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#### eCitizen Education 360 (2022):

An extension of the Learning and Assessment for Digital Citizenship Project

#### 數碼素養 360 (2022):

數碼世代公民的學習和評估項目的擴展

# 影響學生福祉與學校網上教學的關鍵因素新洞見 呼籲多方合作共建數碼新常態

New Insights on Key Factors Impacting Students' Wellbeing and Schools' Online Teaching Calling for Collaboration to Establish a Digital New Normal

Presented by the Centre for Information Technology in Education (CITE), Faculty of Education, The University of Hong Kong

#### Supporting Organizations



















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### The Final Release of Research Findings

New Insights on Key Factors Impacting Students' Wellbeing and Schools' Online Teaching Calling for Collaboration to Establish a Digital New Normal

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# **About eCitizen Education 360**

- First e360 study conducted in June 2020 to understand the impact of extended school suspension (Feb early June 2020) on students, parents, and schools.
- e360 (2022) builds on the conceptual and methodological foundations of the baseline (2020)
   a comprehensive 360-degree, action-oriented survey study
- To understand the impact of multiple waves of prolonged intermittent school suspensions and provide evidence-based recommendations to stakeholders
- Goal: promote equitable quality education for all
- Acknowledgement:
  - (1) Support from many community sectors: schools, education professionals, parents, academics, and NGOs, organizations;
  - (3) Support from all the participating schools.
  - (2) The D. H. Chen Foundation as the Growth Partner and Funder of this project;

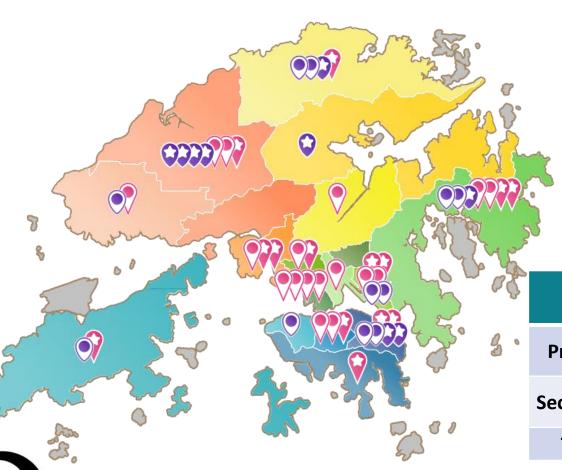








# Geographic Distribution of Participating Schools



**Data collection: July – early September 2022** 

- Secondary school in 2022
- Primary school in 2022
- Secondary school in both 2020 and 2022
- Primary school in both 2020 and 2022

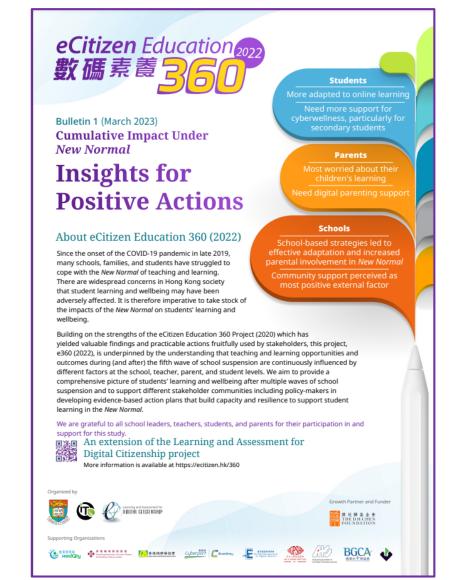
,		Participating Schools	Students	Parents	Teachers	School Leaders
à	Primary	20 (39%)	2014 (25%)	1125 (35%)	383 (43%)	125 (46%)
	Secondary	31 (61%)	6014 (75%)	2093 (65%)	503 (57%)	146 (54%)
	Total	51	8028	3218	886	271







**Cumulative Impact Under New Normal Insights for Positive Actions** 



Finding 1. Students' onling learning and well-being

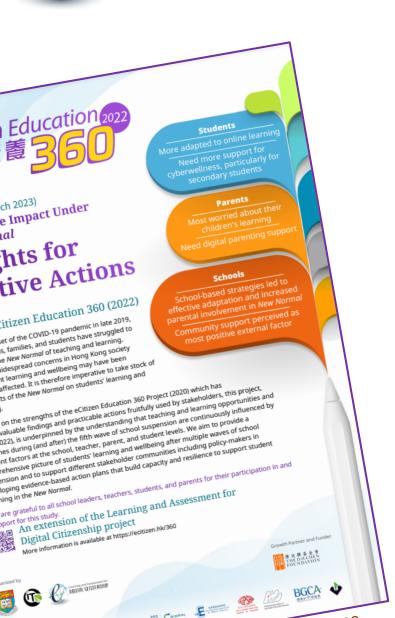
- More adapted to online learn
- Primary students reported high levels of online learning self-efficacy and used more online self-regulated learning strategic than secondary students.
- Secondary students experienced more issues with digital wellbeing.







**Cumulative Impact Under New Normal Insights for Positive Actions** 



Finding 1. Students' online learning and well-being

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Finding 2. Parents and parenting in the New Noi

- Parent-child relationship
   reported by primary parents is
   significantly more positive than
   secondary parents.
- Secondary parents had significantly lower levels of home-based involvement and lower parenting self-efficacy.
- Secondary students are less likely to consult with adults but feel that they need guidance.





**Cumulative Impact Under New Normal Insights for Positive Actions** 

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# Finding 3. Schools' Adapta in the New Normal

- School-based strategies led to effective adaptation and increased school-based parental involvement in 2022.
- Teachers found the provision of professional development for online T&L and school-based teacher collaboration most useful.
- Community support perceived as most positive external factor.



eCitizen Education 數碼素養 50022

Cumulative Impact Under New Normal Insights for Positive Actions

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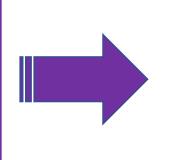
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# Key questions addressed in the second release?





