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# The presence of meaning in parenthood and parental self-efficacy: a serial mediation model from social support to parent-child relationships

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## Abstract

**Background** Parenting today is characterized by numerous challenges and stressors. As a well-researched contextual factor for parenting, social support may help parents reduce parenting stress and adopt more positive parenting practices. However, the direct and indirect pathways linking social support to parenting outcomes remain largely unexplored. This study aimed to investigate whether and how the association between social support and parent-child relationships was mediated by the presence of meaning in parenthood and parental self-efficacy.

**Methods** As part of a parent education project, a total of 1,242 Chinese parents (87.2% female) participated in questionnaire surveys conducted by this cross-sectional study in Hong Kong. Data were analyzed using SPSS Statistics 26.0 and PROCESS Macro v4.1 for correlation analysis and serial mediation analysis.

**Results** The results indicated that the presence of meaning in parenthood and parental self-efficacy mediated the association between social support and parent-child relationships, both individually and serially. Furthermore, the mediating effect of the presence of meaning in parenthood was significantly greater than that of parental self-efficacy, as well as the serial mediating effect of the presence of meaning in parenthood and parental self-efficacy.

**Conclusions** Social support is positively associated with parent-child relationships, both directly and indirectly, via the presence of meaning in parenthood and parental self-efficacy. Future research could employ the serial mediation model to explore the effects of social support on the well-being of parents and children. Additionally, future practice may prioritize the presence of meaning in parenthood as a crucial outcome indicator for parenting interventions.

**Keywords** Parenting, Parent-child relations, Psychological well-being, Self-efficacy, Social support

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## Background

Parenting today is becoming increasingly challenging as parents are expected to raise children who can thrive in a competitive society and are held accountable for both the current and future well-being of their children [1, 2]. In this context, many scholars emphasize the importance of social support in alleviating parenting stress [3]. The current literature has well documented that social support positively affects parents' psychological well-being and parenting practices [4–6], as well as parent-child relationships and children's developmental outcomes [7, 8]. Particularly during challenging periods, such as the COVID-19 lockdown, prior research has demonstrated that while parents often experience increased parenting stress, social support plays a crucial role in maintaining their mental health and enhancing the quality of their relationships with their children [9, 10].

In contrast, social support is not always beneficial. Several studies have demonstrated that social support can contribute to parental stress and negative parenting practices [11, 12]. These findings align with the literature on the paradoxical health effects of social support, which suggests that social support may also impose excessive demands and adversely affect individuals' identity formation, resulting in negative health outcomes [13, 14]. Here, identity formation mainly refers to the development of identity-related components, such as self-esteem, feelings of efficacy or control, and a sense of meaning in life [13]. For example, various obligations and social roles inherent in social support may result in role conflict or feelings of being out of control, which may further contribute to poor mental health [13]. Inspired by these studies, social support may have paradoxical effects on parenting outcomes through the process of identity formation. In other words, social support can positively or negatively influence how individuals frame themselves as parents, including their sense of meaning in parenthood as well as their feelings of efficacy in parenting. Thus, to provide a more comprehensive understanding, this study aimed to explore the underlying mechanisms that explain how social support affects parent-child relationships both directly and indirectly through identity-related components (e.g., parental meaning and parental self-efficacy).

### Social support and parent-child relationships

As one of the most prominent models, the stress-buffering model of social support posits that social support can mitigate the negative effects of stress on individuals' mental and physical health [15]. Consistent with this model, previous studies have shown that social support is negatively associated with parenting stress and positively associated with parent-child relationships, particularly among families experiencing life challenges [9, 10, 16, 17]. For example, Woźniak-Prus and colleagues [9] conducted

a cross-sectional study on parenting during the COVID-19 lockdown among Polish parents with children aged between 2 months and 18 years. They found that parents' perceived social support contributed to positive experiences in the parent-child relationship. Similarly, Chen et al. [10] cross-sectionally investigated the psychological well-being of parents with school-age children in the United States and found that those with higher levels of social support reported lower levels of parenting stress and higher levels of psychological well-being during the pandemic.

