
Teachers' Mental Wellbeing During Ongoing School Closures in Hong Kong

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Abstract: *Background:* There have been numerous studies conducted that have found a negative effect of school closures on student achievement and on student's physical and mental wellbeing. However, there are fewer studies exploring the effect that the school closures have had on teachers during the COVID-19 pandemic, particularly in Hong Kong (HK). Teachers' mental wellbeing affects their performance as education professionals; therefore, as a society, it is imperative that we support our teachers' mental wellbeing in order to continue to provide an outstanding education for future generations. *Objective:* This study aims to assess the effect that the school closures have had on teachers' mental health and to ascertain whether teachers have access to mental health resources and if so, which of these were the most effective. *Method:* An exploratory qualitative research design was employed. Qualitative data from semi-structured interviews and surveys were analysed using thematic analysis. *Findings:* Employing the acronym *PEDAGOGICAL*, the findings suggest that the school closures had a detrimental effect on teachers' mental wellbeing, thwarting basic and universal psychological needs of autonomy, competence and relatedness. There were some positive aspects, including the flexibility of working from home, less time commuting and more time with family. On the whole however, the ongoing school closures and more specifically, the uncertainty around the COVID-19 government policies, negatively affected teachers' overall mental health. *Implications:* This study has implications for education policy and practice, in HK and internationally, notably the importance of safeguarding teachers' mental wellbeing to ensure continued high-quality teaching, the wellbeing of our youth and ultimately the health of our society.

Keywords: COVID-19, Mental Wellbeing, Pedagogy, School Closure, Teachers

1. Introduction

Education is the passport to the future, for tomorrow belongs to those who prepare for it today. – Malcolm X

Education is said to be one of the strongest predictors of the health of a nation. If we, as a society, want an outstanding education for future generations, we need to consider how to create the best possible conditions for those providing it. Research has found that teacher quality is the single most important in-school factor influencing student achievement [1] and yet, the wellbeing of teachers is often overlooked. This is ironic considering how crucial teachers' wellbeing is for students, schools and society.

Teachers' wellbeing is affected by a myriad of contextual factors including workload, students' engagement and behaviour; autonomy; social relationships; competence;

institutional support and teacher-specific variables such as personal attributes and job satisfaction [2-6]. Studies suggest that teachers' wellbeing is strongly correlated to motivation, teaching efficacy, stress and burnout - and ultimately students' psychological wellbeing and academic performance [7]. Previous studies have shown that when students are aware of their teachers' negative mental health, anxiety in particular, they viewed their teaching as less effective [8]. Researchers found that teachers who displayed more depressive symptoms had lower classroom management scores, demonstrating that students' academic experiences may be negatively affected by teachers' mental health [9]. Besides, teacher burnout has been shown to result in apathy and indifference; cynicism and distrust; alienation and

isolation; absenteeism and staff attrition [10].

1.1. Theoretical Framework

Teacher wellbeing is a multidimensional construct and is beyond the scope of this study. For the purposes of this research, the focus will be on teachers' mental wellbeing; that is, a state of wellbeing in which an individual is able to realise their own abilities, cope with the stresses of life and work productively to make a contribution to their community [11]. Underpinning this is Ryan and Deci's [12] self-determination theory (SDT) which postulates a set of basic and universal psychological needs (i.e. autonomy, competence and relatedness). The premise being that when these needs are supported and satisfied within a social context, people experience greater mental wellbeing. Conversely, impeding or foiling these basic needs results in demotivation and poor mental wellbeing.

1.2. Literature Review

An inordinate number of studies have documented the negative effect of school closure during the pandemic on student achievement [13-18]; motivation for learning [19] and on their physical and mental wellbeing [20-23]. There are also papers exploring what educators can do to meet the social, emotional and academics needs of students [24] and public health and safety measures in academic institutions [25]. What is interesting is that, comparatively, there are far fewer studies exploring the effect that school closure had on teachers' mental wellbeing during this time, particularly regarding how instructional modalities, and the changes thereof, might relate to teacher mental health. This is remarkable considering the importance of teachers' mental wellbeing, not only for the teachers themselves, but also the effect this has on students, schools and the wider community.

Even prior to the challenges brought about by the pandemic, teaching was considered a stressful job [26, 27]. The rapid switch to online teaching worldwide has exacerbated this stress [28], altering the way teachers and students communicate and interact, affecting fundamental instructional and assessment practices [29]. For many, this has not been an easy transition and is dependent on teachers' technological skills, knowledge and competence for online teaching [30]. Although some educators argue that asynchronous teaching or flipped classrooms is the way forward in achieving quality education, research has demonstrated a growing inequality associated with school closures and online learning [31]. Moreover, the rush to adopt new technologies such as videoconferencing has raised concerns regarding privacy and security [32].

Internationally, published research has focused on teachers' working conditions during lock-down, the implications of remote teaching and quality of life [33-35], with only a few documenting the negative effect of school closures on schoolteachers' mental health and wellbeing [36, 37]. Findings have been that, in an attempt to mitigate the

negative impact of COVID-19 pandemic on students, teachers are struggling to maintain their own wellbeing [38] while dealing with new stressors brought on by the pandemic (e.g. the uncertainty and constant fluctuations in their work due to policy changes of social distancing measures; the demands of implementing online and blended learning model; the blurring of home-work boundaries and the lack of support they are receiving [39-41]).

A study by Centers for Disease Control and Prevention (CDC) [42], reported that teachers' mental health has been affected by these new instructional challenges. Teachers whose lessons were virtual had higher rates of depression and anxiety than other teachers. In addition, 53% more teachers reported considering leaving the profession than before the pandemic. Similarly, a 2021 survey conducted by NASUWT-The Teachers' Union [43], found that during school closure, teachers experienced increased mental health and wellbeing issues with 87% experiencing increased anxiety; 79% suffered from insomnia; 30% reported an increase in alcohol consumption, 23% relied on medication to help them cope, while 12% sought counselling. A major contributor to this was organising online learning, the increased workload and concerns about pupil behaviour, wellbeing and academic performance. Despite this, most teachers felt that schools, governments and employers did not take the necessary steps to mitigate these adverse effects and failed to put in place measures to support their physical and mental wellbeing.

Locally, Cheng and Lam [44] explored the psychological impact of the pandemic on music teachers and found that aside from experiencing fear, stress and anxiety in response to the pandemic; teachers were concerned about the effectiveness of online teaching particularly with regard to students' adaptability to online learning, technological integration and parents' expectations. Overall, however, there is a paucity of research on the mental health and wellbeing of teachers in Hong Kong, a limitation which this study aims to address.

1.3. Context of the Study

Hong Kong (HK) reported their first case of COVID-19 on 23rd January 2020 and since then face-to-face classes have been cancelled at least four times. HK's four-month school shutdown in early 2020 was among the longest in the world. In fact, in the first five months of that year, students attended in person classes just 16% of the time [45]. Despite most countries allowing teachers and students to return to face-to-face classes and other hybrid modalities, HK has continued with school closure well into 2022 in pursuit of dynamic-zero infection [46]. Additionally, the government announced an adjustment to the summer vacation arrangement of schools in the current school year by bringing forward the holidays to March/April so that resources from all sectors can be concentrated to achieve this target. Table 1 provides an overview of the letters from the Education Bureau (EDB) to HK schools based on HKSAR government edict.

Table 1. Key Correspondence from EDB to Schools.

