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Family Social Capital and Sustainable Well-Being: Navigating Chinese Adolescents' Well-Being During **COVID-19 Lockdown**

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Family Social Capital and Sustainable Well-Being: Navigating Chinese Adolescents' Well-Being During COVID-19 Lockdown

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ABSTRACT: The COVID-19 pandemic caused widespread disruption as governments took actions to limit the spread of the virus. Measures such as physical distancing and lockdowns changed living conditions, leading to challenges such as social isolation and reduced connectedness. This study explores COVID-19's impact on adolescents' wellbeing, emphasising family social capital, which refers to supportive adult-child relationships that foster well-being and enhance remote learning. Quantitative data was collected through an online survey from August 2022 to August 2023, involving 4008 students and 3511 parents. Semi-structured interviews with six students and their parents (either the mother or the father) provided in-depth insights into the perceived role of family social capital in shaping adolescents' wellbeing during quarantine. Quantitative data revealed that parental education level significantly influenced adolescents' self-reported well-being and resilience, and family income influenced parents' perceptions of their children's well-being. Qualitative data highlighted the importance of strong family bonds, effective parent-child relationships, and robust family support in mitigating the adverse effects of prolonged home quarantine. The research also discovered the role of adolescents' agency in building social capital through web-based communities. The study contributes to understanding Chinese adolescents' well-being during the COVID-19 pandemic, providing implications for supporting their well-being in the post-pandemic era.

Keywords: social sustainability, family social capital, adolescents' wellbeing, COVID-19

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1. INTRODUCTION: SOCIAL SUSTAINABILITY IN THE CONTEXT OF COVID-19

The outbreak of COVID-19 in December 2019 profoundly impacted global sustainable development in several domains, such as the economy, environment, energy, health and social sustainability (Haleem *et al.*, 2020; Mofijur *et al.*, 2021; Zetterberg *et al.*, 2021). Despite social sustainability receiving less attention than economic and environmental sustainability concerns (Cioca and Bratu, 2021), interest in 'social sustainability' and its related facets grew following the COVID-19 pandemic (e.g., Zetterberg *et al.*, 2021). Rogers *et al.* (2012) highlighted that social sustainability encompasses maintaining healthy and fulfilling lifestyles and addressing physical, social, and emotional needs. They emphasised the preservation of essential social structures (e.g., family units) and a shift towards overall well-being, including physical, emotional, and social aspects. Numerous ways of addressing social sustainability have been suggested, such as fostering social capital (Vallance *et al.*, 2011) and human well-being (Rogers *et al.*, 2012).

Governments worldwide implemented unprecedented policies to curb the spread of COVID-19, including strict home quarantine (Tang *et al.*, 2022; Wang and Wang, 2020). In China, governments at different levels adopted the policy of 'reduce travel and contact with others' as the core strategy for home quarantine (Bauch and Anand, 2020). Consequently, public and private educational institutions globally transitioned to online remote teaching and learning. This abrupt shift led to challenges for students, in particular adolescents, who faced school closures, social distancing, and home quarantine. These measures resulted in increased loneliness, pressure, and social isolation (Hwang *et al.*, 2020). Previous research has identified symptoms of anxiety and depression among Chinese adolescents during the initial COVID-19 outbreak (Chen *et al.*, 2021; Qi *et al.*, 2020).

The COVID-19 pandemic has impacted adolescents' social outcomes and family dynamics. Within this context, family caregivers are vital in providing comprehensive care, including emotional support, practical help and safeguarding children's health and well-being (Feng *et al.*, 2024). Although previous studies have investigated social support's perceived role in adolescents' wellbeing during COVID-19 pandemic (e.g., Cao *et al.*, 2022; Zhuang *et al.*, 2021), there is still a dearth of research on the influence of social capital in family contexts on adolescents' well-being in China. Considering the critical role of the family in influencing adolescents' well-being during crises, it is crucial to explore how family dynamics can safeguard adolescents' well-being. Most existing studies on the Chinese adolescents' wellbeing during the pandemic are cross-sectional, which, while useful for providing an indication of associations, fail to elucidate comprehensive narratives or alternative explanations (Shek, 2020). The current study focuses on social sustainability and aims to investigate the impact of COVID-19 on adolescents' well-being, particularly through the lens of family social capital. Lockdowns and restrictions disrupted normal social interactions, potentially reducing social networks and social capital. These disruptions made such networks scarcer, yet more crucial for mental health and resilience against post-pandemic effects (Pitas and Ehmers, 2020). During the COVID-19 lockdown, families became the primary social setting for adolescents, making family social capital (e.g., family support or parent-child relationships) essential for coping with the crisis (Zhang *et al.*, 2022b).

