

# **The Impact of COVID-19 on Students' Well-being and Approaches to learning in Denmark. Some Thrive, While Others Don't.**

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# The out break of COVID-19 in Denmark

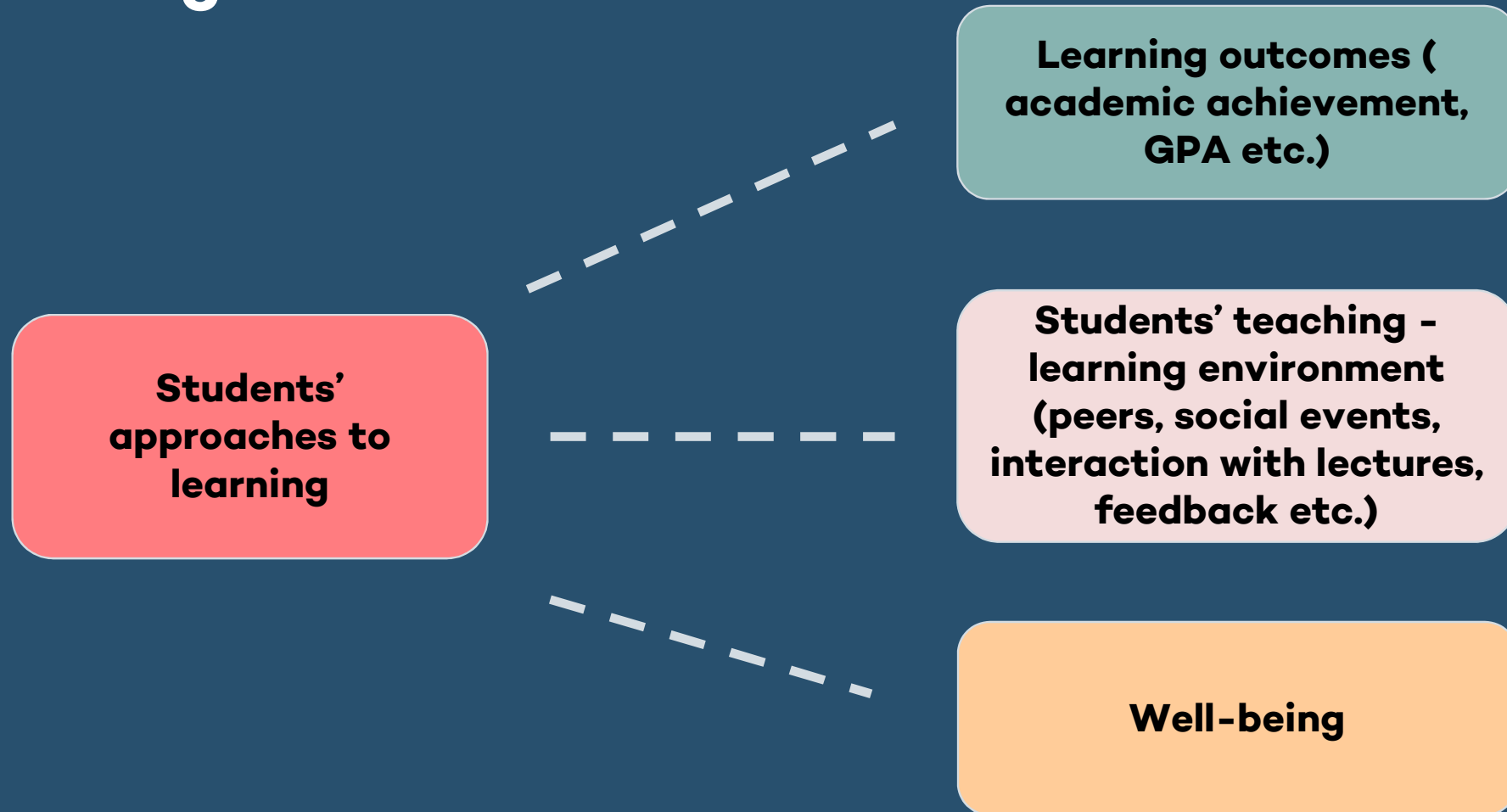
- Denmark: Institutions were closed down on the 13th of March due to the spread of coronavirus
- The Danish Government introduced national restrictions and lectures, classes and exams were changed into online teaching.
- The new restrictions caused loneliness and learning loss due to the rapid shift to online learning.
- However, the transition to online teaching might not affect all students in the same way

