

## Title Page

### Title

Predictors of Family Happiness in the COVID-19 Pandemic: A Cross-Sectional Study in Hong Kong.

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**Author contributions**

All authors contributed to the study concept and design. Shun Chan performed data collection. Simon Ching Lam carried out data analysis. Aderonke Odetayo and Simon Ching Lam did manuscript preparation. Aderonke Odetayo wrote the first draft of the manuscript, and all authors commented on previous versions. All authors read and approved the final manuscript.

**Statement and declaration**

All authors certify that they have no affiliations with or involvement in any organization or entity of financial or non-financial interest in the subject matter or materials discussed in this manuscript.

**Funding**

This study was funded by the Wofoo Foundation Limited and UGC Research Matching Grant Scheme, School of Nursing, Tung Wah College, Hong Kong SAR. The funding body had no involvement or contribution to the paper.

**Ethical approval**

This study was approved by the Ethics Sub-committee of the Hong Kong Polytechnic University (reference no: HSEARS20201002002). Participants were required to check a box indicating voluntary participation online before responding to the questionnaire.

**Competing interest**

The authors declare no competing interest.

**Abstract**

Numerous research studies have reported that COVID-19 adversely affects individual mental well-being, but studies on the effect of the pandemic on family well-being have been sparse. Given that happiness is an essential determinant of quality of life, we examined the predictors of family happiness during COVID-19 in this study based on a convenience sampling of 2,971 Hong Kong residents between April 2021 and March 2022. Results showed that those between 35 and 54 years were happier than those between 19 and 34. Family happiness correlated with age, individual happiness, family solidarity, family resources, family mental health, and the COVID-19 impact. Individual happiness and family factors also consistently predicted family happiness regardless of the severity of the pandemic. Findings suggest that individual happiness and several family factors shape family happiness. Fostering supportive measures and care within families is essential to improve family happiness.

**Keywords:** Family happiness, individual happiness, cross-sectional study, Hong Kong, COVID-19

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## **Abstract**

Numerous research studies have reported that COVID-19 adversely affects individual mental well-being, but studies on the effect of the pandemic on family well-being have been sparse. Given that happiness is an essential determinant of quality of life, we examined the predictors of family happiness during COVID-19 in this study based on a convenience sampling of 2,971 Hong Kong residents between April 2021 and March 2022. Results showed that those between 35 and 54 years were happier than those between 19 and 34. Family happiness correlated with age, individual happiness, family solidarity, family resources, family mental health, and the COVID-19 impact. Individual happiness and family factors also consistently predicted family happiness regardless of the severity of the pandemic. Findings suggest that individual happiness and several family factors shape family happiness. Fostering supportive measures and care within families is essential to improve family happiness.

**Keywords:** Family happiness, individual happiness, cross-sectional study, Hong Kong, COVID-19

## **Introduction**

Happiness has been a fundamental human desire from ancient times to the present. Although various beliefs and theories are about what happiness may entail, it is undeniably a significant objective of humankind because many individuals want to live happily throughout their lifetime (Frey, 2018). Over the past decade, happiness began to receive more attention as research shifted focus from measuring objective well-being to subjective well-being and the psychological underpinnings of happiness (Lin, 2016), particularly with the advent of the coronavirus pandemic. While happiness has no one definition, past literature has reflected the concept of happiness as positive emotions, subjective well-being, relationships, accomplishments, and living a meaningful life (Lyubomirsky, 2008; Lyubomirsky et al., 2005; Seligman, 2002). Veenhoven (2015) defined happiness as the extent to which a person considers their personal life generally positive. Likewise, happiness can foster a more positive relationship between people and communal life on a group or community level and be a pivotal indication of the

effectiveness of policy implementation (Lyubomirsky et al., 2005; Diener & Seligman, 2004). Previous studies have found that positive emotions can influence a person's happiness (Richards et al., 2015; Peterson et al., 2007).