Family social capital in our study refers to the supportive relationships between adults and children that promote positive well-being and online remote learning experiences. This mixed methods study explores how COVID-19 affected Chinese adolescent students' well-being from the perspective of family social capital within the broader context of social sustainability, with the following main research questions:

- (1) What were the perceived effects/role of family social capital on students' wellbeing during COVID-19?
- (2) How can family social capital be developed and translated into practice to positively contribute to students' wellbeing during crises?

2. Well-being and Social Capital for Social Sustainability: A Multifaceted Framework

Researchers (e.g., Bakar *et al.*, 2015) argue that the prevailing concept of sustainable development does not adequately consider the interconnectedness of human health and well-being, and ecosystems. Bakar and her colleagues proposed a synergy between well-being and sustainability, as both are fundamentally linked to the question of how people can lead good lives without compromising the well-being of the present society or future generations (Bakar *et al.*, 2015).

Well-being refers to an individual's state of happiness and their ability to manage life effectively (Balica, 2021). While positive psychology focuses on internal processes and individual-level factors, a social perspective considers various interactions and contexts (Balica, 2021). Helne and Hirvilammi (2015) advocated a multidimensional approach to well-being, addressing material, non-material, interpersonal and intrapersonal needs and emphasising the interdependence between human well-being and ecosystems. Student well-being has become a global critical educational agenda due to its substantial benefits (Kukulska-Hulme *et al.*, 2023), such as academic success, stable employment and personal development (Cárdenas *et al.*, 2022; Price and McCallum, 2016). Borgonovi and Pál (2016) described students' well-being as a dynamic state where students can achieve personal and social goals, and it encompasses cognitive, psychological, physical, social and material aspects. Methods to

improve students' well-being involve reducing stress, enhancing classroom engagement and increasing life satisfaction (Flinchbaugh *et al.*, 2012).

The concept of 'social capital' revolves around social relationships, including social networks, civic engagement, norms of reciprocity, and widespread trust (Bhandari and Yasunobu, 2009). Social capital is widely considered as a collective resource characterised by shared principles, values, beliefs, trust, networks, social ties, and institutions for mutual benefits. Social capital concerns the interactions and relationships among and between individuals, rather than tangible possessions or personal abilities (Light, 2004). Studies (e.g., Liu *et al.*, 2020) have shown a correlation between social capital and well-being. Bassett and Moore (2013) found that higher social capital promotes well-being and results in more positive mental health outcomes.

The OECD recognises social capital as crucial to societal well-being beyond economic advantages (Scrivens and Smith, 2013). It includes positive relationships, civic engagement, and cultural norms that enhance healthcare, education, personal safety, and life satisfaction (Scrivens and Smith, 2013). The OECD's Better Life Initiative advocated for the preservation of natural, economic, human, and social capital to sustain well-being over generations (Scrivens and Smith, 2013). Empirical studies have linked social capital to social equity (Sabzalieva *et al.*, 2022), health and well-being at the individual, micro and meso levels (d'Hombres *et al.*, 2010), and to human resilience (Pinkerton and Dolan, 2007).

There are two main perspectives on social capital. The sociological perspective sees it as a resource that benefits individuals through group participation. This viewpoint was given the most refined treatment by Bourdieu (1973) and later amplified by Coleman's (1988) notion of 'family social capital'. The second view regards social capital as a resource for society, as crucial for enhancing information access, social cohesion and civic participation in sustainable development (Putnam, 1993).

The literature shows that social capital is a multifaceted concept, with dimensions and measurement indicators varying by contexts (Bhandari and Yasunobu, 2009). Scrivens and Smith (2013) identified four central aspects to social capital: personal relationships, social network support, civic engagement, and trust. Types of social capital were categorised into 'bonding', 'bridging', and 'linking' (Jordan, 2015). 'bonding' involves solid and supportive ties within similar groups such as families or close-knit communities; 'bridging' consists of weaker ties across diverse groups, enhancing connectivity without deep emotional support (Gittell and Vidal, 1998). These categories possess both structural and cognitive elements at micro (individual or family/household) and macro (ecological, such as neighbourhood or community) scales. 'linking' is seen as a diagonal bridge across power hierarchies for resource access (Jordan, 2015).

