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IS ACADEMIC SUCCESS JUST A MATTER OF SHOWING UP? A STUDY OF THE CONTRIBUTION OF INDIVIDUAL DIFFERENCES AND ATTENDANCE TO PERFORMANCE

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ABSTRACT

The present study examined the contribution of individual differences in ordinary class attendance, self-efficacy, and decision-making styles to expected or actual performance in a course devoted to research report writing. Due to the COVID-19 epidemic, the course, which was judged by past and current students as challenging, had to be delivered online. The online transfer raised concerns about the impact of passive attendance on learning in a course that had previously relied heavily on face-to-face exchanges. Thus, an objective examination of performance data was carried out. In regression analyses, attendance was the main contributor to performance on the midterm test and individual assignments. The contribution of other individual difference variables was selective and limited in scope. To wit, self-efficacy contributed to students' confidence in grade expectations, but not to their accuracy. Hyper-vigilance had a negative influence on grade expectations before the midterm examination, whereas procrastination had a negative influence on performance in initial assignments. It was concluded that the benefits of attendance may reflect students' motivation to do well, which begins with knowing what is going on in a class, an essential ingredient of academic success.

KEYWORDS

Class Performance, Attendance, Individual Differences

1. INTRODUCTION

In academia, beliefs about the impact of some particular variables on students' success abound. One of the most popular is the belief that "good students who attend class regularly make good grades". It is often mentioned to students in classes, reiterated during office hours, and referred to in casual interactions of faculty and students. The evidence is not so enticing though. Several studies have found a link between performance (as measured by grades) and frequency of attendance, thereby supporting the implication that high attendance promotes good performance (Dey, 2018; Launius, 1997; Lukkarinen et al., 2016; Kassarnig et al., 2017; Thomas & Higbee, 2000). Other studies, however, have not found evidence of a link between the two variables (Berenson et al, 1992; St. Clair, 1999). To complicate the matter is the debate of whether mandatory attendance policies not only shape attendance but also benefit students' academic success. Such policies may penalize absenteeism through administrative withdrawal if absences are above a certain level (e.g., 15 %) or through the allocation of a relatively small portion of a class grade (e.g., 10%; Rendleman, 2017) to attendance. Evidence regarding the impact of mandatory attendance policies is mixed. For instance, Marburger (2006) and Snyder and Frank (2016) report that such policies reduce absenteeism and improve performance, whereas Golding (2011) and Rendleman (2017) report a link between attendance and performance, but fail to uncover any impact of attendance policies.

The mixed findings of the role played by attendance in the extant literature became particularly relevant in the context of the COVID-19 epidemic which had suddenly forced most academic institutions to move their courses online. At institutions across the globe, an issue that took the center stage was the extent to which the frequency and quality of online attendance would impact students' performance. It was acknowledged that any of the technical platforms used to deliver courses online could easily record the presence of individual students in a given course, but whether such a measure would be meaningful was open to debate.

Concerns arose regarding passive attendance in online classes, including students who may log into a class and then devote attention to other matters, or merely listen without taking notes and contributing to lectures or class discussions. Such concerns were particularly relevant at institutions whose student-center pedagogy is the educational model and active learning of key competencies is both a strategy and a goal. The present field research arose from discussions that faculty at one of these institutions had about the impact of online teaching on learning in students who had been suddenly catapulted into a modality upon which they had only sporadically and selectively relied in the past. The main question on everybody's mind was whether learning would be jeopardized in students who were accustomed to face-to-face classes and used learning management systems, such as Blackboard, only to retrieve class documents, submit assignments, check grades, and at times take computerized (instead of pencil-and-paper) tests in a physical classroom under the watchful eyes of an instructor.

The present field study asked whether attendance mattered in an online writing-intensive course devoted to learning research methodology and applying it to the writing of a research report. Well before moving online, the course was rumored to be a roadblock in the Core program of the selected university, a program with courses devoted to learning basic academic and professional competencies. It was one of the courses that most freshmen took with little background knowledge and with considerable trepidation that rumors simply intensified. Teaching was guided by the understanding that the success of students in this course heavily relies on frequent and robust feedback on writing assignments, expert guidance on reading assignments (mostly scholarly articles), and abundant practical examples of how research is conducted and communicated to diverse audiences.

