

Parent Work–Life Conflict and Adolescent Adjustment During COVID-19: Mental Health and Parenting as Mediators

Cixin Wang¹, Yeram Cheong², Qianyu Zhu¹, Mazneen Havewala¹, and Yijun Ye³

¹ Department of Counseling, Higher Education, and Special Education, University of Maryland, College Park

² Asian American Studies Program, University of Maryland, College Park

³ Department of Student Services, TsingHua University High School

Coronavirus disease (COVID-19) pandemic is an unprecedented challenging time for parents and adolescents. The present study examines the role of parent work–life conflict on adolescent adjustment (i.e., academic engagement and mental health) and family processes (i.e., parental mental health and parenting) as potential mediators for this association. A total of 692 middle school students (53.2% boys; $M_{\text{age}} = 13.54$ years, $SD_{\text{age}} = 0.58$) and their parents (29.6% fathers and 70.4% mothers; $M_{\text{age}} = 44.75$ years, $SD_{\text{age}} = 4.14$ years) completed an online survey in May 2020 in Beijing, China. Results indicated that many parents (24.6%) experienced work–life conflicts amid the COVID-19 pandemic. Findings also showed that parent work–life conflict was negatively associated with youth academic engagement and mental health indirectly through parental mental health difficulties and parenting behavior (parental control, autonomy granting, and parental involvement). In addition, parental mental health difficulties had direct and indirect effects on youth adjustment via parenting behaviors, such that parental involvement and autonomy granting predicted greater academic engagement and covitality (co-occurrence of positive traits and positive mental health), whereas the parental control predicted youth mental health difficulties. Our findings extend prior research by examining the pathways linking parental work–life conflict to youth adjustment during COVID-19. Findings are discussed in terms of how to better support families and promote better youth academic engagement and well-being during COVID-19.

Keywords: work–life conflict, mental health, covitality, academic engagement, COVID-19


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The Coronavirus disease (COVID-19) pandemic has put significant ongoing strain on parents, as they try to balance fulfilling their work obligations as well as taking care of household duties in addition to keeping the family safe from virus, which significantly affects the dynamics in family functioning (Schieman et al., 2020). The Chinese government used very strict quarantine measures to contain the spread of the virus in spring 2020. For example, only one member in each household was allowed to leave the apartment to go shopping for essentials every other day during the early stage of the quarantine in spring 2020. Schools were closed, classes were taught virtually (often asynchronized), and children were not allowed to go outside of the apartment building (it is important to note that most


families in Beijing live in small apartments) or socialize with friends in person. The sudden switch to virtual learning (often unsynchronized) challenged students' ability to pay attention, maintain motivation and engagement during online classes, as well as parents' ability to be involved in children's learning, because parents had to provide more support to their children while trying to reorganize their own work obligations. These factors together may negatively impact children's mental health and academic engagement. In addition, the stresses that parents experience due to work–life conflict may exacerbate the coercive cycle in parent–youth interactions that may negatively impact youth adjustment. There is substantial research on the effects of parental work–life conflict on child development, emphasizing the difficulties reflected in parents' time spent with their child and compromised quality of caregiving. However, most research on the topic has focused on the period of early childhood (Heinrich, 2014; Milkie et al., 2010), and there is relatively little work focusing on adolescence (Li et al., 2014).

Adolescence is a period of heightened vulnerability to family functioning and mental health difficulties. In particular, youth are seeking more autonomy, yet still need and benefit from parental involvement (Wong, 2008). At the same time, parent–youth conflict may increase in the process of negotiating fine boundaries during early adolescence (Chen-Gardini, 2012). The COVID-19 pandemic presents another challenge in such parent–youth dynamics, during which parents' mental capacity may be in jeopardy due to increased demands of balancing their own work and supporting their children's educational needs. It is also likely that youth mental health

Cixin Wang  <https://orcid.org/0000-0002-4947-0228>

Yeram Cheong  <https://orcid.org/0000-0001-5526-6525>

Qianyu Zhu  <https://orcid.org/0000-0003-1728-9384>

Mazneen Havewala  <https://orcid.org/0000-0002-8996-6762>

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Correspondence concerning this article should be addressed to Cixin Wang, Department of Counseling, Higher Education, and Special Education, University of Maryland, College Park, 3112E Benjamin Building, College Park, MD 20742, United States. Email: cxwang@umd.edu

may be impacted by changes in parent–youth dynamics imposed by the pandemic. Indeed, a recent study among Australian families showed that adolescents experienced significant increase in mental health problems during COVID-19 compared to 12 months ago, and parent–child conflict (measured by one item) predicted the increase in mental health difficulties (Magson et al., 2021). However, no published study has examined how disruptions in parents' work–life balance and family functioning during COVID-19 may exacerbate difficulties in youth mental health and academic engagement. In addition, a majority of the research on the effects of COVID on family dynamics has been conducted using Western samples. It is likely that those findings may not generalize to Chinese cultural context. Indeed, studies on the role of parenting practices in relation to youth outcomes in Chinese families have yield mixed findings, suggesting the importance of understanding family functioning within a cultural context (Cheung & McBride-Chang, 2008; Wang et al., 2017). Therefore, the aims of the present study were to examine the effects of parental work–life conflict, as a contextual stressor on youth mental health, including both positive mental health (measured by covitality, or the co-occurrence of positive traits) and mental health symptoms, and academic engagement among a sample of highly educated parents and their adolescents in China. It examined two mediating mechanisms, parental mental health and parenting behaviors related to their child's learning, and sought to understand how parental work–life conflict was related to parental mental health, which in turn, was related to parenting behaviors that have divergent associations with youth outcomes.

Guiding Theory: Risk and Resilience in Family Well-Being During COVID-19 Pandemic

The present paper is guided by a conceptual framework of COVID-19-specific risk and resilience in family well-being (Prime et al., 2020). Guided by the systemic models of human development and family functioning (e.g., Buehler et al., 2006; Masten & Cicchetti, 2010), the model (Prime et al., 2020) posits that the social and economic impacts of the COVID-19 pandemic influence youth adjustment in a cascading fashion by disrupting or altering family communication, organization, and belief systems: social and economic disruptions from the global health crisis and quarantine heighten levels of psychological distress for caregivers, impacting the quality of relationships between caregivers and their children, and such changes in family dynamics pose a significant risk for youth adjustment. While this comprehensive model draws from multiple systems theories (e.g., ecological model and family systems), it pays special attention to the increased daily stressors added by the COVID-19 pandemic. In addition, it focuses on caregivers' well-being as a funnel in which the disruptions caused by the pandemic permeate through the family functioning (Prime et al., 2020). The model also suggests that resilience in family well-being, such as positive family relationship, may increase one's ability to cope with the pandemic. Reflected in this model is the developmental cascade model, which posits that functioning in one domain or system spreads over to impacting functioning of other domains or systems over time resulting in cumulative consequences (Masten & Cicchetti, 2010). Given that the COVID-19 pandemic is a unique on-going stressful situation in which family well-being is additionally constrained by the government restrictions to manage the global health crisis, utilizing this theoretical framework will help

us understand how it impacts the dynamics of family functioning and the specific mechanisms via which youth adjustment is affected.

