7-23-2024 10:00 AM

Secondary students' educational experiences during the COVID-19 pandemic: A qualitative evidence synthesis

Hannah D. Litchfield, *Western University*

Supervisor: Burke, Shauna M., *The University of Western Ontario*

A thesis submitted in partial fulfillment of the requirements for the Master of Science degree in Health Promotion

Abstract

The primary purpose of this qualitative evidence synthesis was to examine the literature pertaining to the educational experiences of secondary students, globally, during the COVID-19 pandemic. A secondary purpose was to explore the impact of these experiences on students' psychosocial wellbeing. Database searches resulted in the inclusion of 41 studies. Thomas and Harden's (2008) thematic synthesis approach was used, which revealed five descriptive themes (*Challenging Online Learning Experiences*, *Benefits of Online Learning*, *Complexities Associated with Education-Related Disruptions and Transitions, Social Connections and Support*, *Emerging Educational Needs and Areas of Improvement*) and 20 subthemes. Three analytical themes were also identified (*Student Resilience and Adaptability Through Crisis*, *The Digital Divide and Educational Inequality*, *Reimagining the Future of Education*). Findings revealed that students experienced both challenges and benefits associated with remote learning; they also highlight the need for effective, inclusive, and accessible educational practices that can be adopted now and in the future.

Keywords: secondary students, qualitative evidence synthesis, educational experiences, psychosocial wellbeing, COVID-19, pandemic

Summary for Lay Audience

The primary purpose of this qualitative evidence synthesis (QES) was to examine the literature pertaining to the educational experiences of secondary students, globally, during the COVID-19 pandemic. A secondary purpose was to explore the impact of these experiences on students' psychosocial wellbeing.

Comprehensive database searches resulted in the identification of 41 studies containing qualitative data related to the primary and secondary (if available) objectives. Thomas and Harden's (2008) thematic synthesis approach was used, which revealed five descriptive themes and 20 corresponding subthemes: (1) *Challenging Online Learning Experiences* (*n* = 5 subthemes: Disruptions to Learning Routines and Environments; Technological and Resource Challenges; Engagement, Motivation and Learning-Related Challenges; Academic Concerns; Mental and Emotional Challenges); (2) *Benefits of Online Learning* (*n* = 5 subthemes: Increased Flexibility and Access to Resources; Autonomy, Personal Growth and Skill Development; Benefits of Asynchronous Online Learning; Benefits of Synchronous Online Learning; Mental and Emotional Benefits); (3) *Complexities Associated with Education-Related Disruptions and Transitions* (*n* = 4 subthemes: Perceptions of Loss; Missing Aspects of the In-Person Learning Environment; The "Learning Curve" and Adapting to Online Learning; Concerns about Transitions Between Online and In-Person Learning Environments); (4) *Social Connections and Support* (*n* = 3 subthemes: Experiences of Support from Teachers; Changing Family Dynamics; Missing Social Interactions and Connectedness with Peers and Others); and (5) *Emerging Educational Needs and Areas of Improvement* (*n* = 3 subthemes: Flexible Learning Environments and Assessment Options; Enhanced Technological/Online Learning Training for Teachers; Improved Personalized/Accessible Learning Options).

Expanding upon these descriptive themes and subthemes, a unique contribution of a QES is the identification of analytical themes. In this QES, three analytical themes were developed, including: *Student Resilience and Adaptability Through Crisis, The Digital Divide and Educational Inequality,* and *Reimagining the Future of Education*.

Overall, the findings of this review demonstrate that secondary students worldwide have experienced a combination of challenges and benefits associated with remote learning during the pandemic, which have impacted their psychosocial wellbeing both positively and negatively. Among other implications, these findings underscore the need to develop flexible, inclusive, and accessible educational practices, designed in partnership with secondary students, to support students' diverse needs.

Acknowledgments

First and foremost, I want to thank my amazing supervisor and mentor, Dr. Shauna Burke. Your infectious and inspiring passion for research and unwavering belief in my potential have not only helped me complete this thesis, but also shaped me into the person I am today. Your constant reassurance, caring nature, and dedication to helping me achieve success have provided me with the confidence and support I needed to overcome challenges. I am deeply grateful for your guidance and for being such a significant and positive influence in my life.

Secondly, I want to express my sincere thanks to my thesis examiners, Dr. Tara Mantler, Dr. Jason Brown and Dr. Barbara Fenesi, and additionally, extend my gratitude to Drs. Trish Tucker and Jen Irwin, for their extraordinary mentorship, guidance, and invaluable feedback as members of my advisory committee. I feel incredibly fortunate to have worked with such an accomplished and dynamic group of scholars, whose insights and support have been instrumental in shaping this research and my own personal path forward.

My heartfelt appreciation goes to my lab mates, Julie Vo, Nerida Koert van der Linden, and Balraj Gill. Without your kindness, insightful contributions, accountability check-ins, and genuine friendship, I would not have made it this far in my academic journey.

A huge thank you to all of my friends, who have provided me with continual words of encouragement throughout my entire educational journey. A very special acknowledgment is reserved for my best friend, travel companion, and fellow scholar, Brie O'Sullivan. In both the best and worst of times, your presence has been a bright light and source of strength, and I am so grateful for your friendship.

Above all, I want to thank the most amazing family in the entire world for supporting me throughout this process. To my grandmother, Diane Litchfield – thank you for being the most gracious, tenacious, and resilient role model a young woman could possibly look up to. To my wonderful parents, Mandy and Bob – thank you for your unconditional love, strength, and compassion. You have always encouraged me to dream big, and your unwavering support has been the foundation of my achievements. Thank you to my favorite furry friends,

Fitz and Finn, for providing many much-needed walks, snuggles, and study breaks along the way. To my siblings – Meg, Claire, Tom, and Ryan – your generous encouragement and support over the years have meant the world to me. I consider myself incredibly lucky to be surrounded by such pillars of strength in my life and am proud to call each and every one of you my family.

Last, but certainly not least, I want to thank all the incredible individuals and community support systems that have helped me persevere through the many challenges I have experienced over the last decade. Years ago, when I was diagnosed with a chronic mental illness, I never imagined I could finish undergraduate school, much less pursue a graduate degree, and now experience a quality of life I never dreamed possible. I am profoundly grateful for the privilege of having such a strong support system, which has not only helped me achieve my academic goals but also empowered me to navigate my mental health journey with fortitude, resilience, and hope.

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Chapter 1

1 Introduction and Literature Review

The primary purpose of this qualitative evidence synthesis (QES) was to examine the literature pertaining to the self-reported educational experiences (e.g., perceptions, preferences, satisfaction, perceptions of support, etc.) of secondary school students, globally, during the COVID-19 pandemic (i.e., from March 2020 – January 2024). A secondary purpose was to explore secondary students' self-reported psychosocial wellbeing in the context of this literature. The present chapter consists of a brief overview of the academic literature pertaining to the impact of the COVID-19 pandemic, and consequent school closures, on students worldwide. To this end, a number of systematic reviews and meta-analyses pertaining to the impacts of emergency remote learning on students' educational experiences and psychosocial wellbeing—primarily during the early phases of the pandemic when most studies in this area have been published—are discussed. Next, the population under study in the current review (i.e., secondary students) is introduced, along with an overview of a single systematic review located in relation to this cohort's unique educational challenges and experiences during the COVID-19 pandemic. Gaps in the literature are also highlighted alongside and in support of the rationale for the study, after which the study purposes and hypotheses are outlined. Lastly, the specific approach selected for this review (i.e., QES) and the rationale for its selection are discussed.

1.1 Study Background and Context

On March 11, 2020, the World Health Organization (WHO) declared the novel coronavirus (COVID-19) outbreak a global pandemic (WHO, 2020a, 2020b). Worldwide, governments and public health professionals responded to this emergency by recommending and implementing a range of public health and social measures aimed at slowing the spread of the virus (WHO, 2020c); such measures included masking, physical distancing, and the closure of public institutions and spaces, the latter of which involved the mandated suspension of in-person education (Organization for Economic

Cooperation and Development [OECD], 2020; Reimers, 2020, 2023). Following school closures, emergency remote learning (also referred to as remote learning)—defined as temporary, fully remote teaching solutions including online platforms, TV or radio broadcasts, and the distribution of take-home printed learning materials (Pregowska et al., 2021, United Nations Educational Scientific and Cultural Organization [UNESCO], 2020b)—was swiftly implemented across the globe (Jelińska & Paradowsk, 2021; Li & Lalani, 2020; OECD, 2020; Pregowska et al., 2021; Thurab-Nkhosi et al., 2021).

Pandemic-related school closures were implemented to reduce social contacts and to stop viral transmission at the community level (Ayouni et al., 2021; Hume et al., 2023; WHO, 2020a, 2020b, 2020c). According to the Organization for Economic Cooperation and Development (OECD, 2020), primary and secondary school closures took place in 188 countries from March to June 2020, affecting the education of over 1.7 billion children and adolescents. It was also estimated that more than 90 percent of education ministries worldwide implemented various remote learning approaches, via the internet, radio, and/or television, between March 2020 and February 2021 (Dreesen et al., 2020; UNESCO, 2021b; UNESCO, UNICEF, and World Bank, 2020). Remote learning has varied greatly across geographic locations as well as within communities; while some school systems were equipped with remote learning resources prior to the COVID-19 pandemic, others were tasked with acquiring and using new technologies, tools, and strategies (if available and accessible), often with minimal training, preparation, or infrastructure in place (Pregowska et al., 2021; UNESCO, 2021a, 2020b).

As the COVID-19 pandemic and related public health measures have continued to evolve, educational institutions have modified and adapted their modes of education delivery (Gallagher-Mackay et al., 2021; Reimers, 2023). At various times points throughout the pandemic—and depending on location, local COVID-19 case counts, and government guidelines—students were permitted to return to in-person learning with strict public health measures in place (e.g., masking, physical distancing, and enhanced cleaning procedures; Gallagher-Mackay et al., 2021; Reimers, 2023). Hybrid options (i.e., a combination of online and in-person learning) and fully online educational options (i.e., online schools) were also developed and made available to families in some

jurisdictions, and mandated transitions back to online/remote education took place during surges of the virus in many locations around the world (UNESCO, 2020b). Not surprisingly, such unprecedented shifts in education—as well as the resources and supports available to engage in learning at individual, system, and population levels—have had a profound impact on educational systems, students, teachers, and families (Reimers, 2023). In fact, according to Reimers (2023), widespread educational disruptions resulting from pandemic-related school closures represents "the most significant shock to education systems globally since public education was first 'invented'" (p. 6).

1.2 Impact of the COVID-19 Pandemic on Students Globally

Several review studies have been conducted to examine the impacts of the COVID-19 pandemic on education-related outcomes and experiences among students globally, spanning from pre-primary (e.g., Bozkurt et al., 2022; Moscoviz & Evans, 2022) through to post-secondary education levels (e.g., Betthäuser et al., 2023; Bond et al., 2021; Daumiller et al., 2023; Di Pietro, 2023; Donnelly & Patrinos, 2022; Moscoviz & Evans, 2022; Panagouli et al., 2021; Tang, 2023). Generally speaking, such reviews have centred around topics such as student learning (i.e., academic achievements, learning deficits/losses, and academic performance; Betthäuser et al., 2023; Di Pietro, 2023; Donnelly & Patrinos, 2022; Panagouli et al., 2021), psychosocial wellbeing (Fang et al., 2022; Viner et al., 2022), and experiences of emergency remote learning (Bond et al., 2021).

In a systematic review conducted to examine the impact of the first year of the COVID-19 pandemic on student learning (n = 8 studies published between March 2020 and March 2021), Donnelly and Patrinos (2022) found that most (7 out of 8) studies reported learning losses among primary, secondary, and post-secondary students, with particularly notable declines in subjects such as mathematics and reading. While the magnitude of these losses varied across studies, the authors found that younger students (i.e., primary school students) and those from lower socioeconomic backgrounds experiencing more significant academic setbacks (e.g., declines in standardized test scores, increased

learning difficulties). Additionally, the authors highlighted an increase in educational inequalities, as students with limited access to digital learning resources were found to have been disproportionately and adversely affected by the COVID-19 pandemic. As a result of their findings, Donnelly and Patrinos concluded that more comprehensive and geographically diverse research is needed to understand the potential long-term effects of the pandemic on students globally. Future directions, as noted by the authors, include increasing the scope and scale of research studies, focusing on a wider range of countries and educational systems, and exploring interventions that can help bridge the learning gaps and inequities caused and/or exacerbated by the COVID-19 pandemic.

Also early on in the pandemic, Panagouli and colleagues (2021) conducted a systematic review—consisting of 42 studies published from March 2020 - July 2021 and involving more than 1,500,000 students, 14,000 teachers, and 22,000 caregivers—to explore the impact of the COVID-19 pandemic on the academic performance of school-aged children and adolescents globally. The findings were multifaceted, revealing that students' academic performance was impacted both positively and negatively during the early stages of the pandemic. More specifically, results showed that in comparison to pre-pandemic years, students experienced both learning losses and gains, with younger students and those with neurodevelopmental disorders or special education needs being more negatively impacted. Moreover, it was found that students from lower socioeconomic backgrounds experienced greater challenges with remote learning due to limited access to reliable internet, digital devices, and conducive learning environments at home.

In a subsequent systematic review and meta-analysis consisting of 42 studies from 15 countries, Betthäuser and colleagues (2023) assessed the effects of the COVID-19 pandemic on learning progress amongst school-aged children (i.e., elementary and secondary students). Study searches were conducted by the authors from April 2021 to August 2022. Results showed that educational disruptions caused by the COVID-19 pandemic were associated with substantial learning deficits amongst students, particularly in situations where digital learning tools were unavailable (Betthäuser et al., 2023). The pooled effect size across all studies was reported to be $d = -0.14$, which, according to the

authors, equates to a loss of approximately 35% of a school years' worth of learning. Betthäuser et al. (2023) highlighted the importance of upgrading digital learning infrastructure, in conjunction with traditional schooling, to mitigate future educational disruptions and to address ongoing learning deficits stemming from the pandemic. The authors also advocated for additional research to monitor the learning progress of primary and secondary student cohorts across different countries to examine how learning deficits and needs have evolved since the onset of the pandemic (Betthäuser et al., 2023).

Also related to student learning and success, Di Pietro (2023) conducted a meta-analysis (n = 39 studies from 19 countries) to examine the impact of the COVID-19 pandemic on academic achievement at primary, secondary, and tertiary (i.e., post-secondary) education levels. Studies were included in the meta-analysis if they contained data collected both prior to and during the COVID-19 pandemic (i.e., searches conducted up to July 2022) using objective achievement metrics and indicators (e.g., standardized test scores; Di Pietro, 2023). Findings showed that the pandemic led to a significant global decrease in student achievement, with learning deficits reported to be particularly evident in science, technology, engineering, and math (STEM) areas. Similar to previous reviews, the authors noted that the impact of the pandemic on student achievement was found to vary across socioeconomic groups, with students from less advantaged socioeconomic backgrounds most severely affected. Moving forward, Di Pietro (2023) noted that it is critical to gain a more fulsome understanding of how the COVID-19 pandemic has impacted various student populations in an effort to provide ongoing learning supports and resources.

1.3 Impact of the COVID-19 Pandemic on Secondary Students

One cohort of students that has experienced significant challenges associated with the loss and/or disruption of their regular school environments is secondary students (e.g., Offner, 2022; Reimers, 2023; Verhoeven et al., 2019; Widlund et al., 2020). Broadly speaking, secondary students have been defined by the United Nations Educational Scientific and Cultural Organization (UNESCO) as students enrolled in levels two (the first stage of secondary education, approximately 12-16 years of age; UNESCO Institute

for Statistics, 2011) and three (the stage of education following completion of compulsory education, approximately 15-19 years of age; UNESCO Institute for Statistics, 2011). The secondary school environment has been highlighted as an important contributor to the psychosocial development of adolescents (Arain, 2013; McNeely & Blanchard, 2009); that is, during the critical developmental period of adolescence (defined as the phase of life between childhood and adulthood; WHO, n.d.), individuals develop a more defined and concrete sense of "self" and are influenced primarily by peers, schoolmates, and environments outside of the family/home (Arain, 2013; McNeely & Blanchard, 2009; Offner, 2022; Verhoeven et al., 2019). Consequently, disruptions to the educational environment during this developmental phase are likely to impact adolescents' development, growth, and psychosocial wellbeing (Hatzichristou et al., 2021; Nandall et al., 2022; Offner 2022; Verhoeven et al, 2019; Widlund, 2020).

To date, only one systematic review has focused specifically on the impact of the COVID-19 pandemic on secondary students. This review was conducted by Bond and colleagues (2021; n = 81 qualitative, quantitative, and mixed-methods studies from 38 countries) to explore the blended and online teaching and learning experiences of students, parents, and educators during the first year of the COVID-19 pandemic (i.e., study searches took place in early May 2021). Five specific research areas were examined, including student engagement, online assessments, peer collaboration, parent engagement, and future directions (Bond et al., 2021). Key findings revealed that comprehension of course materials and self-regulation skills were primary indicators of secondary students' engagement during emergency remote learning. More specifically, it was reported that educational tools and approaches such as the use of online assessments, collaborative learning management systems, live synchronous lessons, and teacher-created videos were particularly effective in fostering secondary students' engagement (Bond et al., 2021). Conversely, social isolation was the most frequently cited factor leading to academic disengagement among secondary students (e.g., poor attendance in online classes, difficulties working with peers, and challenges associated with seeking help from teachers; Bond et al., 2021).

Findings from Bond and colleagues' (2021) systematic review also revealed that parental engagement and support were critical for secondary students' success, although social inequities affected some caregivers' capacity to engage with their children's learning, as well as to provide the necessary materials, technological and content support, and study spaces in the home environment. Thus, the authors concluded that while in-person classroom instruction remains an essential teaching and learning strategy, educational institutions must also adapt and focus on enhancing technological accessibility and literacy amongst both students and teachers (Bond et al., 2021). Further, to address disparities in students' experiences of remote learning, the development of comprehensive best practices and guidelines for online teaching and learning by school districts and governing bodies was recommended. In terms of future directions, Bond and colleagues (2021) identified a need for further research to explore and develop effective online assessment practices, peer collaboration techniques, and strategies to enhance parental engagement in online learning environments. Additionally, these authors highlighted the pressing need for researchers to explore the impact of reduced social engagement (e.g., fewer face-to-face interactions) and prolonged online learning (i.e., extended periods of remote education) brought on by the pandemic on secondary students' social-emotional development.

1.4 Impact of the COVID-19 Pandemic on Students' Psychosocial Wellbeing

Indeed, a focus on the educational experiences of students, and the impact of these experiences on their psychosocial wellbeing, is critical. While not focused on secondary students specifically, a comprehensive systematic review and meta-analysis conducted by Fang et al. (2022) explored the prevalence of psychological stress among students (ranging from primary through to postgraduate) globally during the first two years of the COVID-19 pandemic. Searches of English and Chinese databases yielded 104 eligible cross-sectional studies containing more than 2 million student participants. Results showed that in comparison to global rates prior to the pandemic, students had a higher incidence of psychological stress during the COVID-19 pandemic; pooled prevalence rates for depression, anxiety, stress, and fear symptoms among students during the

pandemic were reported to be 32%, 28%, 31%, and 33%, respectively. The authors also found that students who identified as female, being an undergraduate or graduate student, and those who were not medical students exhibited a higher prevalence of psychological stress during the first two years of the COVID-19 pandemic. In conclusion, Fang and colleagues (2022) highlighted the importance of exploring psychological stress in student populations, as well as the necessary measures and steps that should be taken to reduce such outcomes moving forward.

Another systematic review conducted by Viner et al. (2022; n = 36 studies from 11 countries) delved into the broader psychosocial and health-related impacts of school closures on primary and secondary school students during the first wave of the COVID-19 pandemic (i.e., February to July 2020). Among other findings, Viner and colleagues reported that overall, early school closures were found to be associated with several adverse mental health and behavioural outcomes (e.g., defiance, restlessness, and inattention) among students. More specifically, 25 (69%) of the studies included in the systematic review pertaining to mental health revealed that 18% to 60% of students scored above risk thresholds for distress (most notably, anxiety and depressive symptoms); proportions noted by the authors to exceed those documented for students prior to the COVID-19 pandemic. Viner and colleagues also found that some health behaviours (i.e., screen time, social media use, physical activity) were found to have been negatively impacted during the early phases of the pandemic, and that findings for other health behaviours (i.e., sleep, diet) were inconclusive across studies. In conclusion, the authors noted that disruptions to routine, social interaction, and access to school-based supports were likely among the many factors that played a role in the adverse outcomes observed among students in many studies.

1.5 Gaps in the Literature

To date, there has yet to be a comprehensive exploration of the educational experiences, including the psychosocial wellbeing, of secondary students during the COVID-19 pandemic. As noted above, Bond and colleague's (2021) systematic review of global emergency remote learning in secondary schools was conducted early in the pandemic and contained a combination of qualitative, quantitative, and mixed methods studies

focused on the perspectives of students, teachers, parents, and school leaders. While such an approach was useful in that it provided a thorough and comprehensive overview of the literature in this area from multiple perspectives, the researchers did not focus solely on qualitative studies (although they represented nearly half of the studies included in their review). As a result, important gaps undoubtedly remain in our understanding of secondary students' educational experiences, as noted by students themselves, as the pandemic has continued to evolve beyond the early phases of the pandemic, when many reviews in this area were conducted.

It is widely accepted that qualitative studies play a critical role and provide a unique advantage in that they are able to delve deeper into the lived experiences of specific populations, providing rich contextual information that is often missed in quantitative studies (Flemming & Jones, 2020). The importance of high-quality qualitative research, including qualitative evidence syntheses (QES), is widely recognized (Carroll, 2017; Clark, 2016; Flemming et al., 2019; Flemming & Jones, 2020; Thomas & Harden, 2008), and researchers in the area of education have highlighted the need for qualitative studies to explore the experiences of students throughout the COVID-19 pandemic (e.g., Reimers, 2023; Seynhaeve et al., 2022). In particular, the use of QES in the areas of health promotion and education has been recommended as a useful means through which scholars can systematically engage with the extant qualitative literature to enhance the scientific base and innovation within these fields, broadening and deepening our understanding of certain phenomena (Clark, 2016).

1.6 Study Purposes and Hypotheses

In light of the growing evidence regarding the broad impact of the COVID-19 pandemic on students worldwide, as well as the documented need for well-conducted syntheses of the qualitative literature in this area, the primary purpose of this QES was to examine the literature pertaining to the self-reported educational experiences (e.g., perceptions, preferences, satisfaction, perceptions of support, etc.) of secondary school students, globally, during the COVID-19 pandemic (i.e., from March 2020 – January 2024). A secondary purpose was to explore secondary students' self-reported psychosocial wellbeing in the context of this literature. It was hypothesized, based on existing

literature in the area (e.g., Bond et al., 2021; Fang et al., 2022; Viner et al., 2022), that secondary students would report a combination of both positive and negative educational experiences, and consequently, psychosocial outcomes, as a result of the transition to remote learning during the COVID-19 pandemic.

A QES approach was selected given its ability to systematically explore multiple sources of qualitative data, allowing for the identification of key themes and patterns across a range of studies (Clark, 2016; Thomas & Harden, 2008). This approach is particularly relevant when exploring the self-reported experiences of secondary students, as adolescence is a critical stage for identity formation and psychosocial development (McNeely & Blanchard, 2009; Verhoeven et al, 2019) during which qualitative approaches may yield richer, more nuanced insights compared to quantitative data collection approaches (Flemming & Jones, 2020).

Chapter 2

2 Methods

The present chapter includes an overview of the methodology employed for the qualitative evidence synthesis (QES). Specifically, it outlines the development of a pre-planned review protocol including a comprehensive search strategy, based on modified PICOS and PICo frameworks (Hosseini et al., 2024; Methley et al., 2014), as well as the study eligibility (i.e., inclusion and exclusion) criteria. The study screening and extraction processes are then outlined, after which the use of Thomas and Harden's (2008) thematic synthesis approach to analyze and synthesize data from primary studies is described in detail.

2.1 Qualitative Evidence Synthesis (QES) Protocol Development

To ensure the rigour and transparency of this QES, a comprehensive review protocol was developed by the research team in November 2023 (see Appendix A). Given that a QES is a form of systematic review (Flemming & Noyes, 2021), developing and planning a study protocol prior to commencing the review process ensures that researchers are adhering to the highest standards of quality and reliability in research syntheses (Al Shakarchi, 2022). This step was also undertaken to minimize bias throughout the review process (Flemming & Noyes, 2021).

2.2 Reporting Framework

The QES was conducted and reported in accordance with the ENTREQ (i.e., ENhancing Transparency in REporting the synthesis of Qualitative research; Tong et al., 2012) framework, which consists of a 21-item checklist designed to aid researchers in the design, execution, and transparent reporting of qualitative reviews (see Appendix B). The ENTREQ framework is recognized for its systematic and comprehensive approach, and has been recommended for use to improve the reporting—and therefore, the quality and reliability—of qualitative syntheses (Flemming & Noyes, 2021; Tong et al., 2012).

2.3 Search Strategy

The pre-planned, comprehensive search strategy for this QES was developed in alignment with our study objectives and using a combination of modified PICOS (Population, Intervention, Comparison, Outcome, and Study type; Methley et al., 2014) and PICo (Population, phenomena of Interest, and Context; Hosseini et al., 2024) frameworks. While the traditional PICOS framework (Methley et al., 2014) was used to operationalize the population (*secondary students*), outcome (*educational experiences*), and study type (*qualitative*), the PICo framework (Hosseini et al., 2024) guided our operationalization of the phenomenon of interest (*education*) and context (*COVID-19 pandemic*). The PICo framework was included given its use in qualitative studies (e.g., Gomez et al., 2022; Sun et al., 2021) focused on participants' experiences and relationships with specific phenomena of interest (Flemming et al., 2018; Hosseini et al., 2024). Specific search terms were identified and revised in consultation with a university librarian and based on existing literature in the areas of education, child/adolescent health, and psychology. Table 1 contains an overview of the search terminology used for the study, organized by modified PICOS and PICo categories and formatted for the MEDLINE database (National Library of Medicine, n.d.); search terms and strategies were modified for the remaining databases as required.

In line with recommended database selection practices for systematic reviews (e.g., Bramer et al., 2017), eight electronic databases deemed relevant to the topic areas (i.e., CINAHL, EMBASE, MEDLINE, PsycINFO, Scopus, ERIC, the Education Database through Western Libraries, and Web of Science) were identified and comprehensively searched. Following the initial database search, Google Scholar was also utilized to identify additional peer-reviewed articles that may not have been captured previously. An initial search strategy was created in June 2023 and underwent further refinement for several weeks via preliminary practice searches using the identified databases. The first full QES search took place between August 8 – 10, 2023 using variations of the terminology outlined in Table 1.

A second iteration of searches, including database (i.e., CINAHL, EMBASE, MEDLINE, PsycINFO, Scopus, ERIC, the Education Database through Western Libraries, Web of

Table 1

Qualitative Evidence Synthesis (QES) Search Strategy and Terminology, by Modified PICOS and PICo Framework Categories

Modified PICOS/ PICo Element	**Focus**	**Search Terms**
Population ***What is the specific population of interest?***	Secondary students	"Secondary students" OR "Secondary school students" OR "Grade 9" OR "Grade 10" OR "Grade 11" OR "Grade 12" OR "Adolescents" OR "Adolescent students" OR "Secondary school curriculum" OR "ISCED Level 2" OR "International Standard Classification of Education Level 2" OR "ISCED Level 3" OR "International Standard Classification of Education Level 3" OR "Year 10" OR "Year 11" OR "Year 12" OR "Year 13" OR "Year 13 students" OR "Secondary college students" OR "Collegiate institute" OR "Grammar school" OR "Academy" OR "Lower sixth" OR "High school" OR "High schools" OR "High school seniors" OR "High school juniors" OR "High school sophomores" OR "High school freshmen" OR "High school graduates" OR "Secondary school students" OR "Secondary education" OR "Lower secondary education" OR "Lower secondary school" OR "Upper secondary education" OR "Upper secondary school" OR "Senior high school" OR "Senior secondary" OR "Senior cycle" OR "Fourth form" OR "Fifth form" OR "Lower sixth form" OR "Upper sixth form" OR "Upper sixth"
Phenomena of Interest	Education	"Education" OR "Alternative learning methods" OR "Learning management system" OR "Technology-based

What phenomenon of interest am I looking at?		learning" OR "Internet-based learning" OR "Remote learning" OR "Emergency remote learning" OR "Online education" OR "Digital learning" OR "In-person schooling" OR "In-person education" OR "School" OR "Schooling" OR "Courses" OR "Classes" OR "Virtual learning" OR "Distance learning" OR "Distance education" OR "Hybrid course delivery" OR "Mobile digital education" OR "Remote curriculum" OR "Virtual curriculum" OR "e-learning" OR "Digital education" OR "In-person learning" OR "In-person instruction" OR "Classroom learning" OR "Classroom instruction"
Context ***In what context is the phenomenon of interest taking place?***	COVID-19 pandemic	"COVID-19 pandemic" OR "Pandemic" OR "COVID" OR "Novel coronavirus" OR "SARS-CoV-2" OR "SARS Coronavirus" OR "SARS Coronavirus 2" OR "Coronavirus Disease 2019 Virus" OR "Coronavirus" OR "2019-nCoV" OR "2019 Novel Coronavirus" OR "severe acute respiratory syndrome coronavirus 2" OR "SARS-CoV-2 virus"
Outcome ***What will I measure?***	Educational experiences	"Educational Experiences" OR "Experience" OR "Perceptions" OR "Preferences" OR "Satisfaction" OR "Support" OR "Social support"
Study Type	Qualitative data	"Qualitative" OR "Mixed methods" OR "Focus group" OR "Focus group discussions" OR "Interviews" OR "Individual interviews" OR "Structured interviews" OR "Unstructured interviews" OR "Semi-structured interviews" OR "Diaries" OR "Journals" OR "Document

What study designs meet the inclusion criteria?	analysis" OR "Open-ended survey" OR "Open-ended survey questions"

Note. ISCED = International Standard Classification of Education (UNESCO Institute for Statistics, 2011). PICOS = Population, Intervention, Comparison, Outcome, and Study type (Methley et al., 2014). PICo = Population, phenomena of Interest, and Context (Hosseini et al., 2024). The terminology and strategy above are formatted for Medline (National Library of Medicine, n.d.) and were adapted for the remaining databases as necessary.

