

# EXAMINING THE COGNITIVE AND PSYCHOLOGICAL EFFECTS OF THE COVID-19 GLOBAL PANDEMIC ON HIGH SCHOOL, COLLEGE, AND GRADUATE LEARNERS



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JILL D. SALISBURY-GLENNON  
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Psychological Effects  
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# **Examining the Cognitive and Psychological Effects of the COVID-19 Global Pandemic on High School, College, and Graduate Learners**

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## CHAPTER 1

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# INTRODUCTION

## Examining the Cognitive and Psychological Effects of the COVID-19 Global Pandemic on High School, College, and Graduate Learners

**Jill D. Salisbury-Glennon, Chih-hsuan Wang,  
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### Introductory Overview

The effects of the COVID-19 global pandemic on colleges and universities around the world have been greater than any event in recent history (Alexander et al., 2020; Rashid & Yadav, 2020). At the peak of the pandemic, 1.6 billion students at all educational levels from more than 190 countries on all continents were affected (United Nations, 2020, as cited in Daumiller et al., Chapter 20). Students missed an estimated 2 trillion hours of in-person instruction (United Nations Children’s Fund et al., 2022, as cited in Daumiller et al., Chapter 20). Relatedly, over 71% of teachers felt that students were not adequately responsive to emergency remote instruction (Leech et al., 2020). During 2019–2020 alone, approximately 12 million full-time college students were impacted by the COVID-19

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global pandemic (IPEDS, 2020, as cited in [Sherif et al., Chapter 7](#)). At the time of this writing, we remain in the midst of this global pandemic. And thus, we are just beginning to comprehend the far-reaching effects that this pandemic will have on education into the future. This co-edited book represents one of the initial efforts to synthesize the research into the cognitive and psychological effects of the COVID-19 global pandemic on high school, college, and graduate-level learners.

## **Our Initial Research Into the COVID-19 Global Pandemic**

This section will present a few representative research studies from our own research since the onset of the COVID-19 global pandemic. During the spring of 2020, colleges and universities around the world were abruptly closed due to the COVID-19 global pandemic. As the result of these mandated university closures, many college and university students around the world were forced to leave their campuses, and to travel to reside with family or friends, away from their college peers with whom they were used to living, on or near campus. Since many college students were now living at home with their families, [Salisbury-Glennon et al. \(2021\)](#) grounded their study in a social cognitive theoretical framework of self-regulated learning to investigate the effects of parental support on college students' motivation, cognitive and metacognitive strategies in the midst of this pandemic. Results from this research indicated that parental support was a statistically significant predictor of college students' motivation, which was a significant predictor of their cognitive and metacognitive strategies. Thus, parental social support was important for college students' learning during this initial phase of the pandemic, in part because many college students were now residing with their families.

In a subsequent study, [Salisbury-Glennon et al. \(2022\)](#) sought to further investigate the effects of these living and learning environments on college students' motivation, cognitive, and metacognitive learning strategies. The results of this study demonstrated that overall, during this unprecedented time, college students' perceived parental support while they were living at home with their parents/guardians during the spring of 2020, and their perceived peer support while they were living back on/near campus with their peers during the spring of 2021 both served to motivate these college students to use effective cognitive and metacognitive strategies. Thus, college students' prevailing social contexts served to motivate them to use effective cognitive and metacognitive learning strategies.

Grounded in social cognitive theory, [Salisbury-Glennon et al. \(2023\)](#) found that college students demonstrated statistically significantly higher use of motivation and cognitive learning strategies in an online learning

environment. Further, the results of this study indicated that maternal social support statistically significantly predicted motivation and cognitive learning strategies. Finally, the results of this investigation demonstrated that college students' resilience significantly predicted motivation, cognitive learning strategies, and metacognitive self-regulation. Thus, the results of this study suggested that contextual variables, such as an online learning environment and maternal support, both served to significantly predict motivation, cognitive learning strategies, and metacognitive self-regulation.

To date, our team's research has demonstrated the positive effects of social support on motivation, cognitive and metacognitive strategies (e.g., Salisbury-Glennon et al., 2021; Salisbury-Glennon et al., 2022) and the effects of learning modality, social support and resilience on motivation and cognitive learning strategies (Salisbury-Glennon et al., 2023). Much of this research has been analyzed using more quantitative analyses including multivariate analyses of variance (MANOVA), structural equation modeling (SEM) and hierarchical linear regression analyses (HLM). Salisbury-Glennon et al. (2023) sought to further elucidate these complex relationships using a more qualitative research methodological approach, thematic analysis, in an effort to better understand these complex relationships. Results of thematic analyses indicated that while there were many participant comments, the results of a thematic analysis suggested three common themes: (a) *social concerns and anxiety*, as many participants mentioned feeling lonely, isolated and/or having a lack of social connection; (b) concern over the quality of their *learning, academic performance and preparation for a future job or career* as the result of the pandemic and online learning, and (c) a *lack of control and/or worry about the future*. The researchers grounded their findings in a theoretical framework of self-determination theory, as they found participant concerns regarding their *relatedness, competence and autonomy* (e.g., Deci & Ryan, 2000; Ryan & Deci, 2017). While we were conducting our own research, it became clear that there was a need for much further research into the effects of the COVID-19 global pandemic across the globe, across different developmental levels, using various research methodologies, and more diverse and underrepresented populations. Thus, the vision for this co-edited book emerged.