Date of Letter	Mandate from EDB based on HKSAR Government Edict
2020	
27 th January	Extension of Chinese New Year (CNY) Holidays i.e. class resumption on 17 th February
31 st January	Arrangements on Deferral of Class Resumption for all schools (classes to resume as early as 2 nd March 2020)
13 th February	Arrangement on Deferral of Class Resumption for all schools (classes to resume their classes on 16 th March 2020 the earliest)
25 th February	Arrangements on Deferral of Class Resumption for all schools (classes to be resumed on 20 th April the earliest)
31 st March	Deferral of Class Resumption for All Schools: Together, we fight the virus (government announced on 21 st March all schools closed until further notice) Class Resumption Arrangement in Phases (27 th May: Secondary 3 or above; 8 th June: Secondary 1 and 2, Primary 4-6; 15 th June: Primary 1-3)
10 th July	Arrangements for Early Commencement of Summer Holidays for All Schools (schools closed from 11 th July)
31 st August	23 rd – 29 th September resumption of face-to-face classes in phases (half day only)
12 th November	Suspension of face-to-face classes Kindergarten
20 th November	Suspension of face-to-face classes at Primary 1 to Primary 3 and Extension of face-to-face classes suspension at Kindergartens
30 th November	Suspension of Face-to-face Classes for All Schools From 2 December
8 th December	Further Suspension of Face-to-Face Classes
21 st December	Arrangements of Further Suspension of Face-to-Face Classes for All Schools
2021	
4 th January	Continuation of Suspension of Face-to-Face Classes for Schools until after 10 January 2021. The suspension will continue until the beginning of schools' Chinese New Year (CNY) holidays.
5 th February	Class arrangements for schools after CNY: face-to-face classes may resume for half-days only with upper population limit of one third of school's total number of students.
11 th February	Further Option for Resumption of Face-to-Face Classes for Individual Schools Testing Arrangements for Teachers and Staff: Compulsory testing for teachers and staff every 14 days
29 th March	Continuation of staggered half days after Easter Holidays, the upper population limit of students to return to a school for each session is capped at two-thirds of the school's total number of students.
11 th May	Whole-School Resumption of Half-Day Face-to-Face Class Arrangements for All Schools in Hong Kong
2 nd August	Start of school year: resumption of half-day face-to-face lessons for all students
16 th September	70% teachers to have had doses of COVID-19 vaccinations and 70% students aged 12-17 one dose for schools to open for full days.
2022	
11 th January	Suspension of face-to face classes of Primary Schools and Kindergartens
20 th January	Suspension of face-to-face classes of Secondary Schools
27 th January	Extension of suspension of face-to-face class for all schools after CNY holidays
14 th February	Continuation of suspension of face-to-face classes for schools in Hong Kong
28 th February	Arrangement of special vacation in 2021/22 school year Arrangements for Resumption of Face-to-face Classes after Easter Holidays
11 th April	International schools given flexibility to resume full day face-to-face classes from 19 th April *. Local schools to resume face-to-face classes in an orderly and phased manner by 10 th May 2022. All staff and students to provide a daily negative Rapid Antigen Test (RAT)

* Full day classes only when following conditions met:

- a) all teachers and school staff have received second dose of vaccination for more than 14 days
- b) 90% or more students have received second dose of vaccination for more than 14 days.

1.4. Aims and Objectives

To contribute to the growing literature on the effects of the COVID-19 pandemic on educators, this study assessed the effect that the school closures had on teachers' mental health and ascertained whether teachers have had access to mental health resources and if so, which of these were the most effective. Whilst statistical significance is an important consideration in research, this study will take a qualitative approach in order to fully understand the lived experiences and reflections of teachers during this period in history.

It is hoped that this research will provide a framework for considering the mental health of teachers as a consequence of school closures and encourage the health care system and policy makers to provide the necessary mental health and wellbeing support for teachers during these unprecedented times.

2. Methodology

2.1. Research Design

This study adopted an exploratory research design to obtain an understanding of teachers' mental wellbeing as a consequence of the ongoing school closures during the COVID-19 pandemic in Hong Kong, SAR China.

2.2. Participant Recruitment

Participants were recruited through social media platforms, institutional/professional emailing lists and subsequent snowball sampling. Altogether 191 questionnaires were returned that were suitable for evaluation. Participants were included if they were at least 18 years of age and were teaching in Hong Kong at the time of COVID-19 school closures. Demographic data were gathered from the survey,

comprising the following variables: age, gender, teaching experience and other teaching-related variables (e.g. school type, medium of instruction). From this pool of participants, a smaller sample (N=10) was selected via purposive sampling for in-depth semi-structured interviews. This was done to ensure that the sample was representative of the teaching population in terms of teaching experience, demographics and opinions.

Table 2. Characteristics of Survey Population.

Characteristics	N	%
Age (years)		
22-29	8	4.19
30-39	63	32.98
40-49	71	37.17
50-59	47	24.61
60+	2	1.05
Gender		
Female	120	62.83
Male	68	35.60
Prefer not to say	3	1.57
Type of School		
Public Local	6	3.17
Private	6	3.17
International	82	43.39
English Schools Foundation (ESF)	91	48.15
Direct Subsidy Scheme (DSS)	4	2.12
Level of Teaching		
Kindergarten	13	7.03
Primary	55	29.73
Secondary	117	63.24
Medium of Instruction		
English	180	94.24
Cantonese	6	3.14
Dual or Trilingual	5	2.62
No of years teaching		
This is my first year	2	1.05
1-3	7	3.66
4-7	24	12.57
8-12	41	21.47
12+	116	61.26

2.3. Survey Instrument

The self-report survey contained 42 questions, with opening questions relating to sociodemographic and teaching characteristics. Thereafter participants were asked to rate themselves on a Likert scale on questions pertaining to their psychological wellbeing. The survey asked open-ended questions about pedagogical changes, concerns regarding school closures, the effect on mental wellbeing, support from schools and access to mental health support. There were also questions relating to useful practices adopted to alleviate stress, silver linings, and suggestions on how schools and/or policy makers could support teachers' mental wellbeing.

2.4. Ethical Considerations

Ethical approval was granted through the institutional research ethics board. Before the completion of the survey, participants were informed about the aims of the study, procedures and the voluntary and anonymous nature of participation. Confidentiality of the collected data was

assured, and informed consent was obtained. The informed consent also contained information to facilitate contact with the researcher and institution if any clarification was needed at any point of the study. The data will be stored securely for five years as required, with access limited to the researcher and only used for the purposes of this study.

2.5. Data Collection and Analysis

Data was collected between 28th April –23rd May 2022, following Hong Kong's 'fifth wave'. This was done via online surveys and followed up with semi-structured interviews, primarily by means of Zoom calls. The survey was self-paced and took approximately 15-20 minutes to complete. Interviews typically ranged between 45-60 minutes. The survey included both categorical and open-ended items. Categorical data were analysed with bar or pie charts, while qualitative data from surveys and semi-structured interviews (transcribed verbatim) were analysed using thematic analysis. Braun & Clarke [47] suggest six steps for thematic analysis, which include: familiarising oneself with the data; generating initial codes; searching for themes; reviewing themes; defining and naming themes and producing the report.

2.6. Reflexivity

As an inter-subjective reflection, reflexivity forms an important factor in improving the rigor and trustworthiness of qualitative research [48]. This refers to the researcher's reflections on the influences that may have affected the design, collection and interpretation of the data (i.e. personal background, beliefs, values and biases). The researcher is cognisant of their own opinions, preconceived ideas and assumptions as well as recognising the role of their own reflections on the findings. As an educator living in HK and having conducted extensive research on the subject, the researcher attempted to bracket their own knowledge and experience of the subject and, although not ever fully possible, to allow the findings to emerge from the data.

3. Findings and Discussion

3.1. Quantitative Results

As illustrated below, 70% of all respondents reported that they have considered leaving the profession and/or HK because of the school closures, most citing the government's response and policies around COVID-19 as a reason. This is consistent with a survey conducted in September-October 2021, the results of which showed a soaring increase in the number of educators leaving Hong Kong compared with previous years [49], with many schools expressing difficulty filling the vacancies. School principals attributed the teacher turnover to the social atmosphere, COVID-19 challenges and teachers' morale.

Encouragingly, most teachers (66%) reported that they felt engaged at work, with more than two thirds stating that their work was meaningful to them. However, less than a third described feeling happy at work while 49% were stressed, 48% frustrated, 46% overwhelmed and 42% burned out because of

their work. Of concern is that 61% reported (frequently or almost always) feeling exhausted; while the majority felt that they were only somewhat effective (53%) at their job (please see figures 2-5). While 36% respondents felt that they belonged at their school, less than a quarter of the respondents felt a strong connection to their school, with only 20% stating that they mattered “a great deal” or “a lot”. Although full statistical analysis for specific correlations is beyond the scope of this study, there was a general trend that as sense of connectedness was associated with greater job satisfaction. This is consistent with the relatedness in SDT, whereby feelings of belonging and connectedness seemed to mitigate some of the negative effects of school closure; a factor substantiated in the qualitative findings.