Science, and Google Scholar) and citation searches using reference lists of the relevant studies identified in the previous step, took place in January 2024, allowing for the incorporation of the most recent studies before the data extraction, coding, and analysis phases (which commenced in February 2024). The entire search process was completed by January 31, 2024.

2.3.1 Eligibility Criteria

2.3.1.1 Inclusion Criteria

Studies were included in the QES if they: (a) focused on *secondary students*, as defined by the International Standard Classification of Education (ISCED) framework (UNESCO Institute for Statistics, 2011); (b) explored students' *educational experiences* (including, but not limited to, student preferences, satisfaction, and perceptions of support); (c) contained data collected during the COVID-19 pandemic (i.e., March 2020 – present); (d) reported *qualitative data* regarding secondary students' educational experiences; and (d) were available in English and full-text via the databases searched. For the purpose of the present review, *secondary students* were operationally defined as those in lower secondary school (ISCED 2; commonly referred to as junior secondary school, middle school, or junior high school) or upper secondary school (ISCED 3; commonly referred to as senior secondary or high school; UNESCO Institute for Statistics, 2011). Generally speaking, lower secondary school students have been defined as those between the ages of 11 and 15 years (i.e., junior high school, or Grades 7-9; National Center for Education Statistics [NCES], n.d.; UNESCO, 2020), while upper secondary school students have been defined as those between the ages of 16 and 19 years (i.e., senior high school, or Grades 10-12; National Center for Education Statistics [NCES], n.d.; UNESCO, 2020).

The time period criterion consisted of studies with data collection periods ranging from March 2020 (i.e., when COVID-19 was declared a global pandemic; WHO, 2020) to the date of the final literature search (i.e., January 31, 2024). These times periods were deemed appropriate given the ongoing nature of the COVID-19 pandemic; that is, while the WHO declared an end to the COVID-19 *global emergency* in May 2023, the organization has also indicated that we are still living in a pandemic (Bartels, 2024).

Lastly, studies that were qualitative or mixed methods in design were included in the QES. With regard to mixed methods studies, qualitative data must have been available and separate from the quantitative data to be eligible for inclusion.

2.3.1.2 Exclusion Criteria

Studies were excluded from this QES if they: (a) reported qualitative data that could not be discerned separately from quantitative data (i.e., findings from qualitative and quantitative data were ‘grouped’); (b) did not present qualitative data specific to the self-reported experiences of secondary students only (e.g., data were combined with other outcomes or population groups); and/or (c) were not peer-reviewed or were derived from grey literature.

2.4 Study Screening and Extraction Process

The study screening process was conducted by two researchers (HL, BG) using Covidence, an online tool that streamlines parts of the systematic review process (e.g., screening title/abstract and full-text of studies), facilitates efficient division of tasks among team members, and enables the tracking of project progress (Cochrane, n.d.). Meade and Richardson’s (1997) model for study screening was used, which consists of three sequential stages: title, abstract, and full text reviews. Initially, both researchers independently assessed the potential eligibility of each title, assigning them to preliminary 'include' or 'exclude' categories in Covidence (Cochrane, n.d.). Next, the researchers conducted independent reviews of study abstracts, again deciding whether to include or exclude studies based on the a priori inclusion and exclusion criteria. Lastly, full text screening was conducted for studies remaining in the 'include' category. Neither reviewer was blind to journal titles, study authors, or institutions. Disagreements were resolved through real-time discussion until consensus was achieved; this process was facilitated by conflict resolution features available in Covidence (i.e., ‘yes,’ ‘no,’ and ‘maybe’ options; Cochrane, n.d.). The iterative discussion process involved both reviewers presenting their rationale for inclusion or exclusion, followed by a collaborative review of the study's eligibility and relevance to the research question. If consensus could not be reached, a third reviewer was involved to help make the final

decision. Interrater reliability was quantified using the kappa statistic (McHugh, 2012), with values ranging from -1 (complete disagreement) to 1 (perfect agreement). This statistic was calculated at each stage of the screening process; the two reviewers agreed on 100% of studies at the title and abstract stages, achieving a kappa statistic of 1.00 (perfect agreement; McHugh, 2012). During the full-text stage, the reviewers disagreed on 10% of studies, resulting in a kappa statistic of 0.90 which indicates a high level of agreement (Belur et al., 2021; McHugh, 2012). The small number of disagreements at this stage resulted primarily from one reviewer selecting ‘yes’ or ‘no’ (in Covidence) and the other selecting ‘maybe’ (that is, no disagreements arose from one reviewer selecting ‘yes’ and the other ‘no’). As such, the third reviewer was not needed as a ‘tie-breaker’.

2.5 Data Extraction

Upon completion of the screening process, information and data from each eligible study were extracted by two researchers (HL, BG) using an Excel spreadsheet. Study information included, among other categories, participant characteristics (i.e., sample size, age, education level, and/or grades of study), geographic location(s) of the study, date(s) of data collection, recruitment methods, study design, data collection processes, and qualitative data analysis. Qualitative data extracted from eligible studies included those related to secondary students’ self-reported experiences (primary outcome) and psychosocial wellbeing (if available; secondary outcome) during the COVID-19 pandemic. All portions of study results sections containing qualitative data relevant to secondary students’ educational experiences and/or psychosocial wellbeing were extracted and included for analysis, as well as any portions of study discussion sections (e.g., participant and/or author quotes) that may have been relevant to the study objectives.

2.6 Quality Assessments

There are varied opinions about whether quality assessments should be conducted for qualitative studies included in reviews and evidence syntheses (e.g., Carmona et al., 2022; Flemming & Noyes, 2021; Garside, 2014; Noyes et al., 2018a, 2018b). For example, Flemming and Briggs (2007) have suggested that quality appraisals in QES are

not always necessary, particularly when the primary aim of the review is to provide a rich and comprehensive understanding of a phenomenon (versus assessing the validity or reliability of primary qualitative studies). Furthermore, qualitative studies included in many syntheses are often diverse in nature (i.e., including different study designs, data collection methods, and analytical approaches; Flemming & Noyes, 2021; Noyes et al., 2018b); thus, using a one-size-fits-all quality appraisal method could potentially oversimplify or misrepresent the nuanced findings that each study contributes to the QES (Flemming & Briggs, 2007). For these reasons and given the exploratory nature and primary focus of our QES (i.e., to gain an in-depth understanding of secondary students' educational experiences during the COVID-19 pandemic), a formal quality appraisal was not completed.

2.7 Data Synthesis

In line with recommendations advanced by the Cochrane Qualitative and Implementation Methods Group (i.e., Cargo et al., 2018; Flemming et al., 2018; Harden et al., 2017; Harris et al., 2018; Noyes et al., 2017a; Noyes et al., 2017b), Thomas and Harden's (2008) thematic synthesis approach was used to synthesize findings from studies containing qualitative data. This method, similar in nature to Braun and Clarke's (2006) thematic analysis used in many primary qualitative research studies, was selected for use based on its ability to synthesize diverse primary qualitative data. More specifically, Thomas and Harden's thematic synthesis method facilitates an in-depth exploration of similarities, variations, and trends across primary studies containing qualitative data, allowing researchers to establish themes and patterns, as well as potential links between study authors' interpretations and participants' insights (Thomas & Harden, 2008).

The data synthesis process was conducted using an inductive approach (i.e., based on the data presented in the primary studies; Thomas & Harden, 2008) and was completed in three stages: (1) line-by-line coding of the qualitative findings reported in primary studies; (2) the construction of codes into descriptive themes; and (3) the generation of analytical themes (Thomas & Harden, 2008). According to Thomas and Harden (2008), line-by-line coding of primary study findings involves reviewing the full text (including all written sections, figures, tables, and appendices) of each study included in the QES to

identify preliminary codes. These codes, established initially as tentative labels or descriptors used to capture key words or ideas reported in each study, were entered into NVivo 14 (Lumivero, 2023). Once the two reviewers completed this step, preliminary codes were discussed, refined, and agreed upon—at times with the assistance/input of a third reviewer—before proceeding to the next stage of data synthesis.

The second step of Thomas and Harden's (2008) thematic synthesis process involves organizing codes based on similarities and/or differences and grouping related codes into descriptive themes and subthemes. Through iterative review and discussion amongst a team of two to three researchers, preliminary codes were organized into descriptive themes and subthemes using Microsoft Word. This process involved making comparisons within and across studies, coding subsequent studies into pre-existing concepts, and creating new concepts when necessary (Thomas & Harden, 2008). These steps ensured coherence, accuracy, and comprehensiveness in capturing the data as a whole from primary studies, making each descriptive theme as reflective of the data as possible. Throughout this process—and unique to Thomas and Harden's (2008) approach to qualitative evidence synthesis—the review team consistently referred back to the primary studies to ensure that the themes and subthemes that were emerging were based on both the experiences of the study participants themselves (i.e., first-order constructs generated via participant quotes; Noblit & Hare, 1988), as well as the broader study findings as interpreted and reported by the author(s) of the primary studies (i.e., second-order constructs; Noblit & Hare, 1988).

The third and final step in Thomas and Harden's (2008) data synthesis framework involves the development of analytical themes. According to Thomas and Harden, analytical themes represent deeper-level interpretations and insights derived from the descriptive themes generated in the previous step and in relation to the QES research objectives. More specifically, the generation of analytical themes involves synthesizing and analyzing the data at a more conceptual level in an effort to go beyond mere description, to offer practical and/or theoretical insights that emanate from the overarching research objectives of the QES (Noblit & Hare, 1988; Thomas & Harden, 2008). In the present study, the team of reviewers first thoroughly examined and

discussed the descriptive themes within the context of the QES research questions and objectives. Initial ideas for analytical themes were then generated, refined, and subsequently defined by the reviewers through further brainstorming and discussion. As part of these discussions, connections were also made to the broader literature to assess the implications of the findings, providing both practical and theoretical insights.

Chapter 3

3 Results

3.1 Study Characteristics

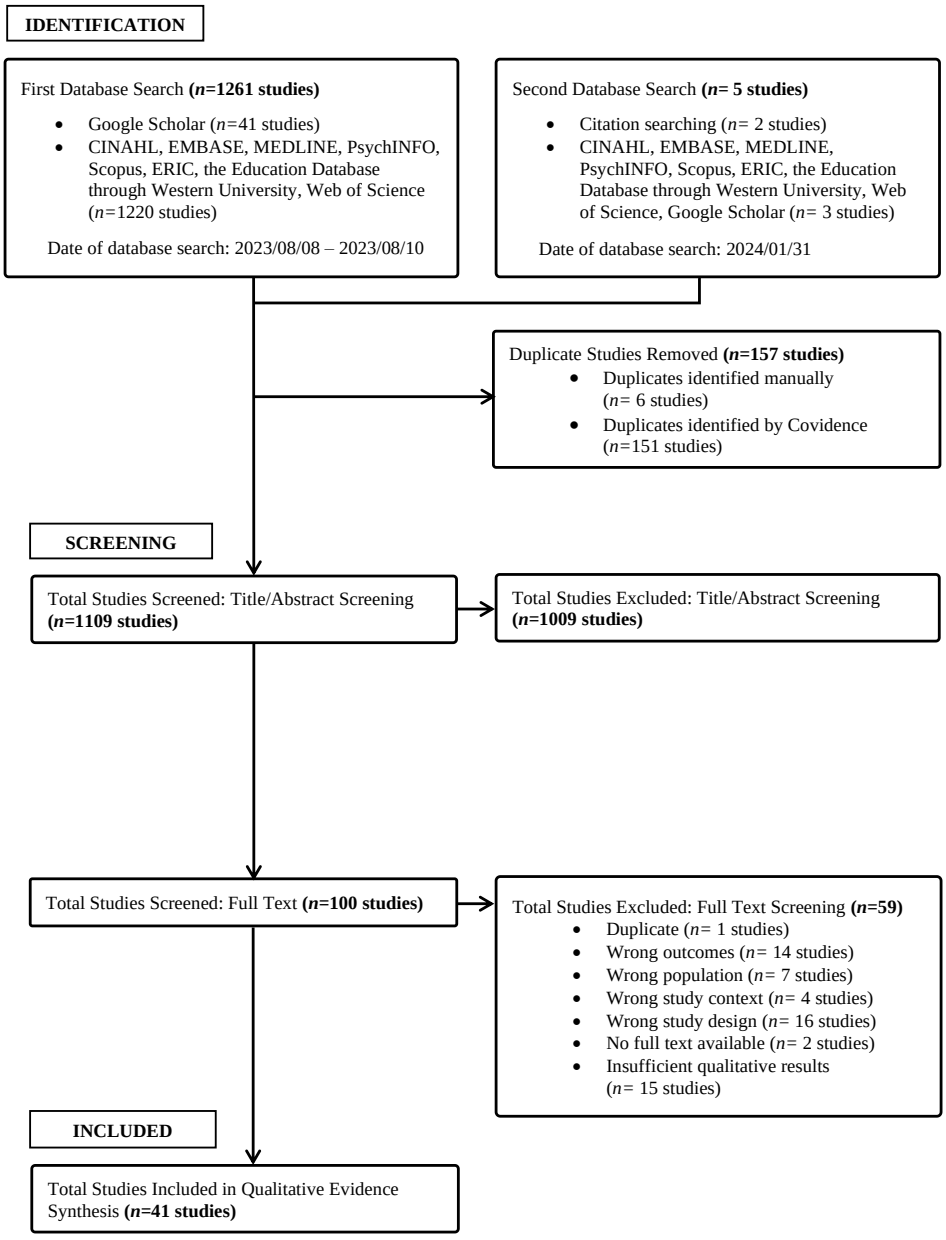
Database searches yielded 1,266 references (*n* = 1,261 from the first search in August 2023, plus 5 from the second search in January 2024), which, after duplicates were removed (*n* = 157), resulted in a total of 1,109 unique studies. Subsequent title and abstract screening using the pre-determined inclusion and exclusion criteria resulted in the exclusion of 1,009 studies. Of the 100 studies remaining for full-text review, 59 were excluded for failing to meet the study eligibly criteria. Thus, a total of 41 studies remained and were deemed eligible for inclusion in the QES. Please see Figure 1 for a detailed Preferred Reporting Items for Systematic Reviews and Meta-analyses (PRISMA) flow diagram for the identification, screening, and selection of included studies (Page et al., 2021).

The 41 studies included in the QES contained more than 7,000 eligible secondary student participants from 23 different countries; the United States (*n* = 9; 22%), the United Kingdom (*n* = 7; 17%), and Turkey (*n* = 3; 7%) emerged as the nations in which data collection and study publication were most prevalent. With regard to study type, more than half of the included studies were primary qualitative studies (*n* = 24; 57%), while the remainder were mixed methods (*n* = 18; 43%) in which qualitative data were available for extraction and analysis (separate from any quantitative data reported). Several qualitative data collection methods were reported across studies, used either alone or in combination, including virtual and/or telephone-based semi-structured interviews (*n* = 30; 73%), virtual focus and discussion groups (*n* = 8; 20%), online surveys containing open-ended questions (*n* = 8; 20%), and in-person interviews (*n* = 1; 2%).

With regard to data analysis, Braun and Clarke's (2006) thematic analysis emerged as the most common method utilized by study authors (*n* = 21; 51%), followed by content analysis (approaches by Hsieh & Shannon, 2005 and Lindgren et al., 2020; *n* = 6; 15%),

Figure 1

PRISMA Flow Diagram Outlining the Identification, Screening, and Selection of Primary Studies Included in the Qualitative Evidence Synthesis (QES)



Note. Adapted from Page, M. J., McKenzie, J. E., Bossuyt, P. M., Boutron, I., Hoffmann, T. C., Mulrow, C. D., ... & Moher, D. (2021). The PRISMA 2020 statement: An updated guideline for reporting systematic reviews. *British Medical Journal, 372*, n71. https://doi.org/10.1136/bmj.n71

and phenomenological analysis (approaches by Moustakas, 1994 and Smith et al., 2009; *n* = 3; 7%). Appendix C contains a detailed summary of the 41 studies included in the QES, inclusive of study characteristics and findings pertaining to both the primary and secondary objectives (if applicable).

3.2 Descriptive Themes

As noted previously, the second phase of Thomas and Harden's (2008) thematic synthesis process involves organizing and grouping the codes generated in the first phase into descriptive themes and subthemes. This iterative and collaborative process resulted in the generation of five descriptive themes and 20 corresponding subthemes related to students' educational experiences (primary purpose) as well as their psychosocial wellbeing (secondary purpose). These themes and subthemes include: (1) *Challenging Online Learning Experiences* (*n* = 5 subthemes: Disruptions to Learning Routines and Environments; Technological and Resource Challenges; Engagement, Motivation and Learning-Related Challenges; Academic Concerns; and Mental and Emotional Challenges); (2) *Benefits of Online Learning* (*n* = 5 subthemes: Increased Flexibility and Access to Resources; Autonomy, Personal Growth, and Skill Development; Benefits of Asynchronous Online Learning; Benefits of Synchronous Online Learning; and Mental and Emotional Benefits); (3) *Complexities Associated with Education-Related Disruptions and Transitions* (*n* = 4 subthemes: Perceptions of Loss; Missing Aspects of the In-Person Learning Environment; The "Learning Curve" and Adapting to Online Learning; and Concerns About Transitions Between Online and In-Person Learning Environments); (4) *Social Connections and Support* (*n* = 3 subthemes: Experiences of Support from Teachers; Changing Family Dynamics; and Missing Social Interactions and Connectedness with Peers and Others); and (5) *Emerging Educational Needs and Areas of Improvement* (*n* = 3 subthemes: Flexible Learning Environments and Assessment Options; Enhanced Technological/Online Learning Training for Teachers; and Improved Personalized/Accessible Learning Options). A visual representation of the themes and subthemes that emerged from the qualitative data found in the primary studies, as well as the analytical themes generated in the third phase of the thematic synthesis process (described below), can be found in Figure 2.

Figure 2

Descriptive Themes, Subthemes, and Analytical Themes Derived from the Thematic Synthesis of Qualitative Data from Primary Studies (N = 41)

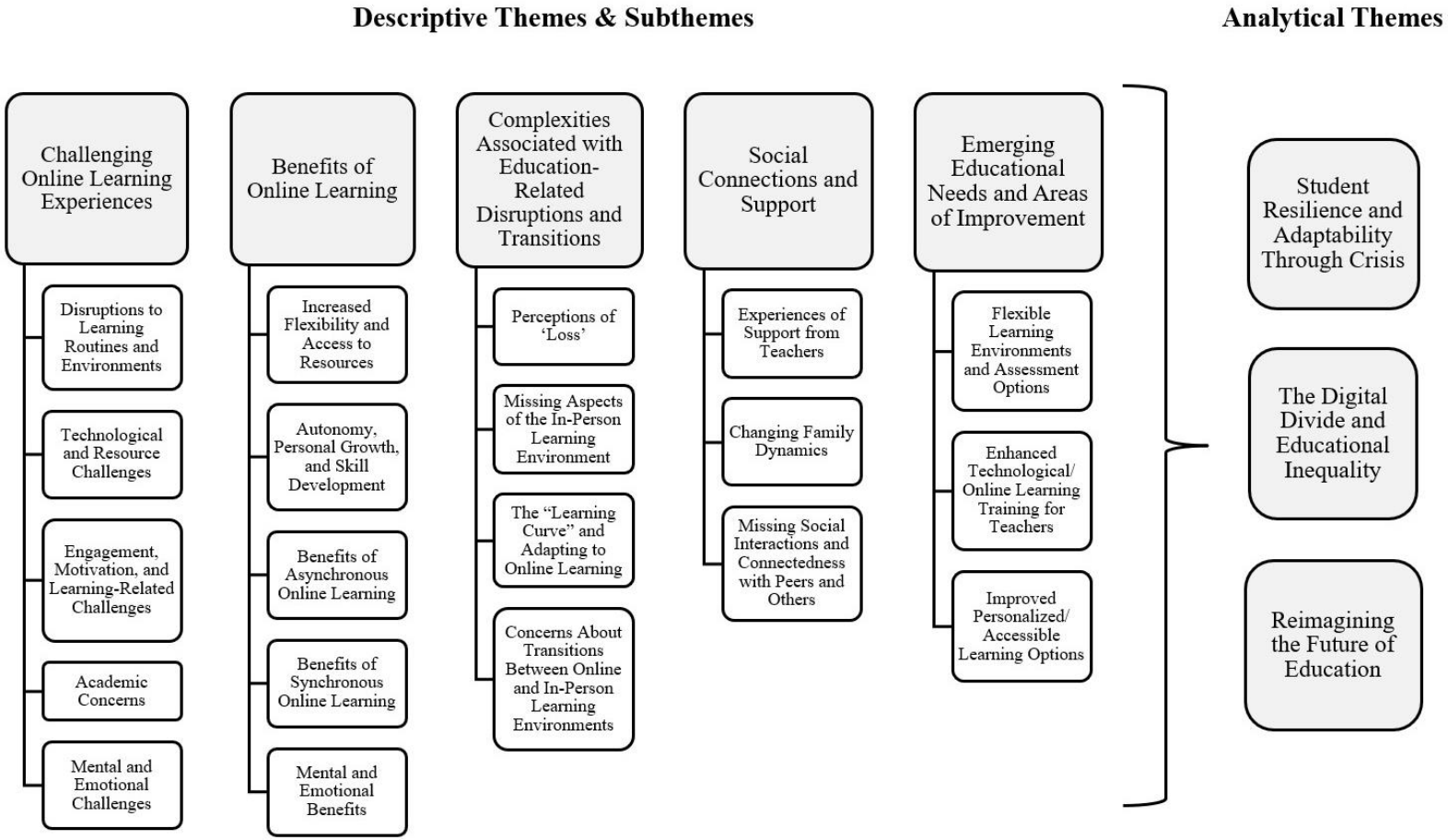


Table 2

Descriptive Themes and Subthemes Derived from Primary Studies (N = 41) using Thomas and Harden's (2008) Thematic Synthesis Approach

Themes	Subthemes	Brief Description	Relevant Studies	Illustrative *Author* Quotes from Primary Studies	Illustrative *Participant* Quotes from Primary Studies
Challenging Online Learning Experiences	Disruptions to Learning Routines and Environments	Secondary students were found to have struggled with changing routines, increased distractions, and learning in the home (versus school) environment.	*n* = 19 Almonacid-Fierro et al., 2022; Ashworth et al., 2022; Boström & Holmström Rising, 2023; Branquinho et al., 2022; Chin et al., 2023; Comelli et al., 2021; Hamilton et al., 2023; Hatzichristou et al., 2021; Lew-Koralewicz, 2022; Lukoševičiūtė & Šmigelskas,	"…*almost all participants preferred 'the getting up and going to school routine'*." (Ashworth et al., 2022, p. 523) "[Student] *continues to try to separate school and home, but the space is porous. Sounds that are not usually a part of school permeate her daily learning experiences*." (Schaefer et al., 2020, p. 8)	"*Nothing is the same as before, the meals, the timetables, the routine, everything is a bit messed up, sometimes I am online until late and then I get up at noon, and then everything is altered*." (Almonacid-Fierro et al., 2022, p. 460)

	2022; McKinlay et al., 2022; Pelikan et al., 2021; Pereira et al., 2023; Schaefer et al., 2020; Scott et al., 2021; Sifat et al., 2022; Soon et al., 2023; Widnall et al., 2022; Yates et al., 2021	"*Some recognised that lack of time management affected their motivation and learning and attributed this to 'not having the routine of school, e.g., getting up early, having bell times and specified breaks*." (Yates et al., 2021, p. 64)	"*When I've sat in my room all day, there's no distinguishing between the room where I sleep and the room where I do all my work*." (McKinlay et al., 2022, p. 4) "*At home, I'd do work, but then you keep pushing your work later and later and I ended up doing loads of work at night. Whereas when I was in school, I'd go to school, do my work and have nothing else to do when I got home … Time and days just all blurred into one and there was no*

				routine really." (Widnall et al., 2022, p. 6)
Technological and Resource Challenges	Students and authors noted various challenges related to technology (e.g., technical issues) and resources (e.g., access to electronic devices) while engaged in remote learning.	*n* = 22 Almonacid-Fierro et al., 2022; Ashworth et al., 2022; Chin et al., 2023; Cockerham et al., 2021; Comelli et al., 2021; Fisher et al., 2021; Kiperman et al., 2024; Lew-Koralewicz, 2022; Lukoševičiūtė & Šmigelskas, 2022; McCluskey et al., 2021; Pelikan et al., 2021; Pulungan et al., 2022; Schaefer et al., 2020; Seynhaeve et al., 2022; Sifat et al., 2022; Smith, 2022; Sofianidis et al., 2021; Supardi, 2022; Tzankova et	"*…some students reported technical issues due to malfunctioning soft- or hardware or because they lacked the necessary technical equipment for digital learning (e.g., they had to share a computer with another family member or had no access to a printer)*." (Pelikan et al., 2021, p. 405) "*Some students reported not receiving any hotspots during distance learning despite the District's public announcement that every family received one*." (Smith, 2022, p. 49)	"*I do not have any personal devices for online classes. In my family, only my father has a laptop for his office tasks. My mother's phone does not support long-hour use of the phone. My parents are trying to afford me a new device only for online classes and tasks…Due to a lack of device, I cannot engage in online classes regularly*." (Sifat et al., 2022, p. 6)

		al., 2023; Van & Thi, 2021; Xu et al., 2022; Zaeske et al., 2023		
Engagement, Motivation, and Learning-Related Challenges	It was reported that secondary students experienced reduced engagement, concentration, and motivation, as well as an increase in distractions, while engaged in remote learning.	*n* = 24 Almonacid-Fierro et al., 2022; Ashworth et al., 2022; Board, 2022; Boström & Holmström Rising, 2023; Cockerham et al., 2021; Comelli et al., 2021; Fiş Erümit, 2021; Fisher et al., 2021; Hamilton et al., 2023; Lew-Koralewicz, 2022; Lopatovska et al., 2022; Lukoševičiūtė & Šmigelskas, 2022; McKinlay et al., 2022; Moliner & Alegre, 2022; Pelikan et al., 2021; Pereira et al., 2023; Schaefer et al.,	"*Inability to concentrate, feelings of boredom and a lack of stimulation created difficulties with remote learning for some participants*." (McKinlay et al., 2022, p. 4) "*Difficulties concentrating and avoiding distractions as well as a lack of motivation and (self)-discipline were mentioned*." (Pelikan et al., 2021, p. 405)	"*I didn't really ever want to go to school. I didn't have any motivation to go just because it was taking away from my everyday life*." (Board 2022, p. 90) "*I lean on my hand, bored, tired, and wanting to be anywhere in the world but in this spot with the same chair, the same counter, the same laptop, the same annoying light, and the same day as all the other days*." (Schaefer et al., 2020, p. 8)

		2020; Seynhaeve et al., 2022; Sifat et al., 2022; Smith, 2022; Soon et al., 2023; Supardi, 2022; Tzankova et al., 2023; Zaeske et al., 2023		"*Slowly we began to turn off the cameras, mute the microphones, always moving apart a little more*." (Tzankova et al., 2023, p. 12750)
Academic Concerns	Secondary students were found to have concerns related to workload, academic performance, and academic integrity during remote learning.	*n* = 32 Almonacid-Fierro et al., 2022; Ashworth et al., 2022; Board, 2022; Boström & Holmström Rising, 2023; Branquinho et al., 2022; Chin et al., 2023; Cockerham et al., 2021; Comelli et al., 2021; Fiş Erümit, 2021; Fisher et al., 2021; Hamilton et al., 2023; Lew-	"*The impact of this increased workload on future examinations and ultimately grades created an additional source of concern and uncertainty among some participants.*" (McKinlay et al., 2022, p. 4) "*Students and parents noted that students' grades declined during distance learning, and*	"*With distance learning, the workload has increased significantly. We have more and more work to do in a short period of time which causes a lot of stress … Online classes seriously harm my academic performance*." (Branquinho et al., 2022, p. 205)

		Koralewicz, 2022; Lopatovska et al., 2022; Lukoševičiūtė & Šmigelskas, 2022; McCluskey et al., 2021; McKinlay et al., 2022; Moliner & Alegre, 2022; Moliner et al., 2021; Pelikan et al., 2021; Pereira et al., 2023; Schaefer et al., 2020; Seynhaeve et al., 2022; Sifat et al., 2022; Smith, 2022; Sofianidis et al., 2021; Soon et al., 2023; Supardi, 2022; Toste et al., 2021; Tzankova et al., 2023; Xu et al., 2022; Yates et al., 2021; Zaeske et al., 2023	*they grew concerned about how this may impact students' long-term academic success*." (Smith, 2022, p. 59) "*We observed that high-school students were being followed by essay-writers on social media after school reopening. The chain of profit of academic dishonesty took the initiative to lure students and gained more popularity*." (Xu et al., 202, p. 92).	"*Zoom school made my grades go down to all Bs. … Virtual learning is way harder for me than in-person learning*." (Smith, 2022, p. 59) "*There was a person in my class that copied his whole essay from the Internet; he also pays other people to write his homework for him and got A's. The teacher did not know that since we are not in-person*." (Xu et al., 2022, p. 9)
Mental and Emotional Challenges	Authors and students noted that there were many mental	*n* = 28	"*Fear, frustration, sadness, and depression can be observed in the testimonies, which is a matter of concern*	"*Because of the online classes, my emotions have been like a rollercoaster.*"

	and emotional challenges experienced by secondary students during emergency remote learning; most commonly, stress, anxiety, sadness, loneliness, and boredom.	Almonacid-Fierro et al., 2022; Ashworth et al., 2022; Aslan et al., 2022; Board, 2022; Branquinho et al., 2022; Cockerham et al., 2021; Comelli et al., 2021; Fisher et al., 2021; Hamilton et al., 2023; Hatzichristou et al., 2021; Kiperman et al., 2024; Lew-Koralewicz, 2022; Lopatovska et al., 2022; Lukoševičiūtė & Šmigelskas, 2022; McCluskey et al., 2021; McKinlay et al., 2022; Pelikan et al., 2021; Scott et al., 2021; Shepherd et al., 2021; Seynhaeve et al., 2022; Sifat et al., 2022; Smith, 2022; Soon et al., 2023; Sofianidis et al., 2021; Toste et al., 2021; Tzankova et al.,	*since if the student does not learn to manage his or her emotions, he or she will not be able to perform academically*." (Almonacid-Fierro et al., 2022, p. 460) *"...[students] mentioned dealing with general anxiety and uncertainty resulting from the situation and struggling to maintain a healthy learning-life balance*." (Pelikan et al., 2021, p. 406) "*… students mentioned that their mental health and overall well-being were unstable during online learning*." (Xu et al., 2022, p. 9)	(Comelli et al., 2021, pp. 61-62) "*…you sometimes ask yourself what the point is of going further, because at the moment everything seems hopeless.*" (Pelikan et al., 2021, p. 409) "*I am finding it really hard to cope because it's really overwhelming thinking about exams and how I've gotten nowhere and no ambitions of what I want in the future*." (Widnall et al., 2022, p. 9)