# Purpose

1. To investigate how COVID-19 restrictions affect students' well-being and approaches to learning
2. To investigate what role well-being plays in the relationship between COVID-19 impact and students' approaches to learning



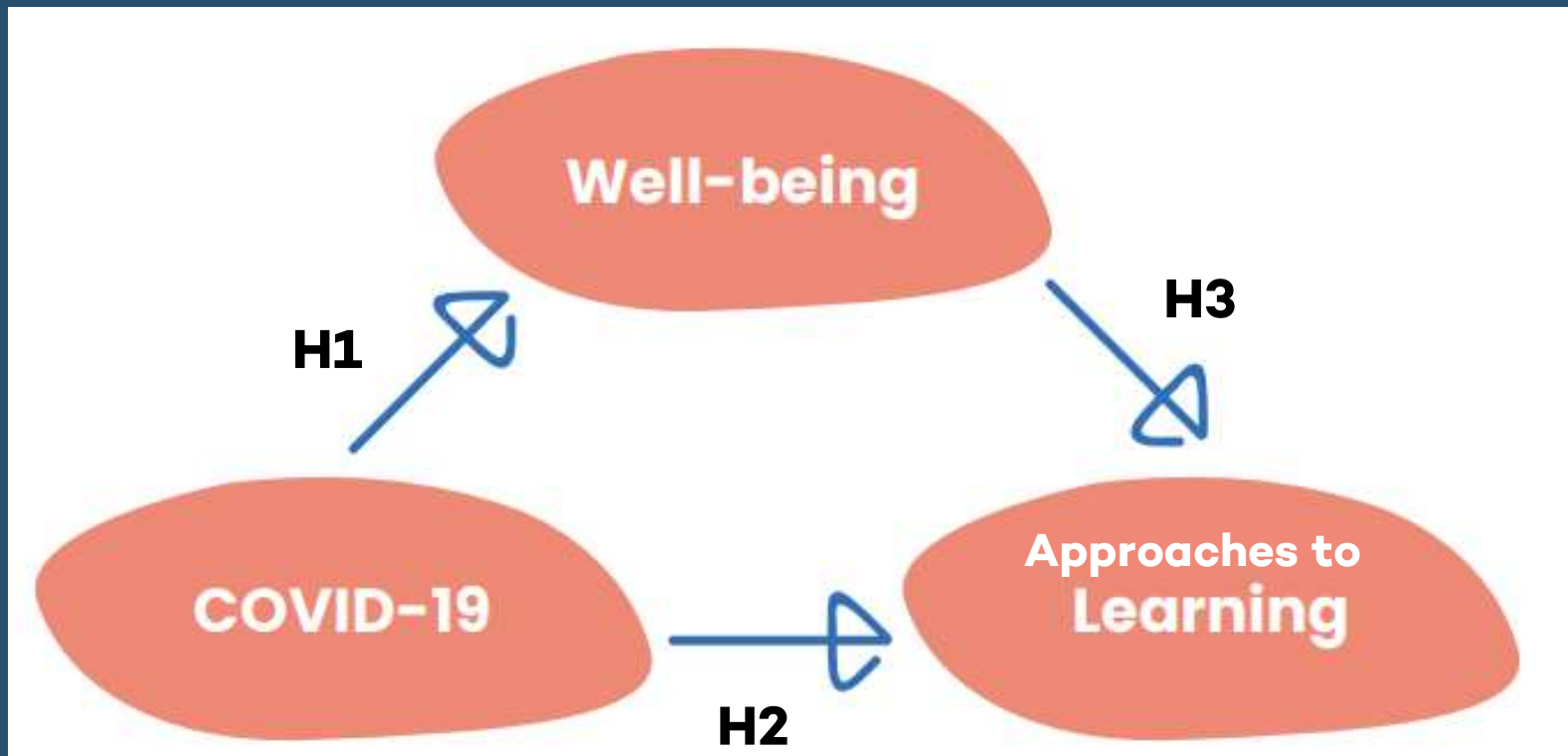
# Background



# Students' approaches to learning

Indicators of students' approaches to learning	Questions
<b>Deep approach</b>	I often find the content presented on the programme stimulating, and continue to think about it outside the classroom
	I do my best to relate new knowledge with what I already know about the subject
	I study the topics thoroughly so that I can take a critical view of the work we do on the study programme
	I do my best to connect and create an overview of what I learn in different parts of the study programme
<b>Surface approach</b>	I often find it difficult to remember what I need to learn
	Much of what I have learned seems no more than unrelated bits and pieces in my mind
	I often find it difficult to understand what I need to learn because it is too complicated
	I often find that things are difficult to understand, even though I have tried to learn it over and over again

# Hypotheses



# Hypotheses

*H1: Students with a high impact from COVID-restrictions have a lower level of well-being.*

*H2: Students with a high impact from COVID-restrictions are less prone to exert a deep approach and more prone to exert a surface approach*

*H3: Well-being mediates the relationship between students' perceived impact of COVID-19 restrictions students' approaches to learning (deep and surface approach to learning).*



# Method



# Data & Methods

## Data

- Cross-sectional data from the national survey “The Danish Student survey”
- Collection: Fall 2020
- 94,717 students participated ~ 37 % response rate

## **Statistical Methods:**

- Multiple Linear Regression Analysis
- We adjusted for different student characteristics and fixed effects

