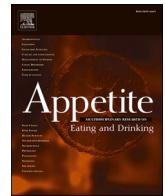




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Diet quality during the COVID-19 pandemic: Effects of workplace support for families and work-to-family enrichment in dual-earner parents with adolescent children

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ABSTRACT

Organizational support goes beyond the work domain, supporting workers' family role and thus generating resources that lead to work-to-family enrichment. Workers may invest these resources in improving their, and their family's, diet quality. However, data on the link between work resources, enrichment and diet quality during the COVID-19 pandemic is still emerging. The present study contributes to this literature by exploring the actor and partner effects between perceived workplace support for families, work-to-family enrichment, and diet quality in different-sex dual-earner parents with adolescent children; the potential mediating role of work-to-family enrichment between perceived workplace support for families and diet quality was also explored. A sample of 430 different-sex dual-earner parents and one of their adolescent children (mean age 13.0 years, 53.7% female) were recruited in Rancagua, Chile, during March and June 2020. Mothers and fathers responded to a measure of work-to-family enrichment, and a measure of Perceived Workplace Support for Families. The three family members answered the Adapted Healthy Eating Index. Analyses were conducted using the Actor-Partner Interdependence Model and structural equation modelling. Results showed that fathers' perceived workplace support for families positively and directly affected their own diet quality (actor effect) as well as the mothers' diet quality (partner effect), while indirectly positively affected the adolescents' diet quality via work-to-family enrichment (partner effect). Mothers' perceived workplace support for families enhanced their own work-to-family enrichment, which in turn improved their diet quality (actor effects). These results suggest that resources that both parents acquire through family-friendly workplace policies have positive effects on the three family members' diet quality by different mechanisms. Policymakers and organizations must aim to promote family-friendly workplace policies, particularly during ongoing crisis such as a pandemic.

1. Introduction

The support that organizations provide to their employees can generate beneficial outcomes at individual, family, and organizational levels. Perceived organizational support is the employees' perception and beliefs about the extent to which the organization values their contributions and cares for their well-being (Bergeron & Thompson,

2020; Pattnaik et al., 2020). Organizational support can be instrumental or emotional (Zheng & Wu, 2018), and it has been linked to beneficial work outcomes, such as organizational commitment (Bergeron & Thompson, 2020; Pattnaik et al., 2020). Workplace support can derive from various sources, such as supervisors, co-workers and the organization (Yucel & Minnotte, 2017). In the present study, we focused on workplace support for families, related to family-friendly workplace

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policies, which allow workers to better manage their work and family roles (Lo Presti et al., 2020; Matias et al., 2017).

Workplace support for families can be conceptualized as “a resource that has a positive impact on parenting roles and aims to alleviate employees’ work-to-family-conflict” (Matias et al., 2017, p. 631). Some of the measures derived from workplace support for families include flexible schedules, supportive leave policies and access to childcare (Lo Presti et al., 2020). Both the perceived and actual workplace support for families are a source of resources (e.g., time flexibility, energy, social support, moods, skills, behaviors) for individuals, given that organizations establish policies and guidelines that acknowledge and support the family and personal situations of their employees (Matias et al., 2017). For this reason, workplace support for families can lead to work-to-family enrichment (Lo Presti et al., 2020; Olierr-Malaterre et al., 2020). Work-to-family enrichment is the transmission of resources (i.e., social, psychological, material, and emotional resources) from the work to the family domain (Greenhaus & Powell, 2006). This work-to-family enrichment process can be explained by the work-home resources (W-HR) model (ten Brummelhuis & Bakker, 2012). According to the W-HR model, work-to-family enrichment occurs when resources from the work domain help develop resources in the family domain, which subsequently improve the worker’s performance in this second domain.

Studies suggest that work-to-family enrichment can be an intermediate variable between workers’ workplace support and their quality of life in the family domain (Greenhaus & Powell, 2006; Landolfi et al., 2020; Lo Presti et al., 2020; Xu et al., 2018). The positive effects of workplace support can also go beyond the work and family domains. These effects have been found to extend to the health and food domains (Matias et al., 2017; Ollier-Malaterre et al., 2020; Yucel & Minnotte, 2017), including diet quality (e.g., Clemente et al., 2021; Haugaard et al., 2016; Mulaney et al., 2021). Unhealthy eating/diet in workers have been linked to poorer work performance and to health-related issues, such as sleep disorders, obesity, diabetes, and cardiovascular disease (Liu et al., 2017). The literature on workers’ diet quality has focused on the negative effects of work demands and work-family conflict on eating habits, showing that daily stress entails a depletion of personal resources, which in turn results in unhealthy eating (Cho & Kim, 2021; Djupegot et al., 2017; Liu et al., 2017; Melby & Takeda, 2014; Shukri et al., 2016; Takeda et al., 2018). Moreover, a substantial body of research has focused on diet interventions in the workplace (e.g., Clemente et al., 2021; Haugaard et al., 2016; Mulaney et al., 2021). To our knowledge, the positive relationship between resources gained from the work-family interface and diet quality have been less explored, whereas most studies focused on the relationship between work and eating habits, have been carried out at an individual level (i.e., the worker), neglecting the interdependence between individuals (Brady et al., 2021; Carlson et al., 2019; Matias & Recharte, 2020; Lo Presti et al., 2020). In this sense, according to the W-HR model resources gained in the work domain can also crossover from workers to their family members, which can lead to dyadic resource gains (Chen et al., 2015; ten Brummelhuis & Bakker, 2012), that is, one individual can respond to their family member’s resource gain as if it were their own (Hobfoll et al., 2018).