The 2<sup>nd</sup> Release of Findings





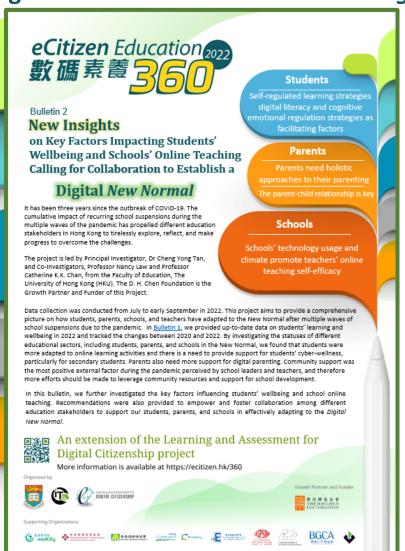
eCitizen Education 數碼素養 560

New Insights on Key Factors Impacting Students' Wellbeing and Schools' Online Teaching Calling for Collaboration to Establish a *Digital New Normal* 

Self-regulated learning strategies, digital literacy and cognitive emotional regulation strategies as facilitating factors

Parents need holistic approach to their parenting and parent-child relationship is key

> Schools' technology usage and climate promote teachers' online teaching self-efficacy











# **Key Questions Addressed in the second release?**

- 1. What are the key risk and protective factors for students' wellbeing?
- 2. How are different aspects of parenting related to students' wellbeing?
- 3. How do school factors influence teachers' online teaching self-efficacy?









#### Students' final outcomes

- The final outcomes include
  - Wellbeing (mental health): students' views of themselves, emotions, and recent experiences.
  - Online learning self-efficacy: students' selfevaluation of their abilities to concentrate on online learning, complete online learning tasks, and successfully master e-learning materials.











# Intermediate outcomes variables (protective and risk factors)

# eCitizen Education 數碼素養 350

#### Six intermediate outcomes (protective and risk factors):

- Digital literacy: using the Digital Literacy Assessment (DLA), including information and data literacy, communication and collaboration, digital content creation, safety, and problem solving.
- Cognitive emotional regulation strategies: strategies used by students to deal with negative or unpleasant events
  - **positive** strategies (i.e., refocus on planning and positive reappraisal)
  - **negative** strategies (i.e., catastrophizing and blaming others).
- **Self-regulated learning strategies:** how students manage their learning activities using different strategies, namely, help-seeking, self-evaluation, and time management.
- **Cyberbullying experiences:** whether or not students experience different kinds of cyberbullying incidents, including perpetration, victimization, and being a bystander.
- Socialization and entertainment using digital media: the extent to which students utilize
  digital media to perform socialization and entertainment activities. Those activities might
  include chatting with friends using different social media platforms, browse or post things in
  social media, play games or listen to music.

















Learning and Assessment for DIGITAL CITIZENSHIP Research Design

Parent-child relationship

**Parenting** 

Digital Parenting

Parental home-based

Parental school-based involvement

Wellbeing (mental health)

數碼素養

**eCitizen** Education

Online learning self-efficacy

Self-regulated learning strategy, digital literacy and cognitive emotional regulation strategy as facilitating factors

Parents need holistic approach to their parenting and parentchild relationship is key

> Schools' technology usage and climate promote teachers' onl teaching self-efficacy



Digital resources

SES

ACOUNTERS



Intermediate outcomes

risk factors

Self-regulated
learning strategies

**Teacher factors** 

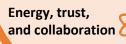
Usage of digital technology for T&L

Self-efficacy on designing & implementing online teaching

Teacher collaboration

Faculty of **Education**The University of Hong Kong





**School factors** 









2022



Self-regulated learning strategy, digital literacy and cognitive emotiona regulation strategy as facilitation factors







Students' Wellbeing Part I



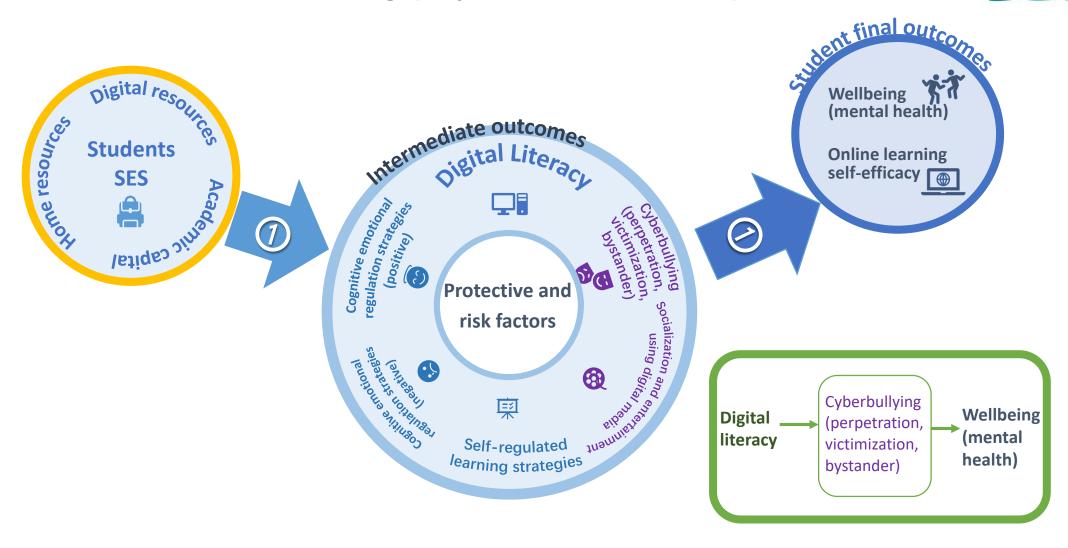






RQ1: What are the key protective and risk factors for students' wellbeing? (Only focus on student variables)