Although the stress-buffering model of social support has been widely used and studied, it fails to explain the potential negative effects of social support on parenting practices [9, 18]. Therefore, alternative models linking social support to parent-child relationships seem warranted. As proposed by identity theorists, social support directly influences individuals' well-being, as the social roles and ties within a social network can offer a sense of meaning and obligation that motivates individuals to remain healthy [13]. Meanwhile, social support can also become a source of psychological distress when individuals feel pressured by the expectations associated with their social ties to behave in certain ways [19]. Consequently, based on the identity-related model proposed by identity theorists, social support can affect parenting by shaping the identity formation processes, such as the development of a sense of meaning and feelings of efficacy and control. Moreover, this effect can be either positive or negative, depending on how social support facilitates or impedes parents' identity formation [18]. Previous empirical studies have confirmed the applicability of the identity-related model of social support in the context of parenting [17, 20]. For example, in a cross-sectional study involving parents of children with autism spectrum disorder, Shepherd et al. [20] found that parents perceived informal social support as more helpful than formal support, possibly because informal support was more neutral and less detrimental to parents' self-esteem. Simultaneously, previous research has documented cultural differences in the utilization of social support, indicating that individuals in individualist cultures prefer to seek more explicit social support (e.g., informational and instrumental support) [21]. In contrast, individuals in collectivistic cultures prefer to use more implicit social support, avoiding the disclosure of personal problems that could disrupt relationships [22]. As this study focused on Chinese parents from a collectivistic background, we primarily conceptualized social support as the implicit one, referring to individuals' perceptions of available support and comfort from their social networks [21].

In addition, while the stress-buffering model mainly elucidates the positive effects of social support on

parenting outcomes, the identity-related model explains both positive and negative effects. However, these two models do not necessarily contradict one another. For example, the outcomes of identity formation—such as a sense of meaning and self-efficacy—can serve as coping resources that account for the stress-buffering effect of social support [18]. In this study, by considering the paradoxical effects of social support, we prefer to adopt the identity-related model to explore the underlying pathways connecting social support to parent-child relationships. Specifically, the identity-related components [13] are highlighted in the mediating mechanism, as detailed in the following sections. Meanwhile, considering the stress-buffering and identity formation perspectives, as well as the context of this study conducted during the COVID-19 pandemic—when individuals generally experienced elevated levels of parenting stress and social isolation [10]—social support may provide parents with additional coping resources and fulfill their need for companionship [18]. Thus, it is reasonable to assert that the positive effects of social support on the parent-child relationship outweigh its negative effects.

#### **The mediating role of the presence of meaning in parenthood**

Although the construct of meaning in life has been well-researched and shown to mediate the relationship between social support and individual well-being [23–25], the specific construct of meaning in parenthood has received relatively less attention in the current literature. The presence of meaning in parenthood mainly reflects the extent to which parents make sense of or perceive the significance of their parenting experiences [26]. Previous research has found that social support contributes to parents' sense of meaning or purpose in their parenthood [27]. Meanwhile, while becoming a parent involves numerous stressful events that can negatively affect mental health, the presence of meaning in parenthood consistently leads to positive life outcomes and enhances well-being among parents [28, 29].

Concerning the identity-related model of social support and role identity theory [13], all social ties represent role relationships that enable individuals to position themselves within the social structure and recognize their significance to others. This recognition further helps individuals derive a sense of purpose and meaning in life from their role relationships. Thus, social support can also affect parenting by influencing the identity formation process [30]. In other words, the outcomes of parental identity formation—particularly the presence of meaning in parenthood—may mediate the relationship between social support and parent-child relationships. In line with this theoretical model, previous empirical studies have demonstrated that social support contributes

to the presence of meaning in parenthood, which in turn positively affects parenting outcomes [31–33]. For example, through an integrative review of studies that focused on adolescent mothers, Erfina et al. [32] underscored the role of social support in the development of positive maternal identity and meaning. This further enables young mothers to nurture and develop positive relationships with their children. Thus, it is reasonable to anticipate that the presence of meaning in parenthood mediates the relationship between social support and parent-child relationships.

#### **The mediating role of parental self-efficacy**

Parental self-efficacy has been broadly defined as the expectation and belief that a parent has in their ability to successfully perform parenting tasks [34]. Numerous studies have found that social support is positively related to parental self-efficacy and a sense of parental competence [35–37]. In particular, a systematic review conducted by Fang et al. [35], which included 18 cross-sectional studies and 12 longitudinal studies, demonstrated that there was consistent evidence of the association between social support and parental self-efficacy. Meanwhile, high parental self-efficacy tends to predict both elevated parental competence and a high-quality parent-child relationship [38–40]. Another systematic review [38] demonstrated that parental self-efficacy is positively associated with the well-being of both parents and children, as well as the parent-child relationship.

Similar to parental meaning, parental self-efficacy can be viewed as a result of parental identity formation. According to role identity theory and the identity-related model of social support [13, 18], role obligations embedded in social relationships constitute a range of tasks that enable individuals to gain a sense of efficacy or control over their lives by accomplishing these tasks. Thus, parental self-efficacy may also mediate the relationship between social support and parenting outcomes. Previous empirical studies have substantiated this possibility by showing that parental self-efficacy serves as a mediator in the relationship between social support and parental competence [41, 42]. Thus, it makes sense to anticipate that parental self-efficacy would mediate the relationship between social support and parent-child relationships.