The potential contribution of students' attendance to performance on tests and assignments was examined along that of other individual-difference variables, such as self-efficacy and decision-making styles. As students' expectations of their performance in an upcoming test are generally related to the quality and magnitude of the effort devoted to preparatory activities (Covington & Omelich, 1988; Peverly et al., 2003), and thus can determine outcomes, the present research also examined whether the same individual differences could account for students' ability to accurately predict their performance and their subjective confidence in the predictions made.

2. LITERATURE REVIEW

General self-efficacy is learners' overall confidence in their ability to perform well across diverse tasks and situations. General self-efficacy is a motivational trait (Chen et al., 2000) which tends to be positively correlated with engagement (Bandura, 1989; Bandura & Schunk, 1981), persistence (Bandura, 1977; Pajares, 1997), and task completion (Eden, 1984, 1988; Pajares, 1996). In essence, general self-efficacy is a "can do" attitude that is linked to conscientiousness (Chen et al., 2001), determines exerted effort, and enables students to adapt effectively to novel and challenging situations (Judge et al., 1998; Pulakos et al., 2000). As such, it was expected to have a positive impact on performance. It was thought that self-efficacy might also impact learners' ability to predict performance outcomes accurately, such as a test grade, and their subjective confidence in such predictions. The reason being that predictions of future outcomes, the subjective confidence attributed to them, and general self-efficacy beliefs are all related to students' self-regulatory activities during the learning process, including metacognition phenomena, such as goal-setting, self-monitoring, and self-evaluation (McMillan & Hearn 2008; Stone 2000). Yet, in the extant literature, evidence of a link between self-efficacy and performance, prediction accuracy, or subjective confidence is mixed. For instance, Al Kuhayli et al. (2019) found no evidence of a link between self-efficacy and either class performance or metacognition, whereas Pilotti et al. (2020) reported low self-efficacy to be associated with poor performance.

Decision-making habits were included in the present research since they are habitual responses produced by students to cope with difficulties, such as the challenges of a tough course. According to Janis and Mann (1977), when making important decisions, such as what, how, and how much to study for an upcoming test or how to complete an assignment, learners may be vigilant, hyper-vigilant, or defensive avoidant (Burnett et al., 1989; Mann et al., 1997; 1998). The latter may entail procrastination or buck-passing (i.e., relying on others to make one's decisions). It is reasonable to assume that the more unfamiliar and open-ended (i.e., exhibiting not rigidly defined constraints) are the instructions that define a task, the more difficult are the decisions to be made at each step, creating not only uncertainty but also stress. Consider, for instance, the uncertainty that

identifying, organizing, performing, and evaluating the activities involved in the writing of a research report may engender in learners with little background knowledge in research. Yet, learners might differ in their response to uncertainties of this nature. Vigilant learners might best deal with the situation at hand by clarifying objectives, exploring alternatives, calmly processing information, and evaluating alternatives carefully before making decisions. Hyper-vigilant learners, instead, might make decisions under emotional excitement without exploring all available information and alternatives. Defensive avoidant learners might attempt to escape uncertainties by either buck-passing or procrastinating. Buck-passing involves shifting the obligation of making decisions to someone else's, whereas procrastination entails postponing decision-making activities to another day. Defensive avoidance, either in the form of buck-passing or procrastination, is characterized by hesitation in making decisions, as well as incomplete and perhaps biased evaluation of information, often leading to faulty choices.

In the extant literature, evidence of which particular decision-making coping habits are linked to academic performance is meager and unclear. Filippello et al. (2013) report that vigilance is favored by high-performing students (as measured by grades), whereas avoidance is preferred by students who perform less well. Ferrari (2001) finds that procrastination (a type of defensive avoidance) differentiates poor and good performers (see also Steel et al., 2001). However, Chu and Choi (2005) do not find procrastination as capable of differentiating students by performance levels. Since vigilance involves objective decision-making processes, one might expect vigilance, rather than hyper-vigilance or defensive avoidance habits, to be linked to not only good performance, but also prediction accuracy, and subjective confidence.