**1.1 How students' intermediate outcomes** (protective and risk factors) **are related to their final outcomes** 









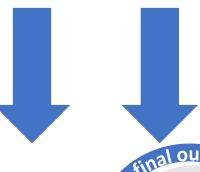


















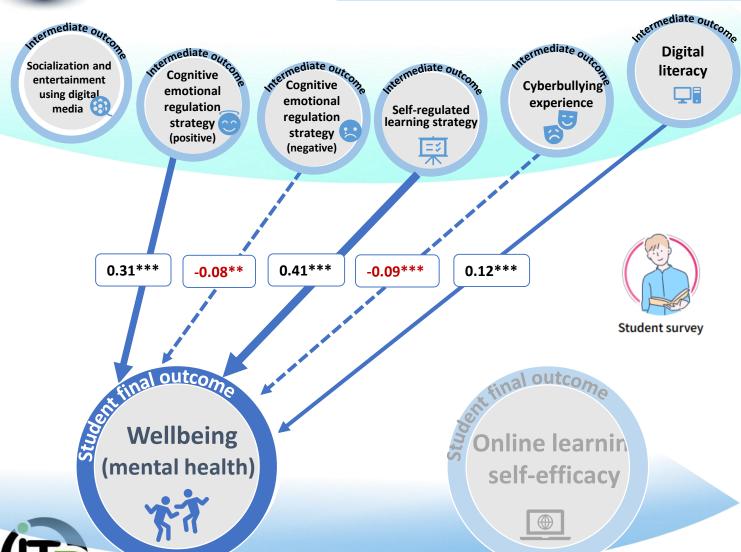






# **Students' intermediate outcomes** (protective and risk factors) **are related to their final outcomes**





# **Primary**

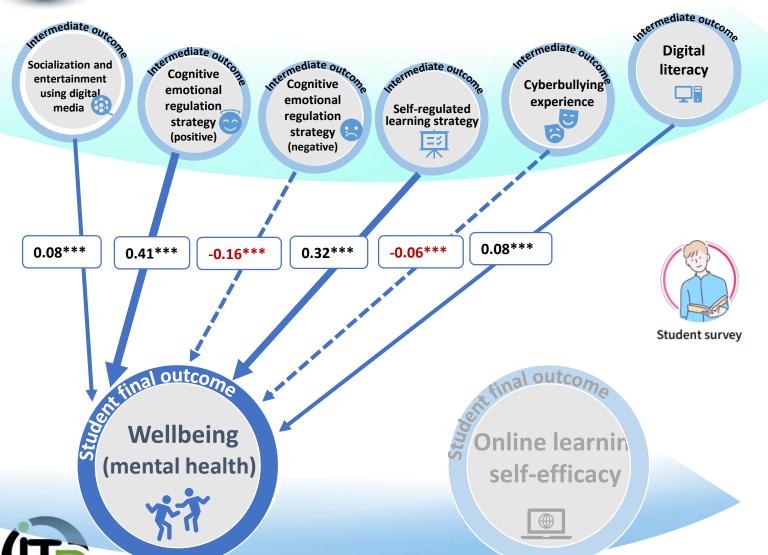
- Students' positive cognitive emotional regulation strategies, self-regulated learning strategies, and digital literacy positively contributed to their wellbeing (mental health).
- Students' negative cognitive emotional regulation strategies and cyberbullying experience were negatively associated with their wellbeing (mental health).





# **Students' intermediate outcomes** (protective and risk factors) **are related to their final outcomes**





# **Secondary**

- The result of most relationships between intermediate outcomes and final outcome were consistent with those of primary students.
- Secondary students with higher frequency of socialization and entertainment using digital media were more likely to have better wellbeing (mental health).



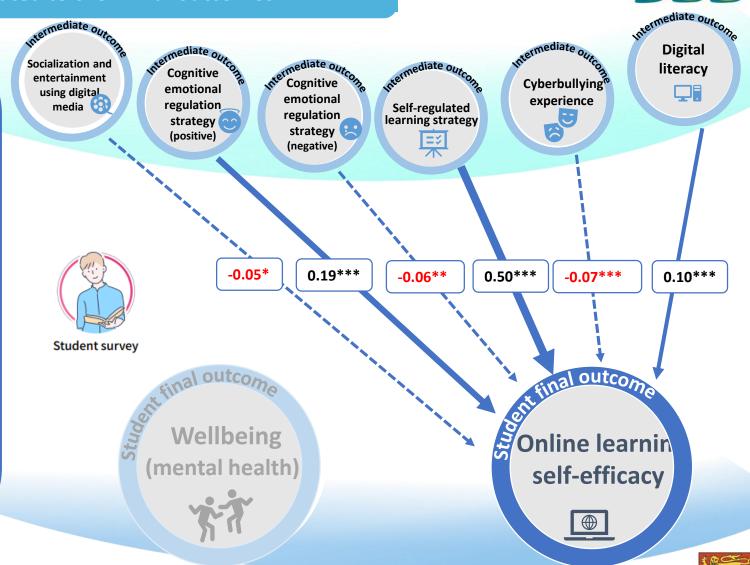


**Students' intermediate outcomes** (protective and risk factors) **are related to their final outcomes** 

#### eCitizen Education 數碼素養 多

# **Primary**

- A strong predictor of online learning selfefficacy among students is their implementation of self-regulated learning strategy.
- In addition to self-regulated learning strategy, positive cognitive emotional regulation strategy and digital literacy are positively related to online learning selfefficacy.
- More usage of digital media for entertainment, negative cognitive emotional regulation strategies, and encountering more cyberbullying experiences can have negative impacts on students' online learning self-efficacy.





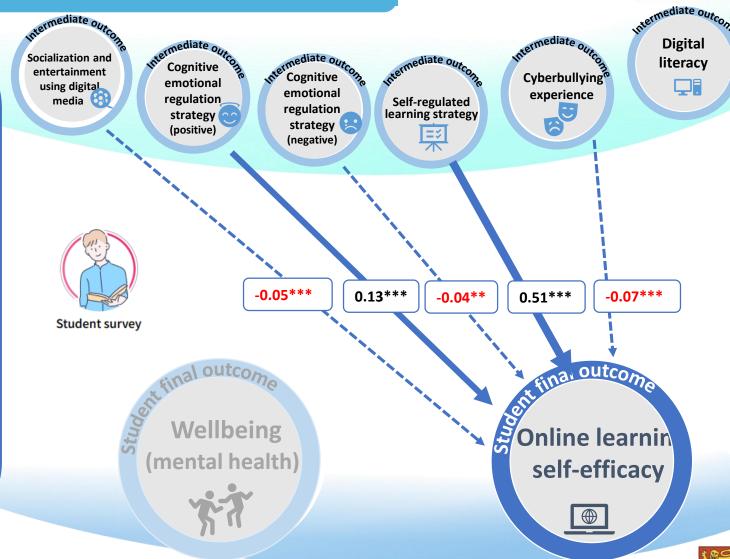


**Students' intermediate outcomes** (protective and risk factors) are related to their final outcomes

# **eCitizen** Education 數碼素養

### **Secondary**

- Self-regulated learning strategies also exhibits a similar strong positive relationship with student' online learning self-efficacy.
- Secondary students' online learning selfefficacy is **positively** associated with positive cognitive emotional regulation strategies.
- More digital media usage for socialization and entertainment, negative cognitive emotional regulation strategies, and more cyberbullying experiences would weaken students' online learning self-efficacy.











# 1.1 Section summary:

Students' positive cognitive emotional regulation strategies, self-regulated learning strategies, and digital literacy were common intermediate factors contributing to the wellbeing (mental health) of both primary and secondary students.

Students' positive cognitive
emotional regulation strategies and
self-regulated learning strategies
were common intermediate factors
contributing to the online learning
self-efficacy of both primary and
secondary students.