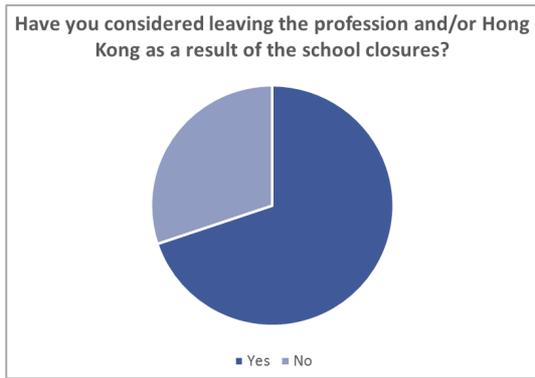


Figure 1. Number of teachers contemplating leaving the profession and/or Hong Kong.

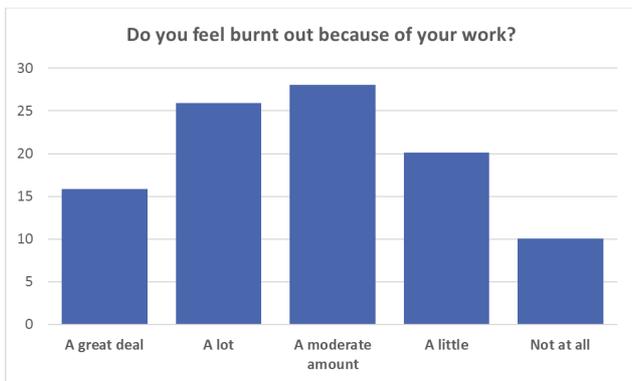


Figure 2. Teachers' responses to feeling burnt out.

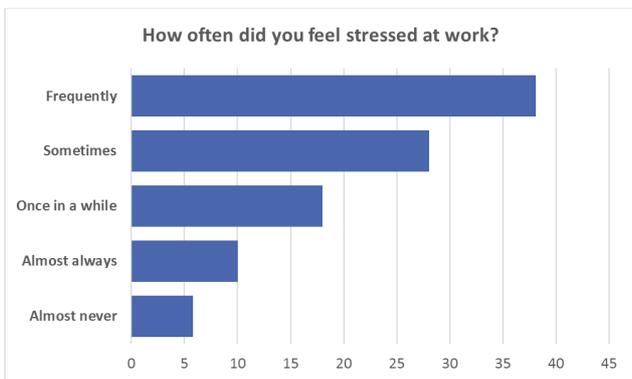


Figure 3. Teachers' responses to feeling stressed.

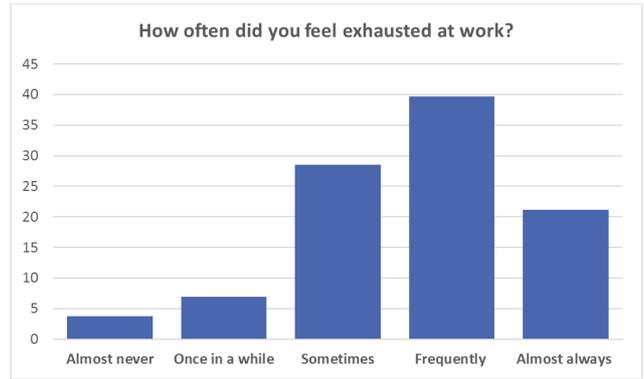


Figure 4. Teachers' responses to feeling exhausted.

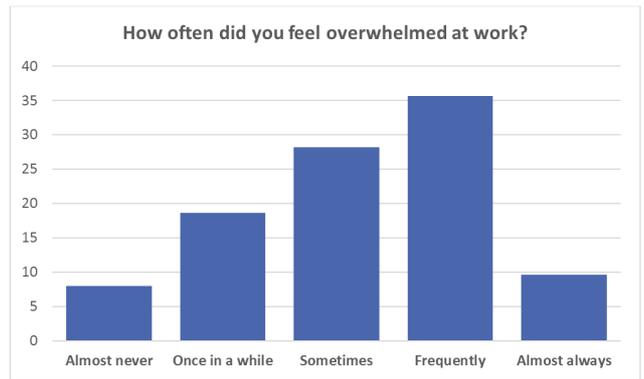


Figure 5. Teachers' responses to feeling overwhelmed.

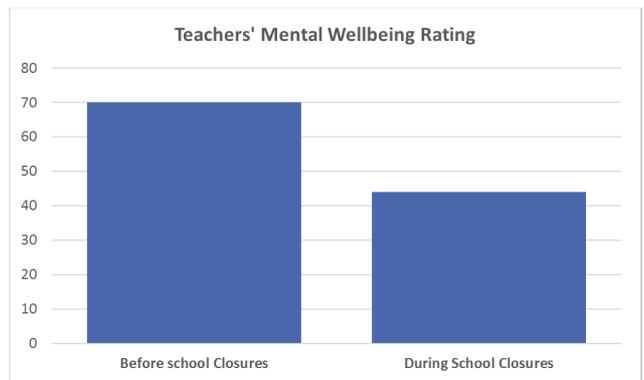


Figure 6. Teachers' mental wellbeing rating before and during school closures.

As illustrated in figure 6, there was a considerable drop in overall mental wellbeing as per participants' rating of their mental wellbeing before and after the school closures (1 being poor, 10 being excellent). The qualitative data corroborate these data.

3.2. Qualitative Findings

As anticipated with qualitative data, individual differences resulted in diverse opinions and experiences; from those for whom the school closures were extremely detrimental to their mental health to those (very few) for whom it was more positive than negative. For many respondents, there was an appreciation of less time commuting, more time with family

and the flexibility of working from home. Overall, the findings suggest that for most participants, the ongoing school closures and more specifically, the uncertainty around the COVID-19 government policies, negatively affected their overall mental wellbeing. In order to glean an overall understanding of how the school closures affected the mental wellbeing of teachers, a word cloud was generated from the survey responses. The most frequently used words are depicted bolder and bigger (see Figure 7).



Figure 7. Effect of the school closures on teachers' mental wellbeing.

Adopting the acronym PEDAGOGICAL, themes will be explored with references both to the evidence in the data, as well as links made to the literature.

Pedagogy
Engagement
Disconnect
Anxiety
Governance
Overwhelmed
Guidance
Implications
Coping
Autonomy
Lessons Learned

3.2.1. Pedagogy (Pupils and Parents)

Understandably, pedagogical changes needed to be made for online learning, but adapting the curriculum to online was extremely taxing for many, particularly for kindergarten, primary school and practical subjects. Respondents mentioned having to constantly try to redesign the curriculum, modifying practical courses for online learning and accommodating students using different platforms. There were also concerns raised about not covering the curriculum as quickly as face-to-face teaching, difficulty in maximising student engagement and technological challenges and disruptions for teachers and students.

Several participants stated that 'online teaching is not the job teachers had signed up for'. Most teachers found pure synchronous teaching exhausting and unsustainable, while some felt they did not have the training, experience or technological support for effective blended teaching. The on-

again, off-again changes made by the EDB (see Table 1) and overall COVID-19 restrictions resulted in students and some staff members getting stuck in countries across different time zones. This meant that teachers needed to respond accordingly with synchronous, asynchronous and blended teaching, which required a lot of pedagogical flexibility, with those technologically skilled teachers faring better than those who were not that accomplished.

Research has shown that online learning can be effective, is less time consuming and increases retention of information [50]. Whilst it was clear that online schooling is 'not a viable alternative to actual campuses', some teachers found online instructional techniques provided transferable ideas to make lessons more engaging on return to face-to-face teaching. Teachers and students were able to explore different learning options using technology and other online tools for instruction and learning, for instance: "I taught in environments where it was blended, reverse blended. I've led classes from home and been projected on a screen in a studio.... So I've done all these reverse, back-to-front learning environments and then still been able to manage, hopefully, looked after my remit of students."