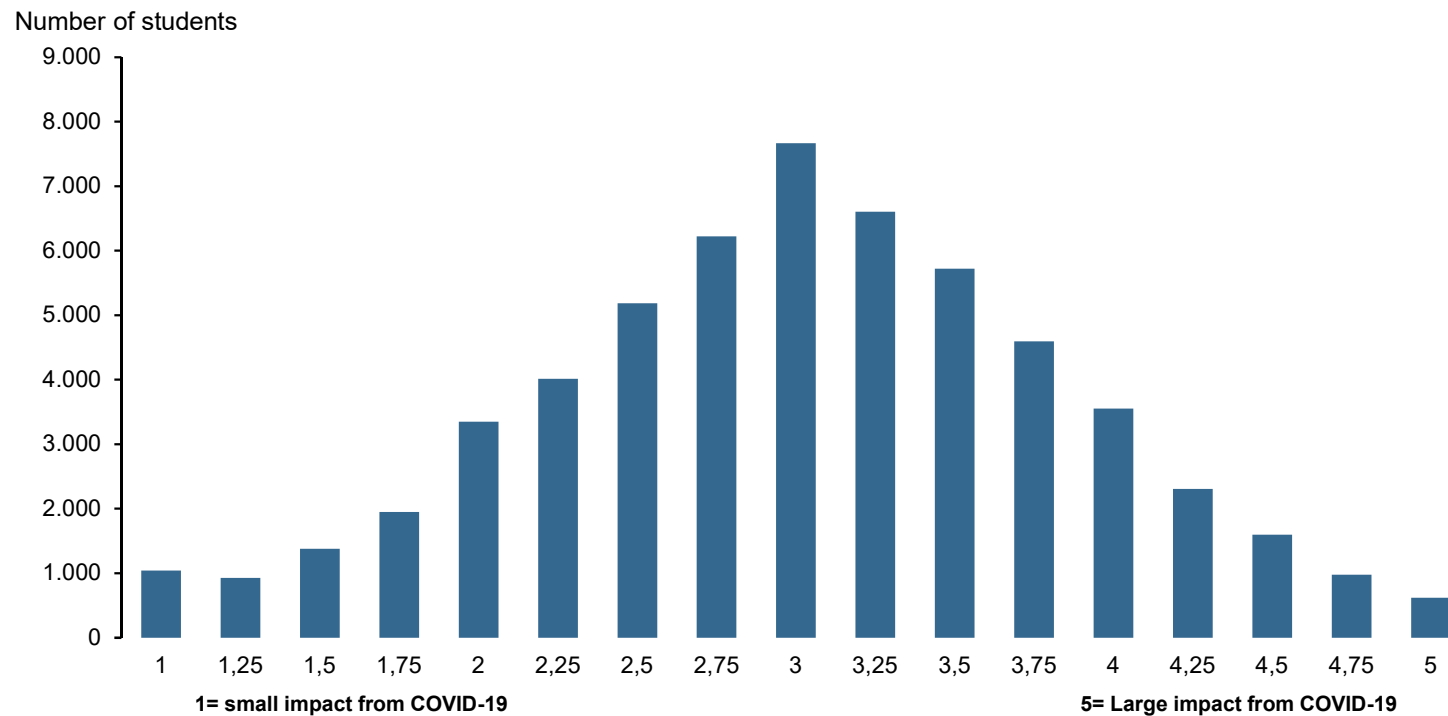


# Measurements: Questionnaires

Student well-being	Items
<b>Over the last two weeks...</b>	I have felt cheerful and in good spirits
	I have felt calm and relaxed
	I have felt active and vigorous
	I woke up feeling fresh and rested
	My daily life has been filled with things that interest me
<b>COVID-19 impact</b>	The corona situation removes some of the joy of studying
	I had a hard time during the corona lockdown in the spring
	Today, my everyday life in my study program works well despite the corona situation
	The lockdown have not delayed me in my studies

# Results

# Distribution on the COVID-scale



Note(s): The COVID scales is an estimated average based on the 4 questions about the corona-situation. The questions: 1) *"The Corona situation removes some of the joy of studying"*, 2) *"I had a hard time during the corona-shutdown in the