			2023; Xu et al., 2022; Zaeske et al., 2023		
Benefits of Online Learning	Increased Flexibility and Access to Resources	It was noted by many authors and students that the increased flexibility and accessibility of remote learning assessments and resources was viewed as a benefit.	*n* = 20 Almonacid-Fierro et al., 2022; Ashworth et al., 2022; Aslan et al., 2022; Board, 2022; Boström & Holmström Rising, 2023; Branquinho et al., 2022; Cockerham et al., 2021; Comelli et al., 2021; Fisher et al., 2021; Lukoševičiūtė & Šmigelskas, 2022; McCluskey et al., 2021; McKinlay et al., 2022; Pulungan et al., 2022; Schaefer et al., 2020; Seynhaeve et al., 2022; Smith, 2022; Soon et al., 2023; Toste et al., 2021;	"*There is a certain advantage of online education in terms of the assessment process…This is because the assessments can be flexible, and the use of technology facilitates access to information, which is reflected in the young people's performance*." (Almonacid-Fierro et al., 2022, p. 461) "*Learning math online is more relaxed and flexible even though it's still difficult to learn. Students have more time, ways, and resources to study math online*." (Pulungan et al., 2022, p. 165)	"*I like the virtual assessment, I am calmer, more relaxed, sometimes I don't even turn on the camera and nothing happens, whereas at school I always got nervous and made too many mistakes with the face-to-face evaluations*." (Almonacid-Fierro et al., 2022, p. 461) "*Honestly, it's been going really well…I feel like they're giving us more time to complete the assignments…So things are just a little bit more*

		Tzankova et al., 2023; Widnall et al., 2022	"*Students identified having a more flexible schedule as their top distance learning benefit*." (Smith, 2022, p. 72)	*lenient*." (Lopatovska et al., 2022, p. 537) "*When working at home, the pressure of time and the isolation of a classroom are relieved. My teachers used to be on our backs for getting our work done at a sufficient time, and now I have all of the time in the world to answer a single math problem*." (Schaefer et al., 2020, p. 10)
Autonomy, Personal Growth, and Skill Development	According to some authors and students, remote learning fostered independence,	*n* = 9 Branquinho et al., 2022; Lukoševičiūtė & Šmigelskas, 2022; McKinlay et al., 2022;	"*…several young adults also commented on the personal growth and increased self-awareness that they had observed*." (McKinlay et al., 2022, p. 8)	"*Autonomy was a benefit; I managed my study time better"* (Branquinho et al., 2022, p. 205)

	personal growth, and skill development.	Pelikan et al., 2021; Schaefer et al., 2020; Seynhaeve et al., 2022; Toste et al., 2021; Xu et al., 2022; Zaeske et al., 2023	"*Multiple students commented on the use of self-management and self-regulation skills, skills that are associated with self-determination, even though these were skills they felt were inherently difficult for them*." (Toste et al., 2021, p. 169) "*The opportunity to be at home could provide comfort and facilitate time management and autonomy for many students*." (Tzankova et al., 2023, p. 12748)	*"I have more free time, I have been able to implement new habits and try new activities, which has done me a lot of good*." (Branquinho et al., 2022, p. 205) *"I liked the slower pace and the fact that I can organize the study independently. It's like an exercise for the University, where there won't be teachers who follow you day by day, but you have to self-organize your study."* (Tzankova et al., 2023, p. 12749)

Benefits of Asynchronous Online Learning	It was found that some secondary students appreciated the flexibility, convenience, and self-paced learning that asynchronous online learning afforded.	*n* = 12 Board, 2022; Fiş Erümit, 2021; Fisher et al., 2021; Lew-Koralewicz, 2022; Lopatovska et al., 2022; Moliner et al., 2021; Pelikan et al., 2021; Pereira et al., 2023; Seynhaeve et al., 2022; Toste et al., 2021; Tzankova et al., 2023; Yates et al., 2021	*"In line with the quantitative results, the qualitative results also reported that students preferred watching the pre-recorded classes to attending the live lessons. The main reason given was that the teacher's explanations were repeated several times, so students felt that with this option they could save time and better organize their daily workload*." (Moliner et al., 2021, p. 182) "*…interviewees perceived OSL* [online secondary learning] *as more satisfying than classroom teaching, when there was greater learning*	"*I liked how everything was on videos, and it wasn't just like, a bunch of writing everywhere. It was just with the person talking to you and they just told you everything that you had to do for the assignment*." (Board, 2022, p. 88) "*I have better grades and teachers have more time for me. I like to study on Teams. Well, the lady sends tasks and the lessons are a little shorter. I prefer to study on the computer, it's cool, nobody annoys me and the teacher talks to us a lot about different*

			flexibility (e.g., asynchronous materials) and creative teaching methods, more planned examinations, and reduced pressure." (Tzankova et al., 2023, p. 12748)	*subjects*." (Lew-Koralewicz, 2022, p. 9) "*I started watching the classes live like everybody else, but after a few weeks, I realized I could save time by watching them pre-recorded. I could skip all the parts that were not so important to me and go straight to the teacher's explanations ….*" (Moliner et al., 2021, p. 182)
Benefits of Synchronous Online Learning	It was found that some students experienced benefits associated with synchronous	*n* = 6 Fiş Erümit, 2021; Hamilton et al., 2023; Lew-Koralewicz, 2022;	"*Synchronous collaboration was emotionally supportive because students could see friends and teachers and share concerns for general*	"*I think I'm getting more out of [synchronous online lessons] currently because I'm able to function better when I know there's a beginning and an end*

	learning, which involved real-time interactions and collaborations with teachers and peers.	Lopatovska et al., 2022; Sofianidis et al., 2021; Yates et al., 2021	*wellbeing*." (Yates et al., 2021, p. 66)	*time*." (Hamilton et al., 2023, p. 7) "*Just being able to listen to the teacher and taking down notes in a lecture-styled way. Although some teachers worried it would be too boring, it was more straight to the point and less time consuming than 'active activities'*." (Yates et al., 2021, p. 68)
Mental and Emotional Benefits	Several mental and emotional benefits associated with remote learning were noted across studies,	*n* = 14 Almonacid-Fierro et al., 2022; Ashworth et al., 2022; Aslan et al., 2022; Board, 2022; Comelli et al., 2021;	*"Given the research documenting school-based minority stress for LGBTQ + youth, it is not surprising that some participants experienced relief by not being in-person*	"*In fact, it's nice if you don't have to go to school, I was rather glad to stay home. Mom says I seem to be calmer. Well I get less nervous, sometimes only during lessons. But I think I*

	including reduced anxiety and stress, particularly for students experiencing bullying or social anxiety (e.g., those from minority groups).	Fiş Erümit, 2021; Fisher et al., 2021; Hamilton et al., 2023; Kiperman et al., 2024; Lew-Koralewicz, 2022; Lopatovska et al., 2022; McKinlay et al., 2022; Toste et al., 2021; Widnall et al., 2022	*during the pandemic*." (Kiperman et al., 2024, p. 24) "*Going to school is a stressor for* [some students]*, and during the pandemic they had the opportunity to reduce the negative, unpleasant stimuli they face in their regular school day*." (Lew-Koralewicz, 2022, p. 7) "*Young people described a sense of relief from being away from some aspects of the in-person school environment during the pandemic*." (Widnall et al., 2022, p. 6)	*prefer staying at home*." (Lew-Koralewicz, 2022, p. 7) "*Well, before lockdown, my mental health wasn't great … my sleep schedule was all over the place, school stress, but actually, lockdown gave me a chance to focus and make myself a lot better in terms of the positive emotions*." (McKinlay et al., 2022, p. 7)

Complexities Associated with Education-Related Disruptions and Transitions	Perceptions of Loss	Numerous authors and students highlighted the disappointment and feelings of loss secondary students experienced due to missing important school events, activities, and "rites of passage".	*n* = 25 Almonacid-Fierro et al., 2022; Ashworth et al., 2022; Aslan et al., 2022; Board, 2022; Chin et al., 2023; Cockerham et al., 2021; Comelli et al., 2021; Fiş Erümit, 2021; Fisher et al., 2021; Hamilton et al., 2023; Kiperman et al., 2024; Lew-Koralewicz, 2022; Lukoševičiūtė & Šmigelskas, 2022; McKinlay et al., 2022; Moliner & Alegre, 2022; Mukuka et al., 2021; Pelikan et al., 2021; Pereira et al., 2023; Pulungan et al., 2022; Scott et al., 2021; Seynhaeve et al., 2022; Sifat et al., 2022;	"*Many participants spoke of feeling disappointment that their social plans for secondary school…had not materialised due to pandemic-related closures and disruptions. Some said that they felt they had 'missed out' on an experience that they saw as a rite of passage and one that they had been looking forward to*." (McKinlay et al., 2022, p. 5) "*Some young people expressed disappointment with being unable to sit exams, and the lack of closure this, and other milestones associated with leaving school such as prom,*	"*I feel so unhappy and cheated to lose the experiences* [at school] *I so desperately long for: dances, assemblies, spirit weeks, club meetings, etc. I wonder whether I'll ever get those experiences that you remember for the rest of your life, even the bad prom dresses and horrible dance songs*." (Chin et al., 2023, p. 8) "*…I was gonna go on a school trip and then that got canceled. I signed up for a bunch of volunteer stuff that got canceled. It was like all the plans and*

		Smith, 2022; Sofianidis et al., 2021; Tzankova et al., 2023	*represents*." (Scott et al., 2021, p. 12) "*The change to OSL* [online secondary learning] *could be perceived as depriving students of the essence of the school experience, identified in the value of face-to-face and extra-curricular activities, as well as relationships*." (Tzankova et al., 2023, p. 12751)	*all the ways I expected that I was going to like progress just all flopped*." (Kiperman et al., 2024, p. 23) "*We didn't get the finale of Year 13 like we normally do where there's like a prom and things like that and it was all just a bit rushed, so we didn't get to say bye*." (McKinlay et al., 2022, p. 5)
Missing Aspects of the In-Person Learning Environment	It was found that many secondary students missed aspects of the in-person	n = 22	"…*almost all participants commented on the difficulties of not having face-to-face contact with their teachers…Whilst many*	"*I feel like I learned better hands-on because I can benefit from that way compared to just looking at*

	learning environment, such as interactive, hands-on learning activities and face-to-face interactions.	Almonacid-Fierro et al., 2022; Ashworth et al., 2022; Aslan et al., 2022; Board, 2022; Comelli et al., 2021; Cockerham et al., 2021; Fiş Erümit, 2021; Fisher et al., 2021; Hamilton et al., 2023; Lew-Koralewicz, 2022; Lukoševičiūtė & Šmigelskas, 2022; Moliner & Alegre, 2022; Mukuka et al., 2021; Pelikan et al., 2021; Pereira et al., 2023; Pulungan et al., 2022; Scott et al., 2021; Seynhaeve et al., 2022; Sifat et al., 2022; Smith, 2022; Sofianidis et al., 2021; Tzankova et al., 2023	*acknowledged that their teachers were still contactable via email and were doing their best to help, it appears that this was not an adequate replacement for daily face-to-face contact*." (Ashworth et al., 2022, p. 532) *"However, the platform is still not sufficient for students' learning needs as students get* [more detailed mathematical explanations] *during face-to-face learning*." (Pulungan et al., 2022, p. 169)	*the screen all day*." (Board, 2022, p. 92) "*I go through sadness and indifference, because I prefer in-person classes…If we had been attending in-person classes, we would have learned more*." (Comelli et al., 2021, p. 62) "*I can't wait to go to school. Let me see our teachers, my friends, let me chat with them, let the classroom environment be there*." (Fiş Erümit, 2021, p. 87)

The "Learning Curve" and Adapting to Online Learning	Authors and students described efforts and strategies used by secondary students to adapt to new learning styles, digital tools, and online learning systems.	*n* = 22 Almonacid-Fierro et al., 2022; Aslan et al., 2022; Board, 2022; Cockerham et al., 2021;Comelli et al., 2021; Fiş Erümit, 2021; Fisher et al., 2021; Hamilton et al., 2023; Lew-Koralewicz, 2022; Lopatovska et al., 2022; Lukoševičiūtė & Šmigelskas, 2022; Pelikan et al., 2021; Pulungan et al., 2022; Schaefer et al., 2020; Smith, 2022; Sofianidis et al., 2021; Supardi, 2022; Toste et al., 2021; Tzankova et al., 2023; Xu et al., 2022; Yates et al., 2021; Zaeske et al., 2023	"*Some students had developed strategies for completing online schoolwork, including using a checklist, segmenting assignments or workload ("I take one class a day and knock it out and then move on to another class the next day"), and working offline ("If I am distracted, I just do the assignment handwritten and type it later)*." (Cockerham et al., 2021, pp. 7533-7534) "*New ways of learning had to occur, new devices had to be introduced, and new interfaces had to be encountered*." (Schaefer et al., 2020, p. 8)	"*…there was no live teacher to ask questions when needed, but I adjusted to it…you have to figure it out yourself*." (Board, 2022, p. 92) "*It was a little tricky and I was confused, but now I am so adapted that I prefer remote classes…I think it was a good time to learn new ways to communicate with our teachers, colleagues, and with our family at home*." (Comelli et al., 2021, pp. 61-63)

			"*Participants also discussed the learning curve associated with using online platforms and the need for self-directed learning when teachers struggled with technology.*" (Zaeske et al., 2023, p. 467)	"*… technology was never a big part of* [our] *school and then all of a sudden, it became school*." (Schaefer et al., 2020, p. 8)
Concerns About Transitions Between Online and In-Person Learning Environments	Many students and authors reflected on the need for secondary students to continually adapt and adjust to changing learning environments, sometimes with very little notice, along	*n* = 10 Almonacid-Fierro et al., 2022; Ashworth et al., 2022; Fisher et al., 2021; Hamilton et al., 2023; McCluskey et al., 2021; Moliner & Alegre, 2022; Scott et al., 2021; Shepherd et al., 2021; Widnall et al., 2022; Zaeske et al., 2023	"*…young people began to look towards returning to the school setting, with many articulating mixed feelings about this return. They did want to return to regular face-to-face teaching, see their friends, and resume activities; but reflected acutely on the danger, stresses, and strains that resumption signified*." (Scott et al., 2021, p. 12)	"*…we'd got used to the work and we'd settled in and then on the last Friday in the morning, we were immediately sent home … I was like 'what was happening' and then the teachers told us that we'd have to go home, so that was hard … you've got ready for school and then you've just got to go immediately home*."

	with the implications of these transitions (e.g., health and safety concerns, increased anxiety).	"*Students discussed the difficulties of constantly having to adapt and adjust to sudden changes, especially short-term returns to home-based learning if an outbreak emerged in the school*." (Widnall et al., 2022, p. 9)	(Ashworth et al., 2022, p. 531) "*I definitely think there is going to be another spike from schools re-opening, there's no social distancing going on and the corridors are packed so closely together. If one person gets COVID then it'll spread very quickly but people will still blame young people for the spike even though it's not our fault, we're being forced to go back to school*." (Scott et al., 2021, p. 8)

					"*I was more relaxed and excited for the first lockdown and then the closer it is to opening or reopening schools, my anxiety starts to go up*." (Widnall et al., 2022, p. 6)
Social Connections and Support	Experiences of Support from Teachers	Students and authors reported mixed experiences of support from (and communication with) teachers during remote learning. While some highlighted positive experiences,	*n* = 33 Almonacid-Fierro et al., 2022; Ashworth et al., 2022; Aslan et al., 2022; Board, 2022; Branquinho et al., 2022; Chin et al., 2023; Comelli et al., 2021; Fiş Erümit, 2021; Fisher et al., 2021; Hamilton et al., 2023; Kiperman et al., 2024; Lew-Koralewicz, 2022; Lopatovska et al., 2022;	"*Poor communication and a perceived lack of support from education providers also resulted in some students feeling forgotten about or unfairly treated*." (McKinlay et al., 2022, p. 5) "*Participants appreciated particularly receiving social support beyond the mere teaching and clarification of content. Students appreciated*	"*…the teacher is not there to help…I haven't had any interaction with my teachers*." (Cockerham et al., 2021, p. 7534) "*We're teaching ourselves everything and they would say (to) email us if you have any problems and I'd email a teacher, I emailed about three, and none of them replied, so it was very*

	most studies included reports from students of inadequate communication with and support from teaching staff.	McKinlay et al., 2022; Moliner & Alegre, 2022; Mukuka et al., 2021; Pelikan et al., 2021; Pereira et al., 2023; Pulungan et al., 2022; Schaefer et al., 2020; Scott et al., 2021; Seynhaeve et al., 2022; Sifat et al., 2022; Smith, 2022; Sofianidis et al., 2021; Soon et al., 2023; Supardi, 2022; Toste et al., 2021; Tzankova et al., 2023; Van & Thi, 2021; Widnall et al., 2022; Yates et al., 2021; Zaeske et al., 2023	*teachers who were understanding, supportive, and "human"."* (Tzankova et al., 2023, p. 12751) "*Participants reported that there was a lack of communication with teachers when they encountered questions, a lack of instant feedback in class, and it was hard to find effective ways to communicate after class*." (Xu et al., 2022, p. 10) "*The mutual empathy between teachers and students was evident, with both parties navigating the challenges of*	*difficult to get help*." (Fisher et al., 2021, p. 3) "*It's been rough because I wasn't able to understand the information, and I had no direct help. Even though the teacher's there like she's not really there*." (Lopatovska et al., 2022, p. 537) "*My teachers are very good. They were always available. They gave us their numbers; when we want to, we call them; even during the quarantine, they told us: 'If you want to talk to someone, maybe an adult*

			the pandemic together." (Zaeske et al., 2023, p. 470)	*but not your father, call us, no problem'.*" (Tzankova et al., 2023, p. 12751)
Changing Family Dynamics	It was reported in many studies that some secondary students experienced increased family tensions during remote learning periods, while others enjoyed closer bonds and enhanced relationships with family members.	*n* = 14 Ashworth et al., 2022; Board, 2022; Fiş Erümit, 2021; Kiperman et al., 2024; Lew-Koralewicz, 2022; Lopatovska et al., 2022; Lukoševičiūtė & Šmigelskas, 2022; McKinlay et al., 2022; Pelikan et al., 2021; Schaefer et al., 2020; Scott et al., 2021; Sifat et al., 2022; Soon et al., 2023; Zaeske et al., 2023	"*In well-functioning families, adolescents…had an increased feeling of security and were able to strengthen their relationships with relatives, which was definitely a positive effect of the pandemic*." (Lew-Koralewicz, 2022, p. 7) "*The adolescents have lacked privacy and their own space, while that constant tension with the parents has sometimes resulted in disrupted family relations.*" (Lukoševičiūtė & Šmigelskas, 2022, pp. 6-7)	"*Before the pandemic, I could go to school with my teachers and friends and go out and do things after school, too. When the pandemic hit, I relied on my parents for more support*." (Board, 2022, p. 93) "*I'm lacking some of the teachers and friends that I had before, but I did transition during the pandemic. I have more people now, it's just weirder. I have my mom and dad who I didn't have*

			"*Many students developed a closer bond with their parents as a result of increased time spent at home…For other students, the home environment was not conducive for learning because they were distracted by family members*". (Soon et al., 2023, p. 67)	*pre-pandemic which has been nice, and I have two friends I've met for study groups who have been great*." (Kiperman et al., 2024, p. 23) "*I like being at home with my mom … (she) used to help me with my lessons online*." (Lew-Koralewicz, 2022, p. 8)
Missing Social Interactions and Connectedness with Peers and Others	Numerous authors and students indicated that secondary students experienced feelings of	*n* = 25 Almonacid-Fierro et al., 2022; Ashworth et al., 2022; Boström & Holmström Rising, 2023; Branquinho et al., 2022; Comelli et al.,	"*Some students also indicated that they would like to have more contact with their peers, either in order to support each other in school-related efforts or simply because they missed their friends*." (Pelikan et al., 2021, p. 404)	"*There are friends who turn off their camera or don't even come to class, which disconnects us from each other*." (Branquinho et al., 2022, p. 205) *"We learned that … a connection is important to*

	disconnection from peers and others during remote learning, due to a lack of in-person interaction and social/learning opportunities.	2021; Cockerham et al., 2021; Fisher et al., 2021; Hamilton et al., 2023; Hatzichristou et al., 2021; Kiperman et al., 2024; Lew-Koralewicz, 2022; Lopatovska et al., 2022; Lukoševičiūtė & Šmigelskas, 2022; Moliner & Alegre, 2022; Pelikan et al., 2021; Pereira et al., 2023; Pulungan et al., 2022; Schaefer et al., 2020; Sifat et al., 2022; Soon et al., 2023; Sofianidis et al., 2021; Tzankova et al., 2023; Widnall et al., 2022; Xu et al., 2022; Zaeske et al., 2023	"*A main challenge of the school closure raised by students in our study is that distance education took away the "socialisation" element of school life… They reported their feelings of loneliness and boredom due to lack of connection with their classmates and teachers*." (Sofianidis et al., 2021, p. 17) "*Several young people reported missing in-person social interactions from being away from school…and described feelings of loneliness while at school because not*	*us, communication is important. So, I think this has been the greatest kind of discovery for humanity…we've realized how important each and every one of us is to one another."* (Lukoševičiūtė & Šmigelskas, 2022, p. 8) "*I've definitely felt more lonely because I feel like I've less of a connection to, especially my school friends. …at school before…there's like always little interactions walking through the halls, I'd say hi to someone, but now …there aren't as many casual little conversations*."

				everyone was attending." (Widnall et al., 2022, p. 7)	(Lopatovska et al., 2022, p. 536) "*We seem to have lost our social connections, both with classmates and with friends. There is very little group work in class … it was the best way for us to make friends and get to know each other*." (Xu et al., 2022, p. 10)
Emerging Educational Needs and Areas of Improvement	Flexible Learning Environments and Assessment Options	Some secondary students noted a preference for flexible learning environments and assessment options (both online and in-	*n* = 3 Aslan et al., 2022; Fiş Erümit, 2021; Yates et al., 2021		"*In my opinion, it would be nice if education were given partly from a distance and partly at school in part in the future*." (Fiş Erümit, 2021, p. 87)

	person), including hybrid/blended learning options.			"*I would love to see lessons that provide us with what we need to know (1 or 2 a week). But after, give us the opportunity to work away at it, that way I feel we have more free time and don't feel trapped in school which does not make it an enjoyable place for us at all*." (Yates et al., 2021, p. 64)
Enhanced Technological/ Online Learning Training for Teachers	Some authors and students highlighted the need for teachers to have greater access to and receive more training in the use of digital	*n* = 7 Almonacid-Fierro et al., 2022; Aslan et al., 2022; Lukoševičiūtė & Šmigelskas, 2022; Pereira et al., 2023; Sofianidis et al., 2021;	"*Schools should also provide education to teachers on ways to support students via online learning*." (Shepherd et al., 2021, p. 10) "*In addition to the challenges related to students' access to*	*"Teachers don't explain normally, and teachers aren't skillful with technologies… they also don't understand a lot of stuff there. There were lots of problems."* (Lukoševičiūtė & Šmigelskas, 2022, p. 7)

		teaching tools and methods.	Supardi, 2022; Yates et al., 2021	*infrastructure, another main and very crucial challenge identified by the students was teachers' lack of familiarity with e-learning technologies and their instructional uses*." (Sofianidis et al., 2021, p. 11)	"*Furthermore, it is necessary to further train teachers, and in the use of computers, but mainly in the proper use of the Microsoft TEAMS platform, for the use and management of which students were not given the necessary instructions*." (Sofianidis et al., 2021, p. 12)
	Improved Personalized/ Accessible Learning Options	Some authors and students noted that secondary students would benefit from personalized,	*n* = 13 Aslan et al., 2022; Fiş Erümit, 2021; Hamilton et al., 2023; Kiperman et al., 2024; Lew-Koralewicz,	*"Participant experiences … highlight that it is not necessarily a one-size-fits-all approach, and that tailored approaches, or alternatives to the norm should be*	"*I hope that if the lockdown continues in September, distance learning will be ready to meet the needs of each child (special education/speech therapy/ differentiated material/*

	accessible learning approaches (both online and in-person) to accommodate diverse student needs and preferences.	2022; McCluskey et al., 2021; Shepherd et al., 2021; Smith, 2022; Sofianidis et al., 2021; Supardi, 2022; Toste et al., 2021; Widnall et al., 2022; Yates et al., 2021	*suggested…."* (Shepherd et al., 2021, p. 11) *"The construct of personalization as experienced by participants included: the ability to choose what to study within a subject; how to study; when to study beyond synchronous scheduled activities; and anytime access to resources. It was clear participants valued agency over the time and pace at which they learned."* (Yates, 2021, p. 64)	*attendant/interpretation, etc.)*." (Sofianidis et al., 2021, p. 10)

Note. The thematic synthesis was conducted using the approach outlined by Thomas and Harden (2008), which can be referenced as follows: Thomas, J., & Harden, A. (2008). Methods for the thematic synthesis of qualitative research in systematic reviews. *BioMed Central Medical Research Methodology, 8*(1), 45.

3.2.1 Descriptive Theme 1: Challenging Online Learning Experiences

The first descriptive theme that emerged from the qualitative data reported in the primary studies was labeled *Challenging Online Experiences*. Broadly speaking, this theme encapsulates the many unforeseen challenges the COVID-19 pandemic brought forth for secondary students, which was noted by many authors and students to have greatly impacted students' educational environments and experiences. The diverse obstacles secondary students were found to have experienced globally are reflected in five subthemes, all of which are outlined below. A comprehensive overview of all descriptive themes, subthemes, and illustrative quotes from both authors and participants in the primary studies included in the QES are included in Table 2.

3.2.1.1 Disruptions to Learning Routines and Environments

In several studies included in the QES (n = 19; 41%), secondary students indicated that they experienced challenges with regard to changing routines, increased distractions, and learning in the home (versus school) environment during the COVID-19 pandemic (Ashworth et al., 2022; Boström & Holmström; Rising, 2023; Branquinho et al., 2022; Chin et al., 2023; Comelli et al., 2021; Hamilton et al., 2023; Hatzichristou et al., 2021; Lew-Koralewicz, 2022; Lukoševičiūtė & Šmigelskas, 2022; McKinlay et al., 2022; Pelikan et al., 2021; Pereira et al., 2023; Schaefer et al., 2020; Scott et al., 2021; Sifat et al., 2022; Soon et al., 2023; Supardi, 2022; Widnall et al., 2022; Yates et al., 2021).

Disruptions to routines were noted by authors and secondary students in several studies. For example, in a Chilean study conducted by Almonacid-Fierro et al. (2022), a secondary student expressed, *"[n]othing is the same as before, the meals, the timetables, the routine, everything is a bit messed up, sometimes I am online until late and then I get up at noon, and then everything is altered"* (p. 460). Similarly, in a study conducted by Widnall et al. (2022) to explore adolescents' educational experiences during the pandemic in England, a secondary student noted that the *"[t]ime and days just all blurred into one and there was no routine really"* (p. 6).

Insofar as learning environments are concerned, many authors and students highlighted challenges unique to engaging in remote learning, including the ‘blurred’ lines between home and school environments. In a study conducted by McKinlay and colleagues (2022) in the United Kingdom, one secondary student highlighted this particular struggle, stating, *"[w]hen I’ve sat in my room all day, there’s no distinguishing between the room where I sleep and the room where I do all my work”* (p. 4). Similarly, a secondary student in a study conducted by Soon and colleagues (2023) in Singapore noted: *“when you enter the classroom, the studying mode sets in. When at home, it is usually like where you relax . . . there is no studying mood . . . the environment didn’t really suit me, I couldn’t like study a lot and learn new information”* (p. 67). Indeed, on the basis of their findings, Soon et al. reported that, *“[s]ome students found it difficult to learn at home because they associated their homes with leisure and relaxation”* (p. 67). As noted above, please refer to Table 2 for additional illustrative quotes from both authors and participants for each descriptive theme and corresponding subtheme.

3.2.1.2 Technological and Resource Challenges

Students and authors in more than half of the studies included in the QES (*n* = 22; 54%) reinforced the notion that the transition to remote learning introduced a range of technological and resource challenges for secondary students, which greatly impacted their educational experiences (Almonacid-Fierro et al., 2022; Ashworth et al., 2022; Chin et al., 2023; Cockerham et al., 2021; Comelli et al., 2021; Fisher et al., 2021; Kiperman et al., 2024; Lew-Koralewicz, 2022; Lukoševičiūtė & Šmigelskas, 2022; McCluskey et al., 2021; Pelikan et al., 2021; Pulungan et al., 2022; Schaefer et al., 2020; Seynhaeve et al., 2022; Sifat et al., 2022; Smith, 2022; Sofianidis et al., 2021; Supardi, 2022; Tzankova et al., 2023; Van & Thi, 2021; Xu et al., 2022; Zaeske et al., 2023). For example, in a study exploring secondary students' perceptions of teaching and learning needs/preferences during the pandemic in Chile, one participant noted that, *“the* (internet) *connection from home is very difficult, not all of us can connect at class time there is always someone who has connection problems, and who is left behind with the subject"* (Almonacid-Fierro et al., 2022, p. 460). Furthermore, in a study examining learning competence and mastery among secondary students in Austria, Pelikan et al. (2021) found that, *"some students*

reported technical issues due to malfunctioning soft- or hardware or because they lacked the necessary technical equipment for digital learning (e.g., they had to share a computer with another family member or had no access to a printer)" (p. 405).

Indeed, in what was has been defined as *"the digital divide"* by authors of studies included in this QES (Sifat et al., 2022; Smith, 2022) it was found that not all secondary students had equal access to technologies; rather, some students, particularly those from low socioeconomic backgrounds, struggled to engage in remote learning due to a lack of access to technological resources including laptops and Wi-Fi (Sifat et al., 2022; Smith, 2022, Xu et al., 2022). As one secondary student in a study conducted by Sifat et al. (2022) in Bangladesh noted: *"I am suddenly feeling disconnected from the other students. Due to a lack of device, I cannot engage in online classes regularly"* (p. 6). This experience of educational inequity is highlighted further by a student in a study examining the challenges and opportunities of remote learning for Black students and their parents in the United States: *"[s]ome students reported not receiving any hotspots during distance learning despite the District's public announcement that every family received one"* (Smith, 2022, p. 49).