With a particular focus on Hong Kong, happiness levels have declined, dropping four places from 77<sup>th</sup> (2018 to 2020) to 81<sup>st</sup> (2019 to 2021) in the world happiness index ranking (Helliwell et al., 2022). Previous studies on the Hong Kong population reported that younger adults tended to be unhappier than older adults (Chiu & Wong, 2017; Ho & Wai Chung, 2006). Besides, the onset of the COVID-19 pandemic increased the possibility of decreased happiness among populations (Shek, Chai, et al., 2023; Nguyen, 2021; k& Ma, 2020). This resulted in increased negative emotions, declined individual happiness, and significantly deteriorated mental well-being, as reported by several studies (Shek, Leung, et al., 2023; Rossouw et al., 2021; Greyling et al., 2021; Wong et al., 2021; Sibley et al., 2020).

Family is primarily believed to make up the foundation of a society because it is a unique social construct and a fundamental unit of a society that has a mutually beneficial influence on various social and economic dynamic influences (Stasova & Vilka, 2018). Past studies have reported that family factors, such as spending time together, providing for one another, upholding healthy family relationships, and having satisfaction with one's family, influence happiness (Napa et al., 2020; Chiang & Lee, 2018; Lam et al., 2012). At its core, family happiness fundamentally involves the overall sense of well-being, satisfaction, and fulfillment experienced by individuals within the context of their familial relationships (Sheldon & Lyubomirsky, 2007; Carr, 2003; Diener & Seligman, 2002). Another perception of family happiness, according to Sheldon and Lyubomirsky (2007), focuses on the cognitive assessment of one's life as a whole, including the satisfaction and fulfillment derived from familial interactions and the overall quality of life within the context of family. Furthermore, family relationships, communication, the ability to handle routines, cohesiveness, adaptability, and resilience to overcome challenges demonstrate and contribute to the solidity of a family as a social institution (Limsuwan et al., 2022; Shek, 2021; Stasova & Vilka, 2018). Strong family relationships foster emotional support and trust, enhancing happiness (Thomas et al., 2017). Open and efficient communication fosters

understanding and reduces conflict (Ross Center, 2024; Galvin et al., 2016). The ability to handle daily routines contributes to stability and minimizes stress (Carr, 2012). Family cohesiveness fosters a sense of connection and unity, whereas adaptability enables families to manage change and challenges with ease (Fernandes et al., 2021). Resilience, the ability to rebound from setbacks, enhances the family's capability to maintain happiness despite adversity (Tan et al., 2024). Collectively, these attributes were found to contribute to the overall family happiness. Although studies have examined the effect of COVID-19 on happiness, the focus was mainly on individual happiness (Rossouw et al., 2021; Greyling et al., 2021). Similarly, research on the effects of the pandemic on family happiness is relatively thin, and little is known about the factors that may exacerbate or serve as protective factors of family happiness during the pandemic. Therefore, we attempted to address some research questions in this study. First, what is the relationship between individual and family happiness? Second, what family factors influenced family happiness in this pandemic? Third, does the pandemic affect family happiness? Given that the notion of family is the second most integral social structure in society after an individual (Ucal & Günay, 2021), identifying the factors that impact family happiness is essential, particularly in such a pandemic. Given the research gap, this study investigated the factors predicting family happiness and the association between individual and family happiness during the different waves of the COVID-19 pandemic.