spring"*, 3) *"Today, my everyday life in my study program works well despite the corona situation"*, 4) *"The shutdown have not delayed me in my studies"*.

Source: Danish Ministry of Higher Education and Science, the student survey (Uddannelseszoom), collected in the autumn 2020

## Well-being

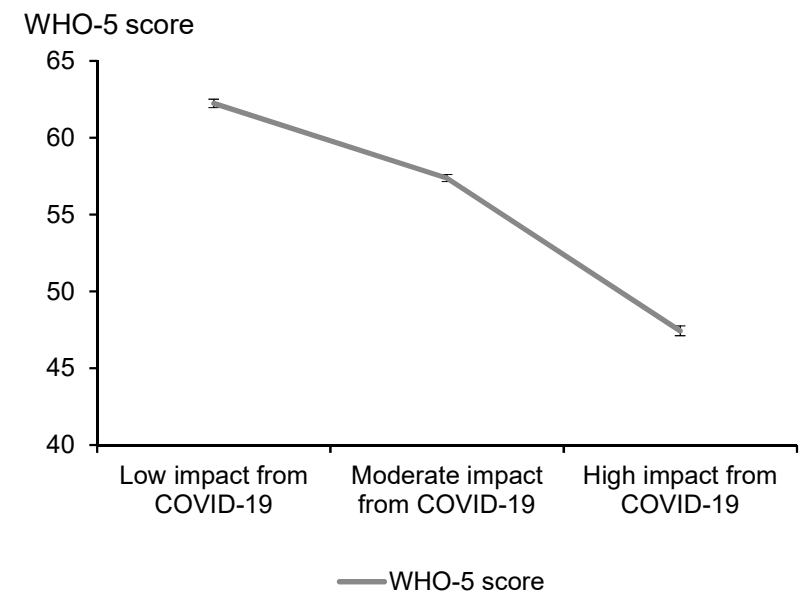
### H1: Students experiencing a high level of impact from COVID-restrictions have a lower score on the well-being index

#### Multiple linear regression analysis

	Model:	
	Well-being <sup>a</sup>	
	b/95% CI	
Low COVID-19	(Ref.)	
Moderate COVID-19	-4.745***	[-5.14,-4.35]
High COVID-19	-14.658***	[-15.13,-14.18]
Constant	68.912***	[56.65,81.18]
Obs.	45,890	
R-sqr	0.105	

Note: <sup>a</sup> The Model is adjusted for gender, age, ethnicity, students GPA before entering higher education, parents highest completed education and fixed effects at faculty level.