#### **The relationship between the presence of meaning in parenthood and parental self-efficacy**

While there is both theoretical and empirical evidence supporting the mediating roles of the presence of meaning in parenthood and parental self-efficacy individually [13, 32, 41], there remains a lack of understanding regarding whether and how the presence of meaning in parenthood and self-efficacy may serially mediate the

relationship between social support and parenting outcomes. Compared to the presence of meaning in parenthood, parental self-efficacy has received more attention in the existing literature and is often used as an important outcome indicator in parenting interventions [43, 44]. According to Bandura's self-efficacy theory [45], both emotional/physiological states and past performance accomplishments can be powerful sources of self-efficacy. Meanwhile, from an existential perspective, finding meaning in life enables individuals to address existential anxiety and mitigate adverse emotions while also allowing them to reinterpret their past experiences from a more constructive perspective [46]. Thus, it is reasonable to assert that the presence of meaning in parenthood can help parents achieve improved emotional states and gain more positive parenting experiences, which in turn would enhance their self-efficacy. Regarding the serial mediating role, it also makes sense to propose that the presence of meaning in parenthood precedes parental self-efficacy in the serial mediation chain linking social support to parenting outcomes.

Furthermore, the ability of parents to derive meaning from and view stressful parenting situations through a constructive lens is a significant factor in determining their self-efficacy and psychological well-being [47–49]. Previous research has also found that empowered parent education approaches, which help parents find meaning in parenthood, are more effective in increasing parental self-efficacy than conventional parent education approaches [50]. This is particularly true for parents of children with developmental disorders or special needs, as meaning-making coping strategies increase their sense of parental competence and enable them to make positive life adjustments [47, 51]. Given the positive effect of meaning-making on parental self-efficacy, this study assumes that the presence of meaning in parenthood and parental self-efficacy would serially mediate the relationship between social support and parent-child relationships.

### The present study

Certain gaps in the current literature necessitate a crucial reconsideration. First, though numerous studies have explored the pathways from social support to parent-child relationships, most have adopted the stress-buffering model of social support without taking into account the potential negative effects of social support. Second, the identity-related model of social support posits that the identity formation process significantly mediates the relationship between social support and parenting outcomes; however, there is insufficient empirical research testing this model. Finally, while a number of studies have highlighted the mediating roles of the presence of meaning in parenthood and parental self-efficacy in the

relationship between social support and parenting outcomes, few have investigated the serial mediating effect of parental meaning and parental self-efficacy. In other words, whether these mediators are serially linked in a causal chain [52] remains largely unexplored. In response to these research gaps, the present study aimed to examine the underlying pathways from social support to parent-child relationships by considering both the parallel and serial mediating roles of the presence of meaning in parenthood and parental self-efficacy. Based on the identity-related model of social support and a review of the relevant literature, we hypothesized the following:

**Hypothesis 1 (H1):** Social support is positively related to parent-child relationships.

**Hypothesis 2 (H2):** The presence of meaning in parenthood mediates the relationship between social support and parent-child relationships.

**Hypothesis 3 (H3):** Parental self-efficacy mediates the relationship between social support and parent-child relationships.

**Hypothesis 4 (H4):** The presence of meaning in parenthood and parental self-efficacy serially mediate the relationship between social support and parent-child relationships.

## Methods

### Participants and procedures

This study was based on a parent education project conducted from September 2020 to February 2022 in Hong Kong, in collaboration with social service organizations, to provide family life education and promote parent empowerment. The current study employed a cross-sectional research design. Regarding data collection, invitation letters were sent to ten non-governmental organizations (NGOs) involved in this parent education project to secure their assistance in recruiting parents. All participants were recruited by practitioners responsible for delivering parent education services in the aforementioned ten NGOs. The eligibility criteria for participants included having children enrolled in kindergarten or elementary school and residing in Hong Kong at the time of data collection. In total, 1,242 parents participated in the study. We conducted a post hoc power analysis using G\*Power 3.1 [53], which yielded a power of 1 (effect size = 0.15,  $\alpha = 0.05$ ), demonstrating the adequacy of the sample size. Through self-reported questionnaires, all participants were asked to provide answers to assess their social support, the presence of meaning in parenthood, parental self-efficacy, and parent-child relationships, as well as social demographics (e.g., age,

educational level, income, and questions related to parenthood). Table 1 demonstrates the characteristics of the sample.

The study was approved by the ethics review panel of the university with which the authors are affiliated. Written informed consent was obtained from all participants before the survey. Participants were informed that they had the option to withdraw from the research at any time.