The disruptions to family functioning due to COVID-19 present heightened stress and reduced psychological well-being for the caregivers. Some changes in family include interrupted daily routines and placed greater demands for communicating new rules with children (e.g., restrictions on activities for maintaining physical distancing), which in turn, placed greater demands on caregivers to adapt to new routines, rules, and restrictions (Prime et al., 2020). Caregivers may be vulnerable to stress not only because of the emotional salience of such changes in daily lives, but also due to reduced availability of social support (e.g., reduced contacts with extended family members) and infrastructure to aid childcare (Griffith, 2020).

In the case of working parents, balancing caregiving and work presents great challenges to their own mental health. Vulnerabilities to mental health among parents may negatively impact youths' well-being and adjustment (Brown et al., 2020; Griffith, 2020) through parenting. For example, caregivers' capacity to practice effective parenting may be in jeopardy when they face increased demands and work–family conflict during COVID-19 (Prime et al., 2020). The mediating cascades in which the stress is spilling over to youth maladjustment may be expressed through parental hostility and coercive parenting practices (Buehler et al., 2006; Davies et al., 2016). Thus, parents may rely on harsh or coercive parenting approaches that may feed into a negative cycle of parent–child interactions, which in turn may contribute to poor relationship quality and child psychosocial maladjustment (Patterson, 2016; Prime et al., 2020). In addition, parents may be less involved and may fail to support adolescents' learning and mental health needs when they themselves are overwhelmed by their job demands and their mental health struggles. On the other hand, effective parenting practices that balance warmth, responsiveness, and appropriate levels of control, such as autonomy granting parenting and parental involvement, may serve as protective factors for youth adjustment. Therefore, the present study investigates the role of the parental work–life conflict in the context of COVID-19 and family processes (i.e., parental mental health and parenting behaviors) on youth adjustment outcomes (i.e., youth mental health and academic engagement). More specifically, we examined the mediating role of parental mental health as measured by symptoms of depression, anxiety, and stress. Because parents' efforts to monitor adolescents' academic learning may be main sources of conflict between Chinese parents and adolescents during the COVID-19, we focus on three parental behaviors related to children's academic learning as mediators: *autonomy granting*, parents allowing their children to make decisions related to learning; *parental involvement*, which includes parents' behaviors that support their children's educational progress (e.g., help with homework, Hill & Tyson, 2009); and *parental control*, defined as parent use of different regulating and disciplinary behaviors to support children's learning, which includes behavioral control (e.g., parental monitoring and limit setting) and psychological control (i.e., parents' attempt to control the children's behavior using intrusive, manipulative, or dismissive practices, Barber et al., 2005; Kunz & Grych, 2013).

Work–Life Conflict During COVID-19

The present study focused on work–life conflict, in which caregivers feel that the general demands of work interfere with fulfilling

family-related responsibilities (Netemeyer et al., 1996). Such tension from competing roles between family and employment settings has shown to result in parental stress as measured in burnout (Griffith, 2020) and mental health difficulties (see Gisler et al., 2018 for a review). For example, a longitudinal study also found that the mental health of children between the ages of 4–13 deteriorated as their parents experienced an increased work–family conflict (Dinh et al., 2017).

The virtual learning and shelter-in-place order during the COVID-19 pandemic have placed additional demands on parents to manage not only general childrearing but greater responsibilities to support their children’s learning. In fact, recent studies conducted during COVID-19 showed that parents’ work–family conflict contributed to greater parenting stress (Brown et al., 2020; Chung et al., 2020), while parenting stress was negatively associated with children well-being (Spinelli et al., 2020).

One mechanism through which parent work–life conflict may impact child outcomes is parenting practices. While research examining the direct link between parents’ work–life conflict and parenting behaviors for adolescents is limited, previous studies of families with younger children have suggested that parent work–family conflict and mental health difficulties contribute to less effective parenting behavior. For example, parents’ work–family conflict is associated with parental rejection, irritable responses to their child, and lower parenting warmth (Cooklin et al., 2015). Parents’ experience of accumulated work–family conflict was negatively related to their children’s mental health and this relation was explained by parental distress and parental irritability (Leach et al., 2021). Moreover, mothers experiencing higher work–family conflict tended to engage in greater harsh parenting, which in turn, predicted more mental health problems among their children and adolescents, and the link was stronger for adolescents than for the younger children (Hess & Pollmann-Schult, 2020). During COVID-19, one study found that parental burnout and parental stress were risk factors for child maltreatment (Brown et al., 2020).

Parental Psychopathology, Parenting Behaviors, and Adolescent Outcomes

Studies have demonstrated links between parental mental health difficulties (e.g., depression and anxiety) and child/adolescent mental health difficulties (e.g., Rapee, 1997; Rasing et al., 2015). While genetic factors may explain this relation, extensive research has highlighted the mediating role of parenting behaviors explaining links between parental psychopathology and child psychopathology. For example, parents with depressive disorders tend to exhibit more intrusiveness and withdrawal behaviors (see review by Lovejoy et al., 2000), which were associated with more child internalizing problems (see Rapee, 1997 for a review). However, little research on the topic has focused on adolescents, a group at increased risk for mental health problems. Similarly, there is limited research on the topic among Chinese families.

Parental mental health may also impact their children’s academic functioning (e.g., Dahlen, 2016), possibly mediated through parental behaviors, such as a lack of stimulating activities for young children (McLoyd, 1998). However, little is known about the relation between parental mental health and adolescents’ learning, and the pathway linking the two. Academic engagement is a multidimensional construct (including both behavior and emotional

engagement) that reflects a student’s active participation in learning at school (Skinner et al., 2009), and it is linked to better academic achievement. Previous research has shown that parental involvement and parental autonomy granting can predict adolescent academic achievement (Hill & Tyson, 2009) and mental health (Wang et al., 2019). It is important to examine potential risk and protective factors for adolescent academic engagement during COVID-19, because researchers have projected substantial drops in students’ academic achievement—an average of 3 month worth of loss in reading and 4 month worth of loss in math due to COVID-19 school closures (Kuhfeld et al., 2020).