Against this background, we argue that perceived workplace support for families may enhance work-to-family enrichment, which in turn may improve the workers’ and their family’s diet quality. This study focuses on different-sex dual-earner parents with adolescent children. These families were chosen because adolescence is a developmental period with distinctive needs, challenges and desires for autonomy, independence, and support (Matias & Recharte, 2020), all of which entails new challenges for working parents’ parenting practices; these challenges have also been detected in the food domain (Meier et al., 2018; Schnettler et al., 2021). Therefore, following the W-HR model (ten Brummelhuis & Bakker, 2012), and using the Actor-Partner Interdependence Model (APIM, Kenny et al., 2006), the aims of this study were

to explore the actor and partner effects between perceived workplace support for families, work-to-family enrichment, and diet quality in different-sex dual-earner parents with adolescent children; and to explore whether work-to-family enrichment has a mediating role between perceived workplace support for families and diet quality. The APIM (Kenny et al., 2006) allows to examine these actor and partner effects. As shown on Fig. 1, in the APIM, actor effects refer to outcomes that are predicted by the individual’s characteristics; and partner effects refer to outcomes that are predicted by the characteristics of the other individual of the dyad (crossover).

Most notably, this study was conducted during the COVID-19 pandemic in 2020. The lockdown and home confinement measures enforced in numerous regions around the world put a halt to most social and economic daily activities (Orellana & Orellana, 2020), and changed behavioural patterns, including those related to food purchase and dietary habits (Brizi & Biraglia, 2020). Furthermore, individuals who started to work from home to comply with lockdown measures experienced an overload of responsibilities as the boundaries between their workplace and their home disappeared (Easterbrook-Smith, 2020). Therefore, this study would provide new insights into the role of workplace support for families in enhancing work-to-family enrichment, which in turn can lead to positive outcomes in the food domain, in the context of the COVID-19 pandemic and related lockdown measures (Vaziri et al., 2020).

1.1. Conceptual development

Research has shown that workplace support helps workers deal with personal challenges, such as juggling the demands of care and domestic obligations in working parents (Yucel & Minnotte, 2017). The beneficial role of workplace support for families for individuals and their families can be framed using the W-HR model (ten Brummelhuis & Bakker, 2012), which asserts that work resources can increase personal and family resources, with positive implications for home role performance. In this latter role, food and food consumption occupy an important part of an average person’s life in terms of time, energy and financial resources (Grunert et al., 2007, Schnettler, Hueche et al., 2020), and it includes several activities such as meal planning, shopping and meal preparation. We thus propose that the effects of work resources extend to the food domain, as shown by previous studies (Clemente et al., 2021; Haugaard et al., 2016; Mulaney et al., 2021). Research shows that workers are more likely to achieve an ideal diet when they have more time and more work-life balance (Melby & Takeda, 2014); more likely to meet the fruit and vegetable consumption requirements when they experience less time pressure (Djupegot et al., 2017); and report more intentions to consume a low-fat diet when they have more job resources, such as supervisor support, rewards, and participation in decision-making processes (Shukri et al., 2016).

Resource gains from the workplace may not only manifest at an individual level, but also at a dyadic level (Chen et al., 2015). Several studies (Brady et al., 2021; Carlson et al., 2019; Demerouti, 2012; Matias et al., 2017) have shown that the workplace resources can be transferred from the individual to increase the partner’s own resources (i.e., time, energy, positive emotions, higher investment in the parental role). Thus, this work-to-home transmission of resources can facilitate a more efficient performance of household tasks, in particular food and meal preparation, in workers, their partners and children (ten Brummelhuis & Bakker, 2012). This process, in turn, may result in healthier meals prepared at home, improving the individual’s own diet quality, as well as their partners’ and children’s diet quality. Therefore, we posed the two first two hypotheses:

H1. Perceived workplace support for families is positively associated with diet quality for each parent (actor effects).

H2. Perceived workplace support for families of one parent is positively associated with diet quality of a) the other parent, and b) the

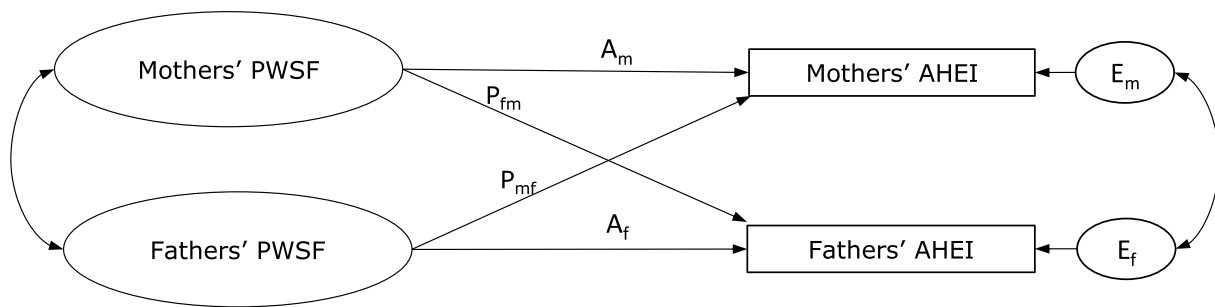


Fig. 1. Basic actor-partner interdependence model of Perceived Workplace Support for Families (PWSF) and diet quality (measured by the Adapted Healthy Eating Index, AHEI).

