Undergraduate Student Goal Orientations and the Impact Of Covid-19: Student Effort Following the Pandemic Shutdown

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Abstract: *In the Spring of 2020, many universities moved all of the courses online due to the Covid-19 pandemic. The current study was designed to determine if student goal orientations would influence how they responded to the shutdown of their university. Specifically, we were interested in whether the types of academic goals students set might influence the amount of effort they put into their courses following the move to an all online format. We surveyed more than six hundred undergraduates at a large state university regarding their effort and expected grades following the shutdown as well as having them complete a self-report questionnaire designed to measure their goal orientations. Results suggest that students who set task-oriented goals were most resilient to the impact of the pandemic shutdown of the university.*

Key Words: goal orientations; student resilience; covid-19; online courses

The rapid closure of university campuses and the movement of face-to-face and hybrid courses to fully online delivery in March, 2020 due to the Covid-19 pandemic had many ramifications for faculty, administrations, and students. One possible area of impact was that of student volition. The disruption to campus life might have impacted student volition as interactions with faculty members, both within and outside of the classroom, and with other students are believed to enhance students' learning experiences and success in college (Astin, 1993; Pascarella, 1980; Pascarella & Terenzini, 1991, 2005). Moreover, students' different goal orientations might have determined how they academically responded to the shutdown. The goal of the current study was to examine whether the achievement goals of undergraduate students were related to their achievement behavior (volition) after the campus shut down. To achieve this goal, we surveyed undergraduates from a large state university regarding their achievement goals and how their achievement related behaviors were affected by their university's choice to move all classes online in March of 2020.

Although a comprehensive review of goal orientations and achievement goal theory is beyond the scope of this paper, a brief overview of achievement goal theory is warranted. In goal orientation theory (i.e. achievement goal theory), goals are typically defined as the end toward which effort is directed. Not only do academic goals determine the achievement-oriented behavior

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in which students engage, the types of goals students set also determine their personal experiences following success and failure of meeting the goals.

Early achievement goal theory was dominated by the distinction between mastery goals and performance goals (e.g., Ames, 1992; Ames & Archer, 1988; Harackiewicz & Elliot, 1993; Maehr, 1984; Nicholls, 1983; see Was, 2006 for a review). Students who set mastery goals (mastery oriented) focus on learning the material and mastering the tasks at hand. Elliot (1999) alluded to a distinction between task-referential vs. past-referential mastery orientations. A student that is past-referential uses their own past performance as the standard by which achievement is measured. Alternatively, the task-referential student measures competence according to whether they have completed or fully understood the task at hand. To foreshadow, Elliot, Murayama, and Pekrun, (2011) include these reference points in a new model of goal orientations and they are an important aspect of the current study.

In contrast to mastery goals, performance goals (performance oriented) concern demonstrating ability. Performance is measured by relative standing to the achievement of others. Performance goals lead students to attempt to appear competent or to avoid appearing incompetent when compared to others (Dweck, 1986; Dweck & Elliot, 1983; Dweck & Leggett, 1988; Elliot & Dweck, 1988; Lepper, 1988).

A second dimension of goal orientation describes the valence of goals. For example, Elliot (1999) proposed an approach vs. avoidant dimension. Approach goals are related to approaching success and avoidant goals are related to avoiding failure. The valence of a goal determines both the achievement related behaviors in which the student engages and the affective responses to success and failure.

A more recent reconceptualization of achievement goals is represented by a 3 x 2 goal model (Elliot et al 2011). Whereas in earlier models, competence standards are skill and knowledge acquisition (mastery goals) or normative comparison to others (performance goals), in the 3 x 2 model competence standards are divided into *task*, *self*, and *other*. Like the previous frameworks, the new model also includes a valence dimension in which goal are either approach – one's goals are related to approaching or striving for success, or avoidant – one's goals are related to avoiding failure. The 3 x 2 model serves as the framework upon which we base our examination of the volitional impact of the shutdown of the university campus and switch to completely online classes to close the Spring 2020 semester. The following describes our exploration of the relationship between students' achievement goal orientations, and the academic affective and behavioral outcomes of the pandemic shutdown.