## Measures

### Multidimensional social support

The Multidimensional Scale of Perceived Social Support (MSPSS), developed by Zimet and his colleagues in the United States, was utilized to assess the perceptions of social support among parents [54]. Composed of 12 items, the MSPSS evaluates three specific sources of social support: family (four items, including, e.g., “I get the emotional help and support I need from my family”), peers (four items, including, e.g., “My friends really try to help me”), and one’s significant others (four items, including, e.g., “There is a special person who is around when I am in need”). Each item is rated on a six-point Likert scale (1 = Strongly Disagree, 6 = Strongly Agree), thus yielding a total score ranging from 12 to 72, with a higher total score indicating a higher level of perceived social support. The study adopted the MSPSS-C scale, which was previously translated by Chou [55] using a sample of Chinese youth. The scale demonstrated satisfactory internal consistency (Cronbach’s alpha = 0.948) in the current sample.

### The presence of meaning in parenthood

The sense of parental meaning was assessed using the Presence of Meaning in Parenthood Questionnaire (MPQ-P) [56]. The Meaning in Parenthood Questionnaire (MPQ) was developed based on the original version of the Meaning in Life Questionnaire (MLQ) [46] and was subsequently modified and validated among Chinese parents [56]. In this study, we adopted the five-item MPQ-Presence (including, e.g., “I understand clearly what makes my parenthood meaningful,” to measure parents’ perceived meaning in parenthood. The internal consistency of the scale was satisfactory in the current sample (Cronbach’s alpha = 0.751).

### Parental self-efficacy

This study measured parental self-efficacy using the Parental Efficacy Subscale (PES) from the Parenting Sense of Competence Scale (PSOC) [57]. The PSOC comprises two subscales: eight items on parental efficacy and nine on parental satisfaction with being a parent. The original version of the PSOC was developed by Johnston and Mash in 1989, then translated into Chinese and validated by Ngai, Chan, and Holroyd in 2007 [57]. In this study, the eight-item PES (including, e.g., “Being a parent is manageable, and any problems are easily solved”) was adopted to measure parental self-efficacy in the parenting role. In our sample, this scale showed satisfactory internal consistency with a Cronbach’s alpha of 0.886.

### Parent-child relationships

Parent-child relationships were measured by the Parent-Child Relationship Questionnaire (PCRQ), which

**Table 1** Sociodemographic Characteristics of Participants ( $n = 1242$ )

Demographics	Category	N (%)	Mean (SD)
Age group (missing = 3)	20 or below	3 (0.2)	-
	21–30	101 (8.2)	
	31–40	800 (64.4)	
	41–50	301 (24.2)	
	51 or above	34 (0.5)	
Education level (missing = 5)	Middle school or below	629 (50.8)	-
	College or vocational training	279 (22.6)	
	University or above	329 (26.6)	
Marital status (missing = 6)	Married	1089 (88.1)	-
	Currently not married	147 (11.9)	
Income above and below mean (20k) (missing = 3)	Below mean (20k)	490 (39.5)	-
	Above mean (20k)	749 (60.5)	
Parental role (missing = 4)	Parents	1230 (99.4)	-
	Step-parents	6 (0.5)	
	Grandparents	2 (0.2)	
First child age (missing = 77)	-		6.036 (3.02)
Number of children (missing = 2)	Few (1–2)	1165 (94)	1.57 (0.62)
	Many (> = 3)	75 (6)	

Note: SD = standard deviation



consisted of 19 items for assessing parents’ understanding of their children, parent–child communication, parents’ expectations and feelings regarding their children, and their perceived ability to manage children’s behavior (including, e.g., “I get along well with my child” and “I feel that I can really trust my child”) [49]. Parent participants rated each item on a five-point Likert scale ranging from 1 (Rarely/Never) to 5 (Always). The total score ranges from 19 to 95, with a higher total score indicating a more satisfactory parent–child relationship. This scale demonstrated satisfactory internal consistency (Cronbach’s alpha = 0.908) in our sample.

**Data analysis**

All data analyses were conducted using IBM SPSS Statistics 26. The analyses were carried out in sequential steps. First, we investigated the means, standard deviations, skewness, kurtosis, and correlations among the study variables. Second, a serial mediation analysis was performed using Model No. 6 in Macro PROCESS [52] to test the mediation effects of how social support affects parent-child relationships, with the presence of meaning in parenthood and parental self-efficacy as mediators. The advantage of this procedure, as noted by Van Jaarsveld, Walker, and Skarlicki [58], is that it enables isolation of each mediator’s indirect effect: the presence of meaning in parenthood (M1) and parental self-efficacy (M2). This approach also enables the investigation of the indirect effect passing through both mediators in a series [58]. The statistical significance of the mediating variable was examined using 5,000 bootstrap samples, which produced 95% confidence intervals (CIs) for the indirect effects. Referring to Hayes’ [52] guideline, the indirect effect of regression coefficients is considered statistically significant if the confidence interval does not include zero. Furthermore, this study conducted a pairwise comparison among the specific indirect effects to determine whether one indirect effect is statistically different from another [52].