A_m : actor effect of mothers' perceived workplace support for families on her own diet quality; A_f : actor effect of fathers' perceived workplace support for families on his own diet quality; P_{fm} : partner effect of mothers' perceived workplace support for families on fathers' diet quality; P_{mf} : partner effect of fathers' perceived workplace support for families on mothers' diet quality; E_m and E_f : residual errors on diet quality for the mother and father, respectively.

adolescent (partner effects).

Evidence shows that workplace support is an important antecedent of work-to-family enrichment at an individual level, in particular organizational support which involves family-friendly policies (Jain & Nair, 2017; Olierr-Malaterre et al., 2020). Other studies suggest that workplace support can crossover between partners. For instance, workplace measures that reduce workers' stress (e.g., time flexibility, emotional support) can have a positive impact on the workers' family relationships, and on the emotional states of their partner and children (Brady et al., 2021). These findings suggest that resources derived from one partner's perceived workplace support for families may crossover to enhance work-to-family enrichment in the other partner. We thus propose the following hypotheses:

H3. Perceived workplace support for families is positively associated with work-to-family enrichment for each parent (actor effects).

H4. Perceived workplace support for families of one parent is positively associated with work-to-family enrichment of the other parent (partner effects).

The crossover effects of work-to-family enrichment have been mostly examined at a dyadic level in couples. For instance, findings show that work-to-family enrichment positively influences marital satisfaction (Carlson et al., 2019) and satisfaction with family life (Lo Presti et al., 2020) for both workers and their partners. On the other hand, work-to-family enrichment has been scarcely studied in parent-adolescent dyads. One study focusing on these dyads (Matias & Recharte, 2020) suggests that parents' work-to-family enrichment is associated with more positive parents-child interactions, and that mothers' work-to-family enrichment influences their adolescent children' well-being. Effects of positive work-family crossover dynamics have also been reported for outcomes in the food domain. For instance, men's higher work-home balance is associated with more involvement in food tasks at home with their female partner (Schnettler et al., 2021); mothers with higher work-home balance tend to have healthier eating habits and to promote them in their family (Agrawal et al., 2018; Pagnan et al., 2017); and different-sex couples with higher work-home balance are more involved in their children's eating habits (Sharif et al., 2017). Based on these antecedents, we posit the following hypotheses:

H5. Work-to-family enrichment is positively associated with diet quality for each parent (actor effects).

H6. Work-to-family enrichment of one parent is positively associated with the diet quality of a) the other parent, and b) the adolescent (partner effects).

Additionally, we propose that work-to-family enrichment has a mediating role between perceived workplace support for families and diet quality. Some studies have reported a same-domain indirect effect

at the individual level, in which work-to-family enrichment mediates the relationship between workplace support and organizational outcomes (e.g., Olierr-Malaterre et al., 2020). Evidence of individual and inter-individual mediating roles of enrichment has also been reported by Carlson et al. (2019), who found that work-to-family enrichment was a link between the workers' workplace resources and their own well-being and family functioning, and their partner's well-being. Therefore, we proposed this last hypothesis:

H7. Work-to-family enrichment has a mediating role between both parents' perceived workplace support for families and diet quality for the three family members (actor and partner effects).

Lastly, the effects proposed above are expected to vary between mothers and fathers. Studies suggest that, compared to men, women transfer more resources from work to family, and thus experience higher work-to-family enrichment (Beham et al., 2020). Furthermore, traditional gender roles in Latin America continue to assign most food-related tasks at home to women (Schnettler et al., 2021), and thus outcomes such as diet quality (their own and their families') may depend on individual and dyadic work-family dynamics. Most notably, these gendered demands have become a heavier burden for women during the pandemic, as lockdown measures have increased female workers' conflict between their paid work and the care work (e.g., feeding the family) they are expected to provide at home (Power, 2020).

2. Method

2.1. Sample and procedure

A non-probabilistic sample of 430 dual-earner families was recruited in Rancagua, Chile. These participant families were composed of mother and father, either married or cohabiting, both with a paid job; and one adolescent child aged 10-to-16 years old (Table 1). Parents were invited to participate in the study via their children's schools, which served diverse socioeconomical backgrounds, and were informed by trained interviewers of the study's objectives, questionnaire structure, and the anonymity and confidentiality of their responses. Families who agreed to participate were assigned a trained interviewer who established communication by telephone and email with one family member (most frequently, the mother). Interviewers sent the links to the three surveys (one for each family member) via e-mail to this family member between March and July 2020. The city of Rancagua was on mandatory lockdown during June and July 2020, after the COVID-19 pandemic was declared by mid-March 2020 in Chile (Gobierno Regional Región de O'Higgins, 2020), but workers from diverse sectors were encouraged to work from home since March and throughout the year.

In each of the online questionnaires sent to the families, the main page displayed the informed consent for parents and assent forms for

Table 1
Sample characteristics (n = 430).