Task-based goals are related to task performance and are relatively straight forward. As the alternate name "absolute" implies, it is sometimes described as being black and white: one either does or does not complete the task successfully. Accomplishing the task sufficiently or completing the task successfully is what determines goal accomplishment. Task-based goals provide feedback because the measure of competence is inherent in the task (Elliot, et al 2011). This built-in feedback allows for self-regulation. Due to self-regulating nature of task-based goals, we hypothesize that task-oriented students (those setting task-based goals) were likely to sustain their efforts and foresee themselves being successful during the shutdown compared to self and other oriented students. Put differently, we expect that task-oriented students should see themselves as being able to maintain their grades and continue to exert academic effort post shutdown. We do not expect that these students missed the social aspects of the classroom because they do not use normative standards to judge their success and failures.

In contrast to task-based goals, self-based goals involve a comparison to one's past performance, and thus, are more complex. The complexity of self-based goals is due to the need to keep past performance in mind, constantly compare it to current performance, and to evaluate if future performance will ultimately be the best of the three. Although self-based goals may be more complex, following the shutdown, it was likely that students were able to continue to monitor their progress as compared to previous work. Because self-oriented students could continue to monitor their progress, we hypothesize that students setting self-based goals would report continued volition and self-report that their grades would not suffer due to the shutdown. Unlike students setting task-based goals, it is unclear as to how students setting self-based goals would feel about the social aspect of the shutdown. Students setting self-based goals may not miss the social aspect of academia as their standard for competence is their own previous performance. Alternatively, these students may rely on interaction with instructors and peers not as a means of measuring competence, but rather as tools for gaining the competence they seek. Unlike task-based goals, self-based goals may not provide the immediate feedback inherent in the task.

Other-based goals involve a comparison to other people (either directly or to the representation of a conglomeration of people). Regarding the level of abstraction, direct comparison is like task-based comparisons as it is easy to quantify. Comparison to a representation of a group is more like self-based comparison due to the complexity of making a comparison to an abstract representation of a group of others. We were unclear as to how other-based goals might relate to grades and the volitional outcomes. Students setting other-based goals might not have expected the change to online courses having a direct impact on their grades, yet without the opportunity to directly compare their performance to others, their willingness to put forward effort may diminish. We did suspect that those setting other-based goals would report missing the interaction with peers and instructors because of the opportunity to directly compare themselves with others and the lack of direct feedback from instructors and classroom interactions.

To explore the possible relationships between goal orientations and the pandemic induced shutdown of the university, we surveyed a large sample of a large undergraduate population before the end of the Spring 2020 semester. Students were asked about the types of academic goals they set for themselves before the university moved all classes to an online format, as well as their effort in coursework, grade expectations, and whether they missed the in-person interactions of courses following the move to online classes.

METHODS

PARTICIPANTS

We emailed all 28,581 undergraduate students (including those at a 7 regional campuses) at Kent State University requesting them to respond to our survey. Of these, 634 students completed surveys. Females (486) represented 77% of respondents, males (129) 20%, non-binary (15) 2%, and less than 1% (5) chose not to respond. Students' ages range from 15 to 66 with a median of 21 ($M = 23.95$, $SD = 3.39$). The mean self-reported GPA was a 3.50 ($SD = .52$). Table 1 presents frequencies of reported ethnicity and Table 2 presents class standing.

Table 1. Frequencies of Self-Reported Ethnicity

	Frequency	Percent
Ethnicity		
No Response	23	3.6
African origin	33	5.2
Asian origin	17	2.7
European origin	489	77.1
Hispanic or Latinx ethnicity	22	3.5
Indigenous origin	24	3.8
Middle Eastern origin	26	4.1
Total	634	100.0

Table 2. Frequencies of Self-Reported Class Standing

	Frequency	Percent
Class Standing		
No Response	3	.5
5 or more years	46	7.3
Senior (4 years)	203	32.0
Junior (3 years)	189	29.8
Sophomore (2 years)	102	16.1
Freshman (1 year)	91	14.4
Total	634	100.0