Parenting in China

Cross-culture researchers have argued for the importance of considering cultural differences when studying family functioning, as most of the developmental psychology literature has been based on Western samples. Some researchers suggested that culture may moderate the relations between parenting behaviors and the meaning and norms of such behaviors, which may then predict youth outcomes (Soenens et al., 2015). On the other hand, the universalist perspective suggests that certain parenting practices (such as involvement and autonomy support) are beneficial, while controlling parenting are detrimental to child development across cultures (Davidov, 2021; Kapetanovic et al., 2020). Researchers in support of the cultural relativist perspectives suggested that controlling parenting may be functional among Chinese families (Chao, 2001). For example, influenced by the broader cultural norm of respecting parental authority and collectivism, Chinese and Chinese American children may tend to view parental control as an expression of love and care instead of intrusion, resulting in better outcomes for the youth (Cheung & McBride-Chang, 2008). However, others have taken more nuanced approach that the extent to which parents’ controlling behaviors may be associated with negative child outcomes may depend on youth’s appraisal of such parenting behaviors (Soenens et al., 2015) as well as in domains of adjustment outcomes (e.g., Cheung & Pomerantz, 2011). This study seeks to advance the literature by examining the role of parental control on youth’s academic engagement and psychological adjustments during COVID-19.

Parental involvement in students’ learning is strongly encouraged in Chinese schools and society broadly. During COVID-19, although students stayed home and took classes online, many parents maintained contacts with teachers through social media platforms (e.g., wechat) and were encouraged to continue monitoring their child’s learning (e.g., attending virtual classes and completing homework). However, Chinese parents’ ongoing efforts to monitor adolescents’ learning may be perceived negatively (e.g., too controlling) by adolescents, because adolescents may have had limited freedom (e.g., not being allowed to leave the apartment to get away from parents’ monitoring) during the quarantine.

Present Study

There are several gaps in the literature on parent work–life conflict, parental mental health, and adolescent adjustment outcomes. First, a majority of the research has focused on the early childhood period and there is relatively little research on the topic during the period of adolescence. Second, the COVID-19 pandemic

has caused significant disruptions in family functioning. It is critical to examine how parent work–life conflict during a highly stressful period as a pandemic predicts adolescent outcomes, as well as understand mechanisms that may explain this relation, as it may help target intervention efforts accordingly. Third, most research on youth mental health has focused on negative outcomes. The dual factor model of mental health suggested that mental health includes two factors: the absence of mental health difficulties and the abundance of well-being (World Health Organization, 2004). It is important to study the positive aspect of mental health especially during challenging times, such as COVID-19. In our study, we thus examined both adolescent mental health difficulties (based on parent report) and covitality (based on youth report) to gain a comprehensive picture of adolescent mental health. Covitality refers to the co-occurrence of positive and healthy traits, the antithesis to comorbidity, and is the “synergistic effect of positive mental health resulting from the interplay among multiple positive psychological building blocks” (Renshaw et al., 2014, p. 14). The covitality construct in our study included four positive, healthy traits: belief in self, belief in others, emotional competence, and engaged living. It has been used as an indicator of positive mental health in prior studies (Furlong et al., 2014). Finally, a majority of the existing research has been conducted on Western samples, limiting generalizability to other contexts. Thus, the aims of the present study were to add to the understanding by examining (a) if parent work–life balance predicted youth adjustment (mental health and academic engagement) and (b) if this relation was mediated by parental mental health and parenting behaviors. More specifically, we examined if parent work–life conflict predicted parental mental health, which in turn predicted parenting behaviors, which in turn predicted youth adjustment. We hypothesized that parents’ work–life conflict during

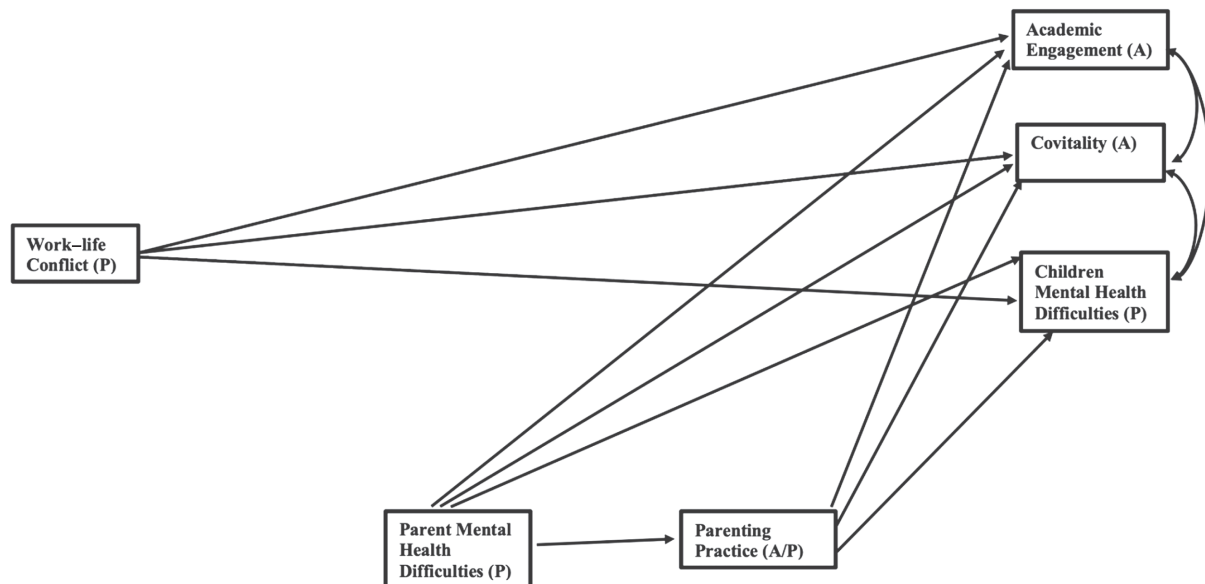
COVID-19 would positively predict parental mental health problems (internalizing symptoms), which in turn would predict more coercive parenting behaviors (parental control) and less positive parenting behaviors (parental autonomy granting and parental involvement), which in turn would predict poor youth adjustment (Figure 1).