Characteristic	Total sample	P-value ^a
Age [Mean (SD)] ^a		
Mother	39.5 (6.6)	<.001
Father	42.3 (7.8)	
Adolescent	13.0 (2.0)	
Adolescents' gender (%)		
Male	46.3	
Female	53.7	
Number of family members [Mean (SD)]	4.3 (1.0)	
Number of children [Mean (SD)]	2.2 (0.8)	
Socioeconomic status (%)		
High	3.7	
Middle	83.0	
Low	3.7	
Number of days/week couples ate together [Mean (SD)]		
Breakfast	3.5 (2.7)	
Lunch	4.9 (2.4)	
Super	6.0 (1.9)	
Dinner	2.2 (3.1)	
Number of days families eat different types of foods [Mean (SD)]		
Homemade foods	6.4 (1.3)	
Buy ready-to eat food	0.4 (1.2)	
Order food at home	0.6 (0.7)	
Eat at restaurants	0.2 (0.5)	
Eat at fast-food outlets	0.3 (0.6)	
Person who decides to buy food (%)		
Mother	44.2	
Father	2.8	
Both parents	50.7	
All (mother, father and children)	1.9	
Another person	.5	
Person who makes the purchase of food (%)		
Mother	37.0	
Father	5.3	
Both parents	54.0	
All (mother, father and children)	3.3	
Another person	.5	
Number of hours per day spent cooking during the week [Mean (SD)] ^b		
Mother	2.6 (1.3)	<.001
Father	1.2 (1.3)	
Another person	0.9 (1.5)	
Number of hours per day spent cooking on the weekend [Mean (SD)] ^b		
Mother	3.1 (1.6)	<.001
Father	1.7 (1.4)	
Another person	0.7 (1.2)	
Working hours (%) ^c		
Woman working 45 h per week	44.0	<.001
Woman less than 45 h per week	56.0	
Man working 45 h per week	67.2	
Man working less than 45 h per week	32.8	

^a Independent sample *t*-test.

^b Analysis of variance.

^c *P*-value corresponds to the (bilateral) asymptotic significance obtained in Pearson's Chi-square Test.

adolescents. Each family member agreed to participate by ticking a box at the end of their form before filling out the questionnaire. Responses were registered in the QuestionPro platform (QuestionPro Inc) in a separate database for each family member. After families informed the interviewers that they had filled out the three questionnaires, families received 15 USD as retribution for their participation.

Data from this study is part of a wider research on the relations between work, family, and food-related life in Chilean families. Fifty families from another city in Chile participated in the pilot test for this study, which followed the same recruitment method and data collection procedure as described above. The pilot test showed satisfactory results, and therefore no changes were made in the instrument nor to the data collection procedure. The Ethics Committee of the Universidad de La Frontera approved this study (protocol 007/19).

2.2. Measures

Mothers and fathers responded to these measures:

Perceived workplace support for families, three items proposed by Matias et al. (2017) regarding the support that the person receives at work for the fulfilment of parental tasks (e.g., "At my workplace there is flexibility in my daily working routine, e.g., in my work schedule, interruptions in work time, shifts, etc."). Responses are provided on a 4-point Likert type scale (1: never or rarely; 4: always). Matias et al. (2017) supported a good internal consistency of this measure in Portuguese dual-earner couples. Items were presented in their Spanish version (Schnettler, Denegri et al., 2018). Good internal reliability was found with Omega coefficients of 0.89 for mothers and 0.90 for fathers.

Nijmegen's Work-Home Interaction Survey (Wagena & Geurts, 2000; see Kinnunen et al., 2006), three items from this scale were used to measure work-to-family enrichment, that is, the positive influence of work on family in terms of positive mood, skills, or behaviour (e.g., "You come home cheerfully after a successful day at work, positively affecting the atmosphere at home?"). Each item is responded on a 5-point scale (1: never; 5: very often). This three-item measure has shown a good internal consistency in a study conducted in Italy (De Simone et al., 2014). The Spanish version of this measure was used (Schnettler, Denegri et al., 2018). The work-to-family enrichment measure showed acceptable internal reliability, Omega coefficient was 0.78 for mothers and 0.83 for fathers.

The three family members responded to this measure:

Adapted Healthy Eating Index (AHEI), an adaption of the US-HEI (Kennedy et al., 1995) developed by Norte and Ortiz (2011) to measure diet quality in Spanish-speaking populations. This version has been previously used by the Chilean Ministry of Health to measure the overall quality of diet in the Chilean population (Universidad & de Chile, 2014) as well as in previous studies in Chile (Schnettler et al., 2017, 2021; Schnettler, Grunert et al., 2018). The AHEI is comprised of nine food groups (1. Cereal and derivatives; 2. Vegetables; 3. Fruit; 4. Milk and dairy products; 5. Meats; 6. Legumes; 7. Sausages and cold meats; 8. Sweets, 9. Soft drinks with sugar) and a measure of diet variety. The first four variables correspond to foods that should be consumed on a daily basis, items 5 and 6 correspond to foods that should be consumed weekly, while items 7, 8 and 9 are foods that should be consumed occasionally. Item 10 refers to diet variety, a fundamental goal in healthy eating (Norte & Ortiz, 2011). For the first nine variables, respondents indicated their consumption frequency of the target food. Each variable received a score, ranging from 0 to 10, according to the degree of compliance with dietary recommendations (see the criteria in Norte & Ortiz, 2011). The last variable, relating to diet variety, is constructed using the consumption frequency of the nine target foods: two points were received if the respondent complied with each of the daily recommendations and one point was received if he/she complied with each of the weekly recommendations. The overall AHEI score was calculated by adding the scores obtained in each of the variables, with a maximum of 100 points, in which scores above 80 indicate a "healthy" diet; scores between 51 and 80 indicate a diet that "requires changes"; and scores below 50 indicate "unhealthy" diets (Norte & Ortiz, 2011).

The three family members were asked about their age; adolescents also reported their gender. Parents were asked about their number of working hours per week. Mothers were asked about the number of family members, the number of children, the number of days per week that all family members eat together (breakfast, lunch, supper and dinner); the number of days per week that they eat homemade food, buy ready-to-eat food, order food at home, or eat at restaurants or fast-food outlets; and the number of hours per day that they, their male partner and other person spent cooking during the week and on weekends. Mothers were also asked to identify the person who decides on and purchases food for the home. Only mothers were chosen to answer these questions because mothers are more likely to manage food-related aspects of household functioning in Latin American culture. The family

socioeconomic status (SES) was determined based on the total household income and its size (AIM, 2016).