Coleman (1988) developed the concept of social capital related to children as an array of different elements within a social structure, such as family units that assist

individual or collective endeavours. Family social capital is primarily considered as the relationship between parents and their children, emphasising the investment of time, effort, resources, and energy by parents (Coleman, 1988). Key indicators of family social capital include: (1) number of caregivers in the household, (2) quality of the caregiver-child relationship, (3) caregiver monitoring and supervision, (4) caregiver's social networks, (5) caregiver's involvement in schools and (6) extended family support (Ferguson, 2006; Rothon *et al.*, 2012). Community social capital concerns a family's engagement and connections with their community, including with both residents and local institutions such as schools.

An individual's social ecosystem, composed of social capital from networks, is crucial for fostering resilience and lifelong mental health. Ferguson (2006) discussed social capital's role in promoting adolescents' well-being, focusing on family, community resources and social connections. Bronfenbrenner's (1992) ecological model identified three levels (micro, meso and macro) of social influencers on student well-being. This study adopts a social ecological perspective, examining micro-level influencers, primarily adolescent-family relationships and the immediate environment. Supportive micro-level relationships are shown to reduce stress, particularly during COVID-19 when family was the primary social environment for adolescents during home quarantine.

Studies on the impact of family socioeconomic factors on child mental health often focus on indicators of parental education, occupational status and family income (Ensminger and Fothergill, 2014). Gu et al. (2023) found higher family income is associated with lower levels of depressive symptoms in children. Both Western and Chinese studies show that family socioeconomic status (SES) impacts children's well-being (Ahnquist et al., 2012; Gu et al., 2023). Combining SES indicators as a composite score is common, however, individual indicators can variably impact family dynamics and children's development through different mechanisms (Duncan and Magnuson, 2014). In addition, Ferguson (2006) stressed the interconnectedness of human capital (i.e., education), and financial capital (i.e., income) with social capital in the way that these dimensions of capital often serve as control variables in studies on social capital. Family social capital, i.e., the relationship among family members, establishes the environment within which the financial resources and parents' education level to influence their children's development and wellbeing (Rothon et al., 2012). Therefore, parental education and income (i.e., family SES) was also considered to understand the family social capital's impact.

3. Methods

Previous research on social capital in relation to adolescents tends to be crosssectional or, when longitudinal, mostly relies on one approach (i.e., either quantitative or qualitative). Researchers (e.g., Neves *et al.*, 2019) have addressed the limitations of focusing solely on the structure of social network (e.g., number of ties) through quantitative method, and have called for using a mixed methods approach for a deeper understanding of the quality and mobilisation of social capital in context.

This study adopted a mixed methods design to understand the living and studying experience of Chinese adolescents during the COVID-19 lockdown in China. The study focused specifically on the perceived role of family social capital in student well-being. The online survey (phase 1) enabled the collection of a broad and diverse sample and allowed for quantification of the associations related to wellbeing. Interviews (phase 2) complemented this approach by providing participants' experiences and in-depth perspectives on how family social capital can be developed and translated into practice to enhance students' wellbeing. The two approaches help to provide an additional level of contextual understanding that replying on one approach would be unable to provide. Survey and interview items were developed from the framework, derived from the indicators of family social capital and well-being in the literature. Ethical approval was gained by the corresponding author's institution. Participants were informed of voluntary participation, and consent was obtained prior to the study (British Educational Research Association, 2018). All information such as names and schools that could be used to identify individuals were anonymised to keep the participants nonidentifiable.

Phase 1 – Quantitative Data Collection and Analysis

Quantitative data was collected using an online survey administered on (https://www.wjx.cn/) between Wenjuanxing August 2022 and August 2023. We approached schools across Beijing, Tianjin, Hebei, and Hubei due to their diverse economic and geographical characteristics. They range from highly industrialised urban centres to emerging urban areas transitioning from rural settings. Samples were accessed initially through professional networks of the research team using WeChat (a versatile Chinese App that combines messaging and social media functionalities) and email, complemented by additional social media posts, and snowball techniques where teachers from one school would recommend others. In this way the project had a far-ranging reach of potential participants, and the research team ensured that there was a balance between economic diversity through selection of schools from urban, suburban and rural areas and geography through inclusion of schools from various regions. This resulted in a total of 17 different schools with a breakdown of 5 schools from Beijing, 3 from Tianjin, 2 from Hebei, 2 from Hubei, and 3 from other locations

Category	Subcategory	Percentage
Gender	Male	52.12%
	Female	47.88%
Age Group	10-11	3.64%
C	12-13	47.60%
	14-15	47.58%
	16 and over	1.17%
Participants' School Location	Beijing	56.33%
*	Tianjin	26.04%
	Hebei	13.07%
	Hubei	3.92%
	Other locations	1%

Table 1: Profile of the student survey participants (N = 4008)

Student Sample

The demographic profile of the 4008 students who filled the online questionnaire is shown in Table 1:

Most students are studying in Beijing (56.33%), followed by Tianjin (26.04%). Most participants are in the age groups of 12–13, and 14–15, 52.12% are male and 47.88% are female.