Method

Procedures

Parents and students from one middle school in Beijing, China were invited to complete an anonymous online survey in May 2020. This high-achieving middle school was affiliated with a prestigious university in Beijing, China, and students generally had very high academic performance. This study received research ethics committee approval from Qinghua University Middle School in China and University of Maryland. Classroom teachers posted the survey link (separately for parents and youth) on the class social media page and encouraged parents to participate. Participation was voluntary. Parents who agreed to participate shared the survey link with their adolescents. Participants were asked to respond to survey items based on their experiences during the school closure period (between February and May 2020) due to COVID-19. During the online survey, participants were automatically reminded by the software to complete each survey question to reduce missing data, but they were allowed to skip items after the reminder. It took approximately 20 min for parents and youth to complete the respective surveys. No identifying information was collected. Only one parent and one child per family were invited to participate. We did not collect data on parental marital status or living conditions, but parent and youth were living together during the data

Figure 1
Theoretical Model



Note. A = adolescent report; P = parent report. Parenting practices include parent-reported autonomy granting, parent-reported parental control, and adolescent-reported parental involvement. Control variables: grade level (as a proxy for age) and adolescent self-reported academic performance as measures by the final grades (0–100 points) from Fall.

collection, and parent surveys were linked with the youth surveys based on the home IP address. About 170 parent or youth surveys were not linked and were not included in the analysis. We also excluded parents who were unemployed/not working from the analysis, because we were interested in parent work–life conflict in this study. Below, we reported how we determined our sample size, all data exclusions (if any), all manipulations, and all measures in the study.

Participants

We conducted a priori power analysis using G*Power to estimate the sample size needed for the regression analysis assuming a small effect size of .15, and α of .05. We had seven predictors (including two control variables, one independent variable, and four potential mediators) for regression. G*Power result showed that a total sample of 138 (138 parents and 138 adolescents) was required to achieve a power of .95. The final sample included 692 middle school students (53.2% boys; $M_{\text{age}} = 13.54$ years, $SD_{\text{age}} = 0.58$; 50.7% 7th grade, 44.9% 8th grade, 4.3% 9th grade) and their parents (29.6% fathers and 70.4% mothers; $M_{\text{age}} = 44.75$ years, $SD_{\text{age}} = 4.14$ years). A majority of the parents were highly educated. 35.4% of parents had a bachelor's degree, 39.9% held a master's degree, and 22.3% held a doctorate degree. All parents were employed and worked (remotely through tele-work or in person) for 8.23 hr on average ($SD = 1.83$ hr) each day during COVID-19.

Measures

Parent Work–Life Conflict

Parents completed the 5-item *Work–Life Conflict* scale (Netemeyer et al., 1996). They reported the extent to which they agreed with five statements about work–life conflict (e.g., “The demands of my work interfere with my home and family life”) on a 5-point Likert scale (1 = *strongly disagree*, 2 = *disagree*, 3 = *neither*, 4 = *agree*, 5 = *strongly agree*) during COVID-19. Confirmatory Factor Analysis (CFA) results showed a good model fit, $\chi^2(4) = 9.622$, $p = .047$, CFI = .998, RMSEA = .064, SRMR = .014, and the measure also showed good internal consistency ($\alpha = .938$).

Parent Mental Health

Parents completed the *Depression Anxiety Stress Scale-21* (DASS-21; Antony et al., 1998; Lu et al., 2018), which is a widely used measure to assess depression, anxiety, and stress (seven items per subscale, e.g., “It is hard to wind down”). Parents reported on a 4-point Likert scale (0 = *Did not apply to me at all*, 3 = *Applied to me very much, or most of the time*) to rate the extent to which the statements described them *over the past week*. This measure has been validated in a Chinese sample, showing good internal consistency of .90 (Jiang et al., 2020) and construct validity (3 factors) as proposed (Lu et al., 2018). Average scores for Depression, Anxiety, and Stress subscales were used in the analysis. The measure showed good internal consistency ($\alpha = .931$).

Parental Control

We developed five items to measure the extent of parents' use of controlling strategies with relation to their child's learning for the

purposes of this study. Parents were asked to reflect on their behaviors and respond to the items on a 5-point Likert scale (1 = *never*, 5 = *always*). Sample items included “I punish or threaten my child if he/she does not complete all assignments sufficiently,” “I ask my child to not play video games and not do things unrelated to studying” and “I require my child to do extra studying (preview and review) in their spare time.” CFA results showed a good model fit, $\chi^2(4) = 12.971$, $p = .011$, CFI = .994, RMSEA = .081, SRMR = .029, and an acceptable internal consistency ($\alpha = .780$).

Parental Autonomy Granting

Parents responded to four items (developed for this study) regarding how much they allowed their children to make decisions related to learning on a 5-point Likert scale (1 = *never*, 5 = *always*). Sample items included “I offer suggestions related to learning, but allow my child to decide how to study,” “I think children should learn from natural consequences and I do not force my child to do things my way,” and “I allow my child to follow his/her own interests.” CFA results showed a good model fit, $\chi^2(1) = .006$, $p = .940$, CFI = 1.000, RMSEA = .000, SRMR = .001, and an acceptable internal consistency ($\alpha = .786$).

Parental Involvement

Adolescents completed the *Academic Support* subscale from the *Parental Involvement Behavior Questionnaire* (Wu et al., 2018). Adolescents rated the frequency of their parents being involved in their schooling on a 5-point Likert scale (1 = *never*, 5 = *always*). One sample item is “My parents help me when I struggle with homework.” In the present study, the measure demonstrated good internal consistency ($\alpha = .778$). CFA suggested good model fit, $\chi^2(4) = 4.557$, $p = .336$, CFI = .999, RMSEA = .020, SRMR = .016.

Child Mental Health Difficulties

Parents completed the *Strengths and Difficulties Questionnaire-Chinese* (SDQ; Goodman et al., 1998) to report on their child's mental health. Parented responded to 20 items regarding their child's emotional and behavioral difficulties since the quarantine, including emotional symptoms, peer relationship problems, hyperactivity, and conduct problems. One sample item is “My child is nervous in new situations.” Parents reported on a 3-point Likert scale (0 = *not true*, 2 = *certainly true*). We summed all 20 items to generate the total difficulties score as suggested by prior research (i.e., Goodman et al., 1998). This measure has been validated among Chinese adolescents and has shown good convergent and discriminant validities (Du et al., 2008). In the present study, the internal consistency of the scale was acceptable ($\alpha = .798$).

