Week**

1-5 times	49 (30.2%)
6-10 times	55 (34.0%)
11-20 times	58 (35.8%)

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**Table 2**

*Multivariate Analysis of Covariance (MANCOVA) for differences between undergraduate (n = 125) and graduate business students (n = 37) in soft skills*

Variable	Class Level	Mean	SD	F	Partial $\eta^2$
Self-regulation	Undergraduate	3.71	.64	3.99*	.024
	Graduate	3.96	.51		
Motivation <sup>a</sup>	Undergraduate	5.47	.84	10.38**	.061
	Graduate	6.01	.58		
Social Skills	Undergraduate	3.90	.50	.818	.005
	Graduate	4.03	.59		

Note. <sup>a</sup> 7 point Likert scale; \*\*  $p < .01$ , \*  $p < .05$

**Table 3**

*Multivariate Analysis of Covariance (MANCOVA) for differences between students who had managerial role (n = 99) and who did not have (n = 63) in soft skills*

Variable	Managerial role	Mean	SD	F	Partial $\eta^2$
Self-regulation	Yes	3.78	.72	.03	.001
	No	3.77	.59		
Motivation †	Yes	6.07	.64	5.36*	.071
	No	5.47	.85		
Social Skills	Yes	3.99	.37	.21	.002
	No	3.92	.56		

Note. † 7-point Likert scale; \*\*  $p < .01$ , \*  $p < .05$

**Table 4***Results of hierarchical multiple regression analyses of learning outcome*

Variable	Model 1		Model 2		Model 3	
	B	$\beta$	B	$\beta$	B	$\beta$
<i>Individual characteristics</i>						
Gender (0 = Female)	-1.50	-0.07	-1.08	-0.07	-0.48	-0.03
Age	1.58	0.17	1.56	0.17	1.74	0.19
Years of managerial experiences	1.27	0.16	1.43	0.19	1.99	<b>0.26*</b>
<i>Learning characteristics</i>						
Internet skills			0.77	0.06	0.24	0.04
Frequency of visiting Bb			0.60	0.07	0.07	0.01
Online courses completed			0.92	0.08	0.95	0.12
<i>OSLQ</i>						
Goal Setting					5.09	<b>0.40**</b>
Environment Structuring					-1.41	-0.12
Task Strategies					1.10	0.12
Time Management					2.14	0.22
Help Seeking					0.85	0.09
Self-Evaluation					-0.81	-0.08
<i>MSLQ</i>						
Intrinsic Goal					2.04	0.27
Extrinsic Goal					-0.79	-0.09
Task Value					0.05	0.01
Learning Beliefs					0.23	0.03
Self-Efficacy					4.98	<b>0.60**</b>
<i>Social Skills</i>						
					3.66	<b>0.27*</b>
R		0.184		0.227		<b>0.577**</b>
R <sup>2</sup>		0.034		0.052		0.333
R <sup>2</sup> change				0.018		0.281
Effect size		0.03a		0.05a		0.50b

Note.  $N = 162$ , \*\*  $p < .01$ , \*  $p < .05$ ; Effect size: a = small, b = medium