3.2.1.3 Engagement, Motivation, and Learning-Related Challenges

The authors of multiple studies (n = 24, 59%) reported that pandemic-related educational disruptions, including the transition to remote learning, resulted in reduced engagement and motivation among secondary students (Almonacid-Fierro et al., 2022; Ashworth et al., 2022; Board, 2022; Boström & Holmström Rising, 2023; Cockerham et al., 2021; Comelli et al., 2021; Fiş Erümit, 2021; Fisher et al., 2021; Hamilton et al., 2023; Lew-Koralewicz, 2022; Lopatovska et al., 2022; Lukoševičiūtė & Šmigelskas, 2022; McKinlay et al., 2022; Moliner & Alegre, 2022; Pelikan et al., 2021; Pereira et al., 2023; Schaefer et al., 2020; Seynhaeve et al., 2022; Sifat et al., 2022; Smith, 2022; Soon et al., 2023; Supardi, 2022; Tzankova et al., 2023; Widnall et al., 2022; Zaeske et al., 2023). More specifically, student experiences of online classes being repetitive and monotonous (Board, 2022; Tzankova et al., 2023), coupled with limited online interaction and the ability to turn off cameras (Tzankova et al., 2023; Widnall et al., 2022), resulted in boredom (McKinlay et al., 2022, p. 4) and a *"fatigue effect* [for many students],

stemming from the prolonged condition of isolation, increased focus on studying, and disproportionate technology use" (Tzankova et al., 2023, p. 12749).

With regard to student engagement in online classes, one secondary student expressed, *"nobody puts their camera on or unmutes except the teacher…Everyone just stays silent and maybe types in the chat"* (Widnall et al., 2022, p. 6). And, as one participant in a study on the virtual learning experiences of secondary students in South Dakota noted, *"I didn't really ever want to go to school. I didn't have any motivation to go just because it was taking away from my everyday life"* (Board, 2022, p. 90). Similarly, McKinlay and colleagues (2022) found that secondary students experienced difficulties concentrating on their schoolwork during remote learning due to boredom and a lack of stimulation, while Pelikan et al. (2021) noted that *"concentrating and avoiding distractions as well as a lack of motivation and (self)-discipline"* were key challenges for secondary students (p. 405). Indeed, similar findings were outlined in many studies; one secondary student who participated in a study conducted by Schaefer et al. (2020) poignantly reflected: *"I lean on my hand, bored, tired, and wanting to be anywhere in the world but in this spot with the same chair, the same counter, the same laptop, the same annoying light, and the same day as all the other days"* (p. 8).

3.2.1.4 Academic Concerns

According to authors and student reports in the majority of studies included in the QES (*n* = 32; 78%), secondary students experienced and often felt overwhelmed by academic concerns and a perceived heavier workload during remote learning (Almonacid-Fierro et al., 2022; Ashworth et al., 2022; Board, 2022; Boström & Holmström Rising, 2023; Branquinho et al., 2022; Chin et al., 2023; Cockerham et al., 2021; Comelli et al., 2021; Fiş Erümit, 2021; Fisher et al., 2021; Hamilton et al., 2023; Lew-Koralewicz, 2022; Lopatovska et al., 2022; Lukoševičiūtė & Šmigelskas, 2022; McCluskey et al., 2021; McKinlay et al., 2022; Moliner & Alegre, 2022; Moliner et al., 2021; Pelikan et al., 2021; Pereira et al., 2023; Schaefer et al., 2020; Seynhaeve et al., 2022; Sifat et al., 2022; Smith, 2022; Sofianidis et al., 2021; Soon et al., 2023; Supardi, 2022; Toste et al., 2021; Tzankova et al., 2023; Yates et al., 2021).

Secondary students in many studies also expressed concerns about their academic performance throughout the COVID-19 pandemic (e.g., Chin et al., 2023; McKinlay et al, 2022; Smith et al., 2022; Soon et al., 2023). For example, in a study conducted by Chin and colleagues (2023) in Canada, some secondary students reported that their grades dropped significantly while engaged in remote learning, with one student revealing, "*I've been an honours student for three years in a row, and suddenly I'm getting 60s that dropped to 40s"* resulting in *"multiple breakdowns about school"* (p. 8). This sentiment was echoed by secondary students in a study conducted by Branquinho et al. (2022) in Portugal, whereby one participant lamented: *"[w]ith distance learning, the workload has increased significantly … online classes seriously harm my academic performance"* (p. 405).

Some secondary students also voiced concerns related to academic integrity. For example, a secondary student in a study conducted by Xu and colleagues (2022) noted: *"[t]here was a person in my class that copied his whole essay from the Internet; he also pays other people to write his homework for him and got A's. The teacher did not know that since we are not in-person"* (Xu et al., 2022, p. 92).

3.2.1.5 Mental and Emotional Challenges

The data collected from primary studies in relation to the secondary objective of the QES (i.e., to explore secondary students' psychosocial wellbeing) revealed that the emotional challenges experienced by secondary students during the pandemic were profound and far-reaching. Specifically, students in many studies (*n* = 28; 68%) reported a range of mental and emotional challenges including stress, anxiety, sadness, and boredom (Almonacid-Fierro et al., 2022; Ashworth et al., 2022; Aslan et al., 2022; Board, 2022; Branquinho et al., 2022; Cockerham et al., 2021; Comelli et al., 2021; Fisher et al., 2021; Hamilton et al., 2023; Hatzichristou et al., 2021; Kiperman et al., 2024; Lew-Koralewicz, 2022; Lopatovska et al., 2022; Lukoševičiūtė & Šmigelskas, 2022; McCluskey et al., 2021; McKinlay et al., 2022; Pelikan et al., 2021; Scott et al., 2021; Shepherd et al., 2021; Seynhaeve et al., 2022; Sifat et al., 2022; Smith, 2022; Soon et al., 2023; Sofianidis et al., 2021; Toste et al., 2021; Tzankova et al., 2023; Xu et al., 2022; Zaeske et al., 2023).

For example, in a study focused on the educational experiences of high school athletes specifically, Shepherd and colleagues (2021) noted that, *“[m]ost participants reported their mental health worsened at the onset of COVID-19 restrictions, expressing feelings of anxiousness, fear, and shock.”* The authors of a study conducted with high school students in Chile noted similar concerns, as well as the established link between student psychological wellbeing and academic success: *"[f]ear, frustration, sadness, and depression can be observed in the* (students’) *testimonies, which is a matter of concern since if the student does not learn to manage his or her emotions, he or she will not be able to perform academically"* (Almonacid-Fierro et al., 2022, p. 460).

Experiences of immense anxiety during the COVID-19 pandemic were reported by secondary students in several studies (e.g., Comelli et al., 2021; Lew-Koralewicz, 2022; Lopatovska et al., 2022; Pelikan et al., 2021; Shepherd et al., 2021). For example, one student in Brazil noted, *"I feel terrible; there is a lump in the throat and an immense desire to cry"* (Comelli et al., 2021, p. 61), while a student in Austria lamented, *"you sometimes ask yourself what the point is of going further, because at the moment, everything seems hopeless"* (Pelikan et al., 2021, p. 409).

3.2.2 Descriptive Theme 2: Benefits of Online Learning

The second descriptive theme that emerged during the thematic synthesis process was related to perceived *Benefits of Online Learning*. In short, this theme captures the unique benefits and advantages that the COVID-19 pandemic, including the transition to remote learning, provided for secondary students globally. The five subthemes outlined below provide a detailed overview of these positive aspects as experienced by secondary students

3.2.2.1 Increased Flexibility and Access to Resources

In nearly half of the studies included in the QES (n = 20; 49%), secondary students and authors noted that the increased flexibility and accessibility of remote learning opportunities, assessments, and resources were notable benefits for many students (Almonacid-Fierro et al., 2022; Ashworth et al., 2022; Aslan et al., 2022; Board, 2022; Boström & Holmström Rising, 2023; Branquinho et al., 2022; Cockerham et al., 2021;

Comelli et al., 2021; Fisher et al., 2021; Lukoševičiūtė & Šmigelskas, 2022; McCluskey et al., 2021; McKinlay et al., 2022; Pulungan et al., 2022; Schaefer et al., 2020; Seynhaeve et al., 2022; Smith, 2022; Soon et al., 2023; Toste et al., 2021; Tzankova et al., 2023; Widnall et al., 2022). For instance, in their study exploring family and high school student experiences of learning during the pandemic in Chile, Almonacid-Fierro and colleagues (2022) highlighted that *"there is a certain advantage of online education in terms of the assessment process… This is because the assessments can be flexible and the use of technology facilitates access to information which is reflected in the young people's performance"* (p. 461). Additionally, a student participant in this study shared, *"I like the virtual assessment. I am calmer, more relaxed; sometimes I don't even turn on the camera and nothing happens, whereas at school I always got nervous…"* (Almonacid-Fierro et al., 2022, p. 461). Similarly, in their study conducted with high school students in Indonesia, Pulungan and colleagues (2022) observed that, *"learning math online is more relaxed and flexible even though it's still difficult to learn. Students have more time, ways, and resources to study math online"* (p. 165).

Of course, benefiting from the increased flexibility of online learning requires access to technology, resources, support, and space. Indeed, this experience of privilege was noted by a secondary student from Lebanon in a study exploring students' online learning experiences during the COVID-19 pandemic in China, Lebanon, and the United States: *"I experience lagging in the video quality very often … I think I am more privileged than other Lebanese because I have my own device and I can afford WIFI. Most Lebanese found online learning really hard because not everyone can afford WIFI/electricity with the political and economic crisis in our country; and most families only have one laptop for the oldest child"* (Xu et al., 2022, p. 8).

3.2.2.2 Autonomy, Personal Growth, and Skill Development

According to authors and secondary students in several studies (*n* = 9; 22%), engaging in learning during the COVID-19 pandemic fostered independence, personal growth, and the development of important skills—both academic and non-academic—among some students (Branquinho et al., 2022; Lukoševičiūtė & Šmigelskas, 2022; McKinlay et al., 2022; Pelikan et al., 2021; Schaefer et al., 2020; Seynhaeve et al., 2022; Toste et al.,

2021; Xu et al., 2022; Zaeske et al., 2023). For example, in a study exploring the experiences of young people in the United Kingdom during the COVID-19 pandemic, McKinlay and colleagues (2022) noted that, *"[t]he opportunity to be at home* [during remote learning] *could provide comfort and facilitate time management and autonomy for many students"* (p. 8). Similarly, when reflecting on their experiences of online synchronous learning during the early stage of the pandemic in Italy, a secondary student expressed, *"I liked the slower pace and the fact that I can organize the study independently. It's like an exercise for the University where there won't be teachers who follow you day by day but you have to self-organize your study"* (Tzankova et al., 2023, p. 12749).

In terms of personal growth, as noted by McKinlay and colleagues (2022), *"[s]everal young adults also commented on the personal growth and increased self-awareness that they had observed"* during the pandemic in the United Kingdom (p. 8). In another study investigating secondary students' experiences of the pandemic's "third wave lockdown" in Portugal, one participant shared, *"I have more free time; I have been able to implement new habits and try new activities which has done me a lot of good"* (Branquinho et al., 2022, p. 205).

The COVID-19 pandemic and remote learning environment were noted to have fostered the development of critical self-management and self-regulation skills for students in general and for those belonging to traditionally underserved and underrepresented communities, such as LGBTQ+ individuals (Kiperman et al., 2024), racial minority groups (Smith, 2022), and students with learning differences/disabilities (Toste et al., 2021). For example, in their study exploring the experiences of secondary students with disabilities during the early months of the pandemic in the United States, Toste and colleagues (2021) noted that, *"[m]ultiple students commented on the use of self-management and self-regulation skills, skills that are associated with self-determination, even though these were skills they felt were inherently difficult for them"* (p. 169).

3.2.2.3 Benefits of Asynchronous Online Learning

With regard to asynchronous online learning—defined as a form of education where learning is not delivered in real time (which may take the form of pre-recorded video lessons, online discussion boards, etc.; Gallagher-Mackay et al., 2021)—secondary students in multiple studies (*n* = 12; 29%) indicated that they appreciated the flexibility, convenience, and self-paced nature this mode of learning offers (Board, 2022; Fiş Erümit, 2021; Fisher et al., 2021; Lew-Koralewicz, 2022; Lopatovska et al., 2022; Moliner et al., 2021; Pelikan et al., 2021; Pereira et al., 2023; Seynhaeve et al., 2022; Toste et al., 2021; Tzankova et al., 2023; Yates et al., 2021). As noted in several studies, this format allowed some secondary students to manage their own schedules and revisit course materials as needed, all of which was perceived to have enhanced their learning experience (e.g., Lew-Koralewicz, 2022; Lopatovska et al., 2022; Moliner et al., 2021; Tzankova et al., 2023). For example, in a study focused on students' mathematics achievement during the COVID-19 pandemic in Spain, Moliner and colleagues (2021) noted that, *"students preferred watching the pre-recorded classes to attending the live lessons. The main reason given was that the teacher's explanations were repeated several times, so students felt that with this option, they could save time and better organize their daily workload"* (p. 182). Similarly, in a study focused on secondary students' virtual learning experiences during the COVID-19 pandemic in the United States, one participated pointed out: *"I liked how everything was on videos and it wasn't just like a bunch of writing everywhere. It was just with the person talking to you and they just told you everything that you had to do for the assignment"* (Board, 2022, p. 88).

3.2.2.4 Benefits of Synchronous Online Learning

In a subset of studies (*n* = 6; 15%), authors and secondary students reported that synchronous online learning, which involves real-time online interactions and collaborations with teachers and peers (Gallagher-Mackay et al., 2021), offered significant benefits (Fiş Erümit, 2021; Hamilton et al., 2023; Lew-Koralewicz, 2022; Lopatovska et al., 2022; Sofianidis et al., 2021; Yates et al., 2021). More specifically, this approach was viewed by some secondary students as more structured in nature and beneficial to their learning process (Hamilton et al., 2023; Yates et al., 2021).

Further, as Yates and colleagues (2021) pointed out in their study on students' educational experiences during the pandemic in New Zealand, *"[s]ynchronous collaboration was emotionally supportive because students could see friends and teachers and share concerns for general wellbeing"* (p. 66). Several students echoed these sentiments; for example, in a study conducted by Hamilton and colleagues (2023) on the impact of the COVID-19 pandemic on students with autism spectrum disorder, a participant remarked, *"I think I'm getting more out of [synchronous online lessons] currently because I'm able to function better when I know there's a beginning and an end time"* (p. 7). Similarly, a secondary student in Turkey stated, *"synchronous lessons were like lessons at school. Since we also know the teachers, we had the chance to chat and meet in class. It was a very nice morale motivation for us on days we stayed at home"* (Fiş Erümit, 2021, p. 85).

3.2.2.5 Mental and Emotional Benefits

Just as mental and emotional *challenges* emerged in the first descriptive theme centred around challenging online learning experiences, mental and emotional *benefits* associated with remote learning were noted in some studies (n = 14; 34%), although to a lesser extent than the reported challenges. Specific mental and emotional benefits noted by secondary students throughout the pandemic included reduced anxiety and stress, both in the general student population (Almonacid-Fierro et al., 2022; Ashworth et al., 2022; Aslan et al., 2022; Board, 2022; Comelli et al., 2021; Fiş Erümit, 2021; Fisher et al., 2021; Lopatovska et al., 2022; Widnall et al., 2022) and for students belonging to traditionally underserved and underrepresented communities, such as LGBTQ+ individuals (Kiperman et al., 2024), students belonging to racial minority groups (Smith, 2022), and those with learning differences/disabilities (Hamilton et al., 2023; Lew-Koralewicz, 2022; Toste et al., 2021).

For example, in one study conducted by Kiperman and colleagues (2024) to explore the educational experiences of LGBTQ+ youth during the COVID-19 pandemic in the United States, the authors noted, *"[g]iven the research documenting school-based minority stress for LGBTQ+ youth, it is not surprising that some participants experienced relief by not being in-person during the pandemic"* (p. 24). Similar findings

were outlined in a study conducted by Lew-Koralewicz (2022) exploring the experiences of secondary students with autism spectrum disorder in Poland. On the basis of interviews with 10 high school students, Lew-Koralewicz noted that, *"*[g]*oing to school [in-person] is a stressor"* (p. 7), and that attending school online during the pandemic "*reduce*[d] *the negative, unpleasant stimuli they face in their regular school day"* (p. 7). One participant in this study highlighted this sentiment: *"[i]t's nice if you don't have to go to school. I was rather glad to stay home. Mom says I seem to be calmer. Well, I get less nervous, sometimes only during lessons. But I think I prefer staying at home"* (Lew-Koralewicz, 2022, p. 7).

3.2.3 Descriptive Theme 3: Complexities Associated with Education-Related Transitions

The third descriptive theme that emerged from the data was labelled, *Complexities Associated with Education-Related Disruptions and Transitions.* This theme pertains to the numerous challenges secondary students experienced as a result of educational disruptions throughout the COVID-19 pandemic, and as they navigated the abrupt (and often repeated) transitions between traditional in-person and remote learning environments. The four subthemes below provide an overview of some of the specific difficulties and challenges identified by secondary students and study authors in relation to these disruptions.

3.2.3.1 Perceptions of Loss

Several authors and secondary students (n = 25; 61%) articulated feelings of disappointment and loss amongst students due to missing important school events, activities, and 'rites of passage' during school closures (Almonacid-Fierro et al., 2022; Ashworth et al., 2022; Aslan et al., 2022; Board, 2022; Chin et al., 2023; Cockerham et al., 2021; Comelli et al., 2021; Fiş Erümit, 2021; Fisher et al., 2021; Hamilton et al., 2023; Kiperman et al., 2024; Lew-Koralewicz, 2022; Lukoševičiūtė & Šmigelskas, 2022; McKinlay et al., 2022; Moliner & Alegre, 2022; Mukuka et al., 2021; Pelikan et al., 2021; Pereira et al., 2023; Pulungan et al., 2022; Scott et al., 2021; Seynhaeve et al., 2022; Sifat et al., 2022; Smith, 2022; Sofianidis et al., 2021; Tzankova et al., 2023).

Indeed, as noted by Tzankova and colleagues (2023) in their study of secondary students in Italy, the shift to remote learning *"could be perceived as depriving students of the essence of the school experience, identified in the value of face-to-face and extracurricular activities, as well as relationships"* (p. 12751). McKinlay and colleagues (2022) also found that secondary students in the United Kingdom experienced feelings of loss around school-related events and activities they viewed as rites of passage. The authors noted that *"[m]any participants spoke of feeling disappointment that their social plans for secondary school…had not materialized due to pandemic-related closures and disruptions"* (McKinlay et al., 2022, p. 4), while a participant articulated this further: *"[w]e didn't get the finale of Year 13 like we normally do where there's like a prom and things like that and it was all just a bit rushed, so we didn't get to say bye"* (p. 5). Another secondary student quoted in a study conducted by Chin and colleagues (2023) in Canada captured the emotional gravity of such loss, expressing: *"I feel so unhappy and cheated to lose the experiences* [at school] *I so desperately long for: dances, assemblies, spirit weeks, club meetings, etc. I wonder whether I'll ever get those experiences that you remember for the rest of your life"* (p. 8).

3.2.3.2 Missing Aspects of the In-Person Learning Environment

Secondary students in more than half (n = 22; 54%) of the studies included in the QES indicated that they missed aspects of the in-person learning environment such as hands-on learning activities and face-to-face interactions (Almonacid-Fierro et al., 2022; Ashworth et al., 2022; Aslan et al., 2022; Board, 2022; Comelli et al., 2021; Cockerham et al., 2021; Fiş Erümit, 2021; Fisher et al., 2021; Hamilton et al., 2023; Lew-Koralewicz, 2022; Lukoševičiūtė & Šmigelskas, 2022; Moliner & Alegre, 2022; Mukuka et al., 2021; Pelikan et al., 2021; Pereira et al., 2023; Pulungan et al., 2022; Scott et al., 2021; Seynhaeve et al., 2022; Sifat et al., 2022; Smith, 2022; Sofianidis et al., 2021; Tzankova et al., 2023). For example, a secondary student expressed their preference for in-person learning in a study exploring secondary students' virtual learning experiences during the pandemic in the United States: *"I feel like I learned better hands-on because I can benefit from that way compared to just looking at the screen all day"* (Board, 2022, p. 92). Similarly, a participant in a study conducted in Brazil reinforced this preference, stating,

"I prefer in-person classes … I feel that I have learned almost nothing. If we had been attending in-person classes, we would have learned more" (Comelli et al., 2021, p. 62).

Secondary students also expressed feelings of missing out on important interpersonal experiences offered in some in-class learning environments. As one secondary student in Turkey noted during the early stages of the pandemic, *"I can't wait to go to school. Let me see our teachers, my friends, let me chat with them, let the classroom environment be there"* (Fiş Erümit, 2021, p. 87). Additionally, in a study exploring the remote learning experiences of newly arrived migrant secondary students in Belgium, Seynhaeve and colleagues (2022) reported that participants felt their language skills *"would have improved if they had had fulltime face-to-face instruction in the physical classroom instead of blended online learning"* (p. 345) and that *"… many participants seemed to place value on physical in-classroom interaction"* (p. 346).

3.2.3.3 The 'Learning Curve' and Adapting to Online Learning

Across multiple studies (*n* = 22; 54%), authors and secondary students described efforts and strategies used by students to adapt to new learning styles, digital tools, and online learning systems (Almonacid-Fierro et al., 2022; Aslan et al., 2022; Board, 2022; Cockerham et al., 2021; Comelli et al., 2021; Fiş Erümit, 2021; Fisher et al., 2021; Hamilton et al., 2023; Lew-Koralewicz, 2022; Lopatovska et al., 2022; Lukoševičiūtė & Šmigelskas, 2022; Pelikan et al., 2021; Pulungan et al., 2022; Schaefer et al., 2020; Smith, 2022; Sofianidis et al., 2021; Supardi, 2022; Toste et al., 2021; Tzankova et al., 2023; Xu et al., 2022; Yates et al., 2021; Zaeske et al., 2023). As noted by Pulungan et al. (2022) in their study exploring Indonesian high school students' experiences with learning mathematics from home during the pandemic, *"[e]ven though it is new for students to use online learning platforms, students have made efforts to use them so that they can follow the learning process to completion"* (p. 164). Indeed, this learning curve extended beyond technology to student learning styles, as Zaeske et al. (2023) noted in their study conducted in the United States: *"[p]articipants also discussed the learning curve associated with using online platforms and the need for self-directed learning when teachers struggled with technology"* (p. 467).

Secondary students also commented on the process of adapting to remote learning. In a study focused on secondary students with disabilities and their experiences of the pandemic (within the context of the ecological model of resilience), a participant noted, *"I personally don't find it as effective as being in person, but frankly, there's not really another option right now … I'm kind of having to adapt to it"* (Toste et al., 2021, p. 169). In another study conducted in Brazil, a student commented, *"It was a little tricky and I was confused, but now I am so adapted that I prefer remote classes … I think it was a good time to learn new ways to communicate with our teachers, colleagues, and with our family at home"* (Comelli et al., 2021, pp. 61-63). Indeed, students were tasked with navigating a significant number of educational changes throughout the pandemic, and many authors noted that secondary students were able to adapt quickly, demonstrating high levels of resilience and flexibility in the face of uncertainty.

3.2.3.4 Concerns About Transitions Between Online and In-Person Learning Environments

Students and authors in approximately one quarter (n = 10; 24%) of primary studies included in the QES noted that secondary students experienced challenges, anxiety, and/or varying levels of concern related to rapidly changing learning environments and the consequences and risks associated with such transitions (Almonacid-Fierro et al., 2022; Ashworth et al., 2022; Fisher et al., 2021; Hamilton et al., 2023; McCluskey et al., 2021; Moliner & Alegre, 2022; Scott et al., 2021; Shepherd et al., 2021; Widnall et al., 2022; Zaeske et al., 2023). For example, in their study of senior high school students in Scotland, McCluskey and colleagues (2021) noted that schools seemed to focus too much on *"getting back to normal"*, offering *"too few opportunities for reflection on the pandemic's impact as they* [students] *navigated the transition from lockdown to a full school timetable"* (p. 55).

Speaking to the fears and anxieties experienced by students during transitions between learning environments, Scott and colleagues (2021) noted that many students in their English study, *"did want to return to regular face-to-face teaching, see their friends, and resume activities; but reflected acutely on the danger, stresses, and strains that resumption signified"* (p. 12). For example, one secondary student in their study spoke

specifically to the potential dangers of returning to in-person learning when it was perceived as unsafe to do so:

> *I definitely think there is going to be another spike from schools re-opening, there's no social distancing going on and the corridors are packed so closely together. If one person gets COVID then it'll spread very quickly but people will still blame young people for the spike even though it's not our fault, we're being forced to go back to school.* (p. 8)

Also in England and pertaining to transitions between learning environments, Widnall and colleagues (2022) highlighted *"the difficulties* [for students] *of constantly having to adapt and adjust to sudden changes, especially short-term returns to home-based learning if an outbreak emerged in the school"* (Widnall et al., 2022, p. 9).

3.2.4 Descriptive Theme 4: Social Connections & Support

The fourth descriptive theme that emerged in this review was labelled, *Social Connections and Support.* This theme relates to the experiences of secondary students, both positive and negative, with regard to social connectedness and support in different educational contexts during the COVID-19 pandemic. These experiences, which include varying levels of connection with and support from teachers, family members, and peers, are outlined in the three subthemes below.

3.2.4.1 Experiences of Support from Teachers

Secondary students and authors in approximately 80% of studies (n = 33) included in the QES reported mixed experiences of support from and communication with teachers during the COVID-19 pandemic (Almonacid-Fierro et al., 2022; Ashworth et al., 2022; Aslan et al., 2022; Board, 2022; Branquinho et al., 2022; Chin et al., 2023; Comelli et al., 2021; Fiş Erümit, 2021; Fisher et al., 2021; Hamilton et al., 2023; Kiperman et al., 2024; Lew-Koralewicz, 2022; Lopatovska et al., 2022; McKinlay et al., 2022; Moliner & Alegre, 2022; Mukuka et al., 2021; Pelikan et al., 2021; Pereira et al., 2023; Pulungan et al., 2022; Schaefer et al., 2020; Scott et al., 2021; Seynhaeve et al., 2022; Sifat et al., 2022; Smith, 2022; Sofianidis et al., 2021; Soon et al., 2023; Supardi, 2022; Toste et al.,

2021; Tzankova et al., 2023; Van & Thi, 2021; Widnall et al., 2022; Yates et al., 2021; Zaeske et al., 2023). While some secondary students noted positive interactions with teachers (e.g.,*"[m]y teachers are very good. They were always available"* [Tzankova et al., 2023, p. 12751]), students in the majority of relevant studies reported experiences of inadequate levels of communication and support from teachers and teaching staff.

For example, in their study exploring the experiences of young people during the COVID-19 pandemic in the United Kingdom, McKinlay and colleagues (2022) noted that, *"[p]oor communication and a perceived lack of support from education providers also resulted in some students feeling forgotten about or unfairly treated"* (p. 5). Additionally, in their study exploring the impacts of online education on students in China, Lebanon, and the United States, Xu and colleagues (2022) observed that, *"[p]articipants reported that there was a lack of communication with teachers when they encountered questions, a lack of instant feedback in class, and it was hard to find effective ways to communicate after class"* (p. 10). A student in the United Kingdom echoed this sentiment, stating: *"[w]e're teaching ourselves everything and they would say (to) email us if you have any problems and I'd email a teacher, I emailed about three, and none of them replied, so it was very difficult to get help*" (Fisher et al., 2021, p. 3).

3.2.4.2 Changing Family Dynamics

Authors and students in approximately one third of studies (n = 14; 34%) in this QES reported that secondary students experienced increased family tensions during pandemic-related remote learning (Ashworth et al., 2022; Board, 2022; Fiş Erümit, 2021; Lopatovska et al., 2022; Lukoševičiūtė & Šmigelskas, 2022; McKinlay et al., 2022; Pelikan et al., 2021; Schaefer et al., 2020; Scott et al., 2021; Sifat et al., 2022; Soon et al., 2023; Zaeske et al., 2023) while other students enjoyed closer bonds and enhanced relationships with family members while learning at home (Board, 2022; Fiş Erümit, 2021; Kiperman et al., 2024; Lew-Koralewicz, 2022; Lopatovska et al., 2022; Lukoševičiūtė & Šmigelskas, 2022; McKinlay et al., 2022; Pelikan et al., 2021; Schaefer et al., 2020; Scott et al., 2021; Sifat et al., 2022; Zaeske et al., 2023). With regard to the family-related challenges secondary students experienced, many reported increased tension and disagreement with their parents and siblings while engaged in remote

learning in the home environment (e.g., Lew-Koralewicz, 2022; Lukoševičiūtė & Šmigelskas, 2022; McKinlay et al., 2022; Soon et al., 2023). For example, in their study exploring adolescents' experiences during the COVID-19 pandemic in Lithuania, Lukoševičiūtė and Šmigelskas (2022) reported that some secondary students *"lacked privacy and their own space"* (p. 6), and that many students *"mentioned disagreements with their parents and quarrels with their siblings"* (p. 7). These findings were similar to those reported by McKinlay and colleagues (2022) in their United Kingdom-based study, in which they noted that,*"[p]articipants living with family members said that they experienced difficulties getting along with parents and siblings during lockdown, particularly when living together in small homes or when everyone was working from home"* (p. 6).

Conversely, some secondary students reported experiencing improvements in family dynamics and relationships, and that they valued the closeness and enhanced relationships that developed during school closures (Board, 2022; Kiperman et al., 2024; Lew-Koralewicz, 2022; Soon et al., 2023). Some students also spoke to the support offered by family members during emergency remote learning. For example, one student from a study conducted by Board (2022) in the United States noted that, *"When the pandemic hit, I relied on my parents for more support"* (p. 93). Of course, positive family dynamics and support were not experienced universally; in fact, Lew-Koralewicz (2022) highlighted that, *"[i]n well-functioning families, adolescents…had an increased feeling of security and were able to strengthen their relationships with relatives, which was definitely a positive effect of the pandemic"* (p. 7).