Covitality

Adolescents completed the 36-item *Social Emotional Health Survey—Secondary-Chinese Version* (SEHS-S), which measures covitality, or the co-occurrence of positive and healthy traits and an indicator of positive mental health (Furlong et al., 2014; Xie et al., 2017). Adolescents indicated how frequently they engaged in particular behaviors on a 6-point Likert scale (1 = *not like me at all*, 6 = *like me very much*). SEHS-S yields 12 subscales that load onto

four second-order traits, including *belief in self* (self-awareness, persistence, self-efficacy, e.g., “When I try to solve a math problem, I will not stop until I find a final solution”), *belief in others* (school support, family coherence, peer support, e.g., “I have a friend my age who helps me when I’m having a hard time”), *emotional competence* (empathy, self-control, behavioral self-control, e.g., “I think before I act”), and *engaged living* (gratitude, zest, and optimism, “Each day I look forward to having a lot of fun”). The second-order traits load onto a higher order latent trait called covitality. This measure has been widely used and has demonstrated sound psychometric properties (Furlong et al., 2014). The measure has also been validated among Chinese students showing good construct validity, concurrent validity (significantly correlated with subjective well-being and positive affect), and reliability ($\alpha = .92$, Xie et al., 2017). In the present study, the measure showed good internal consistency ($\alpha = .955$). CFA suggested a good model fit, $\chi^2(41) = 98.925$, $p < .001$, CFI = .954, RMSEA = .064, SRMR = .041. In the present study, the mean score of all 36 items was used to measure the covitality.

Academic Engagement

Adolescents reported on their behavior engagement during online learning since COVID-19 on a 7-point Likert scale (1 = *never*, 7 = *always/everyday*). The four-item measure was modified based on the *Behavioral and Emotional Engagement* subscales (Skinner et al., 2009) to capture online learning during COVID-19 (e.g., “I pay attention during online classes”). CFA suggested a good model fit, $\chi^2(2) = 5.037$, $p = .081$, CFI = .993, RMSEA = .066, SRMR = .020, and the measure showed a good internal consistency ($\alpha = .867$).

Data Analysis

We used path analysis in *Mplus 7.4* (Muthén & Muthén, 2015) to analyze data. We used a bootstrapping method with 5,000 iterations to examine the indirect effects. First, we analyzed whether parents’ perception of work–life conflict predicted youth outcomes (i.e., covitality, mental health difficulties, and academic engagement). Second, we analyzed whether parents’ mental health difficulties mediated the relations between parents’ perception of work–life conflict and youth outcomes. Third, we analyzed whether parenting practices (i.e., autonomy, control, and involvement) mediated the relations between parents’ mental health difficulties and youth outcomes. We controlled for youth’s grade level (as a proxy for age) and academic performance (i.e., the final grades from the previous semester based on students’ self-report) in all models, because these two variables were related to youth outcomes. We did not control for parents’ gender and parents’ level of education, because they were not related to youth outcomes. Standardized coefficients were reported.

No work was preregistered. Data and study analysis code is available from the first author upon reasonable request.

Results

Descriptive Data and Correlational Analyses

About 24.6% of parents reported experiencing (reported 4 = *agree* or 5 = *strongly agree* on any of the items in the *Work–life*

Conflict scale) work–life conflicts due to work demands amid COVID-19 pandemic. In addition, about 13% of parents reported mild-to-severe depressive symptoms (total score >9), 8.5% reported mild-to-severe anxious symptoms (total score >8), and 27.7% reported mild-to-severe stress (total score >14) based on the cutoff scores in *DASS-21*. For youth mental health, 9.25% ($n = 64$) of the parents reported slightly elevated scores (15–17) for their adolescents on SDQ, 4.48% ($n = 31$) reported elevated scores (18–19) indicating a high risk of clinically significant problems, and 5.06% ($n = 35$) reported very high scores (20–40) indicating a very high risk of clinically significant problems based on the cutoff scores in SDQ. Table 1 displays mean, standard deviation, and correlations of study variables. We considered a correlation of .10 as a weak correlation, a correlation coefficient of .30 as a moderate correlation, and a correlation coefficient of .50 or larger as a strong or large correlation.

Parent work–life conflict was moderately associated with more parental mental health difficulties ($r = .391$), weakly associated with more parental control ($r = .169$), and moderately associated with adolescent mental health difficulties ($r = .249$). Parental mental health difficulties were weakly associated with parental involvement, autonomy granting, parental control, adolescent academic engagement, and covitality (ranging from $r = -.088$ to $.273$), but strongly associated with adolescent mental health difficulties ($r = .563$). In addition, parental control was moderately associated with adolescent mental health difficulties ($r = .331$) and weakly associated with adolescent covitality ($r = -.109$). On the other hand, parental involvement and autonomy granting was positively associated with adolescent academic engagement and covitality, but negatively with youth mental health difficulties, and all these correlations were in the weak-to-moderate range ($r = .088$ to $.331$). Youth-reported parental involvement was positively related to parent-reported control ($r = .172$), and negatively related to parent-reported autonomy granting ($r = -.136$), although the associations were weak.

Research Question 1 (RQ1): Parents’ Perception of Work–Life Conflict and Youth Adjustment

This model was saturated, $\chi^2(0) = 0$, $p < .001$, CFI = 1.000, RMSEA = .000, SRMR = .000. Results showed that parents’ work–life conflict was positively related to parent-reported adolescent mental health difficulties ($\beta = .237$, $p < .001$). Parents’ work–life conflict did not predict adolescent-reported covitality ($\beta = -.058$, $p = .122$) or academic engagement ($\beta = -.034$, $p = .353$).

Research Question 2 (RQ2): Parents’ Mental Health Difficulties as the Mediator

The model fit well, $\chi^2(2) = 7.922$, $p = .019$, CFI = .993, RMSEA = .065, SRMR = .020, see Figure 2. After adding the mediator, parents’ perception of work–life conflict did not directly predict youth mental health difficulties anymore. Parents’ perception of work–life conflict was positively associated with their own mental health difficulties ($\beta = .391$, $p < .000$), which then predicted lower levels of adolescent-reported covitality ($\beta = -.177$, $p < .001$) and academic engagement ($\beta = -.117$, $p < .001$), as well as more parent-reported mental health difficulties ($\beta = .539$, $p < .001$). In other words, parents’ mental health difficulties mediated the

Table 1
Mean, Standard Deviation (SD), and Correlation Among Variables of Interest

Variable	Work–life conflict	P_mental health difficulties	Involvement	Control	Autonomy	Academic engagement	Covitality	A_mental health difficulties
Work–life conflict	—							
P_mental health difficulties	.391**	—						
Involvement	-.015	-.088*	—					
Control	.169**	.273**	.172**	—				
Autonomy	-.057	-.157**	-.136**	-.433**	—			
Academic engagement	-.046	-.181**	.281**	-.070	.136**	—		
Covitality	-.065	-.183**	.331**	-.109**	.156**	.657**	—	
A_mental health difficulties	.249**	.563**	-.088*	.331**	-.259**	-.237**	-.271**	—
<i>M</i>	2.086	1.397	3.719	2.570	3.572	5.775	4.953	1.435
<i>SD</i>	0.983	0.393	0.870	0.778	0.767	1.083	0.750	0.261

Note. P = Parents; A = Adolescents.
* $p < .05$. ** $p < .01$.

relations between parental work–life conflict and adolescent covitality (indirect effect = $-.053$, 95% CI $[-.109, -.036]$), mental health difficulties (indirect effect = $.056$, 95% CI $[-.161, .264]$), and academic engagement (indirect effect = $-.076$, 95% CI $[-.113, -.036]$). When parents perceived more work–life conflicts, they were more likely to experience mental health difficulties, which in turn, predicted lower levels of covitality and academic engagement, and more mental health problems among adolescents.

