



# Zoom University: The Effect of COVID-19 on College Education

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## Background

The efficacy of online versus in-person college instruction is an area of significant debate, with researchers reaching different conclusions on which mode of learning promotes better academic outcomes. Most college students prefer traditionally taught classes, which has posed a problem during the COVID-19 pandemic (Aguilera-Hermida, 2020). Mental health has been found to affect education and vice versa, both prior to and amid the pandemic (Eisenberg et al., 2009; Hasan & Bao, 2020). Additionally, a study performed by Hasan and Bao in 2020 found that negative opinions of the shift from in-person to remote learning caused additional mental stress to students. Given this, the modality of learning appears to be an important factor in the satisfaction, motivation, educational outcomes, and mental health of college students. With the emergency response during the pandemic forcing learning to become virtual, students are facing more difficulties than just staying safe from the virus.

## Hypothesis

We predicted that the switch to online classes during the COVID-19 pandemic negatively affected students' perceptions of their mental health, satisfaction, motivation, and learning outcome. We also hypothesize that the impact of online learning is exacerbated by risk factors in the student's personal life, such as their locality, income stability, and previous mental health issues (Cao et al., 2020). Students with more risk factors will be more likely to suffer greater consequences during online learning amid the COVID-19 pandemic.

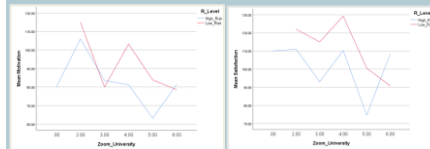
## Materials & Methods

We recruited 36 participants to participate in our online study through Qualtrics. All of them were at least 18 years old, in their sophomore year, and were enrolled in at least 4 college courses. Our study was completely anonymous. Both the survey order and the questions themselves were randomized. All of the questionnaires we adapted for our study were empirically supported. Of the participants who initially took the survey, we excluded several because they failed to give us all necessary data or asked for theirs to be removed. The survey took around 30 minutes to complete and was composed of 70 questions.

Type of Data	Instrument Used
Zoom University	# of Online & Hybrid Classes
Motivation	Motivation Strategies for Learning Questionnaire (MSLQ)
Satisfaction	Course Satisfaction Questionnaire (CSQ)
Learning Outcome	Cumulative GPAs in Fall 2019 & Spring 2020
Mental Health	Kessler Psychological Distress Scale (K-10)
Risk Factors	Risk Factor Survey

## Results

We conducted a hierarchical multiple regression analysis with two models. In Model 1, we used Zoom University (X) and high risk (M) as predictors to an outcome variable (Y). Model 2 measures the interaction of high risk as a moderator variable in the relationship between Zoom University and the outcome variable.



The graphs above demonstrate that having higher risk and more Zoom classes is linked with lower levels of motivation and satisfaction. Tables 1.1 & 2.1 show the regression results for these outcomes in Model 1.

**Table 1.1.**  
Hierarchical Regression Analysis Between Motivation & Predictor Variables, Model 1

Dependent Variable	$\beta$	<i>t</i>	<i>p</i>
High Risk	-.378	-2.365	.024
Zoom University	-.398	-2.486	.018
<i>R</i> <sup>2</sup> total = .22			

**Table 2.1.**  
Hierarchical Regression Analysis Between Satisfaction & Predictor Variables, Model 1

Dependent Variable	$\beta$	<i>t</i>	<i>p</i>
High Risk	-.38	-2.36	.025
Zoom University	-.38	-2.37	.024
<i>R</i> <sup>2</sup> total = .21			

Both predictors in Model 1 were significant for the outcome variables of motivation and satisfaction, but not for learning outcome and stress. Model 2 was not significant in any cases.

## Conclusions

- More Zoom classes are associated with less motivation and satisfaction in coursework.
- Higher risk factors are linked to lower motivation and satisfaction.
- Risk factors did not worsen the impact of Zoom classes on student's motivation, satisfaction, stress, or learning outcomes; it was not a significant moderator.
- Number of Zoom classes was not a significant indicator of stress or grade differences.
- Students with higher risk and who were taking more Zoom classes appeared to be more stressed and have worse mental health, but this was not a significant correlation.

## References Cited

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