\*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$



Source: Danish Ministry of Higher Education and Science, the student survey (Uddannelseszoom), 2020

## Deep approach to learning

### **H2a: Students highly affected by COVID-restrictions have a lower score on the deep approach to learning, no effect when adjusting for well-being**

Multiple linear regression analysis

	Model 1: Deep approach (adjusted) <sup>a</sup>		Model 2: Deep approach (adjusted) <sup>a</sup>	
	b/95% CI		b/95% CI	
Low COVID-19	(Ref.)		(Ref.)	
Moderate COVID-19	-0.052***	[-0.07,-0.04]	-0.022**	[-0.037,-0.007]
High COVID-19	-0.099***	[-0.12,-0.08]	-0.008	[-0.027,0.010]
WHO5-score			0.006***	[0.006,0.006]
Constant	3.647***	[3.27,4.03]	3.219***	[2.845,3.593]
Obs.	31,138		31,138	
R-sqr	0.040		0.077	

Note: <sup>a</sup> The Model is adjusted for gender, age, ethnicity, students GPA before entering higher education, parents highest completed education and fixed effects at faculty level.

\*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$

## **Surface approach to learning**

### ***H2b: Students highly affected by COVID-restrictions are more prone to exert a surface approach, reduced effect when adjusting for well-being***

Multiple linear regression analysis

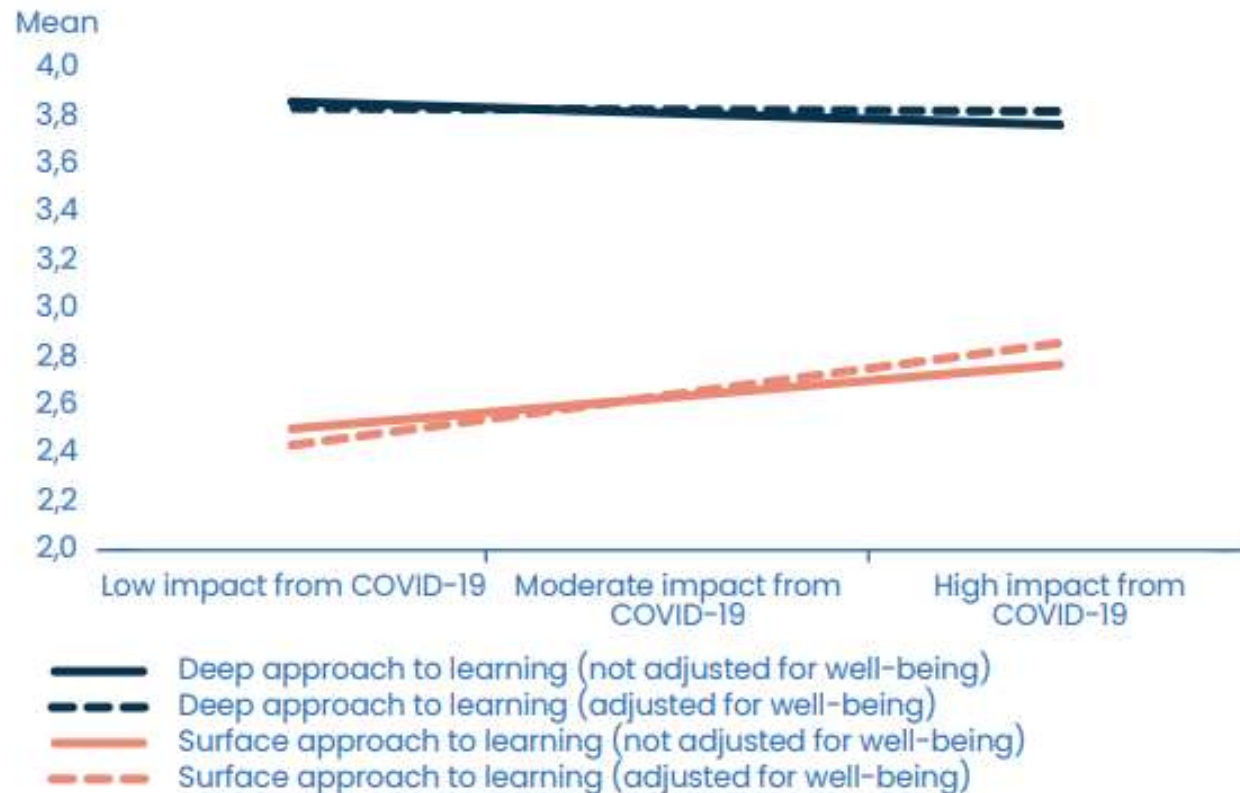
	Model 1		Model 2	
	Surface approach		Surface approach	
	(adjusted) <sup>a</sup>		(adjusted) <sup>a</sup>	
	b/95% CI		b/95% CI	
Low COVID-19	(Ref.)		(Ref.)	
Moderate COVID-19	0.208***	[0.19,0.23]	0.160***	[0.142,0.178]
High COVID-19	0.420***	[0.40,0.44]	0.275***	[0.252,0.297]
WHO5-score			-0.010***	[-0.010,-0.009]
Constant	2.586***	[2.12,3.05]	3.273***	[2.820,3.725]
Obs.	31,380		31,380	
R-sqr	0.102		0.162	