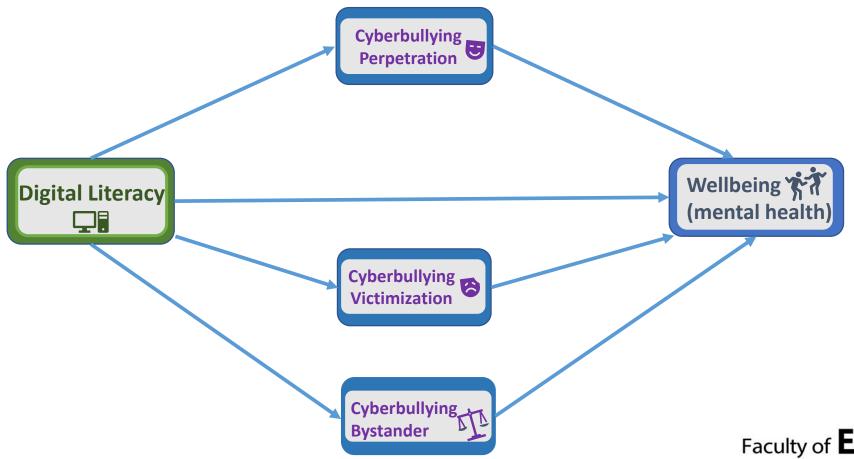




#### 1.2 Protective role of digital literacy



We next investigated whether digital literacy can promote students' wellbeing (mental health) and whether digital literacy can prevent students from cyberbullying to have better wellbeing (mental health).



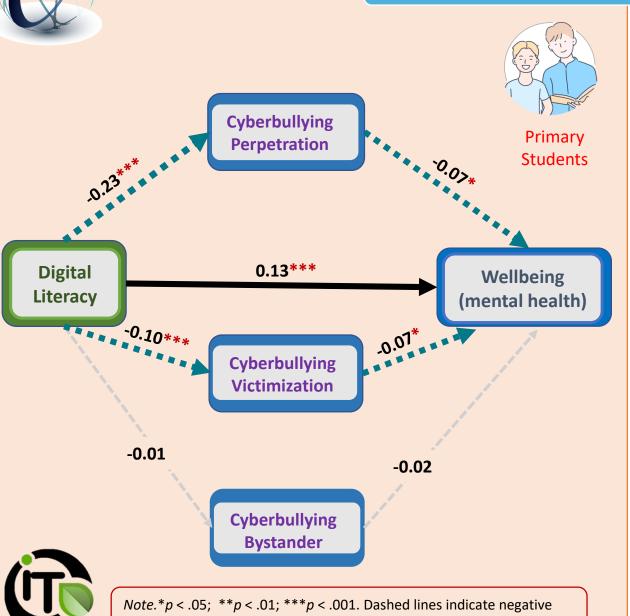






#### Protective role of digital literacy





relationships. Gray lines indicate insignificant.

### **Primary**

- Higher levels of digital literacy were associated with better wellbeing.
- Although experiencing cyberbullying has negative impacts on students' wellbeing, digital literacy can prevent students from cyberbullying perpetration and victimization and thus protect their wellbeing.



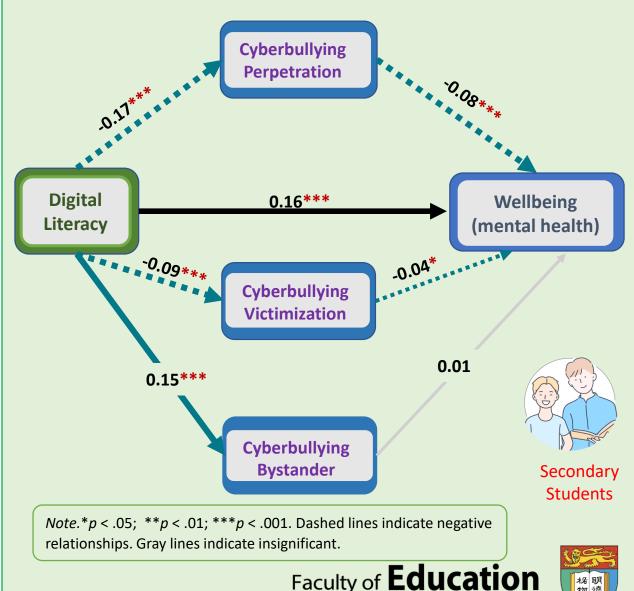


#### Protective role of digital literacy



# **Secondary**

- Higher levels of digital literacy were also associated with better wellbeing.
- Digital literacy also prevented students from cyberbullying perpetration and victimization and thus protects their wellbeing.
- The fact that higher digital literacy was associated with more experiences of being a bystander is likely due to older students' increased usage of the Internet and awareness of cyberbullying.







# 1.2 Section summary:



Students' digital literacy
contributed to their
wellbeing (mental health)



2

Students' digital literacy protected them from cyberbullying perpetration and victimization and thus they can have better wellbeing (mental health)















Wellbeing



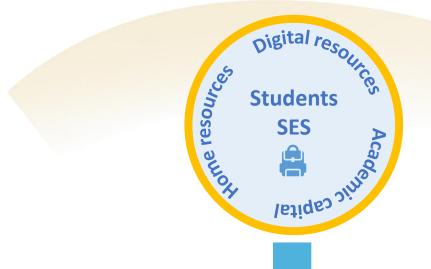






# 1.3 How SES affects students' Intermediate outcomes (protective and risk factors)







Student survey

Socialization and entertainment using digital media

Cognitive emotional regulation strategy (positive)

Cognitive emotional regulation strategy (negative)

Self-regulated learning strategy











#### **Student SES Indicators**

eCitizen Education 2022 數碼素養 350

Social-economic status (SES) was calculated using item-response theory (IRT) models containing:

- Academic capital: the potential academic support available to students at home (i.e., parents' education levels and the number of possessed books in their home).
- **Home resources:** students' possession of learning resources that facilitate learning, such as a desk, an own personal room, or a quiet place to study at home.
- **Digital resources:** the extent to which the students have access to digital devices and internet at home.



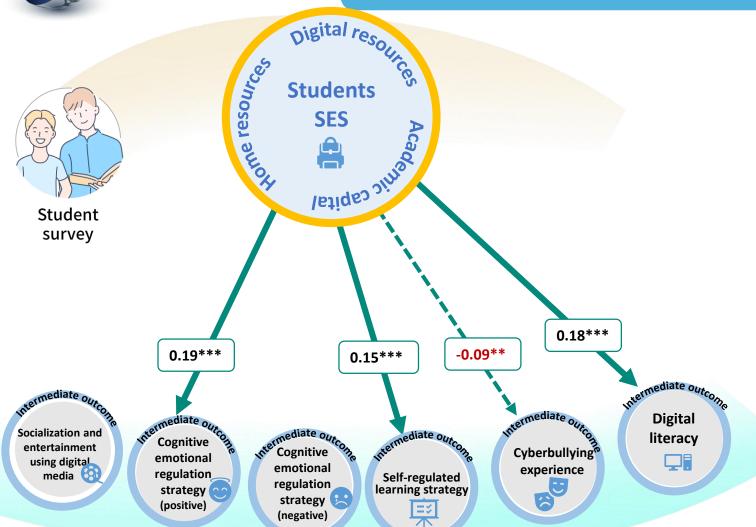






# How SES affects students' Intermediate outcomes (protective and risk factors)





### **Primary**

- Student SES positively contributed to their positive cognitive emotional regulation strategies, self-regulated learning strategies, and digital literacy.
- Student SES **negatively** related to cyberbullying experience.