Parent Sample

The demographic information of the 3511 parents who completed the survey is shown in Table 2:

Most parent respondents (76.36%) are in the age group 35–44, with 75.93% being female participants. 64.14% have one child in compulsory education and 33.74% of parent respondents have two children in compulsory education.

Measures

Family Support. Open-ended questions explored changes in students' behaviour and mental health during lockdown and online learning, parental support for

Category	Subcategory	Percentage
Gender	Male	24.07%
	Female	75.93%
Age Group	25-34	17.32%
- ^	35–44	76.36%
	45-54	5.50%
	Over 55	0.83%
Number of Children in Compulsory Education	1	64.14%
	2	33.74%
	3	2.13%

Table 2: Profile of the parent survey participants (N = 3511)

8 FAMILY SOCIAL CAPITAL AND SUSTAINABLE WELL-BEING

online learning during lockdown, and the significance of school education for children's growth and its implementation during lockdown.

Family Socioeconomic Status

Family socioeconomic status (SES) was measured using household income per capita, parental education attainment, and parents' employment status during the COVID-19 lockdown. The study examines the relationship between various SES indicators (e.g., household income, parental education level, parental employment status) and adolescents' well-being.

Adolescents' mental well-being and resilience

Students self-reported well-being and parents' perception of their children's well-being were assessed using the 14-item Warwick Edinburgh Mental Wellbeing Scale (WEMWBS). This includes positive statements reflecting aspects of mental well-being related to feelings and functioning that can be rated from 'none of the time' to 'all of the time' (Tennant *et al.*, 2007). Resilience is viewed as a dynamic process in which individuals recover to their previous state of well-being after experiencing major adversities (Luthar *et al.*, 2000).

Data Analysis Strategy

Descriptive statistics were employed to characterise the study population and to summarise variables studied. Missing values, outliers, and adherence to normality to uphold statistical principles were checked before analysis. A one-way ANOVA test is often used to determine if there are significant differences between the means of more than two independent groups (Verma, 2013). In this study, a one-way ANOVA test was performed to evaluate the association between family SES and respondents' perceptions of adolescents' well-being.

Phase 2– Qualitative Data Collection and Analysis

Sample

Semi-structured interviews were conducted with questions structured to gather insights into factors that influence adolescents' well-being following abrupt changes in teaching delivery, key stakeholders' perception of adolescents' well-being and what support was provided to adolescents. Interviewees also completed the survey beforehand. With the purposive sampling method employed, the qualitative data were drawn from individual interviews with six students and six parents, each pair from the same family. The interviewee profile is shown in Appendix.

Data Analysis

Data from the interviews were analysed using the thematic analysis approach, including familiarisation with data, generating initial codes, searching for themes, reviewing themes, and defining and naming themes (Braun and Clarke, 2006). Thematic analysis enables researchers to identify, analyse, and report patterns within the data. It facilitates the interpretation of data beyond simple description, allowing for the exploration of underlying meanings and the relationships between themes (Braun and Clarke, 2006). The categories were initially derived from the interview questions, followed by an inductive coding process, resulting in emerging themes that encompass a group of similar codes. The themes' names and definitions were discussed, negotiated, and agreed in three team meetings.

4. RESULTS: STUDENT SURVEY DATA

Association Between Family SES and Perceived Adolescents' Well-Being

A series of one-way ANOVAs were performed to evaluate the impact of parental education level, separately for fathers and mothers, on children's self-reported mental well-being and resilience. Although 4008 students responded to the question about their parents' education level (N), only 3960 clearly indicated parents' education level (n). Therefore, responses from these 3960 question-naires were used in the analysis of this section.

Data suggest that father's educational level has a significant influence on their children's self-reported well-being, [F (2, 3957)=32.81, p < .001] (Table 3). Post hoc comparisons using a Bonferroni correction revealed significant differences at the 0.05 level between groups 1 and 2. However, no significant differences were found between groups 1 and 3 or between groups 2 and 3. This indicates that children's self-reported well-being was significantly higher when their father is educated at undergraduate university level compared to a school/diploma education. Children's mean well-being score dropped slightly for children whose father's education was at postgraduate level and no significant differences were observed from other groups.