The relationship between the selected individual differences (i.e., class attendance, self-efficacy, and decision-making styles) and either predicted or actual performance was investigated through the field study methodology described below. The study took place in virtual classrooms with real students during the COVID-19 epidemic.

3. METHOD

3.1 Participants

The participants were 122 female freshmen who completed all key requirements of a course primarily devoted to research methodology and report writing. Their class grades ranged from passing to failing. Eighteen additional students who withdrew from the course (12.86%) were excluded from the current analyses as they missed key requirements. All withdrawals involved students who dropped the course in the last weeks of the semester. Students were Arabic-English bilingual speakers whose ages ranged from 18 to 25. English competencies were assessed before their formal enrollment via standardized tests. Participation complied with the guidelines of the Office for Human Research Protections of the U.S. Department of Health and Human Services and with the American Psychological Association's ethical standards in the treatment of human subjects. Due to gender segregation rules, a comparable sample of male students was unavailable to the researcher.

3.2 Procedure

The selected course (3 credit hours) is part of the Core program of a University located in the Eastern Province of the Kingdom of Saudi Arabia. The University offers a curriculum of U.S. import, which is imparted through a student-centered model. English is the primary mode of instruction. The Core curriculum contains a series of courses on basic academic and professional competencies to be taken by all students irrespective of their major. The curriculum of such courses relies on syllabi approved by the Texas International Education Consortium (TIEC) and textbooks published in the U.S.

The selected course required students to write an APA-style research report in a series of steps: assignment 1 (introduction), assignment 2 (literature review), assignment 3 (method and result sections), and assignment 4. The latter asked that students complete the report by adding the discussion section and the abstract, and that they proofread, review, and revise their work before final submission. Assignment 5 entailed an open Q&A session during which students were asked questions about the rationale, methodology, results, and APA format

of their research report. The aim of assignment 5 was for students to develop a working model of their research that could be communicated to a hypothetical audience ostensibly unfamiliar with their work as if they were at the poster session of a conference.

The report that students were expected to complete involved a correlational study in the behavioral sciences collectively carried out by the class during the second week of the semester. The course also required students to complete a midterm and a final test on research methods. Immediately before and after either test, students were asked to predict their test grade on a scale from 0 to 100, as well as to express their confidence in the prediction made on a scale from 0 (not at all confident) to 4 (extremely confident). They were reminded to make realistic rather than aspirational predictions. Test questions comprised five of the six types of information processing highlighted by Bloom's taxonomy (Anderson & Krathwohl, 2001; Bloom, 1956, 1976; Krathwohl, 2002). Namely, students' assessment required remembering, understanding, application, analysis, and evaluation, but excluded synthesis/creation of work due to the introductory nature of the Core curriculum. Four sections were selected of 35-37 students each, all taught by the same instructor. Because of the COVID-19 epidemic, classes were offered online through the synchronous (real-time) mode. Pedagogically, the synchronous virtual environment replicated many aspects of the face-to-face environment. Blackboard gave learners access to study materials and resources, such as study guides, textbooks, rubrics, and videos, as well as announcements about class activities and deadlines for submission. Blackboard Collaborate, which is a real-time video conferencing tool equipped with audio, video, and application-sharing tools, a text-chat box, and a whiteboard, allowed students to interact with the instructor and other students during lectures and class discussions. Comments in course evaluations indicated that students judged the course, even before its being moved to the online modality, as much more difficult than other courses in the Core program due to its coverage of unfamiliar material (i.e., research methodologies) and heavy writing workload. The course was usually taken by freshmen after a communication course on general writing principles.

After the first week of the semester, when students had the opportunity to get accustomed to the class in which they were enrolled and understand its requirements as described by the instructor, they completed two surveys as part of a self-assessment protocol: the Melbourne Decision-Making questionnaire (DM; Mann et al., 1997), and the New General Self-Efficacy (NGSE) questionnaire (Chen et al., 2001; Chen et al., 2000). The DM, which is a revised version of the Flinders Decision Making instrument (Mann, 1982), measured a variety of decision-making styles through statements that students were asked to evaluate on a 3-point Likert-type scale, including "true for me" (2), "sometimes true" (1) and "not true for me" (0). Included styles were vigilance (6 statements), hyper-vigilance (5 statements), procrastination (5 statements), and buck-passing (6 statements). Instead, the NGSE measured students' general confidence in their ability to deal with a broad range of life challenges (Bandura, 1989). Students reported the extent to which they agreed with each of eight statements of general confidence on a 5-point Likert-type scale from strongly disagree (-2) to strongly agree (+2) with 0 serving as the neutral point.