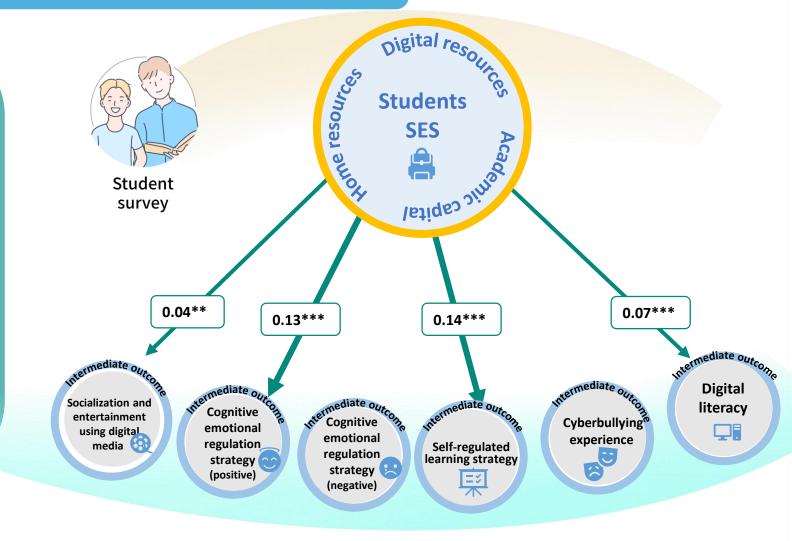




# How SES affects students' Intermediate outcomes (protective and risk factors)

# **Secondary**

 Student SES positively contributed to their positive cognitive emotional regulation strategies, self-regulated learning strategies, digital literacy, and socialization and entertainment using digital media.











# 1.3 Section summary:



Student SES positively
 contributed to their positive
 cognitive emotional regulation
 strategies, self-regulated
 learning strategies, and digital
 literacy, in both primary and
 secondary schools.



Secondary students with higher
 SES were more likely to have more socialization and entertainment activities online.



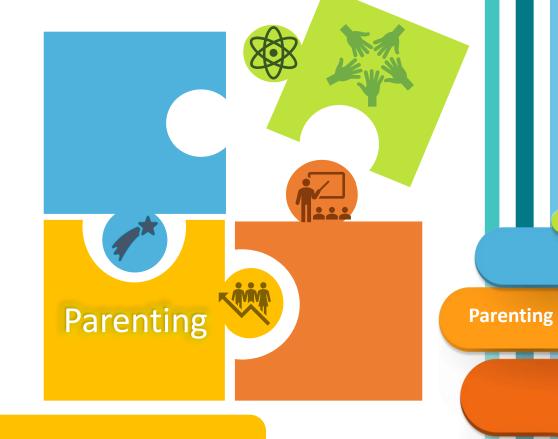
















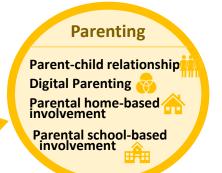


Parenting Part II



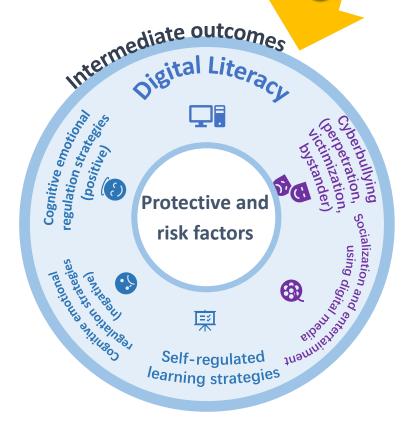








RQ2: How are different aspects of parenting related to students' wellbeing?









### **Different Aspects of Parenting**



- Parent-child relationship: the closeness of their relationship
  - > understanding of their children's feelings and learning
  - > the frequency of sharing daily lives



- **Digital parenting:** the extent to which the parents:
  - understand what are good digital practices such as how to use online resources productively & minimizing risks,
  - > model and set rules about the use of media in the family



#### Parental home-based involvement:

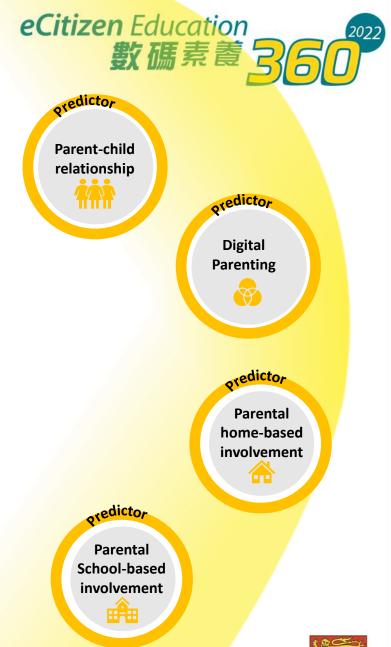
- helping children at home
- monitoring of children's activities & behaviors
- parent-child communication