## **Materials and Methods**

### **Study design and participants**

Consistent with the practice in previous studies during the pandemic (Aljaberi et al., 2022; Limsuwan et al., 2022; Sit et al., 2021), this study employed two cross-sectional online surveys with structured questionnaires between April 2021 (n=1,338, end of the fourth wave) and March 2022 (n=1,633, the peak of the fifth wave) in Hong Kong. The inclusion criteria were individuals (1) aged 12 years and above, (2) living in Hong Kong, and (3) giving consent to participate in the research. No additional exclusion criteria were applied for this study. The questionnaire was constructed via Google Forms, and the online survey link was posted on social media platforms (e.g., Facebook, WeChat, and webpages) through convenience sampling. The required sample size was estimated

using Cochran's Formula , the confidence interval (CI), and the margin of error (e) (Conroy, 2016).

$$N = \frac{Z^2 pq}{e^2} \text{ (Cochran, 1977),}$$

Z was the standard normal distribution equal to 1.96 at 95% CI; p was the estimated proportion of the population; e was the margin of error, set at 3%. Thus, a minimum sample size of 1,068 should be obtained by integrating the above-said values into the formula. The Ethics Committees of a local university and institution approved the study. The survey included demographics, individual and family happiness, family solidarity (comprised of family atmosphere, family time, care, and support), family mental health, and the impact of COVID-19. Before beginning the survey, participants must check a box indicating their voluntary participation. The survey took about 8 minutes, and participants may receive a gift coupon for time compensation.

### **Measures**

Family happiness can be said to focus on the cognitive assessment of one's life as a whole, including the satisfaction and fulfilment derived from familial interactions and the overall quality of life within the context of family (Sheldon & Lyubomirsky, 2007). Family happiness was assessed by the item "Overall, how happy is your family?" on an 11-point scale of 0 (very unhappy) to 10 (very happy). Higher scores indicated higher levels of family happiness. This single-item self-reported measurement was developed by Shen et al. (2019) to measure family happiness in the Hong Kong Chinese population. This single-item measurement demonstrated good internal consistency and satisfactory convergent and discriminant validities with the 5-item Family Apgar scale (Smilkstein, 1978) and the 10-item Family Communication Scale (Guo et al., 2021). That study concluded that measuring family happiness with a single instrument is reliable and valid with temporal stability of 0.76 and is practicable for future large epidemiological and community-based intervention studies (Shen et al., 2019).

Individual happiness, also called personal happiness or subjective happiness, means expressing positive emotions and delivering personal happiness to others through individual virtues and abilities (Seligman, 2002). Furthermore, people can preserve their physical health and overcome psychological challenges like stress when they have personal happiness (Veenhoven, 2009). Individual happiness was assessed by the item

“Overall, how happy are you?” on an 11-point scale of 0 (very unhappy) to 10 (very happy). Higher scores indicated a higher level of individual happiness. This single-item measurement, developed by Abdel-Khalek (2006), empirically demonstrated good temporal stability of 0.86, as well as satisfactory concurrent, convergent, and divergent validities. That empirical evidence concluded that measuring happiness by a single item is reliable, valid, and viable in community surveys, as well as in cross-cultural comparisons (Abdel-Khalek, 2006).

Family solidarity refers to the level of connectedness within a family, operationalized as family time, atmosphere, responsibilities, and care and support (Bengtson & Roberts, 1991). Family solidarity was assessed using the 13 items, e.g., “There is enough time together with my family,” “I enjoy time spent with my family,” “My family relations are harmonious,” and “There is enough care and support” (Wong et al., 2020, p.38). They were rated on an 11-point scale of 0 (strongly disagree) to 10 (strongly agree). Higher scores (by summation of item score) indicated that family members have close connections and care for one another. These items were adopted from the subscale/domain of “Family Solidarity” in the Hong Kong Family Well-being Index (HKFWI) (Wong et al., 2020). This subscale has been used in the Chinese population, indicating good applicability and satisfactory internal consistency (i.e., Cronbach’s alpha = 0.943) (Wong et al., 2020). For our collected samples, the Cronbach’s alpha of subscale “Family Solidarity” was 0.962.