Similarly, father's educational level also seems to have a significant influence on child resilience [F (2, 3957) = 32.81, p < .001] (see Table 4). The same pattern can be observed via the post hoc tests with significant differences at the

Table 3: Descriptive	statistics for	perceived	child	mental	well-being
from Student survey	(N=4008, n=	= 3960)			

Father Education Level	Mean	SD	Ν
1 = School/Diploma	3.68	.880	2440
2 = Undergraduate	3.92	.854	1410
3 = Postgraduate	3.84	.840	110

Father Education Level	Mean	SD	Ν
1 = School/Diploma	3.90	.743	2440
2 = Undergraduate	3.99	.799	1410
3 = Postgraduate	3.96	.711	110

Table 4: Descriptive statistics for perceived resilience from Student survey (N = 4008, n = 3960)

0.05 level observed between groups 1 and 2, but not between groups 1 and 3, or groups 2 and 3.

Mothers' educational level also had a significant effect on child well-being [F (2,3957)=33.88, p < .001] (see Table 5). Significant differences were observed at the 0.05 level between groups 1 and 2, and groups 1 and 3 but not between groups 2 and 3. These findings indicate that children whose mothers were educated beyond school/diploma level at both undergraduate and postgraduate level reported higher levels of well-being.

Mothers' educational level shows a significant effect on child resilience [F (2,3957) = 6.80, p = .001] (see Table 6). Significant differences were observed at the 0.05 level between groups 1 and 2 but not between groups 1 and 3 or groups 2 and 3. This indicated that children's self-reported resilience was significantly higher when their mother was educated at undergraduate level compared to a school/diploma education. No significant differences were observed between children whose mothers were educated at the school/diploma level and post-graduate level or between undergraduate and postgraduate levels.

The data revealed that both fathers' and mothers' educational levels have a significant influence on children's self-reported well-being and resilience.

Mother Education Level	Mean	SD	Ν
1 = School/Diploma	3.67	.875	2408
2 = Undergraduate	3.91	.860	1463
3 = Postgraduate	3.92	.872	89

Table 5: Descriptive statistics for perceived well-being from Student survey (N = 4008, n = 3960)

Table 6: Descriptive statistics for perceived resilience from Student survey (N = 4008, n = 3960)

Mother Education Level	Mean	SD	Ν
1 = School/Diploma	3.90	.731	2408
2 = Undergraduate	3.98	.812	1463
3 = Postgraduate	4.03	.775	89

Significant differences were particularly noted between those children with parents who only had a school/diploma level education and those with university degrees.

5. RESULTS: PARENT SURVEY DATA

A one-way ANOVA test was performed to evaluate the association between family income and parents' perceptions of their children's well-being. The means and standard deviations are presented in Table 7.

Family income had a significant effect on parents' perceptions of their children's well-being [F (3,3507) = 3.30, p = .020]. Significant differences were observed at the 0.05 level between the lowest income group (\leq 8138 CNY) and the highest income group (\geq 27148 CNY). These findings indicate that, as family income increases, parents tend to perceive higher levels of child self-reported well-being. However, no significant effects of education or employment on child well-being or family resilience [F (3,3507)=3.17, p=.023] were found in this sample.

Parent survey item 23 was an open-ended question that asked if parents have observed any specific changes in their children's behaviour and wellbeing during lockdown. Approximately 54.1% of respondents reported observing no changes, with some children enjoying remote learning. Among those who reported negative changes, recurrent themes included: (1) reduced self-discipline (e.g., decreased concentration); (2) increased social media dependence; (3) emotional instability (e.g., sadness, irritability, anxiety, anger, or loneliness); (4) reluctance to communicate or socialise, and (5) deterioration of eyesight.

Parent survey item 24 is an open-ended question that asked about the support parents provided to their children. The main themes include: (1) improving communication and interaction; (2) offering supervision and guidance; (3) organising recreational or outdoor activities; (4) providing electronic devices.

Family monthly income	Mean	SD	Ν
1: ≤8138 CNY	3.69	.743	2343
2: ≤17006 CNY	3.72	.761	614
3: ≤27148 CNY	3.73	.827	230
4: >27148 CNY	3.83	.742	324
Total	3.71	.753	3511

Table 7: Descriptive statistics for perceived child well-being according to family income, from parent survey (N=3511)

6. RESULTS: PAIRED PARENT-CHILD INTERVIEWS

Perceived Impact on Adolescents' Well-Being During Lockdown

The themes from the survey's open-ended questions were echoed in semistructured interviews with parents and children, providing further insights into the impact of COVID-19 lockdown on adolescents' well-being.

Some parents (e.g., P5, mother) recognised their child's stress and anxiety due to peer pressure and high expectations from their peers' parents:

Because many parents in China are very involved in their children's studies, students already have a lot of worries and pressure during adolescence. Within each household, there may be a lot of expectations placed on them.