2.3. Data analysis

Hypotheses analytic plan were established before data was collected. SPSS v.23 was used to conduct descriptive analyses. Mplus 8.4 was used to test the APIM with distinguishable dyads via structural equation modelling (SEM, Kenny et al., 2006). In this study, actor effects are associations between variables for one family member, and partner effects are associations between variables from one family member to another. Fathers and mothers are both actor and partner in the analysis, whereas adolescents were only included as partners. The actor and partner effects tested were both parents' perceived workplace support for families and work-to-family enrichment, and the three family members' diet quality (measured by the AHEI). The variables under study were compared across all months in which the questionnaires were applied, considering that the data collection covered a period without mandatory lockdown (March to May 2020) and with mandatory lockdown (June and July 2020). No significant differences were found in these comparisons, and therefore time in which data was collected was not accounted for in the analysis.

The APIM allows to control for other effects. The effect of perceived workplace support for families between the two parents was controlled for by specifying a correlation between each parent's perceived workplace support for families. Other sources of interdependence between partners were controlled for following Kenny et al. (2006), by specifying correlations between the residual errors of the dependent variable (AHEI) for the three family members. Other variables that were controlled for were the three family members' age, both parents' number of working hours, and the family SES, number of children and times per week in which the family members had supper together. These variables with direct effects on the dependent variables of both parents (work-to-family enrichment) and the three family members (AHEI) were incorporated.

For the SEM, the structural model parameters were estimated using the weighted least square mean and variance adjusted (WLSMV). Items were on an ordinal scale and thus the polychoric correlation matrix was considered for the SEM analysis. To determine the model fit of the data, the Tucker-Lewis index (TLI) and the comparative fit index (CFI) were used considering a good fit with values above 0.95; the root mean square error of approximation (RMSEA) was also used, which shows a good fit when values are below 0.06 (Hu & Bentler, 1999). To test the mediating role of work-to-family enrichment, a SEM was conducted through a bias-corrected (BC) bootstrap confidence interval using 1000 samples (Lau & Cheung, 2012). A mediating role is indicated by intervals that do not include zero.

3. Results

3.1. Sample description

Table 1 displays sociodemographic characteristics of the sample composed of 430 families of mothers, fathers and adolescents. Mean ages were for mothers, 39.5 years old, for fathers, 42.3 years, and for adolescents, 13.0 years (53.7% female). Fathers' mean age was significantly higher than mothers' ($p < .001$). Most families had a middle SES and were composed, on average, of four family members and two children.

Other characteristics explored in these families relate to food preparation and consumption. Families reported eating breakfast, lunch, and supper together for more than three days per week, and ate homemade food frequently. The main person responsible for deciding and purchasing food for the household were both parents, followed by mothers. Mothers reported spending a significantly higher number of hours per day cooking during the week and on weekends, compared to their male

partners and other persons ($p < .001$), whereas fathers displayed this same trend compared to other persons. "Other persons" may include grandmothers, adult children, and domestic service. Compared to mothers, a greater proportion of fathers worked full time (45 h per week in Chile, $p < .001$).

Table 2 shows the average scores and correlations for perceived workplace support for families, work-to-family enrichment, and diet quality (measured by the AHEI). Most of the correlations were significant and in the expected directions, except for those between mother's perceived workplace support for families and the father's work-to-family enrichment and AHEI. Mothers scored significantly higher than fathers in perceived workplace support for families ($t = 4.421$, $p < .001$). Mothers and fathers did not differ in the average scores for work-to-family enrichment ($t = -0.107$, $p = .915$). Fathers scored significantly lower than mothers and their adolescent children in the AHEI ($F = 12.524$, $p < .001$), whereas mothers and adolescents did not differ from one another. However, according to the cut-off point proposed by Norte and Ortiz (2011), the three family members had AHEI average scores indicating that their diet "requires changes".

3.2. APIM results: testing actor-partner hypotheses

The results from the estimation of the structural model are shown in Fig. 2. The model that assessed the APIM association between the mother's and father's perceived workplace support for families and work-to-family enrichment, and both parents' and their adolescent children's diet quality (AHEI) had a good fit with the data (CFI = 0.970; TLI = 0.954; RMSEA = 0.049). A significant correlation (covariance) was found between the perceived workplace support for families of both parents ($r = 0.296$, $p < .001$). Significant correlations were also found between the residual errors of mother's and father's AHEI ($r = 0.489$, $p < .001$), between mother's and adolescent's AHEI ($r = 0.553$, $p < .001$), as well as between father's and adolescent's AHEI ($r = 0.496$, $p < .001$).

H1 stated that perceived workplace support for families is positively associated with the diet quality for each parent. As shown in Fig. 2, the path coefficients (standardized) indicate that the father's perceived workplace support for families was positively associated with his own AHEI ($\gamma = 0.153$, $p = .006$). By contrast, the mother's perceived workplace support for families was not significantly associated with her own AHEI ($\gamma = 0.001$, $p = .980$). These findings supported H1 only for fathers.