3.2.4.3 Missing Social Interactions and Connectedness with Peers and Others

Authors and students in more than half of the studies (n = 25; 61%) included in the QES indicated that many secondary students experienced feelings of disconnection from peers and others (e.g., teachers, community members) during pandemic-related emergency remote learning (Almonacid-Fierro et al., 2022; Ashworth et al., 2022; Boström & Holmström Rising, 2023; Branquinho et al., 2022; Comelli et al., 2021; Cockerham et al., 2021; Fisher et al., 2021; Hamilton et al., 2023; Hatzichristou et al., 2021; Kiperman et

al., 2024; Lew-Koralewicz, 2022; Lopatovska et al., 2022; Lukoševičiūtė & Šmigelskas, 2022; Moliner & Alegre, 2022; Pelikan et al., 2021; Pereira et al., 2023; Pulungan et al., 2022; Schaefer et al., 2020; Sifat et al., 2022; Soon et al., 2023; Sofianidis et al., 2021; Tzankova et al., 2023; Widnall et al., 2022; Xu et al., 2022; Zaeske et al., 2023). In their study, exploring Swedish secondary students' perceptions of change in study habits and wellbeing that took place during the pandemic, authors Boström & Holmström Rising (2023) found that,*"students' school connection was affected … affecting both learning and well-being"* (p. 7), concluding that, *"[s]chool is an important area for students' learning, but also for their socialization and connection with friends"* (p. 7). Similar findings were reported by Sofianidis and colleagues (2021) in their study on the impact of the first school closure on students in Cyprus,

> *A main challenge of the school closure raised by students in our study is that distance education took away the "socialisation" element of school life… They reported their feelings of loneliness and boredom due to lack of connection with their classmates and teachers.* (p. 17)

While technology was used by secondary students to remain socially connected with friends and classmates, many indicated that it was not as effective as in-person social interaction. To this end, in their study of student experiences during lockdown in England, Ashworth et al. (2022) noted that, *"whilst some still enjoyed talking to their friends online, most felt that they were drifting from them and found using technology to keep in touch 'really weird, almost unnatural'"* (p. 523).

Speaking specifically to online learning in their study of high school students with autism spectrum disorder, Lew-Koralewicz (2022) noted that many participants experienced limited engagement and interaction with their peers: *"online contact is rather rare, and when it does occur, it is of a formal rather than a social nature. It usually relates to homework topics, or the implementation of joint projects"* (p. 8). Secondary students also reported missing the casual interactions that often occurred in school hallways; as a participant in a study related to adolescents' experiences of the COVID-19 pandemic in the United States expressed, *"I've definitely felt more lonely because I feel like I've less*

of a connection to, especially my school friends. …at school before…there's like always little interactions walking through the halls…there aren't as many casual little conversations" (Lopatovska et al., 2022, p. 536).

3.2.5 Descriptive Theme 5: Student Needs and Preferences

The fifth and final descriptive theme that emerged from the qualitative data in the studies included in this QES was *Emerging Educational Needs and Areas of Improvement*. In short, this theme focuses on the reflections and recommendations that arose from both authors and secondary students in response to the profound impact of the COVID-19 pandemic on secondary students' educational experiences worldwide. The three subthemes below provide a snapshot of these needs and suggested areas of improvement from authors and students in relation to secondary education.

3.2.5.1 Flexible Learning Environments and Assessment Options

In three studies included in this QES (7%), secondary students from diverse geographical locations noted a preference for flexible learning environments and assessment options, in both online and in-person educational settings (Aslan et al., 2022; Fiş Erümit, 2021; Yates et al., 2021). In a study exploring secondary students' experiences during the COVID-19 pandemic in Turkey, Aslan and colleagues (2022) indicated that nearly one third of their participants reported that they, *"find it nice to carry out distance education activities"*, and credit its flexible nature for their *"positive thoughts"* (p. 17253) about remote learning. Also with respect to flexibility, Yates and colleagues (2021) found in their study exploring secondary students' experiences with learning at home during the pandemic in New Zealand that, "*[i]t was clear participants valued agency over the time and pace at which they learned"* (p. 64). Specifically, it appears that some secondary students appreciated having the freedom to engage in learning and complete assessments at a more flexible pace. As one student in Yates and colleagues' (2021) study highlighted:

> *I would love to see lessons that provide us with what we need to know (1 or 2 a week). But after, give us the opportunity to work away at it, that way I feel we have more free time and don't feel trapped in school which does not make it an*

> *enjoyable place for us at all. I believe lockdown gave us the chance to experience something new that we had no idea worked.* (p. 64)

Some students also indicated that hybrid (i.e., situations where some students are physically present in class, while others participate in learning activities remotely) and/or blended (i.e., students learn partly via face-to-face instruction and partly online/remotely; Gallagher-Mackay et al., 2021), were preferred given their more flexible nature. For example, a participant in a study examining distance education experiences among students in Turkey, noted that, *"…in my opinion, it would be nice if education were given partly from a distance and partly at school in the future"* (Fiş Erümit, 2021, p. 87).

3.2.5.2 Enhanced Technological/Online Learning Training for Teachers

In a subset of studies in this QES (*n* = 7; 17%), authors and secondary students emphasized the need for additional training for teachers in the use of technology and digital teaching tools (including online learning platforms) and methods (Almonacid-Fierro et al., 2022; Aslan et al., 2022; Lukoševičiūtė & Šmigelskas, 2022; Pereira et al., 2023; Sofianidis et al., 2021; Supardi, 2022; Yates et al., 2021). Indeed, teachers' transitions to remote learning and consequent challenges with technology and the delivery of online education were noted by many students. As stated by one student in a study exploring adolescents' experiences during remote learning in Lithuania, "*[t]eachers don't explain normally, and teachers aren't skillful with technologies… they also don't understand a lot of stuff there"* (Lukoševičiūtė & Šmigelskas, 2022, p. 7).

Similarly, in a study exploring the impact of school closures on secondary education in Cyprus during the early pandemic, Sofiandis and colleagues (2021) found that, "*[i]n addition to the challenges related to students' access to infrastructure, another main and very crucial challenge identified by the students was teachers' lack of familiarity with e-learning technologies and their instructional uses*" (p. 11). A student interviewed by the authors of this study also reported that it is, "*necessary to further train teachers … in the use of computers, but mainly in the proper use of the Microsoft TEAMS platform, for the use and management of which students were not given the necessary instructions*"

(Sofianidis et al., 2021, p. 12). Also noting the need for additional teacher training, a student-athlete in Shepherd and colleagues' (2021) study in Canada shared a similar sentiment: "*[s]chools should also provide education to teachers on ways to support students via online learning*" (Shepherd et al., 2021, p. 10).

3.2.5.3 Improved Personalized/Accessible Learning Options

Authors of and students in approximately one third of studies (*n* = 13; 32%) included in the QES highlighted the need for enhanced personalized learning approaches in secondary schools, both online and in-person, to better accommodate diverse needs and preferences **(**Hamilton et al., 2023; Kiperman et al., 2024; Lew-Koralewicz, 2022; McCluskey et al., 2021; Shepherd et al., 2021; Smith, 2022; Sofianidis et al., 2021; Supardi, 2022; Toste et al., 2021; Yates et al., 2021). For example, in their study exploring the educational experiences of student-athletes in Alberta, Canada, Shepherd and colleagues (2021) noted that: *"[p]articipant experiences … highlight that it is not necessarily a one-size-fits-all approach, and that tailored approaches, or alternatives to the norm should be suggested as resources and supports are developed for high school student-athletes"* (p. 11).

Many secondary students expressed a need for accessible education and resources, and emphasized the importance of tailored support in the learning environment. In a study conducted by Sofiandis and colleagues (2021) in Cyprus, one student shared their frustration with the lack of support received for their unique learning needs: *"[b]ecause I use specific software for the lessons, the teachers could not provide me with differentiated material because they did not have access to the software at home to prepare it"* (p. 10). This participant stated further, *"I hope that if the lockdown continues in September, distance learning will be ready to meet the needs of each child (special education/speech therapy/differentiated material/attendant/interpretation, etc.)"* (p. 10).

Our findings also revealed that many secondary students, especially those with disabilities and learning differences, found that having access to resources and learning supports online was beneficial to their learning experience; as a result, students also noted that these resources should be more widely accessible to students. In their study exploring

the experiences of secondary students with disabilities during the pandemic, Toste and colleagues (2021) noted that while some participants described a lack of the traditional learning supports received during in-person learning, *"many students also remarked that use of online tools made materials more accessible to them (perhaps inadvertently)"* (p. 168). The authors also provided an example: "*one 6th grader indicated that having access to "the little thing that you can click on to get to read" improved their understanding of the assignments and performance on tests"* (Toste et al., 2021, p. 168).

3.3 Analytical Themes

In line with Thomas and Harden's (2008) thematic synthesis approach, analytical themes were developed by interpreting the descriptive themes and subthemes generated previously to uncover their broader implications and underlying meanings. The development of analytical themes are unique to the QES process; simply stated, they are developed to help explain the 'why' and 'how' of a phenomenon, extending knowledge and understanding in a given area (Thomas & Harden, 2008). The three analytical themes identified in this study—Student Resilience and Adaptability Through Crisis, The Digital Divide and Educational Inequality, and Reimagining the Future of Education—were derived by considering these deeper insights within the context of education-related literature and knowledge.

3.3.1 Analytical Theme 1: Student Resilience and Adaptability Through Crisis

The COVID-19 pandemic has catalyzed transformations in student learning and relationships, all of which have required students to adapt—sometimes very quickly—to unprecedented circumstances. Thus, it is not surprising that the findings of several primary studies included in the QES have shown that secondary students have exhibited a great deal of resilience and adaptability throughout this time of global crisis—navigating new online platforms and changing relationships with family, peers, and teachers, managing disrupted routines, and engaging in academic studies in new and constantly changing environments (Almonacid-Fierro et al., 2022; Aslan et al., 2022; Board, 2022; Cockerham et al., 2021;Comelli et al., 2021; Fiş Erümit, 2021; Fisher et al., 2021;

Hamilton et al., 2023; Lew-Koralewicz, 2022; Lopatovska et al., 2022; Lukoševičiūtė & Šmigelskas, 2022; Pelikan et al., 2021; Pulungan et al., 2022; Schaefer et al., 2020; Smith, 2022; Sofianidis et al., 2021; Supardi, 2022; Toste et al., 2021; Tzankova et al., 2023; Xu et al., 2022; Yates et al., 2021; Zaeske et al., 2023).

Secondary students' resilience and adaptability were illustrated by Cockerham and colleagues (2021) who found that some secondary students thrived in the virtual learning environment, forming online study groups and adapting their learning approaches through online project collaborations. Furthermore, Almonacid-Fierro et al. (2022) reported that secondary students employed and developed several strategies used to overcome technical issues and adapt to distance learning, including new self-regulation and digital literacy skills. Indeed, a student quoted in a study conducted by Board (2022) shared that, "*you have to figure it out yourself*" (p. 92), when it came to navigating the challenges associated with learning in an online environment.

Similarly, Schaefer et al. (2020) highlighted that despite facing numerous challenges, such as balancing academic and personal responsibilities and dealing with family dynamics, secondary students adapted and coped with the challenges of remote learning through improved time management skills, enhanced autonomy and self-motivation, and the development of new routines. The adaptability of secondary students—a commonly noted trait in many studies in relation to remote learning during the COVID-19 pandemic—underscores students' resilience as they navigated new academic tasks and environments.

3.3.2 Analytical Theme 2: The Digital Divide and Educational Inequality

The second analytical theme generated in this QES pertains to the worldwide disparities in access to technology and resources which have been exposed and exacerbated by the COVID-19 pandemic and consequent shift to remote learning. This "digital divide" has contributed further to existing educational inequities and has impacted secondary students' ability to engage with and benefit from online learning (Almonacid-Fierro et al., 2022; Board, 2022; Sifat et al., 2022; Smith, 2022; Sofiandis et al., 2021; Supardi, 2022;

Van & Thi, 2021). In their study of adolescent students in Bangledesh, Sifat and colleagues (2022) stated that, "… *COVID-19 has created a form of digital divide among adolescents"* (p. 6). Another study by Supardi (2022), exploring secondary students' experiences with remote learning in disadvantaged, rural, and remote areas in Indonesia, students were, *"forced to take part in distanced learning without the support of adequate educational facilities such as the internet and other high-tech devices"* (p. 1471). Indeed, Supardi (2022) found that, for some participants, *"there was no learning using the internet because there was no internet or electricity coverage in their area"* (p. 1466). Furthermore, Sofiandis et al. (2021) noted that the shift to remote learning that took place in Cyprus during the early COVID-19 pandemic *"exposed important challenges that need to be addressed in order to unlock the true educational potential of digital technologies and to make distance, online, and blended learning effective, inclusive, and engaging for all learner*s" (p. 2). These challenges, according to the authors above (i.e., Sifat et al., 2022; Sofiandis et al., 2021; Supardi, 2022), included inequitable access to technology, limited internet access and connectivity issues, and limitations in institutions' infrastructure and digital learning resources, among others.

These challenges, while not limited to secondary students in low- and middle-income nations, seem to have disproportionately and negatively impacted students from lower socioeconomic households (Smith, 2022). For example, in a study exploring the experiences of remote learning for Black students and their parents in the United States, Smith (2022) found that "*access to quality broadband remained challenging for students, leaving some to purchase internet, travel to other family members' homes, find free WIFI access at fast-food restaurants and other locations to complete assignments"* (pp. 87-88).

Moreover, beyond access, the ability to engage effectively with digital technologies (i.e., digital literacy) has been noted to be linked with academic success (e.g., Smith, 2022). As Board (2022) has pointed out, having access to technology is *"only one part of the equation when considering technology's role in education"* (p. 45). This issue is also captured by Smith (2022) who stated, *"while the focus on closing the digital divide has focused mostly on broadening access to broadband and devices, students and parents felt*

they lacked access to capacity-building opportunities that would aid them in utilizing this technology" (p. 88).

3.3.3 Analytical Theme 3: Reimagining the Future of Education

Taken together, the many descriptive themes and subthemes identified in this QES, based on the voices and experiences of secondary students, can serve as a catalyst for reimagining the future of education. Beyond the descriptive findings presented above, our findings also highlight and emphasize the importance of prioritizing students' voices in creating transformative shifts in education, ideally towards a more flexible, inclusive, and student-centered approach to learning (Aslan et al., 2022; Hamilton et al., 2023; Lew-Koralewicz, 2022; McCluskey et al., 2021; Moliner et al., 2021; Shepherd et al., 2021).

Related to this vision, a particularly important recommendation for improving the educational experiences of secondary students that emanated from this review is to actively seek and prioritize the diverse voices of secondary students, particularly those from underrepresented communities (e.g., students with disabilities and learning differences; Hamilton et al., 2023; Lew-Koralewicz, 2022). In their study exploring the pandemic-related experiences of adolescents with autism spectrum disorder in Poland, Lew-Koralewicz (2022) noted that listening to these students' perspectives, *"allows researchers, clinicians and teachers to better understand the needs of this group"* (p. 11). These authors also pointed out that *"people with ASD are very different in terms of their experiences during the pandemic"* (p. 12) and highlighted the immense need for educators to tailor supports to students' unique abilities. Similarly, in their study of youth with autism spectrum disorder in England, Hamilton and colleagues (2022) recommended that, *"[m]ore research that includes the first-person perspectives of … young people* [with autism spectrum disorder] *is needed in order to gain a fuller understanding of the impact of COVID-19 on learning, development and wellbeing"* (p. 2).

Another recommendation that emerged from this review pertains to the availability and accessibility of mental health supports for secondary students in educational settings. Students in many studies noted that there should be enhanced supports available in

schools for student mental health and wellbeing (Kiperman et al., 2024; McClusky et al., 2021). For example, in their study exploring the impact of school closures on secondary students in Scotland, McCluskey et al. (2021) found that, *"nearly all participants expressed a view that there had not been enough support in terms of mental health and well-being for young people during lockdown"* (p. 55) and concluded that there is a *"need for schools to develop dedicated specialised support for mental health and well-being, available to all"* (p. 56). Smith (2022) echoed and expanded upon these recommendations in their study exploring the experiences of Black students and families during remote learning in the United States, highlighting the importance of supports that include parents and caregivers, not just students: *"[t]he more educators and policymakers can consider how to address whole-family* [social-emotional learning] *and mental health supports, the better the outcomes for students and the adults who care for them"* (p. 106).

Chapter 4

4 Discussion

The primary purpose of this qualitative evidence synthesis (QES) was to examine the self-reported educational experiences of secondary students, globally, during the COVID-19 pandemic. A secondary purpose was to explore the impact of these educational experiences on the psychosocial wellbeing of secondary students. Overall, and in line with our hypothesis, the findings of this QES demonstrate that secondary students worldwide have reported a mix of educational experiences, both positive and negative, throughout the COVID-19 pandemic.

More specifically, regardless of geographic location, secondary students have reported numerous challenging educational experiences throughout the COVID-19 pandemic, including disruptions to routines, technology-related issues (e.g., navigating new online platforms, accessing the required digital devices, a perceived lack of technology-related training for teachers, etc.), decreased motivation, and general feelings of loss or missing out on the in-person learning environment and the 'typical' secondary school experience. Insofar as psychosocial wellbeing is concerned, findings of this review support the conclusion that secondary students worldwide have experienced a range of challenging emotions during remote learning, including anxiety, depression, and loneliness, alongside changing family dynamics, disconnection from peers, and poor communication with teachers. Our results also show, however, that secondary students have reported experiencing important benefits during the pandemic and as a result of the transition to remote learning, including increased flexibility and autonomy, personal growth and skill development, reduced social stressors (e.g., school-related anxiety and bullying), and improved social connections with peers, family members, and others.

In this chapter, a selection of the descriptive themes and subthemes that emerged from the qualitative data reported in the primary studies ($N = 41$) included in the QES are discussed. More specifically, these findings are discussed in relation to the mix of challenges/complexities and benefits/positive outcomes experienced by secondary students during the COVID-19 pandemic. Findings related to traditionally underserved

and underrepresented communities, such as LGBTQ+ youth (Kiperman et al., 2024), racial minority groups (Smith, 2022), and students with learning differences and disabilities (Hamilton et al., 2023; Lew-Koralewicz, 2022; Toste et al., 2021) are also highlighted in this section. In addition, the analytical themes developed as per Thomas and Harden's (2008) thematic synthesis approach are discussed in the context of the broader literature. Following this, several potential implications and future directions are presented. Finally, a discussion of specific strengths and limitations associated with this QES, along with a concluding statement, are outlined.

4.1 Descriptive Themes

As noted above, a selection of the five descriptive themes and 20 subthemes that emerged from the first two steps of Thomas and Harden's (2008) thematic synthesis approach are discussed below in terms of both the educational challenges and benefits experienced by secondary students during the COVID-19 pandemic.

With regard to challenges, and as reflected in several of the descriptive subthemes found within themes one (*Challenging Online Learning Experiences*) and three (*Complexities Associated with Education-Related Disruptions and Transitions*), secondary students reported experiencing disruptions to their learning routines and environments, noting a 'blur' in the lines between home and school (e.g., Almonacid-Fierro et al., 2022; Widnall et al., 2022). Many students also reported encountering technological and resource challenges, such as poor internet connectivity (e.g., Smith, 2022) and lack of access to necessary devices (e.g., Pelikan et al., 2021); issues that were found to be particularly pronounced among students from underserved and underrepresented communities (e.g., LGBTQ+ youth [Kiperman et al., 2024]; racial minority groups [Smith, 2022] students with learning differences and disabilities [Lew-Koralewicz, 2022]). As noted above, many secondary students also reported missing elements of "hands-on", in-person learning (e.g., Ashworth et al., 2022) and expressed feelings of disappointment and loss associated with missing important school events and milestones, such as prom and extracurricular activities (e.g., McKinlay et al., 2022; Scott et al., 2021). Notably, students were required to adapt to remote learning very quickly throughout the pandemic,

which required self-directed learning (e.g., Board, 2022) and lead to a steep learning curve regarding the use of digital tools and online platforms (e.g., Schaefer et al., 2020).

These findings align with and expand upon those outlined in existing studies regarding the educational experiences of secondary students during the COVID-19 pandemic (e.g., Betthäuser et al., 2023; Bond et al., 2021; Donnelly & Patrinos, 2022; Fang et al., 2022; Panagouli et al., 2021; Viner et al., 2022). For example, a team of scholars from the Evidence for Policy and Practice (EPPI) Centre in the United Kingdom (Bond et al., 2021) conducted a systematic review of 81 studies from 38 countries that focused on secondary students' experiences with global emergency remote education during the early stages of the pandemic. The authors of this comprehensive review suggested that while some secondary students reported being more motivated to learn and complete schoolwork during versus prior to the pandemic, others found that social isolation, confusion about online learning task requirements, and distractions in the home environment were notable challenges related to remote learning (Bond et al., 2021). Again, this is consistent with findings reported in this QES showing that many secondary students reported struggling with a lack of engagement and motivation during pandemic-related remote learning (e.g., Board, 2022; Lew-Koralewicz, 2022; McCluskey et al., 2021; Schaefer et al., 2020; Yates et al., 2021).

As outlined in the second descriptive theme (*Benefits of Online Learning*), the findings of this QES also highlight some unique advantages or benefits reported by secondary students while engaged in remote learning during the pandemic. Specifically, several students noted that they enjoyed the increased flexibility and accessibility of online assessments and resources (e.g., Almonacid-Fierro et al., 2022; Ashworth et al., 2022), which was also perceived by some students to have facilitated improved academic performance and a more relaxed learning environment (e.g., Almonacid-Fierro et al., 2022; Lopatovska et al., 2022; Pulungan et al., 2022), as well as the development of independence, personal growth, and new skills (e.g., McKinlay et al., 2022; Toste et al., 2021). Results also showed that some students with learning differences and/or disabilities indicated that they found the online learning environment to be particularly beneficial. For example, Lew-Koralewicz (2022) found that some high school students

with autism spectrum disorder noted that when learning online, teachers had more time to address their needs individually, and that the shorter, more flexible online classes were less stressful. Additionally, Toste et al. (2021) found that secondary students with disabilities reported that the accessibility features embedded in online learning platforms (e.g., reading support tools) were beneficial; Toste and colleagues also noted that the increased flexibility associated with online learning was particularly beneficial for those with attention deficit hyperactivity disorder and other learning disabilities, allowing students to self-regulate and better manage their educational tasks.

These findings are in alignment with existing literature exploring the experiences of students with disabilities, from primary to secondary educational levels, during pandemic-related remote learning (e.g., Averett, 2021; Heyworth et al., 2021). For example, Averett (2021) found that when compared to their younger counterparts, older students (i.e., those enrolled in secondary education) with disabilities such as dyslexia and attention deficit disorder reported significant benefits associated with online learning during the pandemic. In fact, the parent of a 14-year-old student with attention deficit disorder reported that her child, *"has shown the biggest improvement from going virtual"*, as he is *"easily distracted by the public school system setup, and the classroom…."* (Averett, 2021, p. 8). Additionally, in their study exploring the impact of remote learning on adolescents with autism and their parents in Australia, Heyworth and colleagues (2021) found that the freedom to take breaks and control the pace of their learning during online classes resulted in improved mental health and learning outcomes for these students.

With regard to the secondary objective of the QES (i.e., to explore the impact of secondary students' pandemic-related educational experiences on their psychosocial wellbeing)—and again in line with our hypothesis—we found that indeed, secondary students experienced a complex interplay of negative and positive psychosocial impacts as a result of remote learning during the COVID-19 pandemic. As outlined in descriptive theme one (*Challenging Online Learning Experiences*) in this QES, many secondary students reported experiencing social and emotional challenges throughout the pandemic and during emergency remote learning; the most common of which were stress, anxiety,

sadness, loneliness, and boredom (e.g., Almonacid-Fierro et al., 2022; Pelikan et al., 2021; Widnall et al., 2022; Xu et al., 2022). The authors of several studies included in this review also reported that a perceived lack of support from and communication with teachers exacerbated students' stress, anxiety, and feelings of disconnection, as students struggled to adapt to new forms of instruction and feedback (e.g., Lopatovska et al., 2022; McKinlay et al., 2022; Moliner & Alegre, 2022; Mukuka et al., 2021; Xu et al., 2022). Moreover, increased family tensions (e.g., Hamilton et al., 2023; Lew-Koralewicz, 2022; Lukoševičiūtė & Šmigelskas, 2022) and a lack of in-person interaction and engagement with peers left many students feeling disconnected, further intensifying these psychosocial challenges (e.g., Branquinho et al., 2022; Lopatovska et al., 2022; Pelikan et al., 2021). Perhaps not surprisingly, a number of published systematic reviews and meta-analyses have shown that secondary students globally have experienced increased stress, anxiety, sadness, loneliness, and hopelessness during the COVID-19 pandemic (Fang et al., 2022) and while engaged in remote learning (Bond et al., 2021; Bozkurt et al., 2022).

While described to a lesser extent by secondary students than the challenges associated with remote learning, the findings of the QES also captured the unique benefits and positive psychosocial outcomes experienced by students, globally, during the COVID-19 pandemic (e.g., Almonacid-Fierro et al., 2022; Board, 2022; Fisher et al., 2021; McKinlay et al., 2022). Indeed, while the positive psychological outcomes reported by students tend to receive less research attention than the mental health challenges experienced (Allen et al., 2022), they are critical to explore. As Waters and colleagues have eloquently noted,

> *In times of intense crisis, such as COVID-19, it is understandable that research is heavily directed towards addressing the ways in which people are wounded and weakened. However, this need not come at the expense of also investigating the ways in which people are sustained and strengthened*. (p. 1)

The perceived mental and emotional benefits experienced by secondary students in the studies included in this QES (as outlined in descriptive theme two, *Benefits of Online Learning*) include reduced anxiety and stress while engaged in remote learning (e.g.,

Almonacid-Fierro et al., 2022; Ashworth et al., 2022; Aslan et al., 2022; Comelli et al., 2021; Fiş Erümit, 2021; Fisher et al., 2021), as well as an increase in focus and overall positive emotions (McKinlay et al., 2022). Some of these perceived benefits were found to be particularly salient among students who reported experiencing challenges in the traditional school environment (e.g., Hamilton et al., 2023; Kiperman et al., 2024; Lew-Koralewicz, 2022; McKinlay et al., 2022; Toste et al., 2021; Widnall et al., 2022). Specifically, many secondary students who reported experiencing social rejection, anxiety, and bullying in the in-person school environment (e.g., Kiperman et al., 2024; Widnall et al., 2022), as well as those with learning differences (e.g., Hamilton et al., 2023; Lew-Koralewicz, 2022; Toste et al., 2021) reported considerable psychosocial benefits while engaged in remote learning during the pandemic. These benefits included feelings of 'relief' (Kiperman et al., 2024; Widnall et al., 2022), reduced stress, anxiety, and depression (Lew-Koralewicz, 2022; Toste et al., 2021), and a sense of safety and comfort in their remote learning environment (Hamilton et al., 2023; Kiperman et al., 2024; Lew-Koralewicz, 2022). In their study exploring the experiences of high school students with autism spectrum disorder during the COVID-19 pandemic, Lew-Koralewicz (2022) noted that "*Going to school is a stressor for* [some students]*, and during the pandemic they had the opportunity to reduce the negative, unpleasant stimuli they face in their regular school day*" (p. 7).

Such positive psychosocial benefits have been noted—although to a lesser extent than the associated challenges—in existing reviews of the literature in this area (e.g., Bond et al., 2021). For example, in their systematic review exploring the educational experiences of secondary students, parents, and educators, during the first year of the pandemic, Bond and colleagues (2021) noted that some students, particularly those from *"wealthier households, with stable internet connection and educated parents"* were more likely to feel increased happiness and comfort, decreased anxiety and stress, and *"a heightened sense of wellbeing as a result of learning from home"* (p. 25).

The findings pertaining to the unique psychosocial benefits experienced by secondary students with social challenges, disabilities, and learning differences during the pandemic also echo those of other studies (e.g., Averett, 2021; Heyworth et al., 2021). For example,

Heyworth and colleagues (2021) found that for students with autism spectrum disorder in Australia, experiencing an increase in autonomy and control over their remote learning environment was associated with improved mental health outcomes. Similarly, Averett (2021) suggested that remote learning was associated with positive psychosocial outcomes among young people (including those in secondary education) with disabilities, with participants reporting a reduction in anxiety and an increase in comfort when learning in a familiar, controlled, and supportive home environment. In both studies, the perceived reduction in social pressures and distractions while learning remotely, as well as the sensory and social safety of the home environment, was noted to have played a crucial role in reducing sensory overload and anxiety for participants (Averett, 2021; Heyworth et al., 2021).

Interestingly, the findings of our QES pertaining to the reported increase in independence, autonomy, and skill development noted by some secondary students during remote learning (Branquinho et al., 2022; Lukoševičiūtė & Šmigelskas, 2022; McKinlay et al., 2022; Pelikan et al., 2021; Schaefer et al., 2020; Seynhaeve et al., 2022; Toste et al., 2021; Xu et al., 2022; Zaeske et al., 2023) appear to be somewhat unique in that they have not figured as prominently in other published reviews in the area. One study that has addressed such issues, however, is the systematic review conducted by Bond and colleagues (2021). These authors found that remote learning during the COVID-19 pandemic fostered independence and autonomy among secondary students, and that many students adapted to this new mode of learning by setting their own timetables, seeking additional learning materials, and revisiting educational content at their own pace (Bond et al., 2021). It is important to note that personal growth and skill development in these areas is critical for the healthy development of adolescents (Offner, 2022; Verhoeven et al., 2019); as such, it is worth exploring the educational tools, activities, and situations/environments that fostered such development—amidst a time of global crisis—in order to facilitate further growth among secondary students now and in the future.

With regard to *social* outcomes specifically, the results of this QES underscore the importance of social connectedness and belonging amongst secondary students during the

COVID-19 pandemic. In particular, descriptive theme four (*Social Connections and Support)* reflects the findings showing that many secondary students reported positive and improved dynamics with family (e.g., Board, 2022; Kiperman et al., 2024; Lew-Koralewicz, 2022; Schaefer et al., 2020; Soon et al., 2023; Xu et al., 2022), improved communication with teachers (e.g., Tzankova et al., 2023; Zaeske et al., 2023), and strengthened relationships with peers (e.g., Lukoševičiūtė & Šmigelskas, 2022; Tzankova et al., 2023; Xu et al., 2022) during remote learning. In many cases, such beneficial social outcomes were reported to have contributed to students' overall wellbeing (e.g., Schaefer et al., 2020; Tzankova et al., 2023). It is also important to note that many of the observed social benefits in this QES, including enhanced relationships with family members, improved communication with teachers, and meaningful interactions with peers, were found to be particularly important for the psychosocial wellbeing of students from underrepresented/underserved communities throughout the pandemic (e.g., LGBTQ+ youth [Kiperman et al., 2024] and students with learning differences and disabilities [Hamilton et al., 2023; Lew-Koralewicz, 2022; Toste et al., 2021]).