Family resources refer to the availability and effective use of a family’s income and the psychological capital of the family (Zubrick et al., 2000). Family income is the financial foundation of a family (Ma et al., 2009), whereas psychological capital includes a comfortable and secure environment and family members’ confidence in their capacity to deal with the demands and challenges of daily life (Zubrick et al., 2000). Family resources were assessed by the five items, for example, “I have a comfortable living environment,” “In the past year, our family income was adequate to pay expenses,” and “The current living standard is comparable to the hard work of the family” (Wong et al., 2020, p.38). These items were rated on an 11-point scale of 0 (strongly disagree) to 10 (strongly agree). Higher scores (by summation of these items) indicated stable family resources and psychological capital. These items were adopted from the

subscale/domain of “Family Resources” in HKFWI (Wong et al., 2020). The subscales demonstrated a satisfactory internal consistency (Cronbach’s alpha = 0.785) and have been used in the Chinese population (Wong et al., 2020). For our collected samples, the Cronbach’s alpha of subscale “Family resources” was 0.890.

Family health encompasses the overall well-being and functioning of a family unit, comprising physical, mental, emotional, and social aspects (Barnes et al., 2020; Tulchinsky & Varavikova, 2014). Good family health promotes family members’ ability to grow and adapt, care for one another, and meet responsibilities (Jabbari et al., 2023; Barnes et al., 2020). Mental health is an integral part of this definition. It refers to “a state of well-being in which the individual realizes his or her own abilities, can cope with the normal stresses of life, can work productively and fruitfully, and is able to make a contribution to his or her community (WHO, 2004, p.10). Family mental health was assessed by the item “Overall, how mentally healthy is your family?” (Wong et al., 2020, p.38). This item was rated on an 11-point scale of 0 (very unhealthy) to 10 (very healthy). This item was adopted from the 2-item HKFWI “Family Health” domain (Wong et al., 2020), which demonstrated satisfactory internal consistency (Cronbach’s alpha = 0.814) in the Chinese population. Although the item is reliable and valid, we still tested the comprehensibility before the data collection, and we found no item incomprehensible based on the method proposed elsewhere (Lam et al., 2023). For our collected samples, the Cronbach’s alpha of subscale “Family health” was 0.850.

COVID-19 impact was assessed by the single-item “Overall, how much is your family negatively affected by the pandemic?” on an 11-point scale of 0 (no negative impact at all) to 10 (much negatively impacted). A higher score indicated a high level of impact. No psychometric property was reported previously. However, this self-constructed item was justified and relevant during the COVID-19 pandemic (Shek, Leung, et al., 2023; Morgan et al., 2022; Sit et al., 2021; Salari et al., 2020). Recently, this single-item measurement has demonstrated satisfactory concurrent validity with the recently developed COVID-19 Impact Scale (Min et al., 2022). That study concluded that the item is reliable and valid for comprehensively assessing the effects and deterioration of quality of life caused by the COVID-19 pandemic.

Information on sociodemographics, including gender, age, education level, occupation, monthly income, marital status, family size, family composition, housing type, and form of residence, was collected. Several variables were recoded: age group (12–18, 19–34, 35–54, and 55 and above), education level (secondary or below, tertiary degree, and postgraduate degree), occupation (full-time students, unemployed, employed, housewife, and retired), monthly income (less than US\$2,000, US\$2,000-US\$3,999, US\$4,000-US\$7,599, and US\$7,600 or above), and marital status (single, dating, married, and divorced/widowed).

### **Statistical methods**

This study used SPSS version 28 for data analysis. The sociodemographic characteristics of study participants were reported using frequency and percentage. The difference in family happiness among demographic characteristics was analyzed using the mean, standard deviation, t-tests, and ANOVA. Pearson's correlation coefficient was used to test the relationship between family happiness and individual happiness, family solidarity, family resources, family mental health, and the impact of the pandemic.