The above quote indicates negative impacts on wellbeing due to parents' expectations, aligning with Fong (2004) that Chinese adolescents, particularly single child, usually face high parental pressure for elite academic and professional status. However, P5 shifted focus from their child's academic performance to their well-being, prioritising the child's happiness and liveliness during quarantine. This sentiment was also echoed by P1, P2 and P4.

Parents also stressed the importance of social interaction in school contexts for their children's well-being. P2 (male) emphasised school's crucial role in supporting psychological well-being by fostering social development, especially during the childhood period. P3 and P4 (female) commented that home interaction cannot replace peer and teacher interactions at school. P4 provided an example of her child's motivation from peer interaction. When her child observed another peer excelling academically, her child, seeking validation from the family, tried to imitate the same academic activity. Such viewpoint was echoed by Zhang *et al.* (2022a), who found peer social capital in physical settings positively relates to children's life quality.

When asked if online learning has had any impact on the students' learning and well-being, some parents and students showed different perceptions; for example, P2 said:

The learning environment is quieter, without people around to disturb her, it is easier for her to concentrate. She has not exhibited any negative tendencies such as feeling anxious. It seems she chats with her classmates on WeChat via mobile phones. (P2)

while his child's view was that:

I experience more freedom, but also quite lonely at home. I feel a bit scared at home, especially during the pandemic when it was raining constantly, making the house dark which scared me. So when I am home alone, I turn on all the lights. (S2)

The above shows that, for dual earner households, parents might not have enough time to provide their children with the attention they need, which may lead to decline of the family social capital (Baron *et al.*, 2000). Parental and child perceptions of lockdown's impact on well-being can varied significantly. While P2 perceived the quiet environment and WeChat (Chinese instant message tool) interactions as beneficial, his child reported feelings of loneliness and fear. Similarly, P5 (female) also believed her daughter was content at home during lockdown but her daughter expressed boredom despite initial happiness at not attending school.

This suggests that parents may overlook adolescents' emotional challenges, highlighting the necessity of fostering regular more open communication to understand their children's experiences of abrupt changes and to strengthen family bonds. Coleman (1988) emphasised that the primary role of family social capital is to make parents' human capital (e.g., skills, knowledge) available to children. This relies on both the physical presence of adults, and the level of care and attention provided to children.

Parental Support with Learning Settings and Physical Activities

Student S1 attended a private school with high tuition fees. S1's father commutes frequently between Zhejiang and Shanghai (about 180 km) for work. However, the pandemic travel restrictions kept him largely absent from home, leaving the mother as the primary caregiver with the responsibility of helping the child to prepare for the junior high school entrance exam.

When asked about her support, P1 (female) described using technology to enhance the study environment for remote learning.

At home, I help to set up class on our 85-inch TV for a better viewing experience. During breaks, I encourage my child to rest her eyes by looking outside from the balcony. Despite my initial concerns about online classes affecting her eyesight, her vision has improved, unlike some classmates. The teacher also regular breaks during class, during which I ask my child to look out the window to rest her eyes and focus on distant objects.

The example illustrates a fulltime mother's significant attention and care, providing access to resources to influence positively the child's learning and physical health. Coleman (1997) argues that the shift in family structures, such as in nuclear families where one or both parents work outside the home, can potentially reduce social capital compared to when parents or extended family are more available. However, P1, as a full-time mother, had sufficient time to interact with her child and transmit resources. This reflects that the effective transfer of cultural capital within a family not only depends on the accumulated cultural capital within the family, but also on the amount of time they can spend, particularly the mother's free time (Bourdieu, 1986).

14 FAMILY SOCIAL CAPITAL AND SUSTAINABLE WELL-BEING

P1 also purchased S1 a sports card which shows the parent is utilising community resources to support physical well-being. In another case, S2's parents, both employed at the same company, initially worked from home on a rotational basis to care for S2. Later, they took S2 to their work, along with digital devices for learning and lunch to balance work and childcare responsibilities. This shows that practical assistance and support systems through social connections are crucial components of social capital.

However, parents also pointed out the observed challenges of online learning. P1 commented:

Disparities in resources and supervision contribute to varied online learning experiences. Despite perceptions of overall favourable conditions, many families in my city face hardships such as having limited device access or financial instability.

This quote highlights how resource disparities impact children's remote learning experiences. For example, P6 (female) reported that they were renting a flat during pandemic without broadband access. Her child relied on mobile data for online classes with frequent small data top-ups, which was cheaper than a having a broadband subscription. This indicates inequality in digital resource access and how families prioritise resources under economic constraints to maintain remote learning.