**Results**

**Participant characteristics**

The participants’ sociodemographic variables, including age, educational level, marital status, income, parental role, and number of children, were collected. Descriptive analyses were performed to obtain the frequencies and percentages or means and standard deviations of the demographic variables. The details of the sociodemographic characteristics are demonstrated in Table 1.

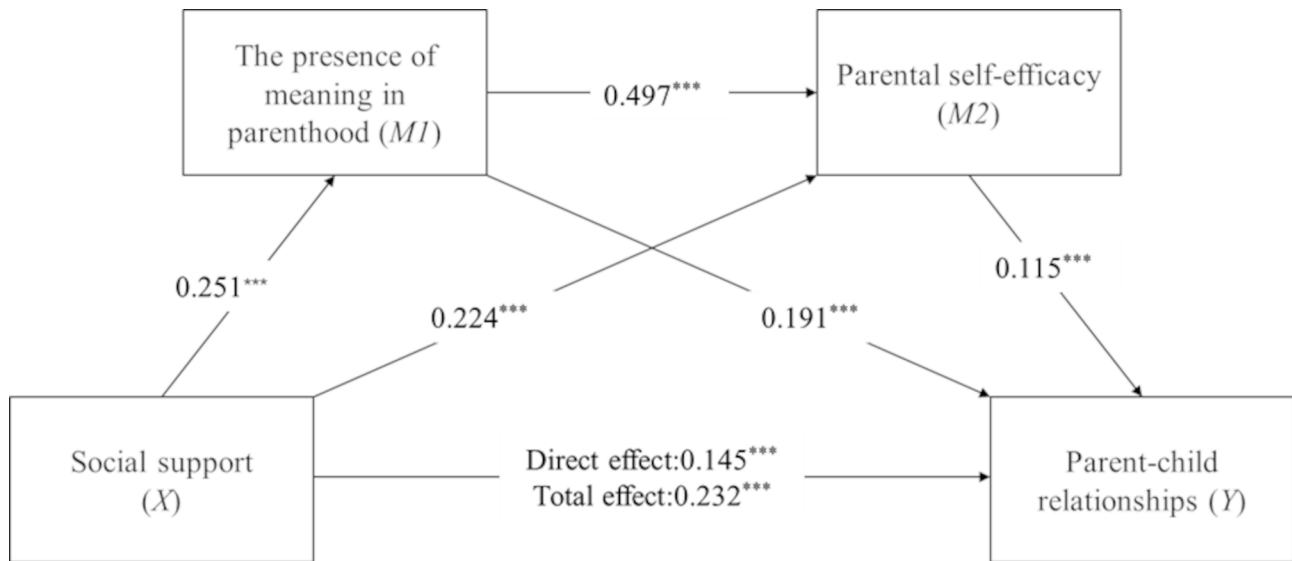
**Preliminary analysis**

Table 2 demonstrates a series of descriptive statistics and correlation coefficients between the variables. The findings indicate that parent-child relationships had a

**Table 2** Descriptive statistics and correlations for variables

	1	2	3	4	5	6	7	8	9	Mean (SD)	Skewness	Kurtosis
1 Age group	0.012											
2 Educational level	0.040	-0.160***										
3 Marital status	0.114***	-0.160***	0.098***									
4 Parental role	0.057*	0.367***	-0.278***	-0.132***								
5 Income above and below mean	0.287***	-0.120***	0.075**	0.100***	-0.092**					6.36 (3.02)		
6 First child age	-0.070*	0.081**	-0.152***	-0.008***	0.183***	-0.106***				4.47 (0.94)	-0.754	0.669
7 Social support	-0.021	-0.077**	-0.011	-0.017	0.028	0.011	0.327***			4.59 (0.72)	-0.271	0.158
8 The presence of meaning in parenthood	-0.024	-0.077**	-0.042	-0.016	-0.006	-0.054	0.396***	0.540***		4.21 (0.79)	-0.288	0.256
9 Parental self-efficacy	-0.143***	0.055	-0.055	-0.082**	0.101***	-0.166***	0.434***	0.449***	0.429***	3.94 (0.94)	-0.496	-0.023
10 Parent-child relationships												