The abovementioned findings are not surprising given the widely accepted notion that all humans possess an innate desire to belong and connect meaningfully with others (Baumeister & Leary, 1995); indeed, the benefits of such positive social experiences have been amplified throughout the COVID-19 pandemic (Allen et al., 2022; Brown et al., 2024). In the context of the broader literature in this area, Allen et al. (2022) recently found that a strong sense of belonging was linked to enhanced emotional processing, positive coping, and stress-related growth among secondary students in Australia during the COVID-19 pandemic. Similarly, Brown et al. (2024) noted that adolescents in Canada who reported having a heightened sense of belonging experienced lower levels of anxiety and depression during pandemic-related school closures. Both of these studies underscore the critical importance of fostering environments that enhance perceptions of belonging among secondary students during times of significant social disruption (Allen et al., 2022; Brown et al., 2024). This is vital in light of the recent United States Surgeon General's report highlighting the "epidemic of loneliness" (Office of the Surgeon General, 2023). This provocative report noted that adolescents and young adults experienced heightened levels of anxiety, stress, and depression during the pandemic due

to significant disruptions in their daily routines, academic challenges, a reduction in face-to-face interactions with peers, and overall uncertainty; all of which are required for healthy social development, stability, and emotional wellbeing (Office of the Surgeon General, 2023).

With regard to the social challenges experienced by secondary students during the pandemic, more than half of the studies included in this QES (*n* = 25; 61%) suggested that students experienced feelings of disconnection from peers, teachers, and community members during pandemic-related remote learning (Almonacid-Fierro et al., 2022; Ashworth et al., 2022; Boström & Holmström Rising, 2023; Branquinho et al., 2022; Comelli et al., 2021; Cockerham et al., 2021; Fisher et al., 2021; Hamilton et al., 2023; Hatzichristou et al., 2021; Kiperman et al., 2024; Lew-Koralewicz, 2022; Lopatovska et al., 2022; Lukoševičiūtė & Šmigelskas, 2022; Moliner & Alegre, 2022; Pelikan et al., 2021; Pereira et al., 2023; Pulungan et al., 2022; Schaefer et al., 2020; Sifat et al., 2022; Soon et al., 2023; Sofianidis et al., 2021; Tzankova et al., 2023; Widnall et al., 2022; Xu et al., 2022; Zaeske et al., 2023). Students also reported feelings of loneliness and boredom due to the lack of in-person interactions while learning from home, which technology could not fully compensate for (Ashworth et al., 2022; Lopatovska et al., 2022); although online platforms were used to maintain social connections, many students found them inadequate compared to face-to-face interactions, describing these digital connections as "unnatural" and insufficient for sustaining meaningful relationships (Ashworth et al., 2022). Moreover, the absence of casual, spontaneous interactions that typically occurred in school settings further exacerbated feelings of isolation for some students (Lopatovska et al., 2022; Lew-Koralewicz, 2022). For secondary students with learning disabilities, studies showed that engaging meaningfully with teachers and peers using online learning resources was difficult for some students, which often led to heightened feelings of isolation and frustration (Hamilton et al., 2022; Lew-Koralewicz, 2022; Toste et al., 2021).

These findings are also consistent with existing literature (e.g., Bond et al., 2021; Lampropoulou et al., 2023; Office of the Surgeon General, 2023). For example, Bond et al. (2021) found that more than one quarter of the studies included in their review

indicated that secondary students experienced social isolation, unmet social needs, and *"longed for social interaction"* (p. 35) during pandemic-related remote learning. In addition, a study conducted by Lampropoulou et al. (2023) showed patterns of increased loneliness and mental health difficulties among secondary school students who reported fewer social connections during their remote learning experiences (even if these students demonstrated strong resiliency skills). In short, given that young people have reported high rates of loneliness throughout the COVID-19 pandemic, as reflected in the findings of this QES (e.g., Almonacid-Fierro et al., 2022; Ashworth et al., 2022; Boström & Holmström Rising, 2023; Branquinho et al., 2022; Comelli et al., 2021; Cockerham et al., 2021; Fisher et al., 2021; Hamilton et al., 2023; Hatzichristou et al., 2021; Kiperman et al., 2024; Lew-Koralewicz, 2022; Lopatovska et al., 2022; Lukoševičiūtė & Šmigelskas, 2022; Moliner & Alegre, 2022; Pelikan et al., 2021; Pereira et al., 2023; Pulungan et al., 2022; Schaefer et al., 2020; Sifat et al., 2022; Soon et al., 2023; Sofianidis et al., 2021; Tzankova et al., 2023; Widnall et al., 2022; Xu et al., 2022; Zaeske et al., 2023), as well as in the literature more broadly (Allen et al., 2022; Brown et al., 2024; Office of the Surgeon General, 2023), there is a clear need to foster supportive and cohesive school environments to help mitigate feelings of isolation and promote the wellbeing secondary students.

The findings of this review, in addition to others in the literature (e.g., Betthäuser et al., 2023; Bond et al., 2021; Donnelly & Patrinos, 2022; Fang et al., 2022; Viner et al., 2022), underscore the complicated blend of academic and psychosocial challenges and perceived benefits secondary students experienced globally throughout the COVID-19 pandemic. As discussed above, such findings have been noted by several researchers; for example, in their systematic review of 42 studies, Panagouli and colleagues (2021) found that disruptions to traditional learning environments led to varied educational outcomes and psychosocial effects amongst secondary students, conducing that *"online learning created a new educational reality, which either benefited students or promoted educational loss"* (Panagouli et al., 2021, p. 12). Indeed, secondary students experienced several new educational and social realities during the COVID-19 pandemic; all of which are associated with numerous consequences and implications worthy of further exploration.

4.2 Analytical Themes

As noted previously, the third phase of Thomas and Harden's (2008) thematic synthesis approach used in this QES involved the generation of three analytical themes. The first analytical theme (*Student Resilience and Adaptability Through Crisis)* centres around the idea that secondary students have demonstrated a considerable amount of resilience and adaptability, globally, in response to the educational disruptions caused by the COVID-19 pandemic. Among numerous other challenges, some secondary students reported being confused about their online learning assessments and lacking support in their home environment during remote learning, yet demonstrated tremendous resilience, adaptability, and persistence by using online resources and peer support to work through the material (Pulungan et al., 2022). Similarly, adolescents in the United States reported developing strategies to manage online schoolwork, such as creating checklists, segmenting assignments, and working offline when distracted, demonstrating a strong desire and ability to adapt (Cockerham et al., 2021). As noted previously, the results of our QES indicate that the need to adapt and demonstrate resilience throughout the pandemic has been particularly true for secondary students who experience learning differences and/or disabilities (e.g., autism spectrum disorder; Hamilton et al., 2023; Lew-Koralewicz, 2022), as well as those from traditionally underserved and underrepresented communities (e.g., LGBTQ+ youth and students from racial minority groups; Kiperman et al., 2024; Smith, 2022).

The assertion that secondary students have demonstrated immense amounts of resilience and adaptability throughout the COVID-19 pandemic is supported by findings in the existing literature (e.g., Bozkurt et al., 2022; Lampropoulou et al., 2023; Torres-Gázquez et al., 2023; Zhang et al., 2020). For example, in their meta-narrative review encompassing 89 studies and more than 252,000 primary and secondary students, Bozkurt and colleagues (2022) found that improved mental health outcomes and consequently, better academic success, were associated with higher levels of resilience and positive coping mechanisms amongst secondary students. As a result, these authors highlighted the importance of emotional intelligence skills, resilience, and adaptive strategies in helping students navigate the many challenges associated with emergency

remote learning. Taken together, these findings and those of our QES more broadly, underscore how the development of resilience, adaptability, and coping strategies during the pandemic has the potential to benefit students throughout their educational journeys and beyond.

The second analytical theme identified in this QES was labelled, *The Digital Divide and Educational Inequality*. The COVID-19 pandemic and the consequent shift to remote learning exposed significant global disparities in access to technology and resources (e.g., Ballesta Pagán et al., 2018; van de Werfhorst et al., 2022). This "digital divide"—referring to disparities in access to computers and the internet, the skills and usage of technology, and the benefits derived from this access which vary across socio-demographic groups (Ballesta Pagán et al., 2018; van de Werfhorst et al., 2022)—negatively impacts academic outcomes and has exacerbated existing educational inequalities throughout the COVID-19 pandemic (Almonacid-Fierro et al., 2022; Board, 2022; Sifat et al., 2022; Smith, 2022; Sofiandis et al., 2021; Supardi, 2022; Van & Thi, 2021). Indeed, the results of our QES revealed that the digital divide significantly impacted secondary students' ability to engage with and benefit from remote learning (Almonacid-Fierro et al., 2022; Board, 2022; Sifat et al., 2022; Smith, 2022; Sofiandis et al., 2021; Supardi, 2022; Van & Thi, 2021).

Indeed, the results of our QES revealed that secondary students in low- and middle-income nations and those from lower socioeconomic households reported experiencing barriers with regard to accessing the technology and internet connectivity required for remote learning (Sifat et al., 2022; Sofiandis et al., 2021; Supardi et al., 2022; Van & Thi, 2021). For example, Sifat and colleagues (2022) highlighted that in Bangladesh, the pandemic created a digital divide among adolescents, limiting some students' ability to participate in online learning. Similarly, Supardi (2022) found that secondary students in disadvantaged, rural, and remote areas in Indonesia were often forced to partake in 'offline' distanced learning—that is, remote learning without adequate resources such as internet, high-tech devices, and in some cases, electricity. As a result, remote learning was nearly impossible for some students in this study (Supardi, 2022). Furthermore, in Cyprus, Sofiandis and colleagues (2021) reported that inequitable access to technology,

limited internet access, connectivity issues, and inadequate institutional infrastructure hindered students' ability to participate effectively in online learning, with many students reportedly unable to participate at all.

Researchers have previously documented the socioeconomic disparities and educational inequalities which impact secondary students' access to and effective use of digital technologies in education (e.g., Ballesta Pagán et al., 2018; Lai & Widmar, 2020; Ma, 2021; Van de Werfhorst et al., 2022). For example, prior to the COVID-19 pandemic, Ballesta Pagán and colleagues (2018) found that students who were immigrants/migrants, came from an underrepresented, underserved, or low socioeconomic status household, and/or who had learning disabilities/differences faced considerable academic challenges (e.g., lower grades and test scores, higher secondary school dropout rates, and reduced access to the internet, educational resources, and parental support) when compared to their peers. The authors suggested that beyond providing digital devices, schools must adequately train teachers and provide students with equitable access to digital technologies and internet connectivity to achieve socio-educational equity and inclusion (Ballesta Pagán et al., 2018). More recently, Ma (2021) highlighted the persistent digital divide between high-SES and low-SES schools using data from the Organization for Economic Co-operation and Development (OECD) Programme for International Student Assessment (PISA) across 47 countries. Ma found that students in high-SES schools were more likely to use computers for schoolwork and possess higher digital competence (i.e., digital literacy) compared to their counterparts in low-SES schools. This divide persisted even after controlling for school-level resources, which underscores the deep-rooted socioeconomic disparities that exist within and between countries. These findings support those in this QES and other literature, emphasizing how the digital divide—encompassing both access to and knowledge of how to use digital technologies—continues to disproportionately impact underrepresented, underserved, and low SES students and communities globally.

The third and final analytical theme generated in this QES was entitled, *Reimagining the Future of Education*. The COVID-19 pandemic has transformed educational landscapes globally; and, while numerous educational challenges exist and have been widely

documented, learnings from the pandemic can also serve as a catalyst for reimagining secondary education.

Indeed, the results of this review reinforce the notion that reimagining the future of secondary education requires a transformative shift towards more flexible, inclusive, and student-centered approaches (Aslan et al., 2022; Fiş Erümit, 2021; Hamilton et al., 2023; Kiperman et al., 2024; Lew-Koralewicz, 2022; McCluskey et al., 2021; Toste et al., 2022; Yates et al., 2021). Existing research supports such recommendations. For instance, in a study conducted by Tesar (2021) exploring the transformative possibilities for education brought about by the COVID-19 pandemic, the importance of proactive (versus reactive) strategies in educational planning were emphasized, highlighting the need to better prepare for future possible disruptions in education. This study included diverse stakeholders, such as educators, policymakers, and students, all of whom noted that incorporating flexible learning options and strategies in both physical (in-person) and online spaces is crucial (Tesar, 2021).

Also related to the future of education, Suzylily and Lim (2022) conducted a study to explore the impact of pandemic-related remote learning on primary and secondary students through the lens of the United Nations' Sustainable Development Goals. Building on conversations around educational inequality and the digital divide, the authors concluded that, "*[a]s the world advances and evolves, students' learning techniques should be dynamic for continued relevance*" and that, *"it is likely that schools and institutions will blend online and physical learning for better preparation for any future crisis"* (Suzylily & Lim, 2022, p. 74). Similarly, in their study on the pedagogical innovations necessitated by the shift to online learning during the pandemic, Peters and colleagues (2022) noted the urgent need to redesign curricula and pedagogical approaches to accommodate the 'new normal'. Specifically, these authors advocating for the integration of digital tools and resources that empower students to learn effectively both online and in-person (Peters et al., 2022).

Such educational transformations and possibilities, however, cannot solely be based on the views of researchers, educators, politicians, and other 'experts'; rather, listening to

and amplifying *students'* voices is critical if sustainable changes are to take place (Hamilton et al., 2023; Kiperman et al., 2024; Lew-Koralewicz, 2022; McCluskey et al., 2021; Toste et al., 2022). In fact, Tesar's (2021) study on future directions in education also emphasized the importance of prioritizing students' voices in the development of effective student-centred plans and strategies. Student voices were clearly amplified in the current QES given our focus on *self-reported student experiences*; in addition, numerous authors in the primary studies included spoke to the value and importance of listening to and learning from secondary students to: (a) better understand their unique needs; and (b) develop and tailor solutions accordingly (e.g., Hamilton et al., 2022; Lew-Koralewicz, 2022; McCluskey et al., 2021).

4.3 Implications and Future Directions

In terms of noteworthy implications and recommendations that have emanated from this review, it is clear that there is an urgent need for global educational policies that address the digital divide. Ensuring equitable access to the internet and digital technologies for *all students* is critical for mitigating the educational disparities observed in many studies in this QES. Further, schools and policymakers must prioritize providing the necessary resources and supports (e.g., affordable internet access, adequate devices, digital literacy training for students, families, and teachers) to underserved communities. Developing—and directing training and resources towards—innovative technological solutions that are available to and accessible by all students is essential to addressing the digital divide and ensuring equitable access to education.

Another topic worthy of attention given its implications for secondary students' health, wellbeing, and academic success, is social connectedness. The results of our QES clearly show that secondary students experienced both challenges and improvements regarding their perceptions of connectedness with others (including family members, peers, and teachers) throughout the COVID-19 pandemic. Understanding and highlighting students' experiences of social connectedness and belonging—particularly during times of crisis—can help shed light on the resources, strategies, and supports needed to improve perceptions of belonging among students moving forward. By targeting perceptions of belonging and connectedness in educational settings—and given humans' innate need to

belong—researchers and educators can potentially influence other important outcomes for adolescents, such as academic achievement and psychosocial wellbeing. This is an important area of research that warrants additional attention.

With regard to additional future research directions, there is a need for longitudinal studies that track the long-term effects of the pandemic on educational outcomes, psychosocial wellbeing, and the efficacy of remote learning among secondary students. Such studies could provide valuable insights into the resilience of educational systems and students in the face of future global crises. Moving forward, researchers might also explore the impact and effectiveness of emerging educational technologies and learning frameworks that have been accelerated by the COVID-19 pandemic. These understandings, including the potential benefits and challenges associated with certain technologies for different cohorts (e.g., students, teachers, and caregivers), and in different geographical locations, will be crucial for shaping future global educational practices. Moreover, emphasizing the voices and experiences of marginalized student groups in future studies and educational interventions will be essential to creating targeted interventions that benefit all students equally. By focusing on these areas, researchers, educators, students, and policy makers can contribute to a more resilient and equitable education system that is better prepared for future disruptions.

4.4 Strengths and Limitations

This study has several notable strengths. First, it provides a comprehensive synthesis of qualitative research focused on the educational experiences of secondary students during the COVID-19 pandemic, capturing both the challenges and perceived benefits identified by students in a global context. Specifically, this QES includes a wide range of perspectives from 23 different countries (Austria, Bangladesh, Belgium, Brazil, Canada, Chile, Cyprus, Greece, Indonesia, Italy, Lebanon, Lithuania, New Zealand, Poland, Portugal, Singapore, Spain, Sweden, Turkey, United Kingdom, United States, Vietnam, Zambia) and encompasses the experiences of more than 7,000 secondary students. To the best of the researchers' knowledge, this is the first qualitative evidence synthesis conducted to explore this topic. Further, unlike Bond et al.'s (2021) systematic review exploring secondary students' experiences of emergency remote learning from multiple

perspectives, our review focused exclusively on synthesizing qualitative research based on students' self-reported educational experiences. By exclusively synthesizing findings derived from the lived experiences/voices of secondary students themselves, this QES offers rich contextual insights that emphasize the personal and subjective dimensions of students' educational experiences.

Another strength of this QES is that it includes studies published up until January 2024, extending beyond the early phases of the pandemic (and other published reviews in this area; e.g., Bond et al., 2021) to capture the evolving and dynamic nature of students' educational experiences with remote learning. Furthermore, a unique strength of this study is its in-depth perspective on not only the challenges and complexities of remote learning but also the multiple perceived benefits and positive outcomes—as noted by secondary students themselves—regarding their educational experiences and psychosocial wellbeing.

Despite these strengths, this QES has some noteworthy limitations that warrant noting. First, although this study included a comprehensive search strategy designed to capture a wide range of qualitative and/or mixed methods studies, the reliance on specific databases and English language publications may have limited the diversity and inclusivity of global perspectives including those in areas beyond education, psychology, and health sciences. Second, due to the continually evolving context of the COVID-19 pandemic, there may have been additional literature published since the final study search (in January 2024). Similarly, given the time period reviewed, our results are not likely to have captured a fulsome overview of the longer-term impacts of remote learning and other pandemic-related educational interventions on secondary students. Third, our purposeful focus on students' experiences as presented via qualitative data only (given our study purpose and nature of a QES; Carroll, 2017; Clark, 2016; Flemming et al., 2019; Flemming & Jones, 2020; Thomas & Harden, 2008), while fruitful, could mean that we have overlooked other important insights from secondary students that quantitative data might have provided.

4.5 Conclusion

The results of this QES illuminate the multifaceted impacts of the COVID-19 pandemic on the educational experiences of secondary students globally. The five descriptive themes and 20 subthemes that emerged from the qualitative data found in 41 primary studies (containing more than 7,000 participants from 23 different countries) demonstrate that secondary students worldwide have experienced a combination of challenges and benefits associated with remote learning during the pandemic; experiences which have also impacted their psychosocial wellbeing both positively and negatively. Specifically, the findings presented in this QES underscore the significant educational disruptions experienced by secondary students because of the sudden shift to remote learning, the struggle with technological barriers, and the emotional toll of isolation. Conversely, they also reveal several benefits experienced by students during remote learning, including increased autonomy, personal growth, and skill development, the use of personalized and flexible educational approaches and assessments, and enhanced relationships with family members.

A unique contribution of a QES is the development of analytical themes, which allow for the generation of insights not evident in the primary studies alone. The analytical themes generated in this QES provide unique insights related to secondary students' resilience and adaptability, the exacerbation of educational inequalities due to the digital divide, and the need to reimagine future educational practices based on learnings from the pandemic and emergency remote learning. Among other implications, these findings underscore the need to develop flexible, inclusive, and accessible educational practices, designed in partnership with secondary students, to support students' diverse needs. Finally, as society continues to navigate the COVID-19 pandemic and its impact on the educational experiences and psychosocial wellbeing on young people globally, it is critical to identify and assess the value and effectiveness of emerging technologies in enhancing educational equity and access.

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Appendices

Appendix A: Qualitative Evidence Synthesis (QES) Protocol

Title: Secondary students' educational experiences during the COVID-19 pandemic: A qualitative evidence synthesis

Actual start date: November 15, 2023

Anticipated completion date: May 31, 2024

Named contact

Name: Dr. Shauna Burke

Email: XXXXX

Address: XXXXX

***Organizational affiliation*:** Faculty of Health Sciences, Western University

Review team

Name	Email	Organizational affiliation(s)
Dr. Shauna Burke	XXXXX	School of Health Studies, Western University, Canada; Children's Health Research Institute, London, Ontario
Dr. Jennifer Irwin	XXXXX	School of Health Studies, Western University, Canada
Dr. Trish Tucker	XXXXX	School of Occupational Therapy, Western University, Canada; Children's Health Research Institute, London, Ontario

Dr. Barbara Fenesi	XXXXX	Faculty of Education, Western University
Hannah Litchfield	XXXXX	Health and Rehabilitation Sciences Graduate Program, Western University, Canada
Balraj Gill	XXXXX	Health and Rehabilitation Sciences Graduate Program, Western University, Canada

Funding: None

Conflicts of interest: All authors declare that they have no known conflicts of interest.

Collaborators: None

Review question: The primary purpose of this qualitative evidence synthesis (QES) is to examine the literature pertaining to the self-reported educational experiences (e.g., perceptions, preferences, satisfaction, perceptions of support, etc.) of secondary school students, globally, during any phase of the COVID-19 pandemic. A secondary purpose is to explore the impact of educational experiences on students' self-reported psychosocial wellbeing (e.g., anxiety, depression, sense of belonging, quality of life, etc.).

Searches: Eight electronic databases (CINAHL, EMBASE, MEDLINE, PsycINFO, Scopus, ERIC, the Education Database through Western Libraries, and Web of Science) available through Western University Libraries and considered relevant to the topic area (i.e., likely to contain studies related to student experiences and perceptions, education, and psychosocial wellbeing) will be searched. In addition, citation searches using the reference lists of the included papers will also be conducted. Lastly, Google Scholar will be utilized to identify additional peer-reviewed articles that may not have been captured

in previous searches. All searches will be completed from mid-November 2023 through to the end of January 2024.

A comprehensive search strategy was developed to align with our study objectives using modified PICOS (Population, Intervention, Comparison, Outcome, and Study type; Methley et al., 2014) and PICo (Population, phenomena of Interest, and Context; Hosseini et al., 2024) frameworks. The traditional PICOS framework was used to define the population (secondary students), outcome (educational experiences), and study type (qualitative). The PICo framework guided the definition of the phenomenon of interest (education) and context (COVID-19 pandemic). Studies will be restricted to those published and available in the English language and conducted and/or published in or beyond March 2020 (i.e., the start of the COVID-19 pandemic). Unpublished studies will not be sought for the purpose of this QES.

Preliminary search terms were informed by considering the operational definitions of the variables of interest as well as a review of keywords used in relevant studies accessible via CINAHL, EMBASE, MEDLINE, PsycINFO, Scopus, ERIC, the Education Database through Western Libraries, and Web of Science. It should be noted that search terms will be updated as necessary upon continued examination of the literature, key terms, operational definitions, and as the databases are further explored.

Condition or Domain Being Studied: The domains being studied include: (a) secondary students' *educational experiences*, including (but not limited to), perceptions, preferences, satisfaction and/or perceived social support in relation to education during the COVID-19 pandemic; and (b) the impact of these experiences on students' *psychosocial wellbeing*.

Participants/population:

Inclusion criteria:

Secondary school students are the population of interest. For the purpose of this QES, the International Standard Classification of Education (ISCED) framework (United Nations Educational, Scientific and Cultural Organization [UNESCO], 2011) will be used to

inform, develop, and refine the terminology and keywords used to operationally define *secondary school students*. Developed by the UNESCO Institute for Statistics, the ISCED framework is a globally accepted standard for classifying educational levels, including secondary education (UNESCO, 2011). To ensure the comprehensive identification of all relevant terminology and keywords aligned with the ISCED framework related to the term *secondary school*, the researchers performed a preliminary database search using CINAHL, MEDLINE, and ERIC. These databases were selected as they offer a thesaurus option designed to retrieve all references indexed to the specific term "secondary school" or any terms associated with it. The specific search terms and keywords derived from this process are reflected in the PDF attached above.

Exclusion criteria:

Any studies not focused specifically on the educational experiences (defined above) of *secondary students* (and all terms synonymous with *secondary students*) will be excluded from this QES. For example, studies investigating the educational experiences of younger school-aged children and/or university students will not be included.

Intervention(s), Exposure(s):

Inclusion criteria:

Studies will be restricted to those published and related to the educational experiences of secondary students, globally, in the context of the COVID-19 pandemic.

Exclusion criteria:

Studies that include data collected prior to the COVID-19 pandemic (i.e., prior to the World Health Organization (WHO) declaration of the global pandemic in March 2020; WHO, 2020) will be excluded, as the population of interest (i.e., secondary school students) will not yet have experienced the described exposure/context.

Comparator(s)/control: Not applicable.

Types of studies to be included:

Inclusion criteria:

For the purpose of this qualitative evidence synthesis, any type of study that contains and reports *qualitative data* regarding the self-reported experiences of secondary students, from anywhere in the world, at any point during the COVID-19 pandemic (March 2020-present), will be included. In short, studies that are primary qualitative or mixed methods in design could be included; with regard to the latter, qualitative data must be available and distinct from the quantitative data reported.

Exclusion criteria:

Qualitative protocol documents, studies containing only quantitative data, secondary (review/meta-analytic) studies, unpublished studies, and grey literature will not be included in this qualitative review.

Context:

Inclusion criteria:

Studies must focus on secondary students' educational experiences in the context of the COVID-19 pandemic. Studies from any geographic location will be included. As noted above, to be eligible, studies must: (a) be available in English and full-text; (b) contain qualitative data, either in a mixed-methods or primary qualitative study, regarding the self-reported educational experiences (e.g., attitudes, preferences, satisfaction, etc.) of secondary students; and (c) be related to students' experiences of education during the COVID-19 pandemic.

Exclusion criteria:

As outlined above, studies will be excluded if they: (a) are unavailable in English and/or full text; (b) are quantitative only (i.e., they do not contain qualitative findings regarding the educational experiences of secondary students); (c) do not relate to students' educational experiences of education during the COVID-19 pandemic; and/or (d) contain qualitative data about student experiences not collected from secondary students

themselves (e.g., they were provided by other individuals such as parents/caregivers, teachers, peers, etc.).

Main outcome(s): The main outcome being examined in this qualitative evidence synthesis is the *educational experiences* of secondary students, globally, during the COVID-19 pandemic. Such experiences may include, but are certainly not limited to, educational preferences, satisfaction, perceptions, and perceived social support.

Additional outcome(s): A secondary outcome that will be explored and examined, if there are sufficient qualitative data available, is the self-reported *psychosocial wellbeing* (including, among other possible outcomes, stress, anxiety, depression, self-esteem, sense of belonging, resilience, quality of life, overall life satisfaction) of secondary students during the COVID-19 pandemic. As this is a secondary outcome, studies will not be excluded if they do not contain data related to student wellbeing; rather, those that meet the eligibility criteria for the main outcome AND contain data pertaining to student psychosocial wellbeing—as identified by the researchers—will be retained, recorded, and included in a secondary analysis.

Data extraction (selection and coding): Once studies are identified and selected using the electronic databases and based on the inclusion criteria, relevant data will be extracted from each study by two reviewers (reference). Extracted data will be recorded in an EXCEL spreadsheet, and will include: study authors; publication date; study design; population characteristics (e.g., sample size, mean age(s), gender, education level(s) descriptions and/or grades of study of participants, etc.); geographic location(s) of the study, date(s)/timeline of data collection during the COVID-19 pandemic; qualitative measures used; key findings related to the primary outcome (i.e., secondary students' self-reported educational experiences); key findings related to the secondary outcome (i.e., students' self-reported psychosocial wellbeing), if applicable; and other categories/information that may be included as studies are reviewed. These data (all or selected components), as described above, will be reported in the form of one or more summary tables in a final manuscript.

Risk of bias (quality) assessment: To minimize the *risk of bias in study selection*, two reviewers will independently screen titles, abstracts, and full texts of the studies using Covidence software. If disagreements arise during the screening process, the researchers will engage in discussion; if consensus cannot be reached, a third researcher will be consulted.

Given the exploratory nature and primary focus of our QES on understanding secondary students' educational experiences during the COVID-19 pandemic, a formal *quality assessment* was not completed. There are varied opinions about whether quality assessments should be conducted for qualitative studies in reviews and evidence syntheses (e.g., Flemming & Noyes, 2021; Garside, 2014; Noyes et al., 2018a, 2018b). Flemming and Briggs (2007) suggest that quality appraisals in QES are not always necessary, especially when the aim is to provide a rich understanding of a phenomenon rather than assessing validity or reliability. Qualitative studies in syntheses are often diverse in study design, data collection methods, and analytical approaches (Flemming & Noyes, 2021; Noyes et al., 2018b). A one-size-fits-all quality appraisal method may oversimplify or misrepresent nuanced findings (Flemming & Briggs, 2007).

Strategy for data synthesis:

Upon locating relevant studies and extracting the appropriate data, the researchers will synthesize and analyze the main findings, including data pertaining to the primary and secondary outcomes (if presented). Specifically, Thomas and Harden's (2008) method for thematic analysis will be used to systematically code text, develop descriptive themes (initially), and generate analytical themes (if the data allow for this) based on the primary studies included in this QES. This approach is recommended by Cochrane Qualitative and Implementation Methods Group (i.e., Cargo et al., 2018; Flemming et al., 2018; Harden et al., 2017; Harris et al., 2018; Noyes et al., 2017a; Noyes et al., 2017b) as a valuable, evidence-based, systematic, and comprehensive approach to analyzing qualitative data in evidence syntheses. Overall, the utilization of this method will facilitate a comprehensive and in-depth understanding of the primary studies included in this review.

Analysis of subgroups or subsets: If data are available, findings may be presented by the following categories/subcategories: (a) primary outcome (e.g., educational preferences, perceptions, etc.); (b) secondary outcome (e.g., psychosocial wellbeing); (c) study quality (high, moderate, low, very low); (d) country income level (e.g., high-income countries, low-and-middle income countries); (e) demographic factors such as gender and ethnicity; and/or (f) student education level (e.g., students in their first two years of secondary school, students in their last two years of secondary school); etc. Additional subgroups/categories may be identified throughout coding and analysis processes.