H2 sought partner effects, stating that perceived workplace support for families of one parent is positively associated with the diet quality of the other parent (H2a) and of the adolescent (H2b). The father's perceived workplace support for families was positively associated with the mother's AHEI ($\gamma = 0.131$, $p = .017$). By contrast, the mother's perceived workplace support for families was not statistically associated with the father's AHEI ($\gamma = 0.063$, $p = .267$). The father's ($\gamma = 0.094$, $p = .065$) and mother's ($\gamma = -0.048$, $p = .400$) perceived workplace support for families were not significantly associated with the adolescent's AHEI. Therefore, H2a was supported for mothers, while H2b was not supported.

H3 tested actor effects, stating that perceived workplace support for families is positively associated with the work-to-family enrichment for each parent. The father's ($\gamma = 0.303$, $p < .001$) and the mother's ($\gamma = 0.313$, $p < .001$) perceived workplace support for families were positively associated with their own work-to-family enrichment. These findings supported H3.

H4 stated that perceived workplace support for families of one parent is positively associated with the work-to-family enrichment of the other parent. Results showed that the father's perceived workplace support for families was not significantly associated with the mother's work-to-family enrichment ($\gamma = 0.105$, $p = .068$), nor the mother's perceived workplace support for families was significantly associated with the father's work-to-family enrichment ($\gamma = -0.011$, $p = .833$). These

Table 2

Descriptive statistics and correlations for Perceived Workplace Support for Families (PWSF), Work-to-Family Enrichment (WtoFE), and diet quality (measured by the Adapted Healthy Eating Index, AHEI) in different-sex dual-earner parents with adolescent children (n = 430).

	M (SD)	Correlations						
		1	2	3	4	5	6	7
1 Mothers' PWSF	8.13 (2.72)	1						
2 Fathers' PWSF	7.30 (2.80)		1					
3 Mothers' WtoFE	10.23 (2.80)			1				
4 Fathers' WtoFE	10.25 (2.91)				1			
5 Mothers' AHEI	65.07 (12.52)					1		
6 Fathers' AHEI	60.89 (14.10)						1	
7 Adolescents' AHEI	64.78 (14.36)							1

* Correlation is significant at the 0.05 level (2-tailed).
 ** Correlation is significant at the 0.01 level (2-tailed).

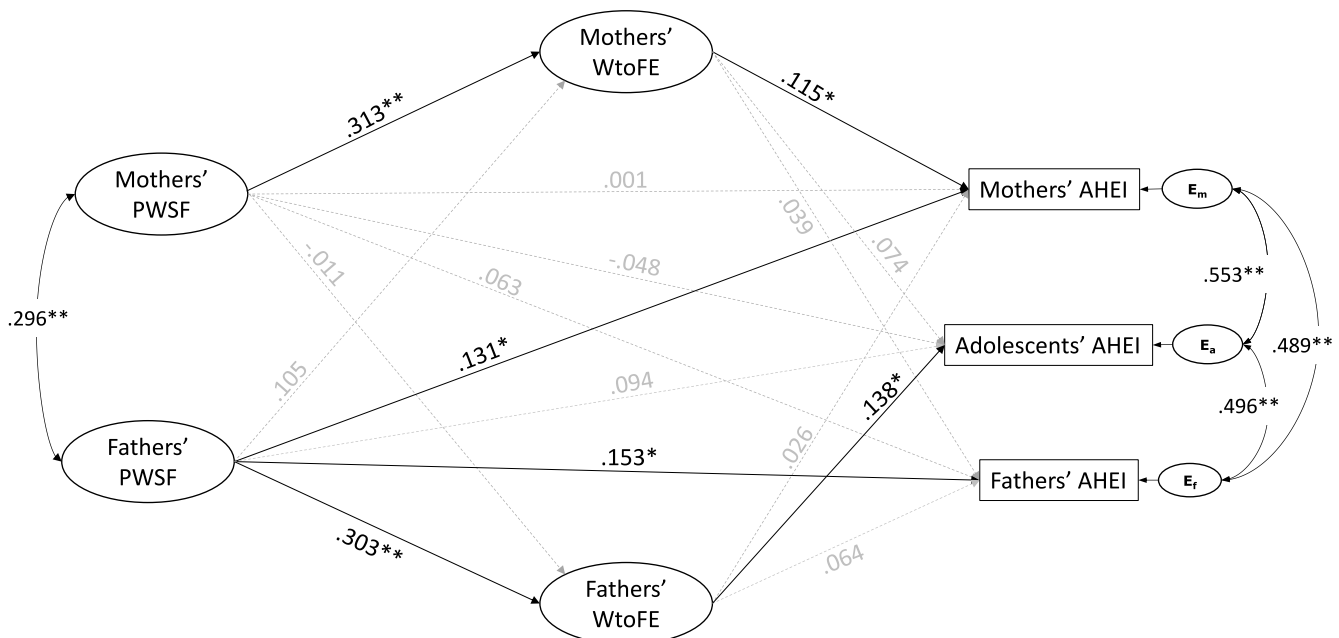


Fig. 2. Actor-partner interdependence model of the effect Perceived Workplace Support for Families (PWSF), Work-to-Family Enrichment (WtoFE), and diet quality (measured by the Adapted Healthy Eating Index, AHEI) in dual-earner parents with adolescent children. E_m, E_a and E_f: residual errors on AHEI for the mothers, adolescents and fathers, respectively.

*p < 0.05
 **p < 0.01

The control for the effects the three family members' age, both parents' number of working hours as well as the family SES, the number of children and the number of supper meals in which all the family members ate together during a week on the dependent variables of both parents (WtoFE) and on the three family members (AHEI) were not shown in the path diagram.

findings did not support H4.