Parental Monitoring and Guidance

When asked about children's self-discipline during online remote learning, P1 commented:

I've observed various situations with digital equipment use. Some families have adequate home conditions and devices, but children may prioritise gaming over learning when unsupervised. With this concern, some parents provide only basic digital equipment, potentially affecting learning outcomes. Others leave abundant devices but worry about their child's screen time. Many children spend more time gaming during remote learning, causing anxiety for working parents.

Some parents actively monitored their children's online learning to ensure they were not playing or socialising online instead. P4 noted that her daughter initially followed online classes but often drifted off to engage in unrelated activities. S4 found it hard to be self-disciplined with many devices at home. She was initially attentive in online classes, but, influenced by friends who did other activities. She started to read online novels during classes by opening a small window on her computer. P4 (female) attributed her child's behaviour to immaturity, and suggested allowing the child more time to adjust and regulate their behaviour. Similarly, P6 reported his daughter, with little previous exposure to digital devices, became addicted after being exposed to the internet during online learning.

S1 highlighted her classmates' excessive gaming during classes while their parents were absent, which contrasted with her disciplined approach to learning. She noted minimal anxiety among classmates but observed parental stress over their children's lack of self-discipline during online classes, especially when parents were at work. P3, who works from 4 am to 10 pm has confirmed this concern. P3 frequently monitored her daughter's uses of the mobile phones and iPad and checks in on her daughter via phone calls.

The Interviews revealed that most of the parents (e.g., P1, P4) found a level of oversight was necessary to guide children struggling with self-discipline in the online learning environment. However, parents (e.g., P1, P4) also believe in balancing support with allowing children to develop their independence and autonomy. For example, P1 structured study and rest schedules for her child. Sometimes she listened to the class, but not every class as she felt the child needed independence and space for thinking. This suggests that for enduring results, parental supervision and control should be appropriate to the child's development stage, with the aim of fostering self-regulation (Schor and Menaghan, 1995).

Extended Social Support and children's Agency in Building Social Capital

When parents were asked if they had noticed any changes in their children's wellbeing, P6 replied:

We have not paid attention to his psychological aspect because he was always around. We did not explore his mental health. I just felt that he has been attending classes and then watching TV, and the days just pass by like that. And he is not the only child. He has a brother to keep him company.

During the interview, P6 expressed that she usually does not intervene when her child is under pressure or anxious, instead she gives time and space for emotional release. S6 (male) stated that he confided in his older brother when unable to communicate with parents and his brother also supervised his homework, but sometimes they ended up arguing with each other. Later in the interview, P6 stated that her awareness of mental health is not adequate, believing that if they have not observed any problems, then there are no mental health issues. P6 hopes to provide more companionship and better guidance on internet use and social participation to her son if a similar crisis arises again.

The interview indicates that S6 occasionally found it difficult to communicate with his mother, possibly due to her parenting style or her divided attention because of another child. However, this was not thoroughly examined during the interview. Moreover, the interview indicated that having support from bonding networks, such as a sibling, can sometimes generate positive outcomes, but also potentially negative ones.

16 FAMILY SOCIAL CAPITAL AND SUSTAINABLE WELL-BEING

Another theme that emerged was the use of digital tools to foster social capital during lockdown. For example, P6 reported the child's school arranged recorded sharing of singing activities to show mutual support. Students (e.g., S1, S5) also reported using WeChat to ask questions, request feedback from teachers and maintain social connections. However, social media can also have a negative impact, as S2 reported that his classmates used WeChat to discuss online gaming, which could promote gaming addictions. In addition, S3 mentioned that she went to the neighbour to use their WiFi to join the online class, which shows her agency to use social capital outside the family.

7. DISCUSSION AND CONCLUSION

The study explored the impact of COVID-19 on Chinese adolescent students' well-being from the perspective of family social capital within the broader context of social sustainability. The large-scale survey offered a comprehensive overview of perceived well-being, and the association between family SES and perceived well-being. The semi-structured interviews were instrumental in uncovering adolescents' perception of their well-being and understand how they maintain wellbeing, identifying a spectrum of risk and protective factors described as social capital.

Previous research indicated that both family and school environments are crucial in influencing the well-being of adolescents (Newland *et al.*, 2019). Various forms of family capital, such as economic conditions, and social and cultural resources play a significant role in shaping adolescents' subjective well-being (Ahnquist *et al.*, 2012; Coleman, 1988). Corresponding to previous research, this study also found that family SES is associated with adolescents' well-being. The study reveals that families with sufficient resources and support networks may be better equipped to address challenges, whereas those facing financial constraints and limited social support may struggle to support their children. Children who are in disadvantaged socioeconomic families (e.g., 'left behind children')¹ may face a lack of adequate parental supervision and emotional support at home. These parents are more reliant on formal and informal familial ties (e.g., extended family relationships) and such children need more support from teachers and schools (Huan *et al.*, 2008).