Type and method of review:

Type of review: Qualitative evidence synthesis (QES)

Health area of review: Child and adolescent health, Education, Psychology

Language: English

Country: Canada

Other registration details: Not applicable

Dissemination plans: Upon completion of this review, a manuscript will be prepared and submitted to a scientific journal in a relevant area (e.g., education, child and adolescent health/wellbeing, etc.). Results will also be presented at local and/or international scientific conferences. Additionally, a brief report will be created to share key findings with stakeholders in the fields of education and/or health sciences. Furthermore, infographics and/or summaries of findings tailored for lay audiences will be shared through social media and may be adapted for other dissemination channels (e.g., workshops, presentations, educational modules, etc.). The insights gained from this QES can also inform future research studies on the educational experiences and well-being of young people during and beyond the COVID-19 pandemic, including identifying necessary supports and resources. Moreover, the findings may contribute to the development or improvement of educational programs or interventions targeting

secondary school students and/or those transitioning to university. Lastly, findings from this review may offer valuable insights to relevant policymakers and decision-makers at various levels (i.e., institutional, community, provincial, federal), assisting them in identifying potential partnerships, interventions, and investments that could support secondary students moving forward and in times of crises.

Keywords: secondary students, educational experiences, psychosocial wellbeing, COVID-19, qualitative evidence synthesis

Appendix B: The ENTREQ (Enhancing Transparency in REporting the synthesis of Qualitative research) Framework Checklist

Item No.	Guide and Description	Location(s) Reported
1. Aim	State the research question the synthesis addresses	p. 9
2. Synthesis methodology	Identify the synthesis methodology or theoretical framework which underpins the synthesis, and describe the rationale for choice of methodology (e.g., meta-ethnography, thematic synthesis, critical interpretive synthesis, grounded theory synthesis, realist synthesis, meta-aggregation, meta-study, framework synthesis)	pp. 11, 18
3. Approach to searching	Indicate whether the search was pre-planned (comprehensive search strategies to seek all available studies) or iterative (to seek all available concepts until they theoretical saturation is achieved)	pp. 12, 16
4. Inclusion criteria	Specify the inclusion/exclusion criteria (e.g., in terms of population, language, year limits, type of publication, study type)	pp. 16 – 17
5. Data sources	Describe the information sources used (e.g., electronic databases (MEDLINE, EMBASE, CINAHL, PsycINFO), grey literature databases (digital thesis, policy reports), relevant organisational websites, experts, information specialists, generic web searches (Google Scholar) hand searching, reference lists) and when the searches conducted; provide the rationale for using the data sources	pp. 12, 16

6. Electronic search strategy	Describe the literature search (e.g., provide electronic search strategies with population terms, clinical or health topic terms, experiential or social phenomena related terms, filters for qualitative research, and search limits)	pp. 13 – 15
7. Study screening methods	Describe the process of study screening and sifting (e.g., title, abstract and full text review, number of independent reviewers who screened studies)	p. 17
8. Study characteristics	Present the characteristics of the included studies (e.g., year of publication, country, population, number of participants, data collection, methodology, analysis, research questions)	pp. 128 – 183 (Appendix C)
9. Study selection results	Identify the number of studies screened and provide reasons for study exclusion (e.g., for comprehensive searching, provide numbers of studies screened and reasons for exclusion indicated in a figure/flowchart; for iterative searching describe reasons for study exclusion and inclusion based on modifications to the research question and/or contribution to theory development)	pp. 21 – 23 (Figure 1)
10. Rationale for appraisal	Describe the rationale and approach used to appraise the included studies or selected findings (e.g., assessment of conduct [validity and robustness], assessment of reporting [transparency], assessment of content and utility of the findings)	N/A (Rationale located on pp. 18 – 19)

11. Appraisal items	State the tools, frameworks and criteria used to appraise the studies or selected findings (e.g. Existing tools: CASP, QARI, COREQ; reviewer developed tools; describe the domains assessed: research team, study design, data analysis and interpretations, reporting)	N/A (Rationale located on pp. 18 – 19)
12. Appraisal process	Indicate whether the appraisal was conducted independently by more than one reviewer and if consensus was required	N/A (Rationale located on pp. 18 – 19)
13. Appraisal results	Present results of the quality assessment and indicate which articles, if any, were weighted/excluded based on the assessment and give the rationale	N/A (Rationale located on pp. 18 – 19)
14. Data extraction	Indicate which sections of the primary studies were analysed and how were the data extracted from the primary studies? (e.g., all text under the headings "results /conclusions" were extracted electronically and entered into a computer software)	pp. 18 – 19
15. Software	State the computer software used, if any	pp. 17, 19
16. Number of reviewers	Identify who was involved in coding and analysis	pp. 18, 19, 120, 121
17. Coding	Describe the process for coding of data (e.g., line by line coding to search for concepts)	pp. 19 – 20
18. Study comparison	Describe how were comparisons made within and across studies (e.g., subsequent studies were coded	pp. 19 – 20

	into pre-existing concepts, and new concepts were created when deemed necessary)	
19. Derivation of themes	Explain whether the process of deriving the themes or constructs was inductive or deductive	p. 19
20. Quotations	Provide quotations from the primary studies to illustrate themes/constructs, and identify whether the quotations were participant quotations of the author's interpretation	pp. 25 – 53 (Table 2)
21. Synthesis output	Present rich, compelling and useful results that go beyond a summary of the primary studies (e.g., new interpretation, models of evidence, conceptual models, analytical framework, development of a new theory or construct)	pp. 22 – 80 (Results), pp. 81 – 98 (Discussion)

Note. Adapted from Tong, Flemming, McInnes, & Craig (2012). ENhancing Transparency in REporting the synthesis of Qualitative research: ENTREQ. *BMC Medical Research Methodology*, *12*(1), 181–181. https://doi.org/10.1186/1471-2288-12-181.

Appendix C: Summary of Primary Studies (*N* = 41) Included in the Qualitative Evidence Synthesis (QES)

Study authors/ year published	Study location	Date(s) of data collection	Study purpose	Sample characteristics	Study design	Qualitative data collection method(s)	Qualitative data analysis method(s)	Qualitative findings – educational experiences (*primary purpose*)	Qualitative findings – psychosocial wellbeing (*secondary purpose*)
Almonacid-Fierro et al., 2022	Maule, Talca, Chile	March 2021 - May 2021	Capture families' and high school students' subjective understanding and perception of teaching and learning needs/ preferences during the pandemic.	Total: *N* = 70 (secondary students + their parents) Ages: not specified Grades: not specified Gender: not specified Ethnicity: not specified	Qualitative	Virtual semi-structured interviews and focus groups	Thematic analysis (Braun & Clarke, 2006)	Limited internet access hindered participation in online classes. Findings suggested that pandemic-altered routines negatively impacted secondary students' quality of life. Flexible virtual assessments were preferred. Critiques of remote learning included monotonous classes and inadequate technological support.	Students were found to prefer online classes but were concerned about returning to physical classrooms. Prolonged confinement was noted to lead to sadness, depression, and fear, impacting student mental health. Schedule and routine changes

				SES: mixed Eligible qualitative: *n* = 34 (secondary students only) Ages: not specified Grades: not specified Gender: Male (*n* = 13); Female (*n* = 21) Ethnicity: not specified SES: mixed (details not provided)				Some students expressed reluctance to return to crowded classrooms due to safety concerns.	and disruptions negatively affected student quality of life, leading to weight gain, reduced physical activity, and family conflicts.
Ashworth et al., 2022	North-West	September 2020 -	Explore student	Total: *N* = 294	Mixed methods	Virtual semi-	Thematic analysis	Students' responses to online learning varied:	Mixed emotions were reported by

	England, United Kingdom	December 2020	experiences during lockdown/return to in-person, including perceived positive/ negative aspects, and coping strategies employed by adolescents.	Ages: 11-14 Grades 7-9; Lower secondary Eligible qualitative: *n* = 14 Ages: 11-14 (*M* = 12) Grades: 7-9; Lower secondary Gender: Male (*n* = 9; 64%), Female (*n* = 5; 36%) Ethnicity: Black, Asian, and Minority Ethnic groups	structured interviews	(Braun & Clarke, 2006; Inductive approach, iterative coding process)	some thrived, while others struggled with the lack of face-to-face interaction, technical issues, home distractions, and loss of the traditional classroom environment. Technological disparities were noted to pose hurdles, especially for students from different socioeconomic backgrounds. Students showed resilience through online study groups and virtual project collaborations. Tailored support and sustained teacher-student connections were noted to be	students, ranging from frustration and anxiety to resilience, shedding light on the psychosocial impact of disrupted educational experiences. Students noted the pivotal role of emotional support, emphasizing the need for educators and peers to foster a supportive virtual community to reduce feelings of isolation.

				(43%); White/British (57%) SES: not specified				essential to remote learning.	
Aslan et al., 2023	Turkey	Spring 2020	Identify secondary school students' life experiences during the COVID-19 pandemic.	Total: *N* = 20 Ages: 13-15 Grades: 7 (*n* = 13) - 8 (*n* = 7); Lower secondary Gender: Male (*n* = 6; 30%), Female (*n* = 14; 70%) Ethnicity: not specified SES: not specified	Qualitative (Phenomenography)	Semi-structured phone interviews	Content analysis (Coding responses, identifying sub-themes, determining main themes)	Students had mixed views on distance learning. Some valued its convenience and educational continuity, while others experienced technical issues and preferred traditional classrooms. Some students reported engaging in activities and hobbies as coping mechanisms. Suggestions for improvement included increasing online class hours and providing more structured	Students noted that the pandemic resulted in shifts in daily routines and increased family time, with students adapting to new schedules and forming closer family connections. Students experienced sadness, loneliness, and frustration due to restricted social activities. Coping strategies included seeking family

								activities and homework.	support, engaging in leisure activities, and practicing self-reflection.
Board, 2022	South Dakota, USA	September 2020 - June 2021	Qualitatively analyze secondary students' virtual learning experiences during the COVID-10 pandemic, examining access to technology, digital literacy, attitude and motivation, and social connectedness.	Total: *N* = 288 Ages: not specified Grades K-12; Upper and lower secondary, primary Gender: Not specified Ethnicity: Non-white (26%); White (74%) Eligible qualitative: *n* = 4	Mixed methods (Explanatory, sequential)	Virtual interviews	Thematic analysis (Braun & Clarke, 2006)	Students reported sufficient technology and digital skills but found asynchronous virtual learning monotonous. Students preferred hands-on instruction and highlighted the need for face-to-face interaction. Concerns included the inability to ask teachers questions directly and a lack of social connectedness. Parental support was noted to be crucial for academic completion and social connection. The virtual learning	The study focused primarily on educational experiences; psychosocial wellbeing was not explicitly addressed.

				Ages: 14-19 (14, 17, 18, 19) Grades 8-12; Upper and lower secondary Gender: Male (*n* = 2; 50%), Female (*n* = 2; 50%) Ethnicity: Non-white (25%); White (75%) SES: Low (*n* = 2, 50%); Middle-High (*n* = 2; 50%)				experience influenced students' views on homework, persistence, and the importance of grades for college aspirations.	
Boström & Holmström Rising, 2023	Sweden	November 2021 - February 2022	Investigate upper secondary students'	Total: *N* = 209 Ages: 17-19	Mixed methods	Online survey with open-ended questions	Thematic analysis (Braun & Clarke,	Students noted increased perseverance during the pandemic but experienced	Students reported increased psychological symptoms during

			perceptions of changes in study habits and wellbeing that occurred during the pandemic, comparing them to pre-pandemic experiences.	Grades: not specified; Upper secondary Gender: Male (31%); Female (67%); Prefer not to answer (1%) Ethnicity: Mostly Swedish-born students SES: Mostly from middle- and working-class families		(online survey)	2006; Inductive approach with iterative coding process)	decreased concentration, motivation, worsened teaching quality, and blurred boundaries between free time and school. Adult relationships were noted to have shifted. Cooperative learning changed; some students felt more connected, others reported better concentration previously. Academic performance varied, with some students struggling and others succeeding through better planning and increased study time.	the pandemic including anxiety, social phobia, sadness, depression, loneliness, demotivation, stress, and concentration difficulties. Reduced social contact, changed exercise habits, and blurred boundaries between free time and school were also noted to have affected students' wellbeing.
Branquinho et al., 2022	Lisbon, Portugal	February 2, 2021 -	Understand the health consequence	Total: *N* = 592	Mixed methods	Online survey with wo open-	Content analysis (Coding	Participants reported increased academic stress due to	Students reported increased anxiety, demotivation,

	March 22, 2021	s for adolescents and young adults in Europe during the third wave's lockdown, coupled with the return of the teaching/learning system online.	Ages: 16-24 (M = 19.01, SD = 2.32) Grades: not specified; Upper and lower secondary, post-secondary Gender: Male (29.1%); Female (70.9%) Ethnicity: not specified SES: not specified Eligible qualitative: n = 326 (55.1% of total sample met	ended questions	responses, identifying sub-themes, determining main themes)	heightened workloads during the pandemic. Students noted that distance learning felt impersonal, straining teacher-student relationships. Challenges reported by students included concentration issues, demotivation, and limited peer connections. Family support and online peer interactions were crucial coping mechanisms.	concentration difficulties, sleep issues, and physical symptoms during the pandemic. Having to avoid family members at an increased risk for COVID-19 (e.g., grandparents) negatively affected students' mental health. Negative feelings stemmed from decreased socialization and loss of freedom, while coping mechanisms included family support, online friends, and leisure activities.

				inclusion criteria) Ages: 16-19 Grades: not specified; Upper and lower secondary Gender: not specified Ethnicity: not specified SES: not specified					
Chin et al., 2023	Hamilton, Ontario, Canada	September 2020 - August 2021	Investigate the impact of the COVID-19 pandemic on the mental and physical	Total: *N* = 479 Ages: 12-20 (*M* = 16.1) Grades: Upper and lower	Mixed methods (Exploratory, sequential)	In-person focus group discussions	Summarization and exploration of themes and variations across	Participants highlighted challenges with online schooling, including decreased academic performance, technical issues, and distractions. Students noted they	Participants shared psychosocial challenges during the pandemic, including disappointment over missed

	health of adolescents aged 12-20 in Canada, including challenges faced due to school closures, disrupted routines, increased screen time, and altered social interactions.	secondary, post-secondary Gender: not specified Ethnicity: White (69%); Persons of colour (30%); Missing/ refused (1%) SES: Low-middle class/ missing (82%); High poverty (12%) Qualitative total (secondary + post-secondary students in focus groups): *n* = 39	participants and time (using focus group data)	preferred in-person learning due to focus and motivation difficulties. Online schooling blurred school-home boundaries, increasing stress and fatigue. Overall, students reported heightened stress, decreased motivation, and reduced academic engagement, negatively impacting wellbeing and academic success.	milestones, loneliness, and isolation. Many were concerned about mental health, experiencing burnout and adult responsibilities. Students demonstrated resilience through self-reflection and personal growth, discovering new interests, improving physical health, and appreciating family and self-care.

	Eligible qualitative: *n* = 27 (69% of total focus group participants) Ages: 12-19 (*M* = 17) Grades: Upper and lower secondary Gender: not specified Ethnicity: White (46%); Persons of colour (44%); Missing/ refused (1%) SES: Low-middle class/ missing (95%);	

				High poverty (5%)					
Cockerham et al., 2021	Texas, USA	May 1, 2020	Explore the pandemic's impact on adolescents' wellbeing, learning, and social needs, particularly during the shift to online schooling and focusing on factors influencing their learning.	Total: *N* = 21 Ages: 12-17 (*M* = 14.24, *SD* = 1.79) Grades: Upper and lower secondary Gender: Male (*n* = 9; 42.9%); Female (*n* = 12; 57.1%) Ethnicity: not specified SES: not specified	Mixed methods	Virtual semi-structured interviews	Two-cycle coding approach (Independent exploration, pattern coding)	Students highlighted technology's dual nature: a source of distraction and connection. Concerns included varied grading systems and adapting to online education. The lack of face-to-face interaction led to boredom and a longing for in-person connections. Challenges included self-motivation and focus at home; some students found online learning flexible, while others struggled with discipline. The absence of teacher interaction and motivation	It was noted that isolation and limited social interactions decreased positive emotions among students during the pandemic. Negative emotions such as sadness, fear, and loneliness increased due to confusing school expectations and future uncertainty. Life satisfaction and self-esteem among students remained consistent.

								compounded learning difficulties, emphasizing the importance of teacher support in virtual classrooms.	
Comelli et al., 2021	São Paulo, Brazil	December 3-17, 2020	Comprehend the impact of the COVID-19 pandemic on teaching and learning in basic education, emphasizing students' affective experiences during remote education.	Total: *N* = 100 Ages: 11-17 (*M* = 13) (students aged 11/ Grade 6 [*M* = 11.80] were considered eligible by the researchers) Grades: 6-9; Lower secondary Gender: Male (41%); Female (57%);	Mixed methods	Online survey with open-ended questions	Discursive textual analysis (Unitarization, categorization, meta-text production)	Students noted that friends were vital for emotional wellbeing. Face-to-face classes were preferred, as remote learning was experienced as less effective. Home, though comfortable, brought distractions and fatigue. The teacher-student relationship was noted as crucial, with students desiring support and empathy, and concerns about some teachers	Most students expressed sadness, fear, and confusion. Girls provided more detailed and emotional responses than boys. Students described facing challenges and emotional fluctuations, comparing their feelings to a rollercoaster during online classes.

				Undeclared (2%) Ethnicity: not specified SES: not specified				neglecting their mental health needs.	
Fiş Erümit, 2021	Trabzon, Turkey	March 2020 - July 2020	Evaluate Turkey's Ministry of National Education's distance education initiative for K-12 schools during the COVID-19 pandemic from perspective of students.	Total: *N* = 12 Ages 9-15 Grades: 3-9 Gender: Male (4; 33%); Female (8; 66%) Eligible qualitative: *n* = 8 Ages: 12-15	Mixed methods	Virtual semi-structured interviews	Content analysis (Codes generated from emergent themes)	Some students reported benefits in distance learning, such as reduced stress and increased motivation, while others noted concerns about the lack of social interaction and motivation. Many missed the classroom environment and face-to-face communication with teachers and friends. Students emphasized the importance of teacher	The study focused primarily on educational experiences; psychosocial wellbeing was not explicitly addressed.

				Grades: 6-9; Lower secondary Gender: Male (3; 37.5%); Female (5; 62.5%) Ethnicity: not specified SES: not specified				support and desired more individual communication and longer synchronous lessons. Some suggested non-academic courses and game events to enhance engagement and advocated for a hybrid model combining distance learning with in-person classes.	
Fisher et al., 2021	Bristol, England, United Kingdom	June 1, 2020	Examine young people's experiences of the COVID-19 pandemic to gain insights from their perspectives.	Total: *N* = 21 Ages: 12-17 Grades: 7-11; Upper and lower secondary Gender: Male (41%); Female (57%);	Qualitative	Virtual semi-structured interviews	Thematic analysis (Braun & Clarke, 2006; Inductive and deductive coding)	The transition to remote learning evoked mixed responses amongst students. Some were concerned about falling behind and the stress of catching up, while others found relief from academic	The study focused primarily on educational experiences; psychosocial wellbeing was not explicitly addressed.

				Undeclared (2%) Ethnicity: not specified SES: not specified				pressure. The absence of direct teacher support during remote learning led to frustration for some students. Preferences for returning to school varied, with some looking forward to reconnecting with friends and teachers, and others preferring the flexibility of home learning.	
Hamilton et al., 2023	England, United Kingdom	October 2020 - February 2021	Triangulate youth with autism spectrum disorder (ASD) and their parents' perspectives to fully understand	Total: *N* = 13 (secondary students + their parents) Eligible qualitative (secondary students only): *n* = 7	Qualitative	Virtual semi-structured interviews	Thematic analysis (Braun & Clarke, 2006).	Amidst lockdown challenges, young individuals on the autism spectrum reported experiencing both stressors and relief. Theme 1 highlighted initial relief from school stressors (e.g., bullying, sensory	Lockdown was found to be associated with relief from certain school stressors but also introduced new anxieties for youth on the autism spectrum. Disruption to social

			the impact of lockdown periods during the COVID-19 pandemic on education, relationships, and wellbeing.	Ages: 13-14 Grades: 9; Lower secondary Gender: Male (6; 86%); Non-binary (1; 14%) Ethnicity: White British SES: diverse range Specific population: youth with autism spectrum disorder (ASD)				overload) during strict lockdowns. However, blurred boundaries between home and school introduced new pressures, increasing family tension. Theme 2 illustrated disrupted social bonds and isolation due to limited social interactions.	bonds outside the home led to disengagement from school, while the loss of wellbeing supports exacerbated the overall impact on participants' wellbeing.
Hatzichristou et al., 2021	Greece	Mid-April to Mid-May 2020	Investigate adolescents' emotions and	Total: *N* = 1157 (414 teachers, 487 parents, 256 adolescents)	Mixed methods	Online survey with open-ended questions	Thematic analysis (Braun &	Most adolescents reported missing their peers and the social aspects of school	Adolescents reported an increase in negative emotions as the

	experiences with remote learning, focusing on insights regarding teacher and parental support, challenges with online learning, missed aspects of school, and reopening concerns.	Ages: not specified Gender: Male (14.44%); Female (77.44%) Ethnicity: Teachers (all Greek); Parents (6% from other countries; 94% Greek) SES: not specified Eligible qualitative (adolescents only): *n* = 256 Ages: 12-18	Clarke, 2006)	during school closures. Some noted that they missed the daily routines and school atmosphere. Technical difficulties were the most common issue with distance learning, followed by personal and environmental factors. Some struggled with learning and participation, while others reported no difficulties with online attendance.	pandemic progressed.

				Grades: Junior high school (47%); Senior high school (53%) Gender: Male (42%); Female (58%) Ethnicity: Greek identifying (244; 95%); From other countries (12; 5%) SES: not specified					
Kiperman et al., 2024	USA	March 2020 - April 2020	Explore the experiences of LGBTQ+ youth during the COVID-	Total: *N* = 20 Ages: 12-17 Grades: 6-12 + 1 first-year	Qualitative (Interpretive phenomen	Virtual semi-structured interviews	Interpretive phenomenological analysis (No specified	Online schooling was reported by students to have led to reduced learning, accountability, and	Introverted students reported less disruption and better overall wellbeing, while

	19 pandemic, with a particular focus on their mental health and coping strategies.	college (recent secondary school graduate) Gender identity: Male (1); Female (2); Gender queer (4); Non-binary (2); Gender fluid (2); Agender (3); Transgender female (1) Ethnicity: White (16); Black (1); Hispanic (2); Mixed (1) SES: not specified Specific population: LGBTQ+	ological inquiry)	framework; Open coding, codebook development)	access to support resources.	extroverted participants reported experiencing depression and developed new coping skills. Friendship quality was compromised, but LGBTQ+-specific online communities were noted to have provided support and improved wellbeing. Supportive caregivers also contributed to greater wellbeing. Participants coped by seeking online support or creating

									private online spaces.
Lew-Koralewicz, 2022	Poland	Not specified.	Explore in-depth the experiences of high school students diagnosed with autism spectrum disorder (ASD) during the COVID-19 pandemic.	Total: *N* =10 Ages: 16-18 (*M* = 16.7, *SD* = 0.78) Grades: Grades 11-12; Upper secondary Gender: Male (*n* = 9); Female (*n* = 1) Ethnicity: not specified SES: not specified Specific population: High school students with	Qualitative	In-person semi-structured interviews	Interpretive phenomenological analysis (Smith et al., 2009; Reading, coding, clustering, iteration, narration)	Some students diagnosed with ASD expressed satisfaction with online classes, noting improved grades, increased teacher availability, and a calmer learning environment. Conversely, others struggled to keep up and understand content without direct support. Some students appreciated reduced distractions and valued family bonding opportunities. However, for those with strained family relationships, lockdown intensified	Students reported that the pandemic had mixed effects on their wellbeing. Some experienced positive impacts such as reduced social demands. Others noted that they experienced increased stress, anxiety, depression, and loss of motivation for schoolwork. Loneliness and longing, especially during lockdowns, heightened anxiety and depression risks. Individuals with ASD were

				autism spectrum disorder (ASD)				tension and conflict. Limited peer interaction left some students feeling isolated, especially those already struggling socially.	found to be particularly vulnerable to issues such as aggressive behaviour, self-injury, hyperactivity, sleep problems, eating disorders, pain sensitivity, and reduced concentration.
Lopatovska et al., 2022	New York, USA	Spring 2021	Explore changes in adolescents' lives during social distancing measures of the COVID-19 pandemic, investigating the extent of	Total: *N* = 39 Ages: 12-18 (*M* = 14) Grades: not specified Gender: Male (13; 33%); Female (26; 67%)	Qualitative	Virtual semi-structured interviews	Thematic analysis (Braun & Clarke, 2006)	The transition to virtual learning resulted in mixed reactions among participants. Some students struggled with motivation and engagement, while others adapted well. Difficulties with virtual or hybrid learning, isolation from peers, demotivation, and	Many students experienced heightened loneliness during the pandemic, along with anxiety and anger. Coping strategies including seeking distractions, fostering connections, and

	adolescents' loneliness and strategies used to mitigate it.	Ethnicity: White (24; 62%); Asian (4; 10%); Asian/White (4; 10%); African American (3; 8%); Other (4; 10%). SES: Most primary caregivers were women (67%) who work over 31 hours/week (22; 57%). Of those who responded to the question (9 declined), 18 (60%) had an annual household income above		increased stress were noted. Challenges included feeling disconnected from peers, lacking direct academic support, and a slower learning pace. However, students also noted lenient requirements, a suitable learning environment for some, higher grades, and the flexibility and reduced distractions of virtual learning as positives.	engaging in self-care. Support from friends and family was noted as important. Technology was noted to have enabled both distractions and social connections. Some participants noted that they avoided social media to mitigate loneliness.

				$100,000, 8 (27%) between $50,000 and $100,000 and 4 (13%) under $50,000. Urban environment (26; 67%); Suburban (13; 33%)					
Lukoševičiūtė & Šmigelskas, 2022	Lithuania	April 18, 2021 - July 22, 2021	Explore adolescents' experiences during the COVID-19 pandemic.	Total: *N* = 19 Ages: 11-17 Grades: 4-11 Gender: Male (9; 47.4%); Female (10; 52.6%) Ethnicity: not specified	Qualitative	In-person and virtual semi-structured interviews	Thematic analysis (Braun & Clarke, 2006)	Many adolescents were dissatisfied with distance education, citing inefficiencies, adaptation issues, and poor internet as challenges. Teachers' struggles with technology were perceived by students to have decreased their academic performance,	Initially unaffected, many students noted that they later experienced emotional difficulties including sadness, boredom, and longing for pre-pandemic life. Students also noted some positives:

	SES: various urban and rural locations in Lithuania Eligible qualitative: *n* =16 (*n* = 3 students aged 11; participant quotes [i.e., No. 3, 6, 13] were considered ineligible by the researchers) Ages: 12-17 Grades: 5-11 Gender: Male (7; 43.8%); Female (9; 56.2%)	concentration, and motivation. Some students noted that prolonged time at home caused feelings of emptiness, disrupted family relations, and disagreements with parents and siblings. Frustration arose from the inability to engage in regular activities including sports.	more free time, new hobbies, strengthened relationships, improved family communication, and a greater appreciation for social connections. Personal growth and self-discovery were also highlighted as benefits.

				Ethnicity: not specified SES: various urban and rural locations in Lithuania					
McCluskey et al., 2021	Scotland, United Kingdom	August 2020 - September 2020	Investigate the impact of school closures and exam cancellations on school connectedness, mental health support, and the wellbeing of senior high school	Total: *N* = 45 Ages: 14-18 Grades: Senior high school; Upper secondary Gender: Male (12; 26.7%); Female (32; 71.1%); Unsure [self-described] (1; 2.2%) Ethnicity: White (30; 67%);	Mixed methods	Virtual semi-structured interviews and focus groups	Thematic analysis (Braun & Clarke, 2006)	Diverse student perspectives were reported. Some noted that they enjoyed the autonomy of lockdown, while others struggled with uncertainty and new learning structures. Some students indicated that they liked personalized work plans, whereas others felt overwhelmed by workloads. Students noted that they valued	The impact on vulnerable groups (e.g., those with pre-existing mental health conditions, learning needs, living in households with violence, young carers, those in minatory groups) was a recurring theme. Participants shared personal struggles, such as difficulties maintaining mental

			students in Scotland.	Mixed (5; 11%); African (2; 4.4%); Asian or Asian British (1; 2.2%): Other (1; 2.2%); Prefer not to say (1; 2.2%); Unknown (3; 6.7%) SES: not specified				consistent teacher support and some were frustrated by exam cancellations and lack of transparency.	health during lockdown, and challenges due to family members contracting COVID-19 or the breakdown of friend groups. The findings underscored the need for tailored support for vulnerable groups and the potential exacerbation of existing vulnerabilities during the pandemic.
McKinlay et al., 2022	United Kingdom	Spring 2020	Explore the experiences of adolescents and young	Total: *N* = 37 Ages: 13-24	Qualitative	Virtual semi-structured interview	Thematic analysis (Braun & Clarke,	Participants noted difficulties with remote learning, citing concentration issues and increased	Students described mental health consequences from education closures and lockdowns,

	adults throughout the COVID-19 pandemic in the UK, focusing on psychosocial wellbeing.	Grades: Upper and lower secondary, post-secondary Gender: Male (14; 38%); Female (23; 62%) Ethnicity: White British (27; 73%); Mixed (5; 13.5%); Asian and Asian British (4; 11%) SES: not specified Eligible qualitative: *n* = 17 (data from eligible participants in	2006; Reflexive)	workload. Stress and disappointment arose from uncertainties about exams and assessments. Missing symbolic events like prom led to frustration. Many students felt educational institutions offered performative rather than genuine support.	including loneliness, frustration, and a sense of loss over canceled plans and assessments. They reported a decline in wellbeing due to isolation, with some experiencing social withdrawal/disconnection. Participants felt apprehensive about returning to in-person school. However, some students noted that they experienced an increase in mental health awareness and stronger family ties.

				data collection group 2) Ages: 13-17 Grades: Upper and lower secondary Gender: unable to determine for population subset Ethnicity: unable to determine for population subset SES: not specified					
Moliner & Alegre, 2022	Castellon, Spain	2020-2021	This study aimed to determine	Total: *N* = 368	Mixed methods	Virtual discussion groups	Content analysis	Peer support limitations during the COVID-19 pandemic	The study focused primarily on educational

	quantitative differences in students' mathematics achievement before and during the COVID-19 pandemic, and to qualitatively assess difficulties.	Eligible qualitative: *n* = 90 Ages: 14-15 Grades: 9; Lower secondary Gender: Male (48.26%); Female (51.74%) Ethnicity: not specified SES: socioeconomic and sociocultural status of the students' families was	(Lindgren et al., 2020)	were found to have negatively influenced students' mathematics achievement. Students expressed difficulties in interaction, mutual support, and engagement in the altered classroom environment.	experiences; psychosocial wellbeing was not explicitly addressed.

				defined as average.					
Moliner et al., 2021	Castellon, Spain	September - December, 2020	Explore high school students' experiences with online mathematics teaching, focusing on their preferences for live versus pre-recorded classes during the COVID-19 pandemic.	Total: *N* = 68 Ages: 14-15 Grades: 9 (*n* = 49 students) and 10 (*n* = 19 students) Gender: not specified Ethnicity: not specified SES: not specified	Mixed methods	Virtual semi-structured interviews and discussion groups	Not specified	Students noted that they preferred pre-recorded classes over live lessons. However, over time, many students noted that they became less responsible/accountable for watching the sessions, leading to decreased overall engagement.	The study focused primarily on educational experiences; psychosocial wellbeing was not explicitly addressed.
Mukuka et al., 2021	Kitwe District, Zambia	September 28, 2020 - October 23, 2020	Explore grade 10 and grade 11 students'	Total: *N* = 367 Ages: 13-21 (*M* = 16.92, *SD* =	Mixed methods	Semi-structured online survey with	Excerpts selected to illustrate closed-ended	Students noted that they preferred hard copies of textbooks, especially those	The study focused primarily on educational experiences;

	experiences with remote learning in mathematics during the COVID-19 school closure in Zambia.	1.47; all were students enrolled in secondary school and deemed eligible by the researchers) Grades: 10 (174; 47.4%) and 11 (193; 52.6%); Upper secondary Gender: Male (178; 48.5%); Female (189; 51.5%) Ethnicity: not specified SES: not specified	open-ended questions	survey responses	lacking access to technology. Over 56% of students were found to have lacked sufficient information and communication technology, electricity, and internet services. Many students noted that they preferred in-person learning for real-time academic support. Peri-urban students faced extra challenges, such as limited electricity and technology, highlighting educational disparities.	psychosocial wellbeing was not explicitly addressed.