At the end of the semester, a file was created with all performance and individual difference data. In the file, codes were given to students to eliminate identifying information. Attendance records, treated as an index of motivation, merely referred to the number of credit hours attended (50 minutes each) across a 15-week semester divided by the number of hours offered by the course. The quotient was then multiplied by 100 to obtain the percentage of hours attended by each student (see Table 1).

Important to note is that a mandatory attendance policy applied to all online classes offered by the selected university, according to which students whose attendance rates were less than 85% could be administratively withdrawn from a course. However, because of the ongoing COVID-19 epidemic, and the possibility for students who were absent to hear recorded sessions of the class they missed, the policy was relaxed. Thus, although attendance was mandatory, thereby boosting rates well above the rates of courses without this obligation (see Lukkarinen et al., 2016), sufficient variability existed in students' attendance to allow its use as a variable indexing overall motivation to do well. In the present study, all absences were counted without regard to the presence or absence of a justification.

Even though attendance was automatically recorded by Blackboard Collaborate, concerns existed that a course that had relied on face-to-face interactions for collaborative revisions of written work would be damaged by passive attendance. Thus, administrative guidelines were issued in advance of this course being moved to the online modality, which required the instructor to query the entire class often during each session and to offer abundant feedback on students' writing products during class as well as during scheduled or unscheduled office hours. The insistence on feedback given publicly was intended to convey the message that "what is useful to one student may also be useful to others", thereby overcoming the potential obstacles that the online

medium might present to students' collaborative work. The number of questions posed by the instructor to the entire class to ensure engagement varied from 5 to 13 per session, depending on the nature of the instruction, whose format combined class discussion and lecture. A record of the number of comments made by students per class session divided by the number of students who attended was collected by the instructor after each class without reference to specific students. The sessions devoted to the midterm and final tests were not included. The participation quotient included comments, mostly prompted by the instructor's queries and written in the chatbox of Blackboard Collaborate rather than being spoken through the microphone. It ranged from .38 to 4.37 comments per student during a class session (M = 1.89; SEM = .062). Notwithstanding efforts to prompt responses from all attending students, the instructor reported that some students participated more frequently than others did, but individualized records were not provided.

4. RESULTS

The results presented below are organized in two sections differentiated by the aims of either describing selected characteristics of the participants or using inferential statistics to predict the contribution of particular characteristics to either predicted or actual performance. All results are considered significant at the .05 level.

4.1 Description of the Sample

Table 1 illustrates the means and standard errors of the mean for individual difference variables as well as indices of performance and estimated performance of students who completed the course. Students' performance was averaged across assignments 1-3 because these writing products, which were parts of a paper finalized in assignment 4, displayed the same pattern of influences. It is reasonable to conceptualize assignments 1-3 as entailing the development of the research report, assignment 4 as requiring the completion of the report, and assignment 5 as forcing self-reflection and critical analysis of the work accomplished.

The midterm was administered in week 8 of the semester, preceded and followed by questions requiring students to predict the likely grades as well as to express their degree of confidence in the predictions made. Accuracy was measured as the difference between estimated grade and actual grade. Thus, a positive value indicated overestimation, a negative value implied underestimation, and a value of 0 reflected an accurate prediction. As students' midterm grades increased, the accuracy of their predictions, both before and after the test, increased too, r = -.83, n = 122, p < .001, and r = -.63, n = 122, p < .001, respectively. These rather robust correlations suggest that students' estimates largely relied on information and processes that shaped test performance. As illustrated by coefficients of determination, before the exam estimates captured 69.06% of the variance in students' performance, whereas, after the test, estimates captured 39.31% of that variance, suggesting that direct knowledge of the test made students less likely to judge their competence objectively and more likely to be conservative in their estimates. Subjective confidence in such predictions was not correlated with students' test performance when predictions were made before the test, r = -.05, *ns.* After the test, as grades increased, students'confidence increased too, r = +.21, n = 122, p = .019. As expected, students were more accurate at predicting their performance after than before the test, $F(1, 121) = 25.19$, p < .001, MSE = 124.56, *Partial Eta Squared* = .172, whereas, their confidence remained unchanged, $F(1, 121) = 1.65$, *ns.* Equivalent analyses on final test grades were not performed due to institutional restrictions that made final scores unavailable.