Consistent with previous research, one of the main concerns of teachers during the school closures was their pupils' overall wellbeing: their engagement, motivation, progress and social-emotional development. Many expressed a lack of connection with their students, lack of communication and collaboration amongst students and difficulty in monitoring/assessing students, for example: *I cannot build up personal relationships with the students. I don't know if the students are doing their work and how to motivate them to complete their tasks.*

Many teachers were worried about students falling behind, particularly the vulnerable students. Special Educational Needs (SEN) students, many of whom need a multisensory environment to learn, struggled with online learning resulting in teachers providing support through individual sessions, significantly increasing their workload. Online teaching was generally geared towards the average student, making it difficult to teach those with diverse learning needs. However, there were some students that who thrived with online learning. For example, students with speech and communication difficulties seemed to enjoy home learning, with some students performing "better with online learning than they do in the classroom, with all the social challenges that face them". Also, some of the gifted students appreciated online learning as they were able to work at their own pace.

Not only were there concerns as to whether the pupils were getting help from their parents, but also many teachers felt a 'constant pressure to show parents that they were getting what they paid for'. The perception was that parental expectations were high and that the complaints of a few vocal parents were more important than those of the teachers and students as seen in the following:

Parents' wishes placed above teacher well-being - the drawback of working in the independent sector.

...looking at the number of Zooms we do per day, ... felt that that was led by parents because some parents wanted a replication of a face-to-face provision online, which is just not one feasible or sustainable.

There was the additional concern of parental surveillance and critique; many teachers felt uncomfortable being live broadcast to an audience of parents, grandparents, domestic helpers and siblings. This brings into question issues of privacy for both students and teachers, not to mention intellectual property rights. One interviewee stated: *"Our privacy as teachers has just gone out the window. It's just like tough. But also again, our students, we're seeing into our students' bedrooms. And where is their voice?"*

There were several positive experiences where parents worked well with the teachers to assist students' progress. In certain instances online teaching actually helped the communication with parents. Overall though, most teachers found it difficult to balance parental demands with effective pedagogy.

3.2.2. Engagement

Hong Kong schools had experienced school closures prior to the start of pandemic and so educators were prepared for online learning. And certainly, at the beginning, there was 'a kind of blitz spirit' and teachers started off enthusiastically but as the days turned to weeks, then months; schools were on-again, off-again, students became disengaged and disconnected, enthusiasm waned and each change took energy, causing stress and anxiety.

Some teachers felt that senior leaders did not manage the transitions effectively (e.g. change in energy levels and expectations), while some schools were better at setting realistic expectations, restructuring the timetable so as to 'provide energy and new rhythms of engagement'. This lack of personal engagement contributed to the stress and anxiety with one participant stating: *"The complete lack of human engagement is the biggest issue, it's no secret. The amount of mental, emotional and social issues that will come from these closures will outweigh the health costs."*

For most teachers, it was not only the lack of personal engagement with colleagues that contributed to their mental (ill) health, but also the lack of student engagement. Research suggests that engaged students are more likely to achieve academic success [51]. However, engaging students online is often more challenging in face-to-face classes [52]. As the word cloud illustrates, disengagement or the difficulty to engage students online was a common theme, which had an impact on mental wellbeing. This was evident from the survey responses where teachers found it very difficult to engage their students online, especially the younger, quieter, more vulnerable students.

Students often disengage with online learning over long periods.

Trying to engage with those quiet children was more difficult online.

Extremely difficult to engage children with learning difficulties online.

Engaging students took a lot of effort, creativity and planning. Several teachers referred to themselves as performers, putting aside their own challenges, concerns and anxieties in order to make online learning fun. As one respondent said:

I was a TV presenter. I was doing it like a radio show...And I found myself very much, putting on a persona, even more so than I did in the classroom. To entertain students and keep them, you know, at least a little bit focused.

For many though, the effort it took to connect and engage with their students was exhausting.

And to get that connection, you have to go, go, go, 150 percent. And then suddenly, you're just too exhausted at the end of the day... It's not been uncommon for me, as well as some of my colleagues, or even my friends, who said that they have just broken down and cried.

3.2.3. Disconnected

Research suggests that social connection is a basic psychological need, people need to experience a sense of belonging to other people [12]. As evident from the word cloud, teachers felt a keen sense of disconnect with their students and their colleagues. This disconnect with students made it difficult to interact effectively which resulted in a lack of motivation for themselves and their students. Naturally this influenced their feeling of purpose, value and competence:

I feel very disconnected, I do not feel like I am valued or that I am part of a community.

Lack of connection with others, lack of purpose and effectiveness in doing my job properly.

These sentiments were echoed in follow up interviews "... So there were all these other things that were also taking a toll on... 'Am I really a good online teacher? Am I able to interest them?....So instead of staying at the professional level, it starts impacting you at a personal level."

The school closures and social distancing measures led to significant changes in social relationships, resulting in feelings of isolation and loneliness [53]. This sense of loneliness had a detrimental effect on mental wellbeing, even to the extent of suicide ideation.

... I went weeks without touching another human being - it had a serious impact on my mental health and wellbeing.

I feel that my overall mental wellbeing has deteriorated considerably due to isolation, disengagement, sense of hopelessness and low value.

I felt isolated and resentful. As a result, I felt sadness and a lack of control over my short term future.

I don't think I have ever felt more alone in my life.

Connectivity with family and colleagues was vital to many teachers in their attempt to keep their mental health in check, even if it was through social media. Some schools attempted to foster a sense of connection by organising online quizzes, bingo, yoga etc. This attempt was appreciated by the teachers, although during the last school closures most had lost the enthusiasm for any more online interaction, having spent most of their day already online. What was apparent from the

survey responses was that by the “fifth wave”, teachers were burnt out and lacked the energy to connect with each other.

3.2.4. Anxiety

Consistent with the findings from the CDC [42] and NASUWT [43], teachers in this study reported increased levels of stress and anxiety. Reasons given include increased screen time, increased workload, trying to plan for online learning without knowing how long it would go on for and the constantly changing protocols.

A number of participants mentioned an increase in social anxiety and the mental preparation required for a return to face-to-face teaching and reconnecting with others. As one respondent said: *I feel like quite a few social circuits in my brain have shut down and there's now a fear/anxiety when it comes to social life.*

For a few, anxiety centred around COVID-19, mostly the repercussions of testing positive, as succinctly stated by this respondent:

However, the pressure of potentially getting covid from returning and anxiety over the government were the real pressures that led to stress. For example, when we had to give samples fortnightly, I found that very distressing. The risk was small, but the idea that I could be suddenly taken off to Penny Bay with my family was a constant irrational fear.

Other reported a myriad of factors that contributed to their anxiety, particularly the ongoing uncertainty regarding the COVID-19 policies and travel restrictions. For many international teachers, the inability to travel and see family caused a great deal of stress and anxiety, with a considerable number considering leaving HK as a result.

...leaving HK due to the continued uncertainty in Hong Kong with COVID restrictions, and the fact that things can change at any moment. I cannot deal with the anxiety from not knowing if I can get home in the holidays or not anymore.

3.2.5. Governance

Despite the role that school closures have had in helping to contain the spread of COVID-19, it is not without risks and challenges. Such decisions are multifaceted whereby governments, public health authorities and policy makers need to balance public health and safety and the feasibility of the measures with the rights, interests and values of all stakeholders [54]. Following the 2003 severe acute respiratory syndrome (SARS) coronavirus epidemic, Thompson et al. [55] developed a framework to guide ethical decision-making based on openness & transparency, reasonableness, inclusiveness, responsiveness and accountability. Employing these guiding principles when making public health policies could help promote trust and ameliorate mental health issues during such unprecedented times [55].