H5 stated that the work-to-family enrichment is positively associated with the diet quality for each parent. The father's work-to-family enrichment was not significantly associated with his own diet quality ($\gamma = 0.064, p = .849$), while the mother's work-to-family enrichment was positively associated with her own diet quality ($\gamma = 0.115, p = .045$). These findings supported H5 only for mothers.

H6 stated that the work-to-family enrichment of one parent is positively associated with the diet quality of the other parent (H6a) and of the adolescent (H6b). The fathers' work-to-family enrichment was not statistically related to the mother's AHEI ($\gamma = 0.026, p = .650$). Likewise, the mother's work-to-family enrichment was not statistically associated with the father's AHEI ($\gamma = 0.039, p = .501$). While the mother's work-to-family enrichment was not significantly associated with the adolescent's AHEI ($\gamma = 0.074, p = .243$), the father's work-to-family enrichment was positively associated with the adolescent's AHEI ($\gamma = 0.138, p = .025$). These findings did not support H6a, while they partially supported H6b.

Most of the control variables did not affect the model significantly (Table 3). The mother's working hours ($\gamma = 0.133, p < .05$) and the family SES ($\gamma = 0.177, p < .01$) positively affected their own work-to-family enrichment. The mother's age negatively affected the father's work-to-family enrichment ($\gamma = -0.129, p < .05$), while the number of times per week that all family ate supper together positively affected the father's work-to-family enrichment ($\gamma = 0.188, p < .01$). The family SES positively affected the mother's ($\gamma = 0.152, p < .01$) and the father's ($\gamma = 0.117, p < .05$) diet quality.

3.3. Testing mediating role of the work-to-family enrichment

Lastly, this study tested the mediating role of both parents' work-to-family enrichment between both parents' perceived workplace support for families and the diet quality for the three family members (H7). The role of father's work-to-family enrichment as mediator in the relationship between his own perceived workplace support for families and the adolescent' diet quality was supported by a significant indirect effect

Table 3

Standardized effect estimates of control variables on parent’s Work-to-family Enrichment (WtoFE) and on the three family members’ diet quality (measured by the Adapted Healthy Eating Index, AHEI) in dual-earner parents with adolescent children.

	Estimate	P-value
Mothers’ age → Mothers’ WtoFE.	.054	.445
Fathers’ age → Mothers’ WtoFE.	.050	.484
Adolescents’ age → Mothers’ WtoFE.	.011	.844
Number of children → Mothers’ WtoFE.	.006	.905
Mothers’ working hours → Mothers’ WtoFE.	.133	.031
Fathers’ working hours → Mothers’ WtoFE.	-.053	.334
Number of supper times per week ate together → Mothers’ WtoFE.	.118	.054
Family socioeconomic status → Mothers’ WtoFE.	.177	.002
Mothers’ age → Fathers’ WtoFE.	-.129	.041
Fathers’ age → Fathers’ WtoFE.	.033	.604
Adolescents’ age → Fathers’ WtoFE.	-.058	.295
Number of children → Fathers’ WtoFE.	.094	.108
Mothers’ working hours → Fathers’ WtoFE.	.053	.376
Fathers’ working hours → Fathers’ WtoFE.	.047	.385
Number of supper times per week ate together → Fathers’ WtoFE.	.188	.001
Family socioeconomic status → Fathers’ WtoFE.	.049	.365
Mothers’ age → Mothers’ AHEI.	.027	.666
Fathers’ age → Mothers’ AHEI.	.042	.489
Adolescents’ age → Mothers’ AHEI.	-.025	.599
Number of children → Mothers’ AHEI.	.020	.711
Mothers’ working hours → Mothers’ AHEI.	-.013	.813
Fathers’ working hours → Mothers’ AHEI.	-.044	.391
Number of supper times per week ate together → Mothers’ AHEI.	.038	.504
Family socioeconomic status → Mothers’ AHEI.	.152	.003
Mothers’ age → Fathers’ AHEI.	.080	.276
Fathers’ age → Fathers’ AHEI.	.043	.502
Adolescents’ age → Fathers’ AHEI.	-.073	.152
Number of children → Fathers’ AHEI.	-.065	.210
Mothers’ working hours → Fathers’ AHEI.	-.010	.862
Fathers’ working hours → Fathers’ AHEI.	-.032	.528
Number of supper times per week ate together → Fathers’ AHEI.	.059	.278
Family socioeconomic status → Fathers’ AHEI.	.117	.025
Mothers’ age → Adolescents’ AHEI.	.043	.547
Fathers’ age → Adolescents’ AHEI.	.115	.071
Adolescents’ age → Adolescents’ AHEI.	.012	.813
Number of children → Adolescents’ AHEI.	-.101	.066
Mothers’ working hours → Adolescents’ AHEI.	.018	.734
Fathers’ working hours → Adolescents’ AHEI.	.045	.370
Number of supper times per week ate together → Adolescents’ AHEI.	.040	.465
Family socioeconomic status → Adolescents’ AHEI.	.013	.800

*p < .05 **p < .01.

obtained with the bootstrapping confidence interval procedure (standardized indirect effect = .420, 95% CI = 0.031, 0.809), as the confidence intervals did not include zero (Table 4).

No other indirect effects of the parents’ work-to-family enrichment were found, as the confidence intervals did include zero (Table 4). These findings partially supported the mediating role of work-to-family enrichment between both parents’ perceived workplace support for families and the three family members’ diet quality.