Table 1. Descriptive Statistics

Variables	*Mean*	*Standard Error of the Mean*
Individual Differences		
Self-Efficacy	1.08	.048
Vigilance	1.19	.022
Hyper-Vigilance	1.39	.035
Buck-Passing	.83	.046
Procrastination	.80	.056
Attendance (%)	90.96	1.063

Performance		
Assignments 1-3 (%)	88.09	1.258
Midterm Test (%)	70.96	1.797
Assignment 4 (%)	91.18	1.349
Assignment 5 (%)	92.66	2.112
Prediction of Test Performance		
Accuracy Before Midterm Test (%)	14.37	1.902
Confidence before Midterm Test (%)	1.75	.085
Accuracy After Midterm Test (%)	7.19	1.521
Confidence After Midterm Test (%)	1.63	.096

4.2 Factors Accounting for Performance

Linear regression analyses were conducted with individual difference variables as predictors (self-efficacy, decision-making styles, and attendance records) and performance, predicted performance, or subjective confidence as the outcome variable.

The evidence illustrated in Tables 2-3 can be summarized in three main points: (a) Attendance made a positive contribution to class performance as measured by all assignments and midterm test. The higher was the attendance, the greater was students' subjective confidence after the midterm. (b) Procrastination impaired performance in assignments 1-3, whereas buck-passing, improved performance in assignment 5. (c) The greater was students' self-efficacy, the greater was the confidence with which grade predictions were made both before and after the test. Students' hyper-vigilance, however, reduced confidence before the test. No evidence was found that any of the individual difference variables significantly contributed to the accuracy of grade predictions.

Table 2. The contribution of individual differences to performance

Variables	*B*	*SE*	*Beta*	*t*	*Sign.*
Assignments 1-3	48.424	12.532			
Self-Efficacy	1.429	2.434	.054	.587	*ns*
Vigilance	1.899	5.194	.033	.366	*ns*
Hyper-Vigilance	-.590	3.036	-.016	-.194	*ns*
Buck-Passing	3.350	2.466	.122	1.358	*ns*
Procrastination	-5.131	2.191	-.230	-2.342	.021
Attendance	.418	.102	.353	4.086	.000
Assignment 4	54.493	13.668			
Self-Efficacy	1.471	2.654	.052	.554	*ns*
Vigilance	.095	5.665	.002	.017	*ns*
Hyper-Vigilance	-2.322	3.311	-.060	-.701	*. ns*
Buck-Passing	4.543	2.690	.154	1.689	*ns*
Procrastination	-4.604	2.390	-.193	-1.926	*ns*
Attendance	.419	.111	.330	3.757	.000
Assignment 5	7.771	21.393			
Self-Efficacy	.598	4.154	.014	.144	*ns*
Vigilance	2.612	8.866	.027	.295	*ns*
Hyper-Vigilance	3.455	5.182	.057	.667	*ns*
Buck-Passing	9.598	4.210	.208	2.280	.024
Procrastination	-.859	3.741	-.023	-.230	*ns*
Attendance	.759	.174	.382	4.350	.000
Midterm	29.803	18.528			

Self-Efficacy	3.261	3.598	.087	.906	*ns*
Vigilance	-8.396	7.679	-.102	-1.093	*ns*
Hyper-Vigilance	6.159	4.488	.119	1.372	*ns*
Buck-Passing	3.055	3.646	.078	.838	*ns*
Procrastination	-4.961	3.240	-.156	-1.531	*ns*
Attendance	.445	.151	.263	2.942	.004

Assignments 1-3: $R = .474$. Assignment 4: $R = .445$. Assignments 5: $R = .445$. Midterm Test: $R = .411$.