Research Question 3 (RQ3): Parenting Practices (Autonomy, Control, and Involvement) as the Mediators

We then added three parenting practices (autonomy, control, and involvement) as the mediators to the previous model (from RQ2) to test the full theoretical model. The fit of the final model was good, $\chi^2(8) = 36.046$, $p < .001$, CFI = .978, RMSEA = .071, SRMR = .037, see Figure 3. Parents' perception of work–life conflict predicted parents' mental health difficulties, which then predicted less parent-reported autonomy granting ($\beta = -.159$, $p < .001$), greater parent-reported control ($\beta = .244$, $p < .001$), and less youth-reported parental involvement ($\beta = -.097$, $p = .024$). In addition, parent-reported autonomy granting and youth-reported parental involvement predicted more youth self-reported covitality ($\beta = .153$, $.357$, $ps < .001$, respectively) and academic engagement ($\beta = .140$, $.224$, $ps < .001$), and fewer parent-reported mental health difficulties ($\beta = -.124$, $-.124$, $p < .001$, $.003$). Parent-reported control predicted more parent-reported mental health difficulties ($\beta = .149$, $p < .001$), but did not predict youth-reported covitality or academic engagement.

Moreover, the following seven specific indirect effects were statistically significant from parents' perception of work–life conflict (the predictor; an exogenous variable) to parent mental health difficulties (the first mediator variable): (a) to parental involvement (the second mediator variable), then to adolescent academic engagement (indirect effect = $-.008$, 95% CI $[-.018, -.002]$); (b) to parental autonomy, then to academic engagement (indirect effect = $-.009$, 95% CI $[-.018, -.004]$); (c) to parental autonomy, then to adolescent mental health difficulties (indirect effect = $.008$, 95% CI $[-.003, .016]$); (d) to parental involvement, then to adolescent mental health difficulties (indirect effect = $.004$, 95% CI $[-.001, .009]$); (e) to parental control, then to adolescent mental health difficulties (indirect effect = $.014$, 95% CI $[-.007, .026]$); (f) to parental autonomy,

then to adolescent covitality (indirect effect = $-.010$, 95% CI $[-.020, -.004]$); and (g) to parental involvement, then to adolescent covitality (indirect effect = $-.014$, 95% CI $[-.027, -.003]$).

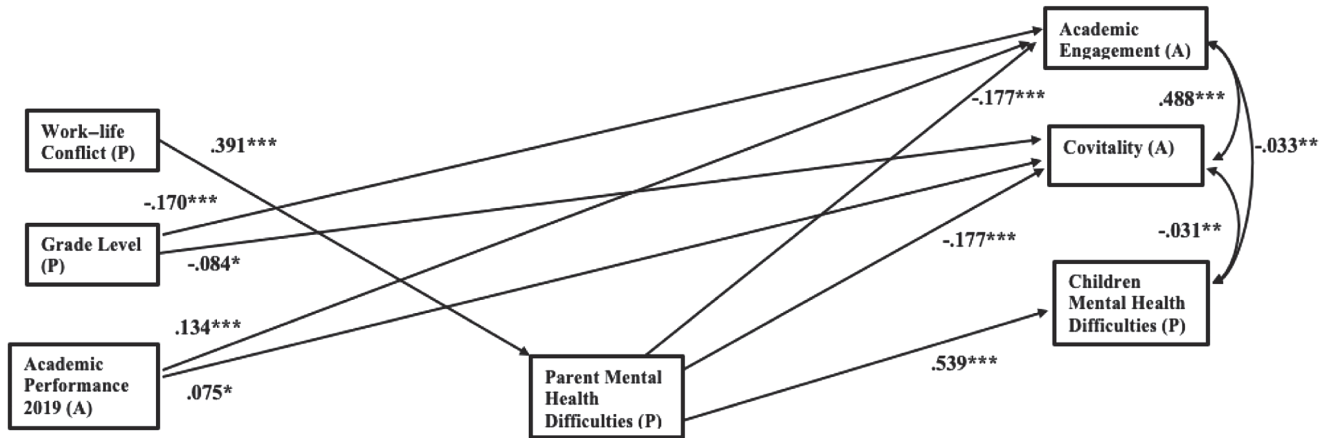
Considering the reciprocal relations among these variables, we tested the alternative models using youth outcomes to predict parent mental health, parenting practices, and then parent work–life balance (see Supplemental Material: Figure 3). We tested the alternative model using this sequence, because prior research suggested that youth mental health may impact parent mental health (Weiss et al., 2012), which may impact their parenting practice (Lovejoy et al., 2000) and work–life balance. The model fit for the alternative model was similar to the original model, $\chi^2(8) = 31.129$, $p < .001$, CFI = .970, RMSEA = .063, SRMR = .030. However, fewer significant paths emerged in the alternative model compared with the original model (Figure 3). Specifically, parent-reported child mental health difficulties predicted more parent-reported mental health difficulties, parental control, and less autonomy granting. Parent mental health difficulties predicted more parent-reported work–life conflict and parental control. Adolescent self-reported covitality predicted adolescent-reported parental involvement. We only identified one significant cross-rater paths in this alternative model (adolescent self-reported academic engagement predicted parent-reported autonomy granting), which may suggest that the significant relations in the alternative model were due to a common method bias. As a result, the original model was preferred. Because we used cross-sectional data to examine indirect effects, the nature of cross-sectional data limits conclusions that can be drawn from mediational models, and testing these alternative models reduces, but does not fully eliminate this limitation.