Unfortunately, most of the respondents did not feel that the government policies addressed these principles, the uncertainty around the measures increasing their levels of stress and anxiety as illustrated by these comments:

I think in terms of transparency, I think that's been one that's been lacking the most....when we were told we were

going online, what frustrates me is they'd never see criteria that caused that to be triggered. And then they never set criteria by which that would be lifted.

And when you feel you're being held hostage by a catastrophe, that's one thing. When you feel you're being held hostage by an intransigent arbitrary administration, that's something else.

Many reported that their decision to leave was due to ‘poor governance and ridiculous decisions’, citing that the risk-based assessment for closing schools had not been conveyed to schools. Indeed a number of interviewees suggested that even the EDB were unaware of the decision to bring the summer holiday forward to March when the announcement was made. A subsequent announcement was made that international and private schools were allowed to continue with online classes while local schools had to take an early “summer holiday” to provide space to conducted compulsory mass testing for all citizens (news.gov.hk). This added to the stress of many participants particularly as there was a very real possibility of being separated from family if one member tested positive as these statements highlight:

...incarceration of those who were ill, close contacts and asymptomatic people AND the forced family separations on top of the accumulative stress since the protests have just been too much.

Ridiculous anxiety levels caused by ill-informed COVID restriction decisions by the government. Don't want to have our family separated.

3.2.6. Overwhelmed

Findings from the surveys, as well as follow-up interviews, reveal that many teachers felt overloaded, overwhelmed and burnt out as a consequence of the ongoing school closures.

Survey reports mentioned ‘rewriting the curriculum 5 times’, ‘16 changes in timetables in a year’ which took time and energy to adjust to each time. This often resulted in challenging behaviour from students, adding to the workload. Although some schools attempt to reduce additional administration, most respondents mentioned that the online teaching required much more of their time in terms of planning, delivery and assessment. In addition to being ‘always on’, many felt overwhelmed by the expectation to provide 5 hours of online synchronous teaching with few breaks.

There is a constant feeling of panic e.g. when is the next zoom? Did I miss something? There is no switch off, with messages, emails etc.

It is not an effective way of teaching. It is exhausting. There is a constant feeling of panic.

Many teachers felt that the current online education ineffective and tedious, with some suggesting a revolutionary change away from ‘the old factory’ model of set classes and discrete subjects’ that work towards ‘rote learning and soulless exam preparation’. This resulted in a loss of enthusiasm for innovation and so teaching/learning became less effective online. According to the SDT [12], people need feel that they have the necessary tools and support to gain mastery of task and learn different skills. Thwarted, this

sense of competency undermines confidence and intrinsic motivation.

This was evident in both the survey responses and follow-up interviews, teachers questioning their ability to teach effectively online with some reporting that they felt like that they lost their 'identity and confidence'. Others were exhausted and demoralised in their attempt to engage with their students. This survey responses sums it up well:

It was very demoralising as I could have a full schedule but not see a face the whole day. I often feel like I am a deaf person teaching in darkness, I can't hear, I can't see. I don't know how much the students have learned. I don't think I have ever felt more alone in my life. I crack a joke and I don't hear laughter, not having any kind of feedback is difficult. Sometimes I would want to cry at the end of the day.

A few teachers felt that they were effective online, streamlining lessons and reducing the content to ensure learning was more manageable. Even prior to the pandemic, the concept of blended learning or flipped classrooms had been promoted and researched as very effective models of teaching [56]. While some schools effectively adopted technology into their pedagogical practices, some teachers felt that their schools could have provided better professional development and guidance.

3.2.7. Guidance

In order to deliver effective online education, it is important that schools ensure that teachers and school leaders receive training and professional development. Survey responses were mixed in this regard with many teachers conceding that their schools had 'done their best' considering the circumstances. Some participants reported that their schools had provided adequate guidance and technical support, but for others these skills needed to be self-taught or developed in collaboration with colleagues sharing ideas and online resources.

There wasn't any real professional development about that, and I think that that would have helped teachers a lot.

While not applicable across all schools, several respondents reported that while there was some guidance offered, there was a lack of appreciation or understanding from the senior management team (SMT) as to the challenges of online education and the transition to face-to-face teaching.

The school provided sufficient tech support but didn't seem aware that online learning could be challenging for us.

That senior leaders ignore/don't manage the transition back to school effectively – e.g. change in energy levels, expectations.

Aside from ensuring that teachers have access to IT support and training, it is imperative that schools have realistic expectation about what can and cannot be achieved through online or blended learning. It is important that schools seek regular feedback from teachers to establish what works well and to amend policies and plans accordingly. Participants felt that more guidance and clarity in terms of expectations of synchronous and blended learning would be beneficial.

I think there should be more opportunity for sharing of best practice both within departments and across departments. Teachers thoughts and feelings should be listened to more by senior management.

Several teachers mentioned that although they were asked for feedback by the SMT, it was not always followed up with action, leaving them feeling as though their opinions were not valid.

Be fully transparent and actually allow staff to give an opinion (opinions that may reflect policy implementation and decision making). Feel that the SMT always request staff opinions and it is an empty promise of change.

3.2.8. Implications

The repercussions of the pandemic on health, the economy, education and psychosocial wellbeing are yet to be fully understood. Whilst there is evidence in favour of measures such as school closures to help contain the spread of the COVID-19, there are other societal factors to consider along with their implementation. Although some teachers were able find 'silver linings' during the school closures, for most participants, they had a detrimental effect on their mental, physical and social wellbeing.

My physical health is a concern. I have a lot of problems with ergonomics when I am on a computer all day. I have a lot of muscular tension and pain, tendonitis.

Huge negative impact - still suffering from sleepless nights, feel overwhelmed, stressed and showing physically in my body and ability to function day to day.

Consistent with previous research [38], teachers described how, in an attempt to support their students' social and emotional development, they struggled to manage their own mental wellbeing.

I found it difficult to manage the students and help them with their social and emotional needs when mine were impacted greatly too.

I was doing my best to take care of my student's mental wellbeing and be a consistent place for them to come and hopefully continue with their learning. This was at the expense of my own mental health.

Figure 1 demonstrates that 70% of all respondents reported that they have considered leaving the profession and/or HK. Considering that most of the teachers in this study had 12+ years of teaching experience, the consequences of this on the ecology in the education system is bound to be profound in terms of the standard and quality of teaching. Participants mentioned that recruitment of staff has been extremely difficult while 'inexperienced teachers are being seduced by other schools with offers of head of department, head of year...twice the money.'

The education received by our youth during this time of crisis will shape the society of the future. Therefore, if we want this education to be of a high standard, it is imperative that we protect the psychological wellbeing of those who provide it – the teachers. Safeguarding the wellbeing of educators is not only intrinsically important for the profession, but will also benefit the community.

3.2.9. Coping

Participants were asked what the most helpful tool, lesson or daily practice was that helped alleviate their stress during the school closures. Most teachers applied functional coping strategies to deal with the increased stress during the ongoing school closures. Figure 8 illustrates survey responses from teachers as to how they managed their stress during the school closures.

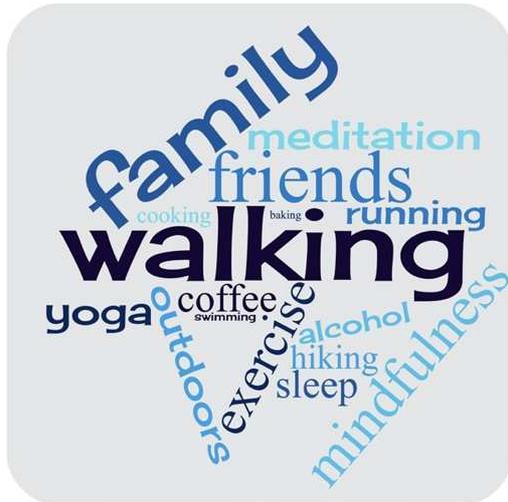


Figure 8. Helpful tools, lessons or daily practices used to cope during school closures.