## Overview of This Co-Edited Book

The present co-edited book serves to synthesize the research conducted by the authors with a focus on the cognitive and psychological effects of the COVID-19 global pandemic on high school, college, and graduate learners. This research has been conducted in multiple countries across multiple

continents, using multiple diverse populations, using several different research methodologies, along with an emphasis on both the challenges as well as the positive outcomes that have resulted from this unprecedented event, the COVID-19 global pandemic. This co-edited book will summarize the theoretical frameworks, research methodologies, participant populations, research findings, and challenges as well as the positive outcomes of each research study. Further, this book will conclude with a more general thematic summary as well as implications for future inevitable world crises, lock-downs, and other unprecedented events. Finally, this book will be divided into three sections: Section I: High School Learners; Section II: Undergraduate Learners, and Section III: Graduate Learners.

### **SECTION I: HIGH SCHOOL LEARNERS**

The first section of this book emphasized the cognitive and psychological effects of the COVID-19 global pandemic on high school learners. [Allen et al. \(Chapter 2\)](#) found that while high school students reported overwhelmingly negative impacts of the COVID-19 global pandemic, as indicated by significant ACT score declines, their research also indicated several positive effects of the COVID-19 global pandemic on high school learners such as positive and emotional skill development. Further, in Chapter 3, Fletcher et al. used a qualitative case study design based on semi-structured interviews to study the lived experiences of students who were enrolled in a High School STEM Academy. Their findings indicated that while both stakeholders and students reported significant challenges associated with the pandemic, both groups were able to make constant adjustments to create a positive learning experience. [Wang et al. \(Chapter 4\)](#) investigated the experiences of high school students in Taiwan in an effort to study the relations among their mental health, motivation, and self-regulated learning strategies.

### **SECTION II: UNDERGRADUATE LEARNERS**

The second section of this co-edited book examined the cognitive and psychological effects of the COVID-19 global pandemic on undergraduate learners. [Miller et al. \(Chapter 5\)](#) investigated college students' perceptions of instructional practices during emergency remote learning and found that as the result of the pandemic, many of these students were more likely to choose and use online forms of instruction. In Chapter 6, Bridges and Duffy sought to examine the potential differences between first-generation college students and their continuing-generation college peers as a

function of the transition to an online learning environment due to the pandemic. [Sherif et al. \(Chapter 7\)](#) explored the effects of the pandemic on student involvement, in particular, the campus involvement of first-generation college students. [Quadlander-Goff et al. \(Chapter 8\)](#) described the impact of the COVID-19 global pandemic on college students with ADHD in an effort to better understand successful interventions to help this population to succeed in the midst of challenging circumstances.

In Chapter 9, Rosen et al. sought to investigate the effects of co-rumination as a coping strategy in the midst of stressful circumstances. [Tackett et al. \(Chapter 10\)](#) examined the lived roles of in-service and preservice teachers with an emphasis on their constantly changing and/or increased family roles, such as childcare. [Tyler et al. \(Chapter 11\)](#) explored the development of resilience amongst underserved and underrepresented college students enrolled in a program based on a mentoring bridge model. In Chapter 12, Manning et al. explored the effects of emergency remote instruction on the development of nursing students' transitions to readiness for clinical work and interaction with patients. [Williams and Diamond \(Chapter 13\)](#) examined how multilingual students exhibited the various stages of academic acculturation in their written assignments as they emerged into online instruction. These researchers noted that this migration to online instruction was especially difficult for multilingual learners as they needed to not only adapt to a new country, but also to adapt unexpectedly to a new instructional modality.

Finally, [Gutiérrez and Puga \(Chapter 14\)](#) sought to identify engineering students' perspectives on both the positive and negative impacts of COVID-19 on the teaching and learning of algebra and differential equations.

### SECTION III: GRADUATE LEARNERS

The third section of this co-edited book examined the cognitive and psychological effects of the COVID-19 global pandemic graduate-level learners. [Yoo and Marshall \(Chapter 15\)](#) explored the influence of parental status and gender on graduate students' perceived helplessness, self-efficacy, and life satisfaction. They further investigated the effects of the COVID-19 global pandemic on as a function of role strain theory (e.g., [Goode, 1960](#)) versus role accumulation theories ([Sieber, 1974](#)). [Trammell et al. \(Chapter 16\)](#) described the many challenges with regards to socialization, psychological well-being, and academic progress experienced by entering doctoral students at the peak of the pandemic, along with future implications and supports for students in similar situations. In Chapter 17, Cromley et al. conducted a qualitative investigation into perceived stressors experienced

by doctoral students in engineering programs. Specifically, this group of researchers focused on social stressors, stressors related to international travel, and stressors related to familial challenges.

Dong et al. (Chapter 18) investigated gender differences in mental health challenges, motivation and self-regulated learning as experienced by graduate students in the midst of the pandemic. In Chapter 19, Bembenutty et al. described an intervention based on self-regulated learning strategies and academic delay of gratification that they used for teacher candidates. They found that, in the midst of these challenging circumstances, self-regulated learning and self-reflection were very helpful strategies for teacher candidates, especially after the transition to emergency remote learning. Finally, Daumiller et al. (Chapter 20), conducted a systematic meta-review of systematic reviews and meta-analyses into the cognitive and psychological effects of the COVID-19 global pandemic and present their comprehensive findings.

## CONCLUSION

In closing, we would like to thank the many researchers from all over the world who came together in an effort to bring our vision to fruition and to further elucidate the cognitive and psychological effects of the COVID-19 global pandemic on high school, undergraduate and graduate learners. This collaborative effort resulted in a vast collection of research conducted across multiple continents, grounded in multiple theoretical perspectives, using multiple typical, diverse and underrepresented participant populations, and using multiple research methodologies. The present co-edited book presents also both the challenges as well as the positive outcomes found as the result of each research study as the result of the COVID-19 global pandemic. Finally, this book will conclude with a thematic summary of all the presented research as well as the implications for future crises.

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