MATERIALS

Goal orientations were assessed using the 44-item goal orientations questionnaire from Elliot et al (2011; see Appendix A). The questionnaire contains items that reflect the six combinations that result from the two valences (approach and avoid) and the three standards for defining competence (task-based, self-based, and other-based): task- approach, task-avoidance, self-approach, self-avoidance, other-approach, and other-avoidance goals. We asked participants to respond to the goal orientation items concerning goals they may have had *before* the shift to online. For example, an item from the first section would say, "Before going online, my goal was to complete assignments correctly." Participants rated these statements on a Likert-type scale of 1 (not true of me) to 7 (completely true of me).

We also included 11 additional items to examine students' experience following the campus shutdown (see Appendix B). These items asked students about the effort put into their coursework (*Volition*: 3 items, $\alpha = .67$), their expectations for their grades (*Grades*; 3 items, $\alpha = .54$), and experiences related to the lack of classroom social interaction (*Social*; 6 items, $\alpha = .88$). They were rated using the same scale as the goal orientations questionnaire.

PROCEDURE

All undergraduate students were emailed a link to a survey. The survey included a consent form, on which participants chose an "I agree" or an "I disagree" statement. Agreeing participants

answered demographic questions regarding age, gender, ethnicity, class rank, GPA, and how many online, hybrid, and flipped classes they had taken. Participants then completed the goal orientations questionnaire and the 11 *experience* items.

RESULTS

We conducted exploratory factor analysis (EFA) on the 3 x 2 goal questionnaire using principal axis factoring with an oblique (direct oblimin) rotation. Results from both SPSS 26 and the R nFactors package suggested a three-factor solution consisting of the factors *Self, Other*, and *Task* (see Table 3 for factor loading results of the EFA). We then conducted two confirmatory factor analyses (CFAs) to compare a 3-factor solution based on the results of our EFA [χ^2 (206) = 1298.70, $p < .001$, CFI .900. RMSEA = .092, AIC 1436.97] to the 6-factor model proposed by Elliot et al (2011) [χ^2 (200) = 1410.08, $p < .001$, CFI .890. RMSEA = .098, AIC 1560.80]. Results indicate that the three-factor solution is a better and adequate fit to the data [$\chi^2_{difference}$ (6, $N=634$) = 112.13, $p < .001$]. We therefore chose to predict Grades, Social, and Effort using the three factors Self, Task, and Other.

Table 3. Exploratory Factor Analysis Pattern Matrix

	Factor		
Item	1	2	3
Task-Approach 3	.865		
Task-Approach 1	.856		
Task-Avoid 2	.813		
Task-Avoid 1	.795		
Task-Avoid 3	.773		
Task-Approach 2	.744		
Task-Avoid 4	.593		
Task-Approach 4	.454		
Other-Approach 3		.919	
Other-Approach 1		.901	
Other-Approach 2		.892	
Other-Avoid 1		.825	
Other-Avoid 3		.774	
Other-Avoid 2		.733	
Self-Approach 4			.908
Self-Approach 3			.855
Self-Approach 1			.845
Self-Avoid 4			.722
Self-Avoid 2			.683
Self-Avoid 1			.602
Self-Avoid 3			.590
Self-Approach 2			.489

Note: Principal Axis Factoring with Oblimin Rotation. Loadings less than .30 not displayed.

Figure 1 presents the final tested structural equation model (SEM) with standardized parameter estimates. Moderate correlations were present among the three latent goal factors. Of the outcome variables, Grades and Social concerns were correlated ($r = .43$, $p < .01$), as were Grades and Effort ($r = .13$, $p < .05$). Self-oriented goals were predictive of Social ($\beta = .34$, SE $= .10$, $p < .001$), Grades ($\beta = -.32$, SE $= .11$, $p = .004$), and Effort ($\beta = .43$, SE $= .11$, $p < .001$). Task-oriented goals were predictive of Grades ($\beta = .36$, SE $= .11$, $p = .004$), and Social ($\beta = -.36$, SE $= .11$, $p = .004$). Other-oriented goals were only predictive of the Social outcome measure ($\beta = .11$, SE $= .05$, $p = .048$).