According to Norton *et al.* (2003), families can provide both instrumental and affective-cognitive support that impacts the health and overall well-being of children even beyond adolescence. Semi-structured interviews also revealed that how parents provide affective-cognitive support and how social capital is created through parent-children interaction that facilitates the transmission of parents' expectations and norms. Almost all parents interviewed discussed different levels and ways of monitoring what the child is doing, including the child's study schedule, to achieve positive outcomes for their children's studies. While literature suggested that Chinese students' psychological well-being is often associated with academic expectations (Zhou *et al.*, 2020), most parents interviewed prioritised their children's mental and physical well-being over their academic performance during lockdown and actively arranged physical activities for their children. However, the interviews also revealed sometimes adolescents' emotional challenges were overlooked by parents. In line with this, Coleman (1988) highlighted two key elements of family social capital: the structural, referring to adults' physical presence at home, and the functional, relating to supportive parent-child interactions. The implication is that both structural elements and functional elements need to be integrated to achieve positive family social capital, ensuring children benefit from both adult presence and nurturing relationships. Therefore, parents can adopt strategies to promote family leisure activities and build a warm, close parent-child relationship to enhance family cohesion and to help children to develop coping strategies.

Additionally, an increase in stress among parents was observed, particularly for those who are not able to mobilise greater social capital, which is consistent with the viewpoint that parents in post-disaster environments experience added stress because of substantial uncertainty (Bokszczanin, 2008). In response to this challenge, schools can implement strategies to assist vulnerable families (e.g., dual earner families).

Another finding from interviews is that adolescents sometimes actively built their own social capital. This observation brings into question Coleman's (1988) work, where children's roles are not prominent. Morrow (1999) argued that the role of children in developing social capital is underexplored and there is a dearth in the research of adolescents' perspectives on family social capital. Morrow (1999) noted that children are typically seen as passive recipients of social capital, not as contributors to its creation, and suggested an approach to view social capital not as a measurable entity, but as a set of processes and practices that are essential for gaining other types of 'capital' such as human and cultural capital. Therefore, it is important to understand social capital in more than one context and analyse how children interact with others to establish their own networks, and whether social capital leads to favourable outcome regardless of origin. This emphasises the importance of acknowledging the agency of young people in actively shaping and expanding their social connections. For example, communication facilitated by social media played an important role in fostering social capital among adolescents (Liu and Wen, 2021), which can be further explored.

8. LIMITATION OF THE RESEARCH

Several limitations should be considered with respect to this study. The first is the lack of a validated measures for social capital. Although the survey includes measures of caregiver's presence at home, these do not yield significant insights into family social capital. Secondly, the parent and student surveys are not paired, which limits direct comparisons. Although interviews provide a thick description of how adolescents well-being and online learning experiences were influenced by contextual factors, highlighting the variations of parent-child interactions, the findings cannot be widely generalised. In addition, adolescents' access to resources can be facilitated or hindered by how individuals create social capital themselves as well as by wider contexts such as broader community, schools and neighbourhood (Ben-Arieh *et al.*, 2014). Therefore, this aspect of the study highlights the need for future research to go beyond parental involvement, aiming to explore how children develop and utilise social capital.

9. DISCLOSURE STATEMENT

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11. Note

¹ 'Left behind children' typically refers to children who stay in rural areas while their parents migrate to urban cities for economic opportunities. These children are usually cared for by other family members, such as grandparents or siblings or live on their own. The phenomenon is a result of China's rapid urbanisation, economic growth and Hukou household registration systems. The concept of left behind children is not exclusive to urban children and it is characterised by prolonged absence of one or both parents (Gu *et al.*, 2023).

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	Student Interviewee Profile					
	Gender	Age Group	Grade	School Location	Father's Education Degree	Mother's Education Degree
S 1	Female	14–15	Grade 8	Zhejiang	undergraduate	college diploma
S2	Female	14-15	Grade 8	Zhejiang	undergraduate	undergraduate
S3	Female	14-15	Grade 8	Zhejiang	high school	high school
S4	Male	14-15	Grade 8	Zhejiang	high school	college diploma
S5	Female	14-15	Grade 9	Hubei	undergraduate	high school
S 6	Male	14–15	Grade 9	Hubei	high school	high school

13. APPENDIX 1: PROFILE OF THE INTERVIEWEES

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