Discussion

This is one of the first studies to examine how the disruptions in work–life balance and family functioning among Chinese families during COVID-19 pandemic may be associated with youth mental health and academic engagement. It is also one of the first studies to identify protective parenting practices that may facilitate adaptive adjustment. Guided by the Risk and Resilience in Family Well-being framework (Prime et al., 2020), our findings extend prior research by examining parental work–family conflict during COVID-19 as a contextual stressor that may be related to parental

Figure 2

Parents Mental Health Difficulties Mediated the Relations Between Work–Life Conflict and Children’s Academic Engagement, Mental Health, and Mental Health Difficulties



Note. Only significant coefficients were shown. A = Adolescent report; P = Parent report.

* $p < .05$. ** $p < .01$. *** $p < .001$.

mental health and parenting behaviors (two mediating mechanisms of family processes), which in turn, may be related to their adolescents’ mental health and academic engagement. Findings revealed multiple pathways in which parental work–life conflict, parental mental health, and parenting practices may impact Chinese adolescents’ mental health and academic engagement during COVID-19.

Work–Life Conflict and Mental Health

It is likely that the COVID-19 pandemic may have placed extra burden on parents—24.6% of parents stated that they experienced work–life conflicts amid the COVID-19 pandemic. In addition, we found that some parents in our sample (about 8.5%–13%) reported elevated anxiety or depressive symptoms, which is comparatively lesser than what was reported by some prior studies in China (25%; Cao et al., 2020). Likewise, some parents (18.79%) reported elevated mental health symptoms for their adolescents, which was again lesser compared to a prior study that was conducted during the earlier stages of COVID-19 (43.7%, Zhou et al., 2020). Our data were collected in May 2020—during this period, COVID-19 was relatively under control in China as compared to when the other studies collected data (e.g., between February and March; Cao et al., 2020; Zhou et al., 2020). Thus, it is likely that the acute stress related to the pandemic may have tapered off when we collected data in May 2020. Our results may also be reflective of parents’ and adolescents’ resilience and their ability to recover from stress associated with the pandemic.

In line with prior studies which found that children’s mental health deteriorated as their parents experienced increased work–family demands (Dinh et al., 2017; Spinelli et al., 2020), our results suggested that parental work–life conflict predicted youth adjustment through the indirect link of parental mental health difficulties. In addition, parental mental health difficulties were directly and indirectly associated (through parenting behaviors) with youth adjustment. Specifically, when parents perceived more work–life conflicts, parents were more likely to experience mental health difficulties, which predicted more coercive parenting practices

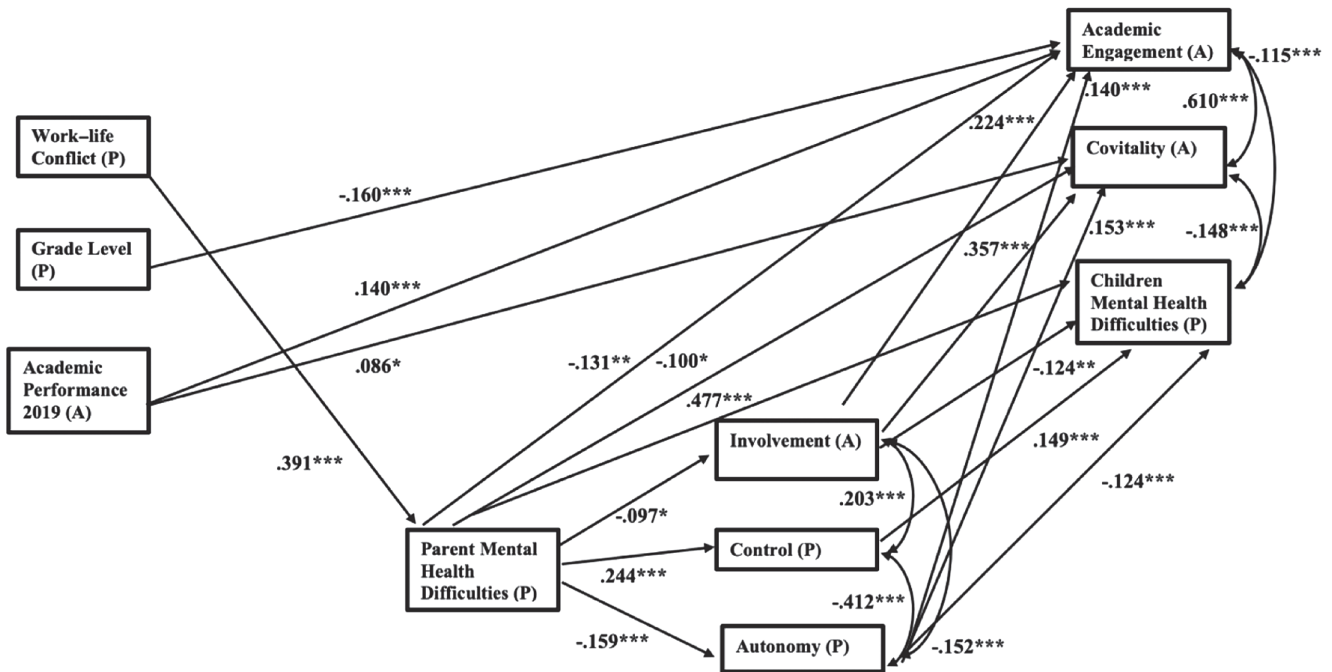
(more control, less autonomy granting) and less parental involvement. In turn, their adolescents were more likely to report a lower level of covitality and academic engagement and more mental health difficulties. These findings are consistent with previous studies showing how parents in great distress, such as work–life conflict, may engage in more harsh parenting which may be associated with their child’s mental health difficulties (Leach et al., 2021). Our results extend the prior research by demonstrating these relations with adolescents’ positive mental health (i.e., covitality) and academic engagement during COVID-19. Results suggest that more controlling parenting during COVID-19 may exacerbate adolescents’ mental health difficulties, whereas autonomy granting and involvement may be associated with less mental health difficulties, more covitality, and better academic engagement.

Parenting Practices and Youth Mental Health

The relations between parent mental health and adolescent mental health may be reciprocal, such that adolescents’ mental health difficulties may contribute to coercive parenting practices and parents’ mental health difficulties, which may further exacerbate parental work–life conflict. However, our study was guided by the theoretical framework of the risk and resilience in family well-being, which posits that parental work–life conflict is a COVID-19-specific contextual stressor, and parenting practices are mechanisms that predict youth outcomes (Prime et al., 2020). Considering the reciprocal relations, we tested the alternative models using youth outcomes to predict parent mental health and parenting practices. However, we only identify one significant cross-rater path, which may suggest that the significant relations in the alternative model were due to a common method bias. In the original theoretical models (Figures 2 and 3), we identified meaningful cross-rater paths linking parents’ self-reported mental health difficulties with youth-reported parental involvement, parent-reported autonomy-granting and youth-reported covitality and academic engagement, as well as youth-reported parental involvement and parent-reported youth

Figure 3

Parents Mental Health Difficulties and Parenting Practices Mediated the Relations Between Work-Life Conflict and Children's Academic Engagement, Mental Health, and Mental Health Difficulties



Note. Only significant coefficients were shown. A = Adolescent report; P = Parent report.