#### Parental school-based involvement:

- parent-teacher interactions
- parents' participation in school activities





The University of Hong Kong

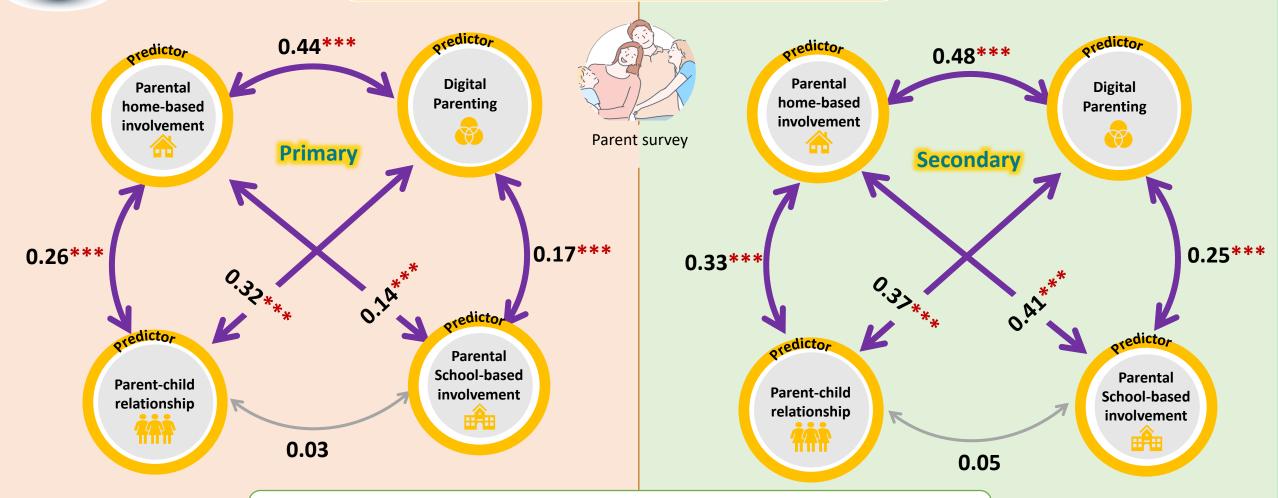






# Correlations among different aspects of parenting





**All four different aspects of parenting** were **inextricably related** to each other, except for the relationship between parent-child relationship and parental-school involvement.

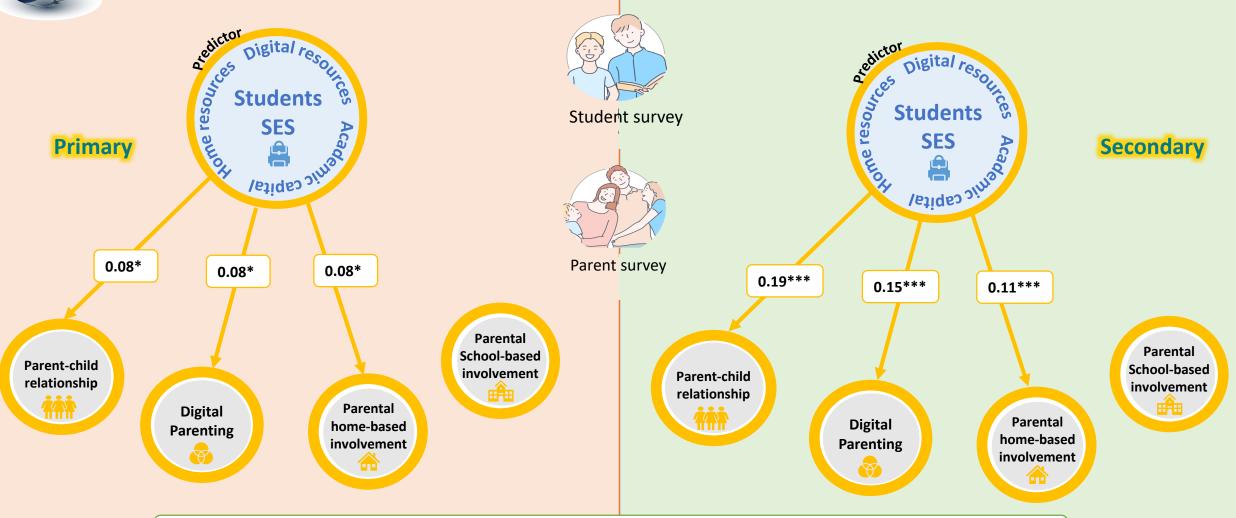






#### 2.1 The relationship between students' SES and parenting







SES positively related to parent-child relationship, digital parenting, and parental home-based involvement.







# 2.2 How different aspects of parenting affects students' Intermediate outcomes







termediate outcon

Cognitive

emotional

strategy

(positive)

regulation 🔼









Student survey

Socialization and entertainment using digital media



Cognitive emotional regulation strategy (negative)







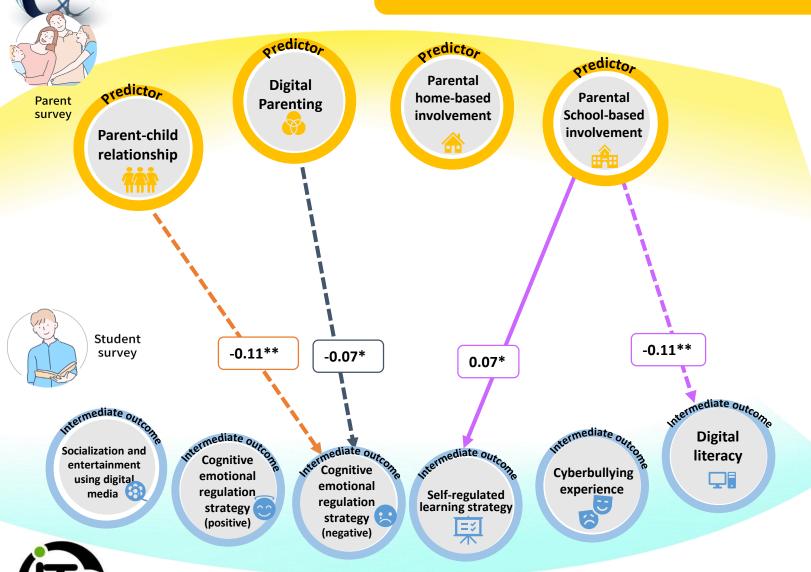






## Different aspects of parenting affects students' Intermediate outcomes





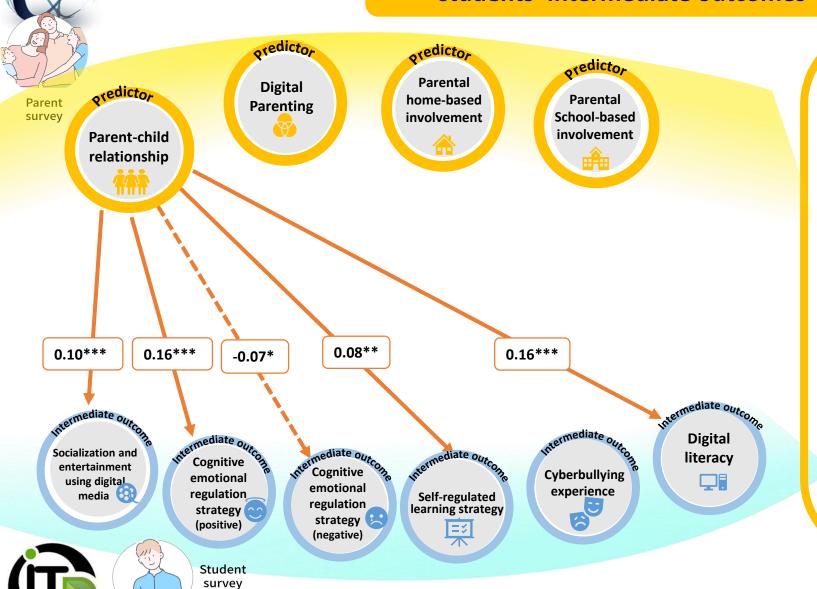
### **Primary**

- Parent-child relationship and digital parenting were **negatively** associated with negative cognitive emotional regulation strategies. (positive result)
- Parental school-based involvement was positively contributed to selfregulated learning strategies, and negatively related to digital literacy.