Adopting the adage ‘every cloud has a silver lining’, participants were asked whether there were any upsides to the school closures. Responses ranged from ‘none at all’ to those that felt that they gained time without the daily commute, appreciated being able to sleep in and to spend more time with family at home. This was collaborated in follow-up interviews:

... working remotely there were some benefits. And there was the lack of commute. There was the comfy clothes. There was the opportunity to grab a coffee or lunch, and almost structure the day around you.

Several participants mentioned that they had developed technological skills which would help their pedagogical practice, while others appreciated the opportunity to slow down and reappraise their situation.

...introspection followed by adjusting of goals and interests, more time to the day as a result of less travel time, improvement/ development of new skills on teaching online.

In a way, it's been the silver lining again. Is that it's time to slow down and breathe, and reflect.

Supporting teachers' mental wellbeing is crucial to mitigate adverse consequences for the students, the teachers themselves and the education system as a whole [57]. Although some schools and organisations offered counselling to their staff, over 40% of survey respondents said that they did not have access to mental health support during the school closures.

A few teachers reported that mental health in their school was a ‘taboo subject’, and whilst policies may be written,

mental health issues were not acknowledged, discussed let alone supported. Many teachers questioned the sincerity of the offer for wellbeing support, suggesting that it is more of a ‘ticking the box’ or marketing tool, rather than a genuine offer to help.

There was an offer from school management, but unfortunately they asked for us to explain why we felt that we needed the support so they could judge who needed it most which I did not feel was appropriate.

I used the counselling service offered by the school group, but found that I was 'dismissed' without really being heard.

However, several organisations and schools provided access to external therapists which was appreciated by the teachers, although several felt that there should not have been a limit on the number of free sessions.

There are individual differences with respect to mental health and coping strategies, with some teachers not requiring professional help, relying on family, friends and colleagues for mental health support. Several schools offered their inhouse counsellors for teachers, which participants felt was perhaps a conflict of interest and were not comfortable opening up to their colleagues.

I definitely would not want to talk about relational issues from the professional scope to the school counsellor, because there will be conflict of interest for the counsellors.

There were a number of other factors that teachers felt the schools could address in alleviating the negative effects of the school closures. These included, lowering expectations, limiting unnecessary ‘extras’ and allowing wellbeing days. Several teachers stated that genuine understanding, compassion and ‘check-ins’ from SLT would help their mental wellbeing.

Actual, genuine acknowledgement of what staff were going through from management, rather than a off-key email every once in a while.

...listening to staff needs and actioning what staff feel is best for their students. They can also provide support by stepping into classrooms. Being more compassionate...

Several teachers felt that schools were ‘overly prescriptive’, ‘micro-managing’ and ‘over-controlling’ during online schooling. Respondents felt that if they were trusted to do their job, and given more autonomy, this would encourage more initiative and productivity.

3.2.10. Autonomy

Theories such as SDT [12] and Bandura's social cognitive theory [58] postulates that an individual's belief in their own ability to use the necessary behaviours to attain specific outcomes, the confidence to exert control over their motivation and behaviour is important. This sense of autonomy (along with relatedness and competence) is fundamental to intrinsic motivation, engagement and a positive sense of wellbeing. In fact, thwarting autonomy has been shown to increase stress for teachers [59]. Findings for the survey revealed that teachers felt a lack of autonomy in managing their time and lessons.

I felt the school tried its best given the changing guidance,

but wish we had more autonomy to do what we felt was best for our school community.

Being given autonomy over how to spend the hours when not teaching was beneficial too and I was much more productive. School systems have a tendency to be over-prescriptive and over-controlling over work timings and this often cannot be the most productive way for me to get my work done.

The NASUWT [43] suggests that schools should allow teachers the autonomy to use their professional judgement in selecting the best approach to online learning that suits them and their students. Additionally, teachers should be encouraged to feedback their experiences and views on online or blended education; to share their knowledge and pedagogical experiences of ‘best practice’ with colleagues and the SLT. Several teachers felt that, rather than see the school closures as an opportunity to develop new pedagogical approaches, online teaching has been treated as ‘a temporary disruption to be ignored as much as possible’.

3.2.11. Lesson Learned

COVID-19 is unlikely to be the last pandemic and school closures are bound to occur at some point again. It is thus imperative that we learn lessons from this ‘unprecedented’ time in order to be better prepared in the future. Zhao and Watterston [60] argue that COVID-19 has created an opportunity for education changes such as a developmental, personalised and evolving curriculum; an authentic, inquiry-based, purposeful and student-centred pedagogy and a provision of instruction that incorporates the strengths of both synchronous and asynchronous learning. Several teachers felt that this was an opportunity to incorporate technology in more innovative ways in education.

Based on the findings, the follow recommendations are provided to schools and policy makers:

- 1) Professional development should be offered to all teachers to ensure that they are technologically confident in providing online and blended education.
- 2) Provide opportunities of sharing best practice within and across departments.
- 3) Give teachers the time to adapt and adjust to the pedagogical changes.
- 4) Devise a teacher wellbeing policy, ensure that mental health is visible, taught and supported.
- 5) Ensure that teachers have access to independent professional mental health for those who need it.
- 6) Mental wellbeing and rest days are recommended.
- 7) Listen with the intent of understanding.
- 8) Maximize predictability and stability.
- 9) Reduce the workload by cutting out unnecessary ‘extras’ and meetings.

Finally, in order to mitigate the negative mental health consequences of school closures, policy makers and schools would do well to adopt an ethical framework to guide decision-making during school closures, incorporating the inclusivity; openness and transparency; reasonableness;

responsiveness and accountability [55].

3.3. Limitations and Future Research

Despite this study being the first of its kind to explore teachers’ mental wellbeing in Hong Kong, there are several limitations of this study that need to be noted. Due to the investigative nature and its execution within the real-world situation, the research is limited to teachers in HK and thus the results may not be generalisable across other populations or settings. The online survey produced a data set that cannot be considered random or representative and there is no way of knowing what the response rate was or how many chose not to respond. Furthermore, the survey was in English which meant it may not have been accessible to those for whom English was not their first language. There was some possible bias as the samples were predominantly selective and relied on participants subjective experiences and evaluations. These data are preliminary and exploratory and require further replication and investigation. Another limitation is the possibility of the researcher influencing the interviews and data collection due to their own preconceived ideas on teachers’ mental wellbeing.

4. Conclusion

Despite its limitations, this research sheds light on the perspectives and experiences of HK teachers during the ongoing school closures during the COVID-19 pandemic that can inform policies in the future. Undoubtedly, teachers’ wellbeing affects their performance as an education professional. Therefore, as a society, it is imperative that we need to support our teachers’ mental wellbeing in order to continue to provide an outstanding education for future generations. It is believed that research in this area could assist in designing future strategies to actively support teachers’ mental health.

Recognising that governments, policy makers and schools have to make difficult decisions during unprecedented times like the COVID-19 pandemic, an ethical framework based on openness and transparency; inclusivity; accountability; reasonableness and responsiveness would be helpful in mitigating the negative effects on mental wellbeing [61]. This study has implications for education policy and practice, in HK and internationally, notably the importance of safeguarding teachers’ mental wellbeing to ensure continued high-quality teaching, the wellbeing of our youth and ultimately the health of our society.

Conflict of Interest Statement

The authors declare that they have no competing interests.