Note: \*\*\*p < .001; \*\*p < .01; \*p < .05



**Fig. 1** Results of serial multiple mediational model ( $n = 1129$ ). Note: \*\*\* $p < .001$

**Table 3** Total and direct effects of social support on parent-child relationships and indirect effects via the presence of meaning in parenthood and parental self-efficacy

Path	Coefficient	SE	95%CI	
			LL	UL
Total effect	0.2322	0.0148	0.2031	0.2613
Direct effect	0.1445	0.0150	0.1150	0.1740
Total indirect effect	0.0877	0.0097	0.0696	0.1078
Ind1: Social support → The presence of meaning in parenthood → Parent-child relationships	0.0479	0.0073	0.0345	0.0632
Ind2: Social support → Parental self-efficacy → Parent-child relationships	0.0256	0.0059	0.0146	0.0372
Ind3: Social support → The presence of meaning → Parental self-efficacy → Parent-child relationships	0.0143	0.0033	0.0081	0.0211
C1: Ind1 minus Ind2	0.0223	0.0106	0.0022	0.0439
C2: Ind1 minus Ind3	0.0366	0.0081	0.0185	0.0506
C3: Ind2 minus Ind3	0.0133	0.0043	0.0035	0.0202

Note: CI confidence interval, LL lower limit, UL upper limit

positive association with social support ( $r = .434, p < .001$ ), the presence of meaning in parenthood ( $r = .449, p < .001$ ), and parental self-efficacy ( $r = .429, p < .001$ ). Additionally, parental self-efficacy was positively associated with social support ( $r = .396, p < .001$ ) and the presence of meaning in parenthood ( $r = .540, p < .001$ ). Similarly, the presence of meaning in parenthood was positively associated with social support ( $r = .327, p < .001$ ). The intercorrelations among the variables provide initial support to the hypothetical indirect effects. Meanwhile, the skewness ranged from  $-0.754$  to  $-0.271$ , and kurtosis ranged from  $-0.023$  to  $0.669$ , both within the normality criteria [21]. It was also found that the Cronbach's alpha ( $\alpha$ ) values for all the scales were well above  $0.70$ , therefore indicating satisfactory internal consistency [8].

**Serial mediation analysis**

Figure 1 shows the results of the serial mediation analysis. In this model, participants' age, education level, marital

status, parental role, income, and first child age were included as covariates. The finding demonstrated a positively direct effect of social support on parent-child relationships ( $B = 0.145, p < .001$ ). When the mediators were included in the analysis, this coefficient was increased significantly ( $B = 0.232, p < .001$ ). In addition, social support was found to be positively associated with the presence of meaning in parenthood ( $B = 0.251, p < .001$ ) and parental self-efficacy ( $B = 0.224, p < .001$ ).

Table 3 demonstrates the direct and total effects of social support on parent-child relationships and the indirect effects of the presence of meaning in parenthood and parental self-efficacy. The results showed that the presence of meaning in parenthood and parental self-efficacy mediated the association between social support and parent-child relationships individually. In addition, the study examined the indirect effect of social support on parent-child relationships via the presence of meaning in parenthood and parental self-efficacy. The results showed a

significant association as the range of confidence interval did not include zero, with a point estimate of 0.143 (i.e., indicating a serial mediating effect;  $SE = 0.0033$ , 95%  $CI = [0.0081, 0.0211]$ ).

As the presence of meaning in parenthood and parental self-efficacy mediated the relationship between social support and parent-child relationships independently and jointly, it was worthwhile to investigate whether the three indirect effects exerted an equal impact on the linkage of social support and parent-child relationships. Considering that the indirect effects were close to zero, this study adopted a bootstrap confidence interval for the sum of effects to conduct a pairwise comparison [52]. The comparisons between parallel and serial multiple mediator models can be found in Table 3 in the rows labeled “C1,” “C2,” and “C3.” Results indicated that the indirect effect of social support on parent-child relationships through the presence of meaning in parenthood was significantly greater ( $B = 0.0479$ ,  $SE = 0.0073$ , 95%  $CI = [0.0345, 0.0632]$ ) than the serial mediating effect ( $B = 0.0143$ ,  $SE = 0.0033$ , 95%  $CI = [0.0081, 0.0211]$ ) and the indirect effect through parental self-efficacy ( $B = 0.0256$ ,  $SE = 0.0059$ , 95%  $CI = [0.0146, 0.0372]$ ).

To summarize, results from the study indicated a positive association between social support and parent-child relationships. This association was partially mediated by higher levels of the presence of meaning in parenthood and parental self-efficacy.