## Different aspects of parenting affects students' Intermediate outcomes





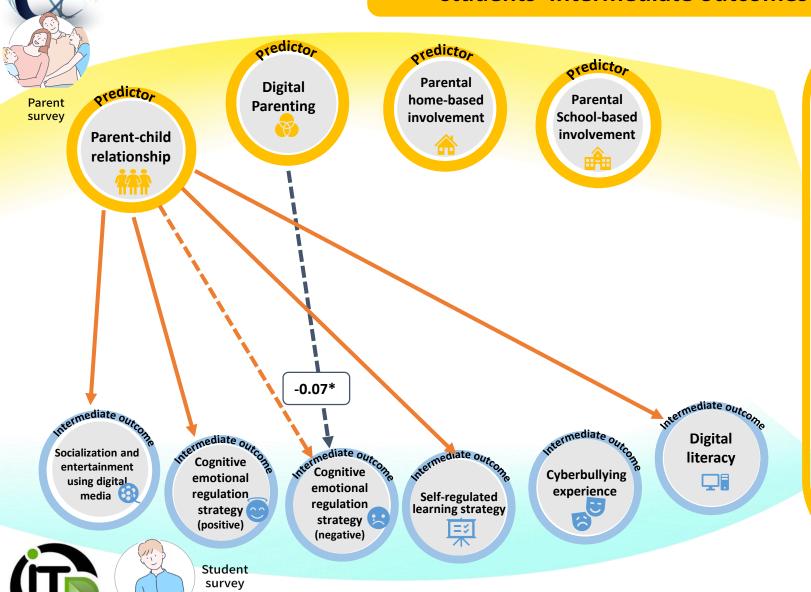
### **Secondary**

 The parent-child relationship was the most influential factor in determining intermediate outcomes for students.



## Different aspects of parenting affects students' Intermediate outcomes





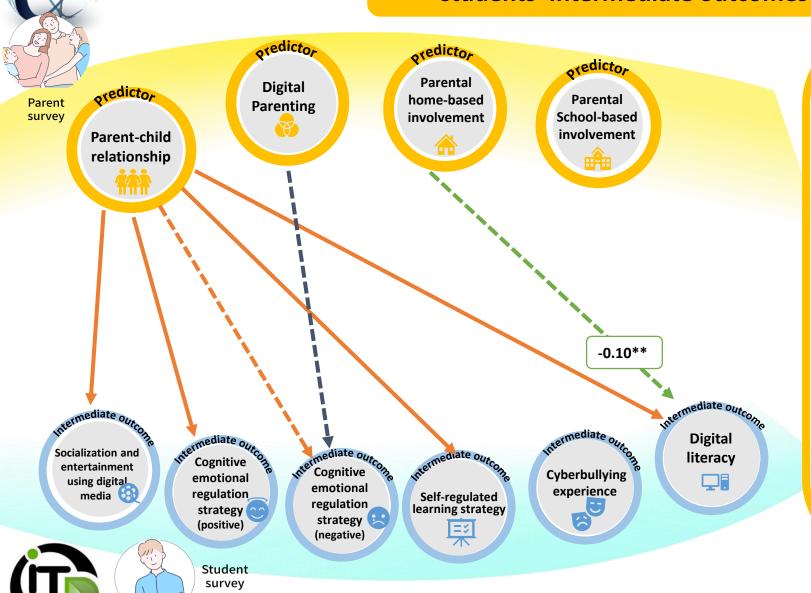
### **Secondary**

- The parent-child relationship was the most influential factor in determining intermediate outcomes for students.
- Digital parenting was negatively associated with student cognitive emotional regulation negative strategy. (positive result)



## Different aspects of parenting affects students' Intermediate outcomes





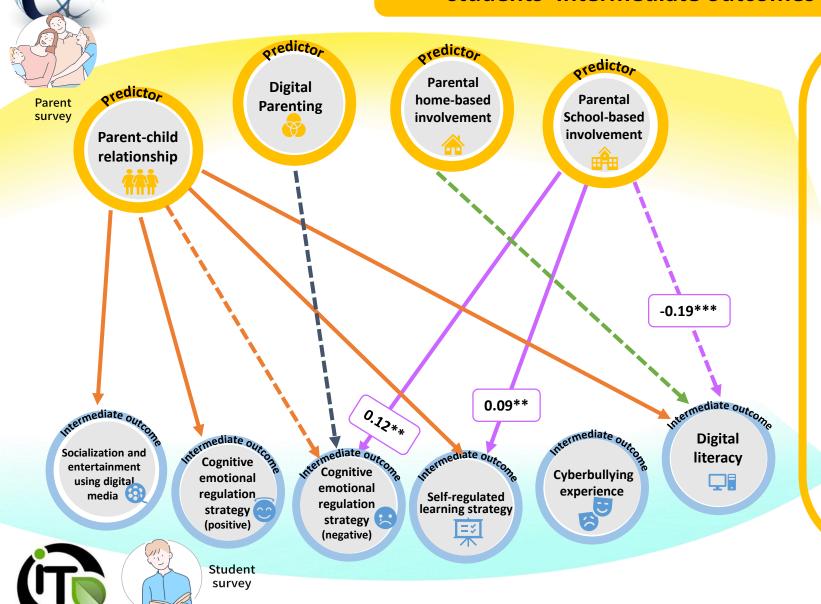
### **Secondary**

- The parent-child relationship was the most influential factor in determining intermediate outcomes for students.
- Digital parenting was negatively associated with student cognitive emotional regulation negative strategy. (positive result)
- Parental home-based involvement negatively related to students' digital literacy.



## Different aspects of parenting affects students' Intermediate outcomes





### **Secondary schools**

- The parent-child relationship was the most influential factor in determining intermediate outcomes for students.
- Digital parenting was negatively associated with student cognitive emotional regulation negative strategy. (positive result)
- Parental home-based involvement negatively related to students' digital literacy.
- Parental school involvement positively predicted student cognitive emotional regulation negative strategies and selfregulated learning strategies, but negatively predicted student digital literacy.