Table 3. The contribution of individual differences to performance predictions

Variables	*B*	*SE*	*Beta*	*t*	*Sign.*
Accuracy Before Test	35.106	20.780			
Self-Efficacy	.062	4.035	.002	.015	*ns*
Vigilance	7.809	8.612	.089	.907	*ns*
Hyper-Vigilance	-8.529	5.034	-.155	-1.694	*ns*
Buck-Passing	-2.989	4.089	-.072	-.731	*ns*
Procrastination	3.690	3.634	.109	1.016	*ns*
Attendance	-.205	.169	-.115	-1.211	*ns*
Conf. Before Test	1.290	.877			
Self-Efficacy	.436	.170	.245	2.560	.012
Vigilance	-.309	.363	-.079	-.849	*ns*
Hyper-Vigilance	-.549	.212	-.223	-2.583	.011
Buck-Passing	.139	.173	.075	.805	*ns*
Procrastination	-.103	.153	-.068	-.670	*ns*
Attendance	.012	.007	.149	1.671	*ns*
Accuracy After Test	11.112	16.599			
Self-Efficacy	-1.030	3.224	-.032	-.320	*ns*
Vigilance	12.299	6.880	.176	1.788	*ns*
Hyper-Vigilance	-6.394	4.021	-.145	-1.590	*ns*
Buck-Passing	-5.194	3.266	-.156	-1.590	*ns*
Procrastination	-1.041	2.903	-.039	-.359	*ns*
Attendance	-.037	.135	-.026	-.272	*ns*
Conf. After Test	.451	.980			
Self-Efficacy	.517	.190	.257	2.717	.008
Vigilance	-.567	.406	-.129	-1.397	*ns*
Hyper-Vigilance	-.413	.237	-.149	-1.742	*ns*
Buck-Passing	.228	.193	.108	1.182	*ns*
Procrastination	-.101	.171	-.059	-.590	*ns*
Attendance	.019	.008	.214	2.420	.017

Accuracy before the test: $R = .259$. Confidence before the test: $R = .410$. Accuracy after the test: $R = .263$. Confidence after the test: $R = .434$.

5. DISCUSSION

The findings of the present investigation suggest that attendance is a critically important ingredient of good performance even in courses for which it is mandatory. It can be argued that attendance stands for the overall motivation that students have to do well. Yet, it may simply represent students' knowledge of what is going on in the class, including awareness of the content and timing of various requirements. This finding fits popular

anecdotes regarding the importance of class attendance, as well as evidence reported by earlier studies attesting that good grades are linked to high attendance (Launius, 1997; Thomas & Higbee, 2000; Moore, 2003).

It is important to note that although attendance in the online courses offered by the selected university was mandatory and automatically recorded by Blackboard Collaborate, considerable concern had existed about online passive attendance in synchronous classes. Namely, fears existed that students would simply log in, but their attention would be tuned to other matters. In all the sections of the selected course, these fears were not supported by the behavioral evidence collected. The instructor documented consistent actions of active participation by students, mostly in the form of answers to the instructor's questions, and much less as requests for clarification of concepts and procedures or as independent contributions to the content of lectures and discussions. Students' preferred mode of participation was through text written in the chatbox of Blackboard Collaborate, whereas spoken communication was rarely relied upon. Although communication in the online class was mostly written and in response to queries, the instructor noted that some students participated more often than others did. Since participation records were holistic and could not be linked to specific students, whether greater participation was reflected in higher attendance is difficult to determine.