## Discussion

This study adopted a serial mediation model, combining the presence of meaning in parenthood and parental self-efficacy, to investigate the direct and indirect associations between social support and parent-child relationships. The findings of this study generally support the hypothesized model. Social support was positively associated with parent-child relationships through the mediating pathways of the presence of meaning in parenthood and parental self-efficacy. The following goes into further detail.

To start with, the first hypothesis about the association between social support and parent-child relationships was verified by this study. This finding is consistent with previous studies that have found that parents' perceived social support contributes to parents' and children's well-being, as well as to the parent-child relationship [7, 59]. As with other studies conducted during the COVID-19 pandemic, the present study indicates that social support has significant impacts on parenting outcomes during difficult times [9, 10]. According to the stress-buffering model and the identity-related model of social support [13, 18], one possible explanation for this finding is that social support from experientially similar others (e.g., people experiencing the pandemic together) tends to be

more nurturing and less controlling, allowing parents to receive both empathy and active coping assistance, which in turn reduces parenting stress and results in more positive experiences in the parent-child relationship. Previous research also confirms this possibility by showing that mutual support among young mothers helps them meet parenting needs and better adapt to increased responsibilities during the transition to parenthood [33, 60]. Moreover, the findings showed that the direct effect of social support on parent-child relationships was greater than the total indirect effect. It may be that there are mediating pathways other than identity formation, such as behavioral and emotional pathways, that link social support to parent-child relationships [18]. Future studies could take multiple types of mediating pathways into consideration for portraying more comprehensive mechanisms by which social support influences parenting outcomes.

In addition, previous studies have found that there are cultural differences in terms of how people seek different forms of social support [21, 22]. Compared to individuals in individualistic cultures who may prefer to ask for more explicit social support (e.g., informational and instrumental aid), individuals in collectivistic cultures may prefer to utilize more implicit social support that does not run the risk of disturbing relationships [21]. Because this study targeted Chinese parents, we mainly constructed and measured social support in a way that reflected individuals' perceptions of support availability [54], which was found to be more culturally appropriate for people in collectivistic cultures [21]. Thus, the present finding suggests that implicit and perceived social support has a positive relationship with parenting outcomes, particularly for parents in collectivistic cultures. Future studies could explore whether parents in individualistic cultures would experience similar benefits.

Moreover, this study verified the second and third hypotheses. The findings demonstrated that the presence of meaning in parenthood and parental self-efficacy played significant mediating roles in the association between social support and parent-child relationships. These findings support the identity-related model proposed by identity theorists, who assume that social support influences parenting outcomes through the identity formation process [13]. Previous studies have demonstrated that the presence of meaning in parenthood and parental self-efficacy, both important indications of parents' identity formation, mediate the association between social support and parenting practices [31, 32, 41, 42]. One possible explanation is that the presence of meaning in parenthood and parental self-efficacy would help parents find benefits and view parenting challenges from a more constructive perspective, thus further contributing to parenting outcomes [51, 61]. Another possible



explanation is that the sense of meaning and competence in parenthood would motivate parents to adopt more responsive and positive parenting practices, which would subsequently help to increase the quality of the parent-child relationship [49].

In addition, this study confirmed the fourth hypothesis concerning the serial mediation model. The findings demonstrated that social support was indirectly and positively associated with parent-child relationships via the presence of meaning in parenthood and parental self-efficacy. While previous studies have demonstrated that the presence of meaning in parenthood and parental self-efficacy could mediate the association between social support and parenting outcomes individually [32, 33, 38, 62], this finding added to the current knowledge by showing that these two mediators can also play mediating roles jointly and serially. Inspired by the self-efficacy theory [45], which suggests that mastery experiences and emotional and physiological states can be powerful sources of self-efficacy beliefs, one possible explanation is that the presence of meaning in parenthood enables parents to gain positive experiences and feelings when facing parenting challenges, which in turn become sources of parental self-efficacy. This explanation is further substantiated by prior research in other human service fields, which demonstrated a strong correlation between individuals' ability to derive meaning from significant life transitions and their psychological well-being, including self-efficacy and self-esteem [63, 64].

Another notable finding of this study was that the mediating effect of the presence of meaning in parenthood on the association between social support and parent-child relationships was significantly greater than the mediating effect of parental self-efficacy and the serial mediating effect. Compared to previous studies, which primarily discussed the mediating effects of the presence of meaning in parenthood and parental self-efficacy separately [32, 38], this finding contributed to the current literature by indicating that the presence of meaning in parenthood played a more prominent mediating role in the relationship between social support and parenting outcomes. This may be because meaning-making is a more fundamental cognitive process that helps individuals to understand, construe, and make sense of life events, after which they can accomplish personal growth and take subsequent actions [65]. This assertion is further substantiated by prior research involving both parents and childless adults, which demonstrated that parenthood is more positively related to individuals' cognitive well-being and more negatively related to individuals' affective well-being [66, 67]. Furthermore, parents who find meaning in parenthood are more inclined to experience favorable psychological well-being [28].