				Participants from both urban (within 10km radius of central urban district) and peri-urban (outside of central urban district) were included.					
Pelikan et al., 2021	Vienna, Austria	April 7-24, 2020	Examine differences in self-regulated learning competence and mastery of the distance learning situation among students.	Total: *N* = 2,652 Ages: 10-21 (*M* = 14, *SD* = 2.53; all were students enrolled in various forms of secondary school) Grades: not specified	Mixed methods	Online survey with pen-ended questions	Thematic analysis (Braun & Clarke, 2006)	Students with high perceived competence excelled in self-regulated learning and intrinsic motivation, leading to greater distance learning success. Challenges amongst students included learning difficulties, achieving outcomes, managing conditions, and	Maintaining wellbeing through breaks and a healthy life-learning balance was noted, more so in the high perceived competence group. Need for help with psychological wellbeing, including reducing

				Gender: Male (37.6%); Female (61.9%); Gender diverse (0.6%) Ethnicity: not specified SES: not specified				maintaining wellbeing. A common concern was the lack of teacher contact and support. All students desired more support and guidance from family, peers, and teachers, especially those with low perceived competence.	stress and feelings of hopelessness, was expressed, particularly among students in the low perceived competence group.
Pereira et al., 2023	Brazil	March 2020 - October, 2020	Characterize the interaction levels of K-12 students engaged in fully remote education during the COVID-19 pandemic.	Total: *N* = 963 Eligible qualitative: *n* = 5 (high school students) Ages: not specified Grades: 6-10	Mixed methods (Exploratory, descriptive)	Virtual semi-structured interviews	Content analysis	Secondary students were found to have experienced challenges during remote learning, as well as a preference for real-time interactions over recorded classes. Delays in teacher responses and a shift to asynchronous messaging hindered	The study focused primarily on educational experiences; psychosocial wellbeing was not explicitly addressed.

	Gender: not specified Ethnicity: not specified SES: not specified	communication. The lack of face-to-face interaction reduced the dynamic exchange with teachers and peers, causing frustration among students. Students also reported experiences challenges with self-regulation, procrastination, stress, and organizing study hours. Adapting to autonomy varied, affecting workload management and performance. Technological access and use impacted academic performance, with varied access influencing participation in virtual activities.

Pulungan et al., 2022	Medan, Indonesia	Not specified.	Explore how high school students experienced online mathematics learning from home due to the COVID-19 pandemic, focusing on adaptability, confidence, communication, and the supportive environment.	Total: *N* = 20 Ages: 15-17 Grades: 10-11; Upper secondary (Public school *n* = 8; Private school, *n* = 12) Gender: not specified Ethnicity: not specified SES: not specified	Qualitative	Online survey with open-ended questions and virtual semi-structured interviews	Thematic analysis (Braun & Clarke, 2006)	Students found online learning for math more difficult despite its flexibility, but adapted by using resources such as YouTube and forming study groups. Students noted the importance of repetition and problem-solving for success. Peer communication and teacher support during online sessions were noted as valuable. Students reported using online platforms for independent learning and mutual assistance. Technical issues including limited internet access highlighted the need for comprehensive	The study focused primarily on educational experiences; psychosocial wellbeing was not explicitly addressed.

								support to optimize online learning experiences.	
Schaefer et al., 2020	New York, USA	April 13-29, 2020	Explore, via collaborative ethnography, the experiences of adolescents and parents during the COVID-19 pandemic.	Total: *N* = 5 (*n* = 3 adolescents, *n* = 2 mothers) Ages: adolescents: 13-17 (mothers' ages not specified) Gender: Female (5) Eligible qualitative: *n* = 3 Ages: 13-17 (13, 15, 17)	Qualitative (Collaborative autoethnography)	Virtual discussion groups	Initial coding, thematic categorization, in vivo coding, member checking, line-by-line coding, continual development	The shift to online learning posed significant challenges for adolescents, causing feelings of stagnation and distraction. Students described their learning spaces as a mix of home and school, experiencing both stress and comfort. They adapted by establishing routines, seeking teacher attention creatively, and managing schedules. Students adapted to technology use with support from teachers and parents.	Mixed emotions among adolescents were noted, with fluid schedules and constant adjustments leading to feelings of confusion, stress, and uncertainty. Despite these challenges, some students noted that they appreciated the extra time for personal pursuits, activities, and time with family. Students developed various coping mechanisms, including creating

				Grades: 7, 9, 11; Upper and lower secondary Gender: Female (3) Ethnicity: White (5) SES: not specified				They developed crucial skills such as time management, self-motivation, and self-awareness, showcasing their adaptability and resilience in balancing academic and personal responsibilities.	schedules, pursuing hobbies, and utilizing extra time productively.
Scott et al., 2021	England, United Kingdom	July 2020 - October, 2020	Understand young people's experiences during pandemic restrictions, focusing on the first national lockdown and its	Total: *N* = 31 Ages: 13-17 [13: 26% (*n* = 8) 14: 26% (*n* = 8) 15: 23% (*n* = 7) 16: 19% (*n* = 6) 17: 6% (*n* = 2)]	Qualitative	Digital, qualitative diary extracts followed by virtual semi-structured interviews	Thematic analysis (Braun & Clarke, 2006)	Students reported experiencing stress, anxiety, and anticipation during lockdown, with many reporting feeling increased pressures and a lack of social interactions. Upon returning to school, students commonly reported concerns	Participants reported experiencing sadness, loneliness, and anxiety during lockdown. Stress and boredom was noted to have heightened students' emotional burden. Family conflicts added to

			impact on mental health, wellbeing, and education.	Grades: 8-12; Upper and lower secondary Gender: Male (13; 42%); Female (18; 58%) Ethnicity: White British (30; 94%); Other (1; 6%) SES: Low SES (12; 39%); Middle SES (10; 32%); High SES (9; 29%)				about adjusting to new social situations, academic content, exams, and worries about their academic future.	their distress, while returning to school led to anxiety and adaptation struggles for some. Uncertainty about the future compounded emotional challenges.
Seynhaeve et al., 2022	Flanders, Belgium	Not specified.	Investigate newly arrived migrant students'	Total: *N* = 23 Ages: 16-20 (all students were enrolled in	Qualitative	Virtual semi-structured interviews and in-	Constant Comparison Method (CCM) (Goetz &	Students reported that limited interpersonal interaction during online classes hindered their Dutch language	The study focused primarily on educational experiences; psychosocial

	experiences with interactions in online learning environments during emergency remote teaching in Flemish secondary schools.	secondary school and considered eligible by the researchers) Grades: 10-12; Upper secondary Gender: (Male (5; 22%); Female (18; 78%) Ethnicity: not specified SES: not specified Specific population: newly arrived migrant students	person focus groups	LeCompte, 1981; Inductive category coding, simultaneous comparison)	acquisition. The perceived lack of speaking opportunities and reduced focus led to doubts about skill improvement. Some suggested that full-time face-to-face instruction would better support language development. Many emphasized the value of physical in-classroom interaction for language acquisition.	wellbeing was not explicitly addressed.

Shepherd et al., 2021	Calgary, Alberta, Canada	June 2-9, 2020	Describe high school student-athletes' experiences with physical activity, mental health, and social connections during the COVID-19 pandemic in Canada.	Total: *N* = 20 Ages: 15-17 Grades: 10-12; Upper secondary Gender: Male (10; 50%); Female (10; 50%) Ethnicity: not specified SES: not specified Specific population: student-athletes enrolled in the Canadian Surveillance in High Schools to	Qualitative (Phenomenography)	Virtual semi-structured interviews	Data familiarization, identifying emergent codes, refining categories, finalizing categories, discussing relationships	The shift to remote learning was noted to have disrupted students' routines. Online school resumption caused stress and frustration due to lack of teacher support, unclear expectations, and self-directed learning challenges. However, some students found mental wellbeing improved with the return to routine.	The cessation of school and sports due to the pandemic reduced social connections, causing loneliness amongst student-athletes. Online physical education was perceived to have lacked activity, affecting mental wellbeing variably. Social support from family, friends, and teammates was crucial, while social media was noted to have had mixed effects on students' wellbeing.

				Reduce Concussions (SHRed Concussions) cohort study.					
Sifat et al., 2022	Bangladesh	Not specified.	Simultaneously unveil the causes of mental dissonance among adolescents and the impact of infection prevention measures on school-going adolescents' mental health in Bangladesh.	Total: *N* = 60 Ages: 13-15 Grades: 9-10; Upper and lower secondary Gender: Male (30; 50%); Female (30; 50%) Ethnicity: not specified SES: not specified	Qualitative	Online survey with open-ended questions	Thematic analysis (Braun & Clarke, 2006)	Participants expressed frustration with disruptions to their daily routines and social lives due to pandemic-related school closures, as well as challenges with online learning, including technological and internet connectivity issues, difficulty concentrating, and pressure from parents. The presence of family members at home made focusing on schoolwork difficult	The majority of participants reporting feeling stressed about the pandemic. Anxiety, depression, and sleep disorders were prevalent among the adolescents, affecting over half of the respondents. Fear of the disease and uncertainty about the future contributed to stress levels among students, particularly

								for some. A “digital divide” emerged, with some students lacking access to technology. Students felt neither they nor their teachers had sufficient technical skills or resources for effective online learning.	concerning the safety of family members.
Smith, 2022	California, USA	Not specified.	Identify and examine the challenges and opportunities of remote learning for Black students and their parents.	Total: *N* = 11 Ages: not specified Grades: 6-12; Upper and lower secondary Gender: Male (6); Female (5) Ethnicity: Black/ African American	Qualitative	Virtual semi-structured focus groups	Transcription, analysis (Systemic analysis, focused analysis)	Black students and parents reported experiencing technological, social-emotional, and academic challenges. Access to technology was an issue. Students found online classes disengaging and difficult. Some noted support from caring teachers and improved communication from	Students in this study reported experiencing several social-emotional and mental health challenges, including depression, stress, anxiety, lack of focus, and a lack of peer interaction.

				SES: Sampled from low SES region of Los Angeles				schools, but many reported struggling. Some students also appreciated the flexibility of distance learning, including flexible schedules and deadlines.	
Sofianidis et al., 2021	Cyprus	May 2020 - June 2020	Comprehend the impact of the first school closure on secondary education in Cyprus from students' perspectives.	Total: *N* = 322 Ages: not specified Grades: Upper secondary (70.8%); lower secondary (29.2%) (Public school (275; 85%); Private school (47; 15%).	Mixed methods	Online survey with open-ended questions	Thematic analysis (Braun & Clarke, 2006)	During the transition to remote learning, students reported experiencing challenges with infrastructure, technology access, home environments, and teachers' lacking digital skills. Issues included unreliable digital devices, software, communication tools, and internet connectivity. Students	Students reported missing their school and friends and craving the social aspect of their school lives. Specifically, they reported feelings of loneliness and boredom due to lack of connection with their classmates and teachers.

				Gender: Male (91; 28%); Female (231; 72%) Ethnicity: not specified SES: not specified				reported struggling with instructions and assessments, as well as a lack of social interactions and extracurricular activities.	
Soon et al., 2023	Singapore	October 2020 - March 2021	Explore adolescent stress-related academic and social experiences during the COVID-19 pandemic.	Total: *N* = 41 Ages: 14-15+ (78% of the students interviewed were 14-15, and 22% were 15 and older; all enrolled in secondary school).	Qualitative	Virtual semi-structured interviews	Combination of inductive and deductive coding (three rounds of analysis)	Students found online learning ineffective and stressful, preferring in-person instruction for better teacher interaction and lesson clarity. Routine disruptions and increased home time decreased motivation and concentration, raising stress levels for some students. Examination-related	Being confined at home affected students' moods due to lack of social interaction. Many showed resilience by identifying stressors and using coping strategies, including positive cognitive restructuring. Social support was deemed crucial,

				Grades: 8 (10%) – 9 (90%) Gender: Male (61%); Female (49%) Ethnicity: Chinese (63%); Malay (22%); Indian (7%); Other (7%). SES: not specified				stress was commonly reported. Socially, students missed activities but appreciated more family time. They relied on peers, parents, and teachers for support.	helping students to navigate isolation and exam pressure while fostering closer bonds with family and friends.
Supardi, 2022	Indonesia	Not specified.	Explore students' experiences in disadvantaged areas with distance	Total: *N* = 7 Ages: 15-16 Grades: junior high; not specified	Qualitative (Interpretative Phenomenology)	Virtual semi-structured interviews	Phenomenological analysis (Moustakas, 1994)	Offline distanced learning (i.e., emergency remote learning using offline methods) was necessary for students in remote areas with	The study focused primarily on educational experiences; psychosocial wellbeing was not

			learning during the COVID-19 pandemic.	Gender: not specified Ethnicity: Indonesian (100%) SES: participants resided in disadvantaged/ low socioeconomic region				limited digital devices, internet, and electricity. A lack of digital tools, reading materials, and face-to-face interaction hindered learning. Students were frustrated by basic learning methods and scarce support from teachers and family. Insufficient educational resources and parental support compounded these issues, leaving students feeling exhausted and left behind.	explicitly addressed.
Toste et al., 2021	USA	Summer 2020	Explore how secondary students with disabilities navigated	Total: *N* = 21 Ages: 11-17 (*M* = 14.81, *SD* = 1.54)	Qualitative	Online survey with open-ended questions followed by virtual semi-	Thematic analysis (Braun & Clarke, 2006)	Students with disabilities reported several challenges with regard to accessing online learning, although some students	Some students with disabilities reported positive emotion regulation, decision-making, and self-

	the pandemic within the ecological model of resilience.	Grades: 6-12; Upper and lower secondary Gender: Male (12; 57%); Female (9; 43%) Ethnicity: White (10; 48%); Hispanic/ Latinx (6; 29%); Asian American (4; 19%); Black/African American (3; 14%) SES: not specified Specific population: students with a	structured interviews	(e.g., those with reading difficulties) also found online tools beneficial. Many students were frustrated with the chaotic organization of online platforms. Despite these challenges, the accessibility of online learning and increased self-awareness and organization were benefits that emerged for some students.	determination during online learning. Students reported engaging socially through clubs and community programs, as well as strengthened family relationships. Students with disabilities emphasized the need for adult understanding and support.

				disability eligible for special education services (e.g., dyslexia, autism, ADHD, physical disability)					
Tzankova et al., 2023	Italy	May 2020 - June 2020	Investigate students' perceptions of online synchronous learning during the initial phases of the COVID-19 crisis in Italy.	Total: *N* = 64 Ages: 16-19 (*M* = 17.72, *SD* = 0.65) Grades: not specified Gender: Male (29; 45.3%); Female (35; 54.7%) Ethnicity: not specified	Qualitative	Virtual semi-structured interviews	Content analysis (Hsieh & Shannon, 2005)	Confusion about schedules and assignments were noted by some students during online learning. Some teachers' approaches were found by students to be ineffective while others were flexible and creative/more satisfying to students. Challenges included distractions and an unsupportive learning	The study found that remote learning had mixed impacts on students' psychosocial wellbeing, affecting stress, isolation, and social support. Teacher availability and support varied; students valued empathetic teachers but felt disappointed by those who didn't

				SES: not specified				environment. Remote learning provided autonomy but also led to stress due to disrupted routines. Learning remotely impacted friendships differently, with some strengthening and others deteriorating. Students noted valuing understanding educators.	adapt. Remote learning affected students' sense of belonging, with some missing the social aspects of school and others feeling rejected and uncomfortable in online learning settings.
Van & Thi, 2021	Vietnam	April 2020 - July 2020	Examine discrepancies between high school and university male and female students in emergency online	Total: *N* = 1,118 Ages: 15-22 Grades: not specified; Upper secondary, post-secondary Gender: Male (435; 38.9%);	Mixed methods	Virtual semi-structured interviews	Thematic analysis (Braun & Clarke, 2006)	Secondary students faced challenges with online learning, notably the cost of digital devices and internet access. Students struggled with traditional teaching/learning methods in the online environment and	The study focused primarily on educational experiences; psychosocial wellbeing was not explicitly addressed.

			learning amidst the COVID-19 pandemic in Vietnam.	Female (683; 61.1%) Eligible qualitative: *n* = 67 Ages: 15-19 Grades: not specified; Upper secondary Gender: Male (20; 29.9%); Female (47; 70.1%) Ethnicity: not specified SES: not specified				lacked social interaction. Common issues included WiFi interruptions and low confidence in English proficiency. Administrative and instructor issues were noted to have affected male students more than female students.	
Widnall et al., 2022	South-West, England,	December 2020 -	Explore adolescents' experiences	Total: *N* = 25 Ages: 14-15	Qualitative	Virtual semi-structured	Thematic analysis (Braun &	Many students reported experiencing feelings of excitement and	Many students reported missing in-person interactions

	United Kingdom	March 2021	during COVID-19 lockdowns and returning to school in the south-west of England, focusing on mental health, wellbeing, peer relationships, and learning.	Grades: 10; Upper secondary Gender: Male (11; 44%); Female (14; 56%) Ethnicity: not specified SES: not specified; schools purposively recruited based on levels of deprivation, measured by the proportion of students receiving free school meals.	interviews and focus groups	Clarke, 2006)	relaxation during the first lockdown period, but anxiety increased as the return to school approached. Online/virtual classroom distractions (e.g., disruptive peers) negatively impacted learning, while learning at home also offered fewer disruptions and better concentration for some students. Online lessons with cameras off and microphones muted were perceived by some students to have hindered engagement and motivation.	during online classes and feeling lonely due to social distancing. Returning to school was experienced as positive by some due to the routine and seeing friends, although stress and anxiety about the social environment was also noted. Students valued discussing their feelings but found help-seeking difficult, especially regarding bullying and peer issues.

Xu et al., 2022	China, Lebanon, and USA	Not specified	Explore impacts of online school education during the COVID-19 pandemic on student learning and wellbeing in China, Lebanon, and the United States of America.	Total: *N* = 9 Ages: 16-19 Grades: 11-12; Upper secondary Gender: Male (4; 44%); Female (5; 56%) Ethnicity: not specified [nationality: Chinese (3); American (3); Lebanese (3)] SES: middle–high family income	Qualitative (Multiple Case-Study Design)	Virtual semi-structured interviews	Inductive coding of interview responses	Results showed that U.S. students were satisfied with good Wi-Fi and resources. Chinese students had enough devices but faced unstable VPN connections to access sites such as Google. Lebanese students experienced poor internet and lacked sufficient devices due to social instability. Broadly speaking, students noted that cheating increased during online learning. Social connection issues were common, with students reporting poor communication with teachers, lack of instant feedback, and	Many students (across all three geographic locations) reported unstable mental health and wellbeing during online learning due to lack of human connection, exercise, and life satisfaction.

								difficulty finding effective post-class communication.	
Yates et al., 2021	New Zealand	Not specified (2020)	Explore New Zealand senior secondary students' experiences with learning at home during the COVID-19 pandemic.	Total: *N* = 1,975 Ages: 16+ Grades: 12-13 (final years of high school education) Gender: not specified Ethnicity: not specified SES: not specified	Mixed methods	Online survey with open-ended questions	Thematic analysis (Braun & Clarke, 2006).	Most students reported spending less time on schoolwork and learning less, but those who invested more time felt they learned as much or more than they did in school. Participants valued flexibility, independence, and control over their learning pace. They preferred in-class collaboration for immediate support but found online conversations emotionally and academically supportive. Preferred	The study focused primarily on educational experiences; psychosocial wellbeing was not explicitly addressed.

								teaching methods included direct instruction, feedback, multimedia, discussions, clear communication, interactive activities, and gamification.	
Zaeske et al., 2023	USA	Spring 2021	Examine the educational experiences and mental health challenges of creative adolescents during the COVID-19 pandemic.	Total: *N* = 25 Ages: 14-17 (*M* = 15.72, *SD* = 1.10) Grades: 9-12 (most in Grade 9); Upper and lower secondary Gender: Male (17; 68%); Female (7; 28%); Non-binary (1; 4%)	Qualitative (Phenomenography)	Virtual semi-structured interviews and focus groups	Thematic analysis (Braun & Clarke, 2006)	It was found that educational changes during the pandemic led to disconnection and disengagement from schoolwork among adolescents.	Adolescents reported experiencing stress, anxiety, lack of motivation, and boredom. Feelings of powerlessness and hopelessness were also commonly noted due to lack of control and pandemic uncertainties. Isolation and the inability to engage

	Ethnicity: Black (1; 4%); Asian American (1; 4%); Hispanic (1; 4%); Hispanic/White (1; 4%); Black/White (4; 16%); White (17; 68%) SES: not specified	in social activities worsened students' sense of disconnect and loneliness.

Curriculum Vitae

Name: Hannah Litchfield

Post Secondary Education and Degrees

2022 – 2024	Master of Science (MSc) – Health Promotion Health & Rehabilitation Sciences, Faculty of Health Sciences, Western University, London, Ontario
2021 – 2022	Master of Management of Applied Science (MMASc) – Global Health Systems Schulich School of Medicine & Dentistry and the Faculty of Health Sciences, Western University, London Ontario
2012 – 2020	Bachelor of Health Sciences (BHSc) – Honours Specialization in Health Sciences School of Health Studies, Faculty of Health Sciences, Western University, London, Ontario

Honours and Awards

2023 – 2024	Ontario Graduate Scholarship (OGS) Total Award: $15,000 (annual)
2023	Sarah Gaulin Memorial Scholarship Total Award: $1,000
2023	Children's Health Research Institute (CHRI) Trainee Award* Total Award: $9,000 **declined to accept OGS*
2023	Children's Health Research Institute (CHRI) Travel Award** Total Award: $1,500 ***offered in lieu of declined CHRI Trainee Award*
2022	Western One Health UNITE Case Competition Winner Total Award: $500
2021	Global Health Equity Submission Winner: Climate Ethics, Equity, and Health Total Award: $100
2015	Brescia University College Sister Arleene Walker Leadership Award Total Award: $1,000

2012, 2018 – 2020	Dean's Honour List, Faculty of Health Sciences Distinction awarded to students who achieved over an 80% average during their undergraduate studies at Western University
2012 – 2013	Western University President's Entrance Scholarship Total Award: $60,000
2012	Loran Scholarship Semi-Finalist for Outstanding Leadership Total Award: $1,500

Professional Certificates and Certifications

2024	Certificate in Removing Barriers to Change Wharton University of Pennsylvania Online
2023 – 2024	Certificate in Universal Design for Learning Centre for Teaching and Learning, Western University, London, Ontario
2022 – 2024	Certificate in University Teaching and Learning Centre for Teaching and Learning, Western University, London, Ontario
2023	Disciplined Agile Scrum Master (DASM®) Certification Global Project Management Institute Inc.
2023	Project Management Professional (PMP®) Certification Global Project Management Institute Inc.
2020	Professional Certificate in Project Management Western Continuing Studies, Western University, London, Ontario

Related Work Experience

2024	Teaching Assistant – Applied Health Sciences 9007 – Motivational Interviewing Supervisor: Abrial Cooke Faculty of Health Sciences, Western University, London, Ontario
2024	Teaching Assistant – Health Sciences 4400B – Advanced Health Policy Supervisor: Dr. Patricia Versteegh Faculty of Health Sciences, Western University, London, Ontario
2023 – 2024	eLearning Project Manager Supervisor: Leslie Gloor Duncan Student Experience, Western University, London, Ontario

2022 – 2024	Graduate Research Assistant and Research Project Manager Supervisor: Dr. Shauna Burke Faculty of Health Sciences, Western University, London, Ontario
2022 – 2024	Health Promotion Teaching Team – Health and Rehabilitation Sciences Supervisor: Dr. Tara Mantler Health & Rehabilitation Sciences, Faculty of Health Sciences, Western University, London, Ontario
2023	Teaching Assistant – Applied Health Sciences 9007 – Motivational Interviewing Supervisor: Abrial Cooke Faculty of Health Sciences, Western University, London, Ontario
2023	Teaching Assistant – Applied Health Sciences 9008 – Health and Wellbeing in Childhood and Youth Supervisor: Dr. Prudence Allen Faculty of Health Sciences, Western University, London, Ontario
2023 – 2024	Teaching Assistant Training Program (TATP) and Advanced Teaching Program (ATP) Instructor Supervisor: Dr. Lisa Aikman Centre for Teaching and Learning, Western University, London, Ontario
2022 – 2023	Guest Lecturer and Teaching Assistant – Project Management Supervisor: Lameck Osinde Richard Ivey School of Business, Western University, London, Ontario
2021 – 2022	Health and Wellness Lead and Project Manager Supervisor: Leslie Giesbrecht Participation House Support Services (PHSS), London, Ontario

Publications

Refereed Publications (n = 3)

Peer-Reviewed Publications – Conference Proceedings (n = 1)

Litchfield, H. *Embracing Indigenous Knowledge in Climate Justice: Lessons from the Māori Peoples.* Asian Studies International Journal [Special Issue]. https://asianstudies.info/2022/ProceedingsGPH2022.pdf.

Peer-Reviewed Publications – Student Journals (n = 1)

Waraich, S., **Litchfield, H.**, Awoke, O., Mendina, F., & Narendran, D. (2022). Strengthening human resources for health: Future contributions to Malawi's infectious disease preparedness, a literature review. *Global Health: Annual Review, 7*(1), 82 – 84. https://journals.mcmaster.ca/ghar/issue/view/186/110.

Peer-Reviewed Publications – Reports and Case Studies (*n* = 1)

Litchfield, H., Amoranto, M., Yallen, G., Bosco, C., Maheswaran, S., & Yaya, H. (2022). *Operation Walk Canada: Improving Capacity in Guatemala.* Ivey Publishing.

Non-Refereed Publications (*n* = 2)

Litchfield, H. (2021, November 22). Disproportionate Effects of Climate Change: one view from Rural Cambodia. *Global Health Equity Blog.* https://ghe.uwo.ca/blog/posts/disproportionate_effects_of_climate_change_one_view_from_rural_cambodia.html.

Litchfield, H. (2022, August 29). "I am because we are" – Exploring "Ubuntu" in Global Health Systems. *Global Health Equity Blog.* https://ghe.uwo.ca/blog/posts/i_am_because_we_are__exploring_ubuntu_in_global_health_systems_.html

Presentations at Professional Conferences (*n* = 3)

Litchfield, H. (2023, October 17). *Embracing Indigenous Knowledge in Climate Justice: Lessons from the Māori Peoples.* Publication and presentation at the 7th International Conference on Global Public Health, October 17, 2022, in Bali, Indonesia.

Litchfield, H., Koert van der Linden, N., Irwin, J. D., Tucker, T., Fenesi, B., & Burke, S. M. (2023, May 30). *The educational experiences of Ontario secondary and post-secondary students during the COVID-19 pandemic: A study proposal.* Oral presentation at the Child Health Symposium, London, Ontario, Canada.

Litchfield, H., Gill, B., Koert van der Linden, N., Irwin, J. D., Tucker, T., Fenesi, B., & Burke, S. M. (2024, May 28). *Secondary students' educational experiences during the COVID-19 pandemic: A qualitative evidence synthesis*. Oral presentation at the Child Health Symposium, London, Ontario, Canada.

Presentations at Student Conferences (*n* = 1)

Litchfield, H., & Burke, S. M. (2023, February 1). *Secondary students' experiences of online learning during the COVID-19 pandemic: A qualitative systematic review protocol.* Poster/Oral presentation to be delivered at the Health and Rehabilitation Sciences Graduate Research Conference, London, ON, Canada.

Grants and Awards (*n* = 1)

Burke, S. M., Ybarra, M., Macias, M., Tucker, T., Irwin, J. D., Battram, D., Gittings, L., Hamilton, N., Spencer, T., Tam, D., Mantler, T., Ens, A, **Litchfield, H**., & Koert van der

Linden, N. (2024-2025). *The Children's Health and Activity Modification Program in A Community-based Clinical Environment: The C.H.A.M.P. "ACE" Collaboration and Research Program (Demonstration Project).* Western University Faculty of Health Sciences (FHS) Western Living Lab (WeLL) Initiative – Demonstration Grant. $25,000.