### 2.1 Section summary:











SES positively related

to parent-child relationship, digital parenting, and parental home-based involvement.

Different aspects of parenting were inextricably related to each other, and the good parent-child relationship was the strongest predictor for student learning and well-being.

All four different aspects of parenting contributed to students' intermediate outcomes, especially on cognitive-emotional regulation strategies and self-regulated learning strategies.

Digital parenting, parental home- and school-based involvement have little impact on students' learning and well-being.





















Schools' online teaching Part III

Schools'
Online
teaching





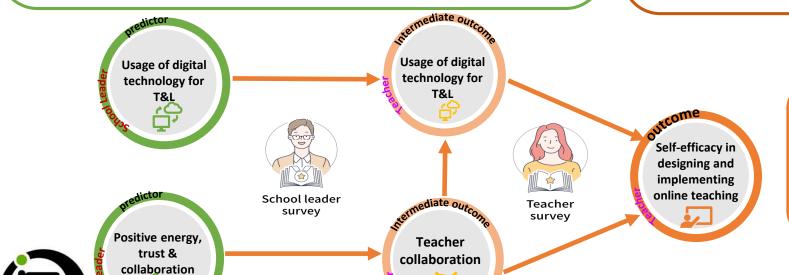
#### **RQ3:** How do school factors influence teachers' online teaching?

#### **School level factors**

- Usage of digital technology for T&L: the extent of school leaders using technology for several different purposes, such as:
  - learning assessment
  - support reflection
- Positive energy, trust & collaboration: school leaders' perceptions on
  - teachers' working status(communication and trust)
  - teachers' collaboration behaviors

#### **Teacher level factors**

- Usage of digital technology for T&L: teacher's e-learning practices with multiple purposes, such as:
  - providing feedback
  - facilitate learning
- **Teacher collaboration:** the extent to which teacher collaborate with others for online learning.



#### **Outcome (Teacher)**

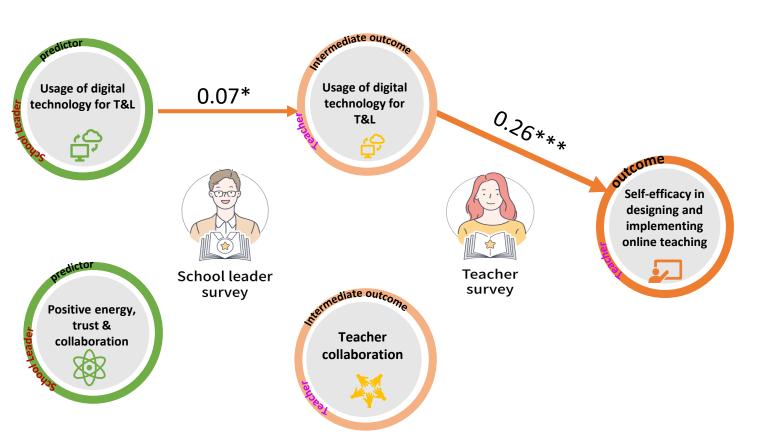
Self-efficacy in designing & implementing online teaching measures teachers' self-reported confidence in conducting online lessons





# eCitizen Education 数碼素養 360

### 3. Teachers' online teaching self-efficacy





School leaders' usage of digital technology for T&L positively related to teachers' usage of digital technology for T&L, which then strengthened teachers' online teaching self-efficacy.



Suggests role-modeling by school leaders and mastery experiences from teachers' increased technology usage

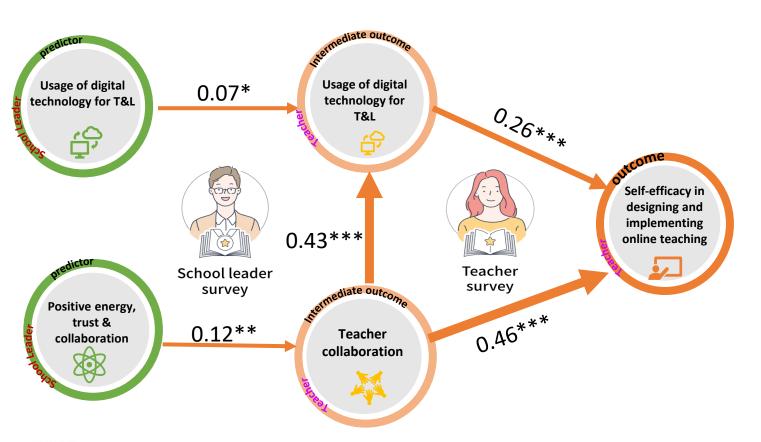






# eCitizen Education 数碼素養 360

### 3. Teachers' online teaching self-efficacy





Positive energy, trust & collaboration in schools positively related to teacher collaboration, which then strengthened teachers' online teaching selfefficacy.



Suggests trust and collaboration creating a positive climate which then benefits teachers' online teaching self-efficacy













#### **For Students**

- Students should be equipped with selfregulated learning strategies and positive cognitive emotional regulation strategies to facilitate their wellbeing.
- Encourage students to participate in activities that can develop their digital literacy and master strategies to prevent and respond to cyberbullying.

#### **For Parents**

- Focus on cultivating a positive relationship with their children to support students' online learning and wellbeing.
- Need a holistic approach in parenting, there is a great deal of scope in digital parenting, parental home- and school-based involvement to explore how to effectively support students' online learning and wellbeing.
  - Encourage and teach their children to use strategies for managing their emotions and focusing on goals, to develop their abilities of self-regulated learning and cognitive emotional regulation.











#### **For Schools**

- Encourage wider usage of digital technology, cultivate a positive school climate (i.e., positive energy, trust & collaboration), and facilitate teacher collaboration so that teachers can be more efficacious in their online teaching.
- Adopt appropriate strategies to enhance students'
   digital literacy and provide opportunities for them to
   master self-regulated learning strategies and
   positive cognitive emotional regulation strategies.
- Explore with parent-teacher associations and relevant social organizations how parents can be supported to improve the effectiveness of different aspects of parenting.

### **For Community**

 The whole community including relevant professionals, community, business and governmental organizations should be involved further to harness their expertise, resources or services not just to provide students with emotional and social support, but also to help parents on effective parenting practices (including general and digital parenting) as well as to provide support for school development especially in student wellbeing.







### **Project team and Supporting Organizations**

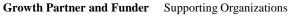
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**Supporting Organizations** 



























## Respondents 回應者

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