Although the findings of the present investigation support the truism that "good students who attend class regularly make good grades", they do not negate the existence of students who diligently and independently complete the required classwork even though their attendance records are poor (see Lukkarinen et al., 2016). The evidence collected merely suggests that in the online environment of a writing-intensive, demanding course, where collaborative exchanges between the students and the instructor are a key aspect of the learning experience, at the minimum, attendance affords awareness of class activities, deadlines, and requirements, which is helpful for success in the course. The present findings are inconsistent with those that claim that it does not matter whether students attend synchronous virtual classes or inspect the recordings of such classes (Nieuwoudt, 2020). Indeed, although some students might have believed that they could make up their absences by reviewing classmates' notes, listening to the recordings of missed classes, studying the assigned readings, and figuring out independently the required steps of a given assignment, these beliefs appeared to represent more unrealized intentions than overt actions (as per students' informal comments made during office hours). When overt action was initiated to catch up, it was reported to be less effective than the experience of attending class. This students' sentiment is not surprising. The curriculum included scholarly articles that are generally difficult to read without the expert guidance of an instructor who, in real-time, can explain novel terms, concepts, theories, etc., thereby helping students to overcome particular difficulties, and undoubtedly making class attendance relevant.

In comparison to attendance, individual difference measures made a limited contribution to performance, either negatively, such as procrastination, or positively, such as buck-passing. The negative impact of procrastination on assignments 1-3, but not on later performance measures, may reflect students' growing realization that postponing writing assignments until the last moment or cramming for the midterm test may not be feasible given the amount and quality of the information to be learned and applied, a realization that some students casually communicated during class and office hours. The positive impact of buck-passing on performance in the Q&A session (assignment 5) appears at first perplexing. Yet, in the context of a Q&A task, buck-passing, as a strategy to cope with a challenging novel situation, may merely reflect learners' attempt to escape the uncertainty of the task by giving up on attempts at forecasting potential questions, thereby diminishing the anxiety generated by multiple predictions whose likelihood may be equally uncertain. Not surprisingly, however, as general self-efficacy increased, students' confidence in their predictions of midterm performance also increased, suggesting that a "can do" attitude, albeit general, can shape how students approach specific tasks and envision their outcomes. Yet, hyper-vigilance was linked to a reduction of such confidence. To wit, making decisions under emotional excitement without exploring all alternatives and available information, generally because of perceived or misperceived time pressure, does not engender confidence in the decisions made. Surprisingly, no impact of individual difference factors, including attendance, was detected on the accuracy of the grade predictions made by students, even though a considerable portion of the variance in performance was captured by the students' estimates (as per coefficients of determination). One possibility is that these estimates reflect a host of emotionally laden thoughts that can overshadow the impact of personal dispositions.

6. CONCLUSION

The findings of the present field study suggest that the association between performance and attendance does not exclude college courses in which attendance is mandatory, as it is implicitly or explicitly suggested in some of the extant literature (Dey, 2018; Hyde & Flournoy, 1986; Kassarnig et al., 2017). They are consistent with those of Rendleman (2017) who reported a link between attendance rates and grades in a topical Core curriculum course (i.e., introductory agricultural economics), irrespective of whether attendance was treated as mandatory or optional.

Students, educators, and advisors alike, who have been engaged in online classes because of the COVID-19 pandemic, may find the findings of the present research useful. They can be used not only to give all students a good reason to attend but also to advise those for whom frequent attendance is not a matter of great importance. College students are adults who judge the benefits of attending a class against the costs of not attending. The message that the present findings deliver to them is clear: for a writing-intensive course that covers unfamiliar material and that heavily relies on targeted feedback by the instructor, independent study, albeit possible, is unlikely to lead to optimal outcomes. Of course, educators are responsible for making their classes valuable to students. Yet, students' awareness of the role that attendance may play in their academic success, particularly in challenging courses, may entice them to attend more frequently, thereby rendering punitive policies about mandatory attendance irrelevant.

The current field study has limitations to be addressed in future research. First, the generalizability of its findings is to be assessed in other courses that vary in content, difficulty, and instructional modes. Second, the withdrawal rates of the selected course need to be analyzed to determine whether the characteristics of the students who withdraw differ from those who persist, albeit all may exhibit less than optimal performance. Regretfully, Blackboard, which served as the platform that preserved students' performance records, automatically deleted the records of students who withdrew from the course before the instructor had the time to log them into a different record-keeping system. Missing or incomplete records could not be used for analysis. Third, due to gender-segregation rules, participation was limited to female students. Cortright et al. (2011) report a link between attendance and test performance in female, but not male students. The examination of gender differences is to be pursued in future research.

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