Note: <sup>a</sup> The Model is adjusted for gender, age, ethnicity, students GPA before entering higher education, parents highest completed education and fixed effects at faculty level.

\*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$

# What role does well-being play?

## H3: Well-being mediates the relationship between students' perceived impact of COVID-19 restrictions and students' approaches to learning



Note: <sup>a</sup> The Model is adjusted for gender, age, ethnicity, students GPA before entering higher education, parents highest completed education and fixed effects at faculty level.  
\*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$



# Conclusion

# Conclusion

- ❖ COVID-19 has affected students to varied degrees
- ❖ COVID-19 restrictions were significantly associated with both well-being and students' surface-approach to learning
- ❖ Deep approach to learning only showed a very weak association to COVID-restrictions
- ❖ Well-being mediated the effect of both deep and surface approach to learning

# Take home message

- ❖ Not all students suffered during the COVID-19 pandemic
- ❖ What have we learned? What are the benefits?
- ❖ New and innovative teaching forms – increase connection with peers – also in the online classroom

Well-being ↔ Students' learning approach

- ❖ Not broad and holistic interventions – targeted so they meet the need of different student groups



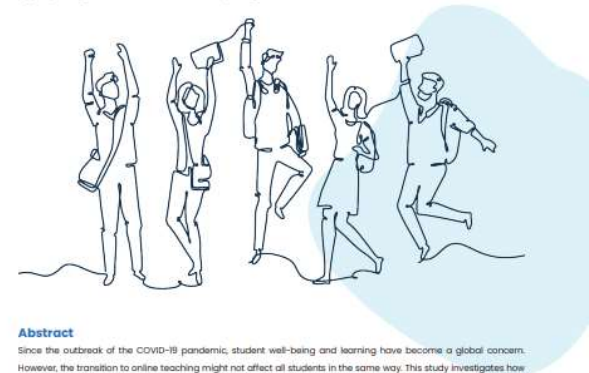
# Information

- ❖ E-mail: [amwe@ufm.dk](mailto:amwe@ufm.dk)
- ❖ Link: [https://www.praxis.ee/wp-content/uploads/2016/04/Paper\\_The-impact-of-COVID-19.pdf](https://www.praxis.ee/wp-content/uploads/2016/04/Paper_The-impact-of-COVID-19.pdf)

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## THE IMPACT OF COVID-19 ON STUDENT WELL-BEING AND LEARNING

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### Abstract

Since the outbreak of the COVID-19 pandemic, student well-being and learning have become a global concern. However, the transition to online teaching might not affect all students in the same way. This study investigates how COVID-19 restrictions affect student well-being and approaches to learning differently, and what role well-being plays in the relationship between COVID-19 impact and students' approaches to learning. Data consists of 57,744 answers from the "The Danish Student Survey", collected from October to December 2020. The impact of the COVID-pandemic was measured by a COVID score, based on four questions regarding the corona situation. Students were either categorized as low, moderate- or highly affected by COVID-19. Linear regression analyses were used and the findings revealed that COVID-19 affected students differently. Students highly affected by COVID-19 restrictions had a significantly lower score on well-being and a higher score on a surface approach to learning. We found no clear association regarding student's deep approach to learning. Well-being mediated the relationship between COVID-19 impact and students' approaches to learning. Hereby, higher education institutions should take student well-being into account and be aware that a one-size-fits-all approach can be misguided when developing new online initiatives.

Keywords: COVID-19; well-being; learning; approaches to learning

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