* $p < .05$. ** $p < .01$. *** $p < .001$.

mental health difficulties. This may suggest that the links between parent mental health and parenting behavior, as well as parenting and youth mental health in the original model, are robust. As a result, we believe that our original model is more meaningful (e.g., theoretical driven and specifically for COVID-19) and preferred than the alternative model.

Prior research suggests that Chinese parents tend to be more controlling, and that adolescents tend to view parental control as a sign of caring and strive less for autonomy (Chao, 2001; Cheung & McBride-Chang, 2008). To further understand these cultural differences, we extended prior research by examining the relations between parenting-related variables and youth adjustment outcomes during COVID-19 pandemic, an unprecedented time period where parents and adolescents are spending most of their waking hours together in confined environments due to quarantine, which significantly changed the family routines and interactions. Overall, our results are more consistent with the Self Determination Theory, stating that the adolescents' desire for autonomy is universal (Deci & Ryan, 2000). Our findings are also consistent with prior research, suggesting that effects of autonomy-supportive and controlling parenting are relatively similar across cultures (Davidov, 2021; Qu et al., 2016). Parental autonomy granting appears to be very important for adolescents during COVID-19 pandemic, a period where freedom was severely limited (e.g., home quarantine and school closure). Adolescents in our sample have experienced very strict control in their daily lives as a result of the broader context (COVID-19 regulations). Under such a controlling context, if parents assert additional control over adolescents' learning, it is

possible that the compounded effect of control (from the government, school, and family) may be overwhelming for adolescents to manage. When Chinese adolescents may not be able to gain autonomy outside of the home due to COVID-19 regulations, it may be especially important for parents to be understanding and responsive to adolescents' needs and balance controlling and autonomy-granting practices.

Nonetheless, our results do not discount the culturally nuanced meaning of controlling parenting. In our sample, parent-reported controlling was positively associated with youth-reported parental involvement, which was associated with positive youth adjustment. On the other hand, parent-reported autonomy granting was negatively associated with youth-reported parental involvement. This is somewhat consistent with the mixed findings about controlling parenting practices in Chinese families, including prior studies showing that Chinese parents demonstrated their involvement and instrumental support through controlling practices (Chao, 2001), and Chinese adolescents tended to view parental control as a sign of care and governing instead of intrusion (Cheung & McBride-Chang, 2008). Moreover, our findings that parental control was associated with more youth mental health difficulties, but not with less academic engagement could point to how controlling parenting may have differential impact on different adjustment outcomes (Cheung & Pomerantz, 2011). Although Chinese parents may employ controlling parenting as a way for them to be involved in their child's academic learning and show care for the youth, adolescents may have restrained capacity to reappraise their parents' overly controlling behaviors during the COVID-19 context (e.g., a

prolonged home confinement). Given the important role of adolescents' reappraisal, future studies should examine how parental behavior is experienced and perceived by the youth to unpack how parenting practices may impact youth outcomes using longitudinal data. As Barber et al. suggested, it may not be parental support and parental control per se, but "the broader, facilitative social conditions of connection" that explain the underlying process between parenting and child outcomes (Barber et al., 2005, p. 142).

Limitations

Findings from our study need to be interpreted within the context of several limitations. First of all, this is a cross-sectional study. We did not have data on students' academic engagement and mental health before COVID-19, and cannot draw any causal conclusions. In addition, the relations among parental mental health and parental work-life balance, as well as among parental mental health, parenting practices, and adolescent mental health, may be reciprocal. Future studies should collect longitudinal data to examine the bidirectional relationships. Second, controlling parenting measure included items capturing both behavioral control and psychological control. Future study should distinguish the differential impact of behavioral control and psychological control on youth adjustment outcomes. Third, data were collected from one high-achieving middle school affiliated with a prestigious university in Beijing, China. Almost all parents in the sample were highly educated. Families from lower Socioeconomic Status (SES) backgrounds (e.g., lower income and lower levels of education) may suffer even more from the challenges related to COVID-19, and the family dynamics may be different under more financial stress. Results from our sample cannot be generalized to these families from lower SES backgrounds or to families from rural areas in China. Future research should collect data from a more diverse sample. Fourth, although we used both parent and youth report of mental health to reduce mono-method bias, we did not use a true multi-informant approach. Instead, we only collected one source of data for each measure to reduce the length of the survey for participants. It is likely that youth may have overestimated their covitality and academic engagement due to social desirability and stigma attached to mental health problems in China. Similarly, parents may have underreported their children's mental health issues, because they may not be aware of children's internalizing symptoms. Future studies should aim to obtain multi-informant data on the same variable.

Conclusion and Implications

The COVID-19 pandemic presents challenges for parents' abilities to meet multiple home and work demands. Our findings suggest that parents' experience of work-life conflict was related to their own mental health difficulties and their adolescents' adjustment (mental health and academic engagement). Parenting practices such as parental involvement, parental control, and autonomy granting may partially explain the link between parental mental health and adolescent adjustment. More family-friendly policies are needed to support working parents who need to balance work and childcare responsibilities during COVID-19. Considering that parenting practices (autonomy granting, control, and parental involvement) predicted youth adjustment, employers, and schools can be creative in

supporting parents during COVID-19 (e.g., offering virtual workshops on how to manage stress and balance work-family obligations). Our results suggest that although many adolescents reported that their parents help them with homework, only 5.92% reported that their parents communicated effectively with their teachers during COVID-19. Considering that this is a highly educated parent sample, this low number is surprising. COVID-19 may present extra barriers for parents to be involved due to increased parental stress and communication difficulties with teachers online. Schools may consider ways to involve parents without adding to their stress. For example, schools can support struggling students and parents by providing virtual parenting workshops on positive parenting practices in dealing with stress (e.g., how to reduce family conflict). Schools can also offer resources and inform parents of various strategies that they can use to be involved at school and make parental involvement visible to students. For example, school leaders can work with the parent-teacher association to identify ways to make the school a more welcoming and inviting place for all parents (Wang et al., 2019). For the youth with elevated mental health difficulties and/or low levels of academic engagement, it is important for schools to provide additional resources and support (e.g., school-based mental health providers) to help alleviate their mental health symptoms and increase academic engagement.

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