Before conducting the multivariate linear regression analysis, common method bias (also known as common method variance), usually caused by a single measurement and data from the same source (Galdas, 2017), was checked. In this study, the measurement involved four single items and different instruments/subscales with family-related dimensions, which posed a threat of committing common method bias. With that, common method bias of one-factor structure, as well as three-factor structure was evaluated using the confirmatory factor analysis (CFA). This methodology was recommended by Podsakoff et al. (2003) as applying the correlated statistical solution for common method bias. As the number of latent variables (i.e., factors) increases gradually, the model yields more satisfactory goodness-of-fit indices, which indicates that the common method bias of this study does not significantly affect the interpretation of the results. The goodness-of-fit indices for one-factor structure ( $\chi^2/d.f.=28.89$ , CFI=0.88, NFI=0.87, RMSEA=0.097, IFI=0.88), and three-factor structure ( $\chi^2/d.f.=21.55$ , CFI=0.91, NFI=0.91, RMSEA=0.083, IFI=0.91), respectively. The three-factor structure yielded better goodness-of-fit indices (i.e., most indices are

satisfactory in range) than that from the one-factor structure, thereby suggesting that common method bias did not pose a significant problem (He et al., 2021).

The factors affecting family happiness were assessed using the hierarchical multivariate linear regression analysis. Linear regression with a hierarchical block design was used to identify the associated factors of family happiness. The first step in the hierarchical linear regression included sociodemographic variables (Model 1). The second step added individual happiness as a well-recognized associated factor in Chinese culture (Model 2). The third step included all respective family variables (i.e., family solidarity, family resources, and family mental health) (Model 3). The final step would add the emerging external factors (i.e., COVID-19 impact) to form a final model (Model 4). The change of  $R^2$  would be presented to indicate the explained variance. A  $p$ -value below 0.05 was considered statistically significant.

## Results

There were 2,971 participants who replied to our online invitation, of which 21 data were removed because of inadequate answers, leaving a total of 2,950 valid datasets. **Table 1** presents the descriptive data for study participants. The majority of the participants were female (70.8%), aged 19–34 years (43.0%), and married (41.4%). Three-family member size (31.3%) and those living with children/parents (66.4%) accounted for the majority of the family size and family composition, respectively. Regarding education level, over half of the participants (55.4%) had a tertiary degree and were employed (57.9%), and the most frequent monthly income category was below US\$2,000 (43.9%).

**Table 2** shows the differences in family happiness for sociodemographic characteristics. The mean family happiness for study participants was 7.11 ( $SD=1.87$ ). Family happiness levels differed according to age, family size, occupation, marital status, and monthly income (all  $p<0.001$ ). The observed mean of family happiness of females was higher than males (7.15,  $SD=1.85$  vs. 7.02,  $SD=1.89$ ) but without significant difference ( $p=0.091$ ).

**Table 3** indicates that family happiness correlated significantly and positively with individual happiness ( $r=0.72$ ), family solidarity ( $r=0.71$ ), family resources ( $r=0.71$ ),

and family mental health ( $r=0.62$ ) and negatively with the impact of COVID-19 ( $r=-0.32$ ).

**Table 4** indicates that by the hierarchical multivariate linear regression analysis, with demographics, individual happiness, respective family factors, and external factor as the dependent variables, the significant outcomes that were found associated with family happiness as the independent variable. Four models were generated: model 1 (adjusting for demographic characteristics), model 2 (adjusting for individual happiness on top of model 1), model 3 (adjusting for respective family factors on top of model 2), and model 4 (adjusting for COVID-19 impact on top of model 3). In model 1, marital status (with partners) and higher income were shown to result in a significant increase in family happiness ( $R^2 = 0.03$ ). In model 2, an increase in individual happiness showed a significant association with an increase in family happiness, with income still showing a significant association. This model greatly increased the  $R^2$  to 0.56. In model 3, all sociodemographic variables were no longer predictive of family happiness. Individual happiness and all the respective family factors, including family solidarity ( $\beta=0.32$ ), family resources ( $\beta=0.13$ ), and family mental health ( $\beta=0.10$ ), were significantly associated with an increase in family happiness ( $R^2 = 0.69$ ). In model 4, the addition of COVID-19 impact did not influence the association of the variance ( $R^2$ ) in family happiness. The root mean square error (RMSE) decreased from 1.90 in model 1 to 1.07 in model 4. Detailed results are shown in Table 4.