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References

- [1] OECD (2005) Teachers Matter: Attracting, developing and retraining effective teachers. ISBN-92-64-01802-6. Retrieved from <https://www.oecd.org/education/school/34990905.pdf>
- [2] Chan, M. K., Sharkey, J. D., Lawrie, S. I., Arch, D. A. N., and Nylund-Gibson, K. (2021). Elementary school teacher well-being and supportive measures amid COVID-19: An exploratory study. *Sch. Psychol.* 36, 533–545. doi: 10.1037/spq0000441.
- [3] Ebersold, S., Rahm, T. & Heise, E. Autonomy support and well-being in teachers: differential mediations through basic psychological need satisfaction and frustration. *Soc Psychol Educ* 22, 921–942 (2019). <https://doi.org/10.1007/s11218-019-09499-1>
- [4] Hascher, T., & Waber, J. (2021). Teacher well-being: A systematic review of the research literature from the year 2000–2019. *Educational Research Review*, 34, 100411.
- [5] Pillay, H., Goddard, R., & Wilss, L. (2005). Well-Being, Burnout and Competence: Implications for Teachers.. *Australian Journal of Teacher Education*, 30 (2). <http://dx.doi.org/10.14221/ajte.2005v30n2.3>
- [6] Jelińska, M., and Paradowski, M. B. (2021). Teachers' engagement in and coping with emergency remote instruction during COVID-19-induced school closures: A multinational contextual perspective. *Online Learn.* 25, 303–328. doi: 10.24059/olj.v25i1.2492.
- [7] Panadero, E., Fraile, J., Pinedo, L., Rodríguez-Hernández, C., Balerdi, E., & Díez, F. (2022). Teachers' Well-Being, Emotions, and Motivation During Emergency Remote Teaching Due to COVID-19. *Frontiers in psychology*, 13, 826828. <https://doi.org/10.3389/fpsyg.2022.826828>
- [8] Frenzel, A. C., Daniels, L., and Burić, I. (2021). Teacher emotions in the classroom and their implications for students. *Edu. Psychol.* 56, 250–264. doi: 10.1080/00461520.2021.1985501.
- [9] Sandilos, L. E., Cycyk, L. M., Hammer, C. S., Sawyer, B. E., López, L., & Blair, C. (2015). Depression, Control, and Climate: An Examination of Factors Impacting Teaching Quality in Preschool Classrooms. *Early education and development*, 26 (8), 1111–1127. <https://doi.org/10.1080/10409289.2015.1027624>
- [10] Dicke, T., Stebner, F., Linninger, C., Kunter, M., & Leutner, D. (2018). A longitudinal study of teachers' occupational well-being: Applying the job demands-resources model. *Journal of Occupational Health Psychology*, 23 (2), 262-277.
- [11] World Health Organization (WHO) (2018) *Mental health: strengthening our response*. Retrieved from <https://www.who.int/news-room/fact-sheets/detail/mental-health-strengthening-our-response> on 2nd May 2022
- [12] Ryan, R. M., & Deci, E. L. (2000). Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *American Psychologist*, 55, 68–78. <https://doi.org/10.1037/0003-066X.55.1.68>.
- [13] Azevedo, J. P., Hasan, A., Goldemberg, D., Iqbal, S. A., and Geven, K. (2020). *Simulating the Potential Impacts of COVID-19 School Closures on Schooling and Learning Outcomes: A Set of Global Estimates*. Washington, D.C.: The World Bank.
- [14] Hammerstein, S., König, C., Dreisörner, T., & Frey, A. (2021). Effects of COVID-19-Related School Closures on Student Achievement-A Systematic Review. *Frontiers in psychology*, 12, 746289. <https://doi.org/10.3389/fpsyg.2021.746289>
- [15] Kaffenberger, M. (2021). Modelling the long-run learning impact of the COVID-19 learning shock: actions to (more than) mitigate loss. *Int. J. Educ. Dev.* 81: 102326. doi: 10.1016/j.ijedudev.2020.102326.
- [16] Kuhfeld, M., Soland, J., Tarasawa, B., Johnson, A., Ruzek, E. & Liu, J. (2020). Projecting the potential impact of COVID-19 school closures on academic achievement. *Educational Researcher*. 49, 549–565. doi: 10.3102/0013189X20965918.
- [17] Spitzer, M. & Musslick, S. (2021). Academic performance of K-12 students in an online-learning environment for mathematics increased during the shutdown of schools in wake of the COVID-19 pandemic. *PLoS ONE*, 16: e0255629. doi: 10.1371/journal.pone.0255629.
- [18] Wyse, A. E., Stickney, E. M., Butz, D., Beckler, A., and Close, C. N. (2020). The potential impact of COVID-19 on student learning and how schools can respond. *Educ. Measure. Issue Pract.* 39, 60–64. doi: 10.1111/emip.12357.
- [19] Smith, J., Guimond, F. A., Bergeron, J., St-Amand, J., Fitzpatrick, C., and Gagnon, M. (2021). Changes in students' achievement motivation in the context of the COVID-19 pandemic: a function of extraversion/introversion? *Educ. Sci.* 11: 30. doi: 10.3390/educsci11010030.
- [20] Hoffman, J. A., & Miller, E. A. (2020). Addressing the Consequences of School Closure Due to COVID-19 on Children's Physical and Mental Well-Being. *World medical & health policy*, 10.1002/wmh3.365. Advance online publication. <https://doi.org/10.1002/wmh3.365>
- [21] Gadermann, A. C., Thomson, K. C., Richardson, C. G., Gagné, M., McAuliffe, C., Hirani, S., et al. (2021). Examining the impacts of the COVID-19 pandemic on family mental health in Canada: findings from a national cross-sectional study. *BMJ Open* 11: e042871. doi: 10.1136/bmjopen-2020-042871.
- [22] O'Sullivan, K., Clark, S., McGrane, A., Rock, N., Burke, L., Boyle, N., et al. (2021). A qualitative study of child and adolescent mental health during the COVID-19 pandemic in Ireland. *Int. J. Environ. Res. Public Health* 18: 1062. doi: 10.3390/ijerph18031062.
- [23] Viner, R., Russell, S., Saulle, R., et al. School Closures During Social Lockdown and Mental Health, Health Behaviors, and Well-being Among Children and Adolescents During the First COVID-19 Wave: A Systematic Review. *JAMA Pediatr.* Published online January 18, 2022. doi: 10.1001/jamapediatrics.2021.5840.
- [24] Dändliker, L., Brünecke, I., Citterio, P., Lochmatter, F., Buchmann, M., & Grütter, J. (2022). Educational Concerns, Health Concerns and Mental Health During Early COVID-19 School Closures: The Role of Perceived Support by Teachers, Family, and Friends. *Frontiers in psychology*, 12, 733683.