### Limitations and implications

The present findings should be interpreted with caution by taking into account several limitations of this study. Firstly, this study adopted a cross-sectional research design; therefore, the findings cannot fully support the causal relationships among different variables. Consequently, it is recommended that future studies adopt a longitudinal research design to further validate relevant results. Second, this study only collected data from parents of children attending kindergarten or primary school, which did not reflect the differences between parents of children at different stages of development (e.g., preschool children and adolescents). Meanwhile, all data were collected through self-reported measurements from parents, and children's voices about the parent-child relationship were largely unheard. In future studies, more diverse measurement tools (e.g., surveys and observation rating scales) could be used to collect data from both parents and children at different stages of development, thereby enhancing the adequacy of evidence. Third, this study solely tested the mediation model and failed to consider moderating variables, such as parental socioeconomic status and the types of social support [20, 35], which may moderate the effects of social support on parent-child relationships. Future studies could employ a moderated mediation model by incorporating additional variables to deepen the understanding of the complexities of social support. Finally, generalizing the present findings should be done with caution because this study only sampled Chinese parents in the context of Hong Kong. Given the acknowledged influence of sociocultural factors on both social support and parenting [21, 68], this study could be replicated in other areas to develop a more comprehensive understanding of the direct and indirect relationships between social support and parent-child relationships.

Despite these limitations, this study still has significant theoretical and practical implications. Theoretically, the findings of this study demonstrate the applicability of the identity-related model of social support and relevant identity theories [11, 18] by showing how social support affects parenting outcomes by influencing the parental identity formation process. The study provides a more nuanced understanding of the underlying mechanisms linking social support to parent-child relationships, emphasizing the significant mediating roles of the presence of meaning in parenthood and parental self-efficacy. Future studies could adopt this serial mediation model to understand the effects of social support on the well-being of both parents and children. Moreover, in response to the potential negative outcomes of social support, this study demonstrates that social support generally has positive effects on parents' self-identity and the parent-child relationship among Chinese populations in the context of

Hong Kong, which serves to support relevant studies in other Chinese contexts.

Practically, the findings of this study emphasize the importance of focusing on parental identity formation processes (i.e., the presence of meaning in parenthood and parental self-efficacy) when providing parenting interventions or family support services. Previous studies on empowered parent education programs have also found that strategies helping parents to develop positive parental identity contribute to positive parenting practices and parents' psychological well-being [29, 49, 50]. For example, through a support group for mothers with substance abuse histories, To et al. [29] found that mothers receiving support to create meaning from past events and reconstruct their self-identities had more positive parent-child relationships and parenting practices. In addition, based on the finding that the mediating effect of the presence of meaning in parenthood was significantly greater than the mediating effect of parental self-efficacy and the serial mediating effect, future practice could prioritize the presence of meaning in parenthood as a key outcome indicator for parenting programs.

## Conclusion

The present study represents a remarkable effort to illustrate the direct and indirect pathways from social support to parenting outcomes. While the study builds upon the identity-related model of social support and relevant identity theories, it also extends the current knowledge by demonstrating both the parallel and serial mediating roles of the presence of meaning in parenthood and parental self-efficacy in the association between social support and parent-child relationships. Furthermore, the mediating effect of the presence of meaning in parenthood was found to be significantly greater than the mediating effect of parental self-efficacy and the serial mediating effect. This indicates that the presence of meaning in parenthood plays a more prominent role in contributing to positive parental self-perceptions and parenting outcomes. These findings also have practical implications by highlighting the importance of focusing on parental identity formation processes when developing parenting interventions.

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## Author contributions

L. D. performed the literature search, analyzed the data, and wrote part of the manuscript. L.Y. analyzed the data, and wrote part of the manuscript. S.M.T., C.W.V.W., and L. S. interpreted the data and provided final approval for publication.

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## Data availability

The datasets generated for this study are not readily available due to its ownership by the Hong Kong Jockey Club Charities Trust. Requests to access the datasets should be directed to S-MT, [siumingto@cuhk.edu.hk](mailto:siumingto@cuhk.edu.hk).

## Declarations

### Ethics approval and consent to participate

All procedures performed in this study involving human participants were approved by the research ethics committee of the Chinese University of Hong Kong (ref. number: SBRE-19-810). Informed consent was obtained from all subjects involved in the study.

### Consent for publication

Not applicable.

### Competing interests

The authors declare no competing interests.

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