## **Discussion**

This study is one of the first few studies to assess what predicts family happiness during the pandemic because most research has focused on individual happiness. It unfolds the many factors (i.e., individual, financial, and mental) that can influence family happiness, especially in times of unprecedented crisis. This study contributes to academic research and social policies for stakeholders to develop efficient family services that enhance family happiness.

This study indicated that individual happiness significantly, positively and consistently associated with family happiness across from model 2 to model 4, being the highest value ( $\beta=0.39$ ) in the final regression model. Individual or subjective happiness has been described as positive emotions, social interactions, intentional behaviors, and

dispositions (Zhou, 2013; Lyubomirsky et al., 2005; Seligman, 2002) linked to various social factors, such as income, social status, marriage, and connectedness. Moreover, previous studies reported that external factors, such as economic conditions, social status, and life events, are connected to individual happiness (Uchida & Oishi, 2016; Sakawa et al., 2015). The mentioned evidence demonstrated that individual happiness served as a collective summary of personal demographics, which was indicated by the increase of explained variance ( $R^2$ ) as well as the reduction of betas of the demographic predictors from models 1 to 2. The addition of family factors in model 3 further increased the explanatory power ( $R^2$ ), but there was a reduction in the beta of individual happiness, which means that family factors had a stronger impact on individual happiness. The COVID-19 impact in model 4 did not increase the explanatory power, as all the sociodemographic variables and external factors did not show any association with family happiness. This is because individual happiness may represent them collectively. Furthermore, In Chinese culture, an emphasis on “Confucian Analects and the Great Learning” under the philosophy of Confucianism roots the sequence/order laid down by this phrase of “Cultivate the self, regulate the family, govern the state, then lead the world to peace” (修身、齐家、治国、平天下) in Chinese (Legge, 1960). The first two phrases illustrated explicitly the association and sequence of individual and family; that is, individual wellness, including one’s physical, mental, and spiritual well-being, is a pre-requisite for leading a family wellness. The current result that individual happiness predicted family happiness echoes this Chinese culture and ascertains that phenomenon.

Family solidarity, family resources, and family mental health predicted family happiness in this study, given that the summative explanatory power ( $R^2$ ) is the highest in the regression model. People with good family solidarity (as mainly reflected by family relationships and connectedness), and better family resources, such as the items of a comfortable living environment, suitable living standards, adequate income for expenses, and healthy family mental health, reported higher family happiness levels. This result agrees with a qualitative study of perspectives on family health, happiness, and harmony by Lam et al. (2012), which stated that family harmony, care, a sense of security, and satisfaction contributed to the family happiness of Chinese participants. Studies conducted pre-pandemic reported that family happiness is influenced by having healthy family relationships, a sense of cohesion, spending leisure time with family

together, and caring for one another (Stasova & Vilka, 2018; Chiang & Lee, 2018). In addition, a grounded theory on family happiness among people in Southeast Asian city by Napa et al. (2020) reported that financial security increases family happiness, which agrees with the findings in our study. It is believed that a consistent association between family factors and family happiness was maintained in the past and current and perhaps will recur in the future.

The COVID-19 pandemic has resulted in various stressful conditions, including social isolation, quarantines, losing a loved one, anxiety, and suicidal ideation; all these have had a detrimental effect on families' psychological well-being (Shek, 2021; Cheung et al., 2021; Sit et al., 2021). Unsurprisingly, the effects of these stressors on family factors have been felt. For instance, a study by Sit et al. (2021) and Wong et al. (2021) reported that families had increased conflicts due to increased household work time and financial hardship, and also reported negative emotions during the second and third waves of the pandemic. These reports agree with our correlation matrix (table 3), where the impact of COVID-19 negatively correlated with family happiness, individual happiness, and family factors (solidarity, resources, and mental health). In contrast, in our multilevel regression (table 4, as illustrated in model 4), the impact of the pandemic had no effect on family happiness. This univariate analysis indicated the significant individual relationship between two variables, which was unable to explore the multifactorial phenomenon.