- [25] Doyle, T., Kendrick, K., Troelstrup, T., Gumke, M., Edwards, J., Chapman, S.,... Blackmore, C. (2021). COVID-19 in primary and secondary school settings during the first semester of school reopening—Florida, August–December 2020. *Morbidity and Mortality Weekly Report*, 70 (12), 437. <http://dx.doi.org/10.15585/mmwr.mm7012e2>.
- [26] Markow, D., Macia, L., & Lee, H. (2013). *The metlife survey of the American teacher: Challenges for school leadership*. New York, NY: Metropolitan Life Insurance Company. <https://www.metlife.com/content/dam/microsites/about/corporate-profile/MetLife-Teacher-Survey-2012.pdf>.
- [27] Montgomery, C., & Rupp, A. (2005). A meta-analysis for exploring the diverse causes and effects of stress in teachers. *Canadian Journal of Education/Revue Canadienne de L'éducation*, 28 (3), 458–486. <https://doi.org/10.2307/4126479>
- [28] Gutentag T and Asterhan CSC (2022) Burned-Out: Middle School Teachers After One Year of Online Remote Teaching During COVID-19. *Front. Psychol.* 13: 802520. doi: 10.3389/fpsyg.2022.802520.
- [29] Bozkurt, A., Jung, I., Xiao, J., Vladimirschi, V., Schuwer, R., Egorov, G., et al. (2020). A global outlook to the interruption of education due to COVID-19 pandemic: Navigating in a time of uncertainty and crisis. *Asian J. Dist. Edu.* 15, 1–126. doi: 10.5281/zenodo.3878572.
- [30] Winter, E.; Costello, A., O'Brien, M. & Hickey, G (2021) Teachers' use of technology and the impact of COVID-19, *Irish Educational Studies*, 40: 2, 235-246, DOI: 10.1080/03323315.2021.1916559.
- [31] Haelermans C, Korthals R, Jacobs M, de Leeuw S, Vermeulen S, van Vugt L, et al. (2022) Sharp increase in inequality in education in times of the COVID-19-pandemic. *PLoS ONE* 17 (2): e0261114. <https://doi.org/10.1371/journal.pone.0261114>
- [32] Rapanta, C., Botturi, L., Goodyear, P. et al. (2020). Online University Teaching During and After the COVID-19 Crisis: Refocusing Teacher Presence and Learning Activity. *Postdigit Sci Educ* 2, 923–945. <https://doi.org/10.1007/s42438-020-00155-y>
- [33] Aperribai, L., Cortabarría, L., Aguirre, T., and Verche, E. (2020). Teacher's Physical Activity and Mental Health During Lockdown Due to the Covid-2019 Pandemic. *Front. Psychol.* 11: 2673. doi: 10.3389/fpsyg.2020.577886.
- [34] Li, Q., Miao, Y., Zeng, X., Tarimo, C. S., Wu, C., and Wu, J. (2020). Prevalence and factors for anxiety during the coronavirus disease 2019 (COVID-19) epidemic among the teachers in China. *J. Affect. Dis.* 277, 153–158. doi: 10.1016/j.jad.2020.08.017.
- [35] Sokal, L., Trudel, L. & Babb, J. (2020) Supporting teachers in times of change: the job demands—resources model and teacher burnout during the COVID-19 pandemic. *Int J Cont Edu* 3 (2): 67–74. <https://doi.org/10.11114/ijce.v3i2.4931>
- [36] Allen, R., Jerrim, J., & Sims, S. (2020). *How did the early stages of the COVID-19 pandemic affect teacher wellbeing?* (CEPEO Working Paper No. 20-15). Centre for Education Policy and Equalising Opportunities, UCL, <https://econpapers.repec.org/RePEc:ucl:cepeow:20-15>.
- [37] Beames, J. R., Christensen, H., & Werner-Seidler, A. (2021). School teachers: the forgotten frontline workers of COVID-19. *Australasian Psychiatry*, 29 (4), 420–422. <https://doi.org/10.1177/10398562211006145>
- [38] Kush, J. M., Badillo-Goicoechea, E., Musci, R. J., & Stuart, E. A. (2021). Teacher Mental Health During the COVID-19 Pandemic: Informing Policies to Support Teacher Well-being and Effective Teaching Practices. *arXiv preprint arXiv:2109.01547*.
- [39] Alves, R., Lopes, T., & Precioso, J. (2020). Teachers' well-being in times of COVID-19 pandemic: factors that explain professional well-being. *IJERI: International Journal of Educational Research and Innovation*, (15), 203–217. <https://doi.org/10.46661/ijeri.5120>
- [40] Brunzell, T., Waters, L., & Stokes, H. (2021). Trauma-informed Teacher Wellbeing: Teacher Reflections within Trauma-informed Positive Education. *Australian Journal of Teacher Education*, 46 (5). <http://dx.doi.org/10.14221/ajte.2021v46n5.6>
- [41] MacIntyre, P. D., Gregersen, T., & Mercer, S. (2020). Language teachers' coping strategies during the COVID-19 conversion to online teaching: Correlations with stress, wellbeing and negative emotions. *System*, 94, 102352. <https://doi.org/10.1016/j.system.2020.102352>
- [42] Centers for Disease Control and Prevention (CDC) (2021) Mental Health Impact of the COVID-19 Pandemic on Teachers and Parents of K-12 Students.
- [43] NASUWT. 2020. COVID-19 impacts on teacher mental health exposed. (online). Retrieved from <https://www.nasuwat.org.uk/article-listing/covid-impacts-on-teacher-mental-health-exposed.html>
- [44] Cheng, L. & Lam, C. Y. (2021). The worst is yet to come: the psychological impact of COVID-19 on Hong Kong music teachers. *Music Education Research*, 23: 2, 211-224, DOI: 10.1080/14613808.2021.1906215.
- [45] Chan, B. (2022, February 11) Hong Kong's repeated school closures will have a lifelong impact on children. *South China Morning Post*. <https://www.scmp.com/comment/opinion/article/3166468/hong-kongs-repeated-school-closures-will-have-lifelong-impact>
- [46] HKSAR Government (2022): Dynamic Zero Press Release: retrieved from <https://www.info.gov.hk/gia/general/202201/30/P2022013000492.htm>
- [47] Braun, V. & Clarke, V. (2006) Using thematic analysis in psychology, *Qualitative Research in Psychology*, (3: 2). 77-101. DOI: 10.1191/1478088706qp063oa.
- [48] Jootun, D., McGhee, G., & Marland, G. R. (2009). Reflexivity: promoting rigour in qualitative research. *Nursing standard (Royal College of Nursing (Great Britain))*, 23 (23), 42–46. <https://doi.org/10.7748/ns2009.02.23.23.42.c68>
- [49] Cheung, E. (2022). SCMP 'Ferocious tide' of educators leaving Hong Kong, association of secondary school heads warns. 30th May 2022. Retrieved from <https://www.scmp.com/news/hong-kong/education/article/3179771/association-hong-kong-secondary-school-heads-warns>
- [50] Li, C. & Lalani, F. (2020) The COVID-19 pandemic has changed education forever. This is how. *World Economic Forum*. 29th April 2020. Retrieved from <https://www.weforum.org/agenda/2020/04/coronavirus-education-global-covid19-online-digital-learning/>

- [51] Bond, M., Buntins, K., Bedenlier, S., Zawacki-Richter, O. & Kerres, M. (2020) Mapping research in student engagement and educational technology in higher education: A systematic evidence map. *International Journal of Educational Technology in Higher Education* 17 (1). 1-30. <https://doi.org/10.1186/s41239-019-0176-8>
- [52] Gillett-Swan, J. (2017). The challenges of online learning: Supporting and engaging the isolated learner. *Journal of Learning Design*. 10 (1), 20-30. <https://doi.org/10.5204/jld.v9i3.293>
- [53] Smith, B. J., and Lim, M. H. (2020). How the COVID-19 pandemic is focusing attention on loneliness and social isolation. *Public Health Res. Pract.* 30: 3022008. doi: 10.17061/phrp3022008.
- [54] World Health Organisation (WHO), (2020). Considerations for quarantine of contacts of COVID-19 cases. [https://www.who.int/publications/i/item/considerations-for-quarantine-of-individuals-in-the-context-of-containment-for-coronavirus-disease-\(COVID-19\)](https://www.who.int/publications/i/item/considerations-for-quarantine-of-individuals-in-the-context-of-containment-for-coronavirus-disease-(COVID-19))
- [55] Thompson, A. K, Faith, K., Gibson, J. L & Upshur R. (2006) Pandemic influenza preparedness: an ethical framework to guide decision-making. *BMC Med Ethics* (7) 12. <https://doi.org/10.1186/1472-6939-7-12>
- [56] Bishop, J. L., & Verleger, M. A. (2013). *The flipped classroom: A survey of the research*. Atlanta, GA: Paper presented at the ASEE national conference proceedings.
- [57] Baker, C., Peele, H. Daniels, M., Saybe, M. Whalen, K., Overstreet, S. & Trauma-Informed Schools Learning Collaborative The New Orleans (2021) The Experience of COVID-19 and Its Impact on Teachers' Mental Health, Coping, and Teaching, *School Psychology Review*, 50: 4, 491-504, DOI: 10.1080/2372966X.2020.1855473.
- [58] Bandura, A. (1989). Human agency in social cognitive theory. *American Psychologist*, 44 (9), 1175–1184. <https://doi.org/10.1037/0003-066X.44.9.1175>
- [59] Collie, R. J. (2021). COVID-19 and Teachers' Somatic Burden, Stress, and Emotional Exhaustion: Examining the Role of Principal Leadership and Workplace Buoyancy. *AERA Open*. <https://doi.org/10.1177/2332858420986187>
- [60] Zhao, Y., Watterston, J. (2021) The changes we need: Education post COVID-19. *J Educ Change* 22, 3–12. <https://doi.org/10.1007/s10833-021-09417-3>
- [61] Blaine, J. (2021) Exploring the Psychosocial Consequences of Mandatory Quarantine During the COVID-19 Pandemic in Hong Kong, *Psychology and Behavioral Sciences*. 10 (2), 96-103 doi: 10.11648/j.pbs.20211002.13.