Figure 1. Confirmatory factor analysis with standardized coefficients
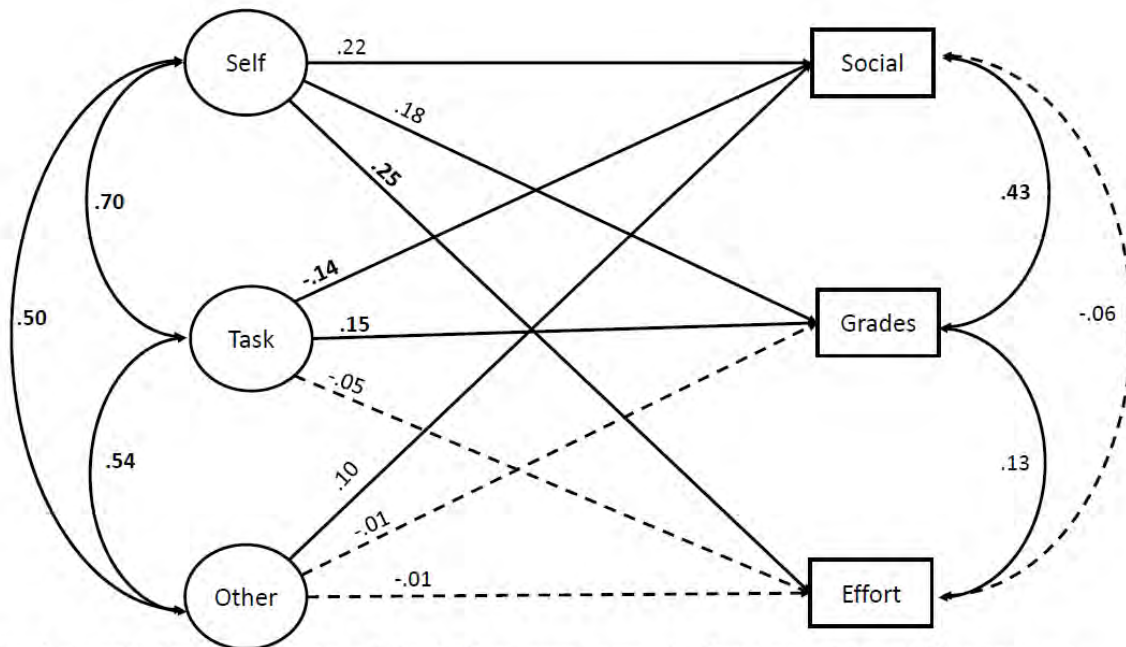
Note: Manifest variable loadings not presented. Dashed lines represent non-significant parameters, solid lines represent parameters with $p < .05$, and bold parameters estimates, $p < .001$.

DISCUSSION

The results of the current study add to the extant literature regarding achievement goals. First, the factor analyses suggest that in the 3 x 2 framework, the standard for competence (*self, other, task*) may be of more importance that the valence (*approach, avoidant*). The exploratory factor analysis and the confirmatory factor analyses found that a three-factor structure was more robust than a six-factor structure.

Of greater importance, the results of the SEM analysis suggest that students setting task-oriented goals are more resilient to disruptive circumstances in the learning environment. The results also suggest that self-oriented students missed the social interaction of face-to-face courses, reported working harder on their courses, but expected that their grades would suffer due to the shutdown. In contrast, students setting task-oriented goals did not think their grades would suffer, did not miss the social interaction of face-to-face courses, and did not report a change in their effort. These findings indicate that students setting task-oriented goals were more resilient to the impact of the campus shutdown with regards to expectations for their grades. Task-oriented

students did not, on average, report a change in their effort put into courses, yet expected to do better in their courses. The weak relationship between other-oriented goals and the social aspect of courses, and the lack of relationship between grade expectations and effort, suggest that the other oriented students did not feel the impact of the shutdown to the degree that students with the two other orientations did.

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