### **Study implications**

1. Theoretical implication: The findings in this study indicated that family factors (i.e., solidarity, resources, and mental health) and individual happiness serve as mediators of family happiness. This insight can contribute to the broader literature on how individual, relational, and societal influences interconnect to promote family happiness. Therefore, improving the overall well-being of family members can have advantages, including increased family cohesion and solidarity.
2. Practically, the findings from this research have implications for policymakers and practitioners (e.g., counselors, social workers, and mental health professionals) working to support families. Interventions that target enhancing individual happiness, promoting financial security, and cultivating positive

emotions within families may be effective in fostering long-term family happiness and well-being (Folk & Dunn, 2024). For example, counselors and mental health professionals may develop family-based strategies that encourage communication, care, and support to strengthen family bonds. Policymakers can use these findings to advocate for social initiatives that promote individual happiness, provide financial assistance, and foster community-building activities. Additionally, this study offers suggestions for families on practices that strengthen relationships, such as spending quality time together.

### **Study limitations and Recommendations**

This study has some limitations. First, this study is cross-sectional, making it weak to conclude the cause-effect relationships. Second, the representation of female to male in this study may affect the external validity and thus may reduce the generalizability of our findings. However, this phenomenon was commonly reported in many published surveys (Becker, 2022; Cheung et al., 2021; He et al., 2021), and hence, the current results would be comparable with the literature. Third, the use of self-reported instruments may lead to response bias as participants may respond in socially desirable ways (Polit & Beck, 2022). However, the validity and reliability of instruments used in this study mitigate such bias; hence we recommend that future studies be conducted in a larger sample size. Fourth, the conceptualization of the family construct may often be oversimplified or inadequately reflect the nuances of family dynamics; however, incorporating diverse family models and examining individual roles within the family (Jabbari et al., 2023; Thomas et al., 2017) may provide a more accurate representation in future studies. Fifth, the single item used in this study for family mental health assessment, though reliable and valid, we did not test the interpretability of the item from the target population but only comprehensibility (Lam et al., 2023). Lastly, although the single item for measuring the COVID-19 impact was validated (Min et al., 2022), we highly recommend adopting a multi-dimensional scale (including health, psychological, social, and financial disruptions) for that kind of measurement in the future. Similar to the above, measurement indicators are relatively single. In the future, multi-dimensional and validated indicators should be adopted if available in the literature. Furthermore, mediation analysis could be employed to explore potential mediators that can help to understand better how these predictors influence family

happiness. Likewise, it is suggested that family members' life satisfaction and family functioning could be added to improve the comprehensiveness of the measurement.

### **Conclusion**

Family happiness was significantly and positively associated with individual happiness and family factors but negatively with the COVID-19 pandemic. Family factors (solidarity, resources, and mental health) and individual happiness predicted family happiness in the Hong Kong population. Individual happiness was a consistent salient predictor of family happiness, which suggests that when individuals experience happiness, they are more likely to contribute positively to a happy family environment. It should be noted that COVID-19 did not have an effect on family happiness. As the pandemic passively continues, further longitudinal studies are needed to assess family happiness.

### **Statement and Declaration**

All authors certify that they have no affiliations with or involvement in any organization or entity of financial or non-financial interest in the subject matter or materials discussed in this manuscript.

### **Competing interests**

The authors declare that the study was conducted in the absence of any financial or commercial relationships that may be viewed as a potential conflict of interest.

### **Ethical approval**

This study was approved by the Ethics Sub-committee of the Hong Kong Polytechnic University (HSEARS20201002002) and Tung Wah College (REC2022124). Participants were required to check a box indicating voluntary participation online before responding to the questionnaire.

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