4. Discussion

This study provides new insights regarding the link between resources gained in the work domain and positive outcomes in the food domain. Namely, this study tested the relationships between perceived workplace support for families, work-to-family-enrichment and diet quality, among dual-earner parents and their adolescent children. Our results indicate that a family-supportive workplace for parents is associated with a better diet quality for themselves, their partner, and their children, via different mechanisms. Fathers’ perceived workplace

Table 4

Bias-corrected confidence intervals of specific mediation effects of the parents’ Work-to-family enrichment (WtoFE).

Effects	Lower 2.5%	Estimate	Upper 2.5%
From mothers’ PWSF to mothers’ diet quality (AHEI)			
Specific Indirect			
Mothers’ AHEI			
Mothers’ WtoFE			
Mothers’ PWSF	-.017	.316	.650
Mothers’ AHEI			
Fathers’ WtoFE			
Mothers’ PWSF	-.027	-.002	0.022
From fathers’ PWSF to fathers’ diet quality (AHEI)			
Specific Indirect			
Fathers’ AHEI			
Fathers’ WtoFE			
Fathers’ PWSF	-.079	.039	.157
Fathers’ AHEI			
Mothers’ WtoFE			
Fathers’ PWSF	-.135	.185	.505
From parents’ PWSF to adolescents’ diet quality (AHEI)			
Specific Indirect			
Adolescents’ HEI			
Mothers’ WtoFE			
Mothers’ PWSF	-.160	.229	.617
Adolescents’ AHEI			
Fathers’ WtoFE			
Fathers’ PWSF	.031	.420	.809

PWSF: Perceived Workplace Support for Families. AHEI: Adapted Healthy Eating Index.

support for families was positively and directly associated with their own diet quality as well as the mothers’ diet quality; and it was associated with their adolescent children’s diet quality via work-to-family enrichment. On the other hand, mothers’ perceived workplace support for families enhanced their own work-to-family enrichment, which in turn improved only their own diet quality. These findings are discussed in detail below by examining actor and partner effects, and the mediating role of work-to-family enrichment.

4.1. Actor effects

The first hypothesis of this study established that a higher perceived workplace support for families was linked to higher diet quality in both mothers and fathers. This hypothesis, however, was supported only for fathers, consistent with the W-HR model (ten Brummelhuis & Bakker, 2012) and with evidence showing that workplace support is a resource that promotes positive outcomes in workers in distinct domains (Matias et al., 2017; Ollier-Malaterre et al., 2020; Yucel & Minnotte, 2017). In this sense, this finding expands on this knowledge showing that perceived workplace support for families provides fathers with resources that allow them to have a healthier diet. Recall that this study was conducted during the first months of the COVID-19 pandemic in Chile. Moreover, in this study, the frequency of family meals –which are associated with consuming home-cooked food– was higher than in studies conducted in Chile before the pandemic (Schnettler et al., 2017; Schnettler, Grunert et al., 2018). Hence, this relationship between father’s perceived workplace support for families and their diet quality is significant in the context of the pandemic. This finding aligns with previous studies showing that workplace support is important for worker’s engagement in multiple roles (Matias et al., 2017) and for dealing with everyday challenges, such as preparing meals (Yucel & Minnotte, 2017).

On the other hand, mothers’ perceived workplace support for

families was not associated with their own diet quality. Yet mothers reported a higher perceived workplace support for families than fathers, and thus this null finding may indicate that mothers' workplace family-oriented resources are invested in tasks at home that do not have an impact on their own eating patterns. This is a somewhat puzzling result given that, based on findings from both the present study and a pre-pandemic study also in Chilean dual-earner parents (Schnettler et al., 2022), mothers spend more hours cooking for the household than fathers. Home-cooked meals have been linked to better diet quality (Smith, 2018), and thus it would be expected that mothers would benefit, diet-wise, from more frequent cooking at home. Instead, it may be the case that mothers invest their resources from perceived workplace support for families in domestic labour and caring for others outside food-related tasks. Particularly in the context of the COVID-19 pandemic, these domestic demands have multiplied for women, often at the expense of their own well-being (Orellana & Orellana, 2020; Sevilla & Smith, 2020). These findings suggest that perceived workplace support for families is invested differently on diet quality by gender: Higher perceived workplace support for families is linked to better diet quality in fathers, but not in mothers. Overall, this finding indicates the need for organizations to increase the workplace support for families provided to working women.

The second hypothesis testing actor effects stated that perceived workplace support for families would be positively associated with work-to-family enrichment for mothers and fathers (H3). Our results supported this hypothesis for both parents, meaning that family-oriented resources from the workplace can foster workers' work-to-family enrichment (Jain & Nair, 2017; Olierr-Malaterre et al., 2020; ten Brummelhuis & Bakker, 2012), regardless of the worker's gender. As it was noted for the first hypothesis, mothers had significantly higher perceived workplace support for families scores than fathers, but path coefficients between perceived workplace support for families and work-to-family enrichment were of similar strength in both parents. Mothers and fathers also had similar work-to-family enrichment scores. This similarity is in contrast with Beham et al. (2020), who showed that women report higher work-to-family enrichment than men in European countries. These authors explain this gender gap as an occurrence in more gender-egalitarian countries, where women receive more support from the workplace and can transfer these resources to the home domain. In less egalitarian contexts, such as Latin American societies, women may report higher work-to-family enrichment than men, but they also may face more difficulties in transferring resources derived from workplace support to the family domain (e.g., they face more demands at home that requires the investment of these resources).

The last hypothesis testing actor effects established that work-to-family enrichment is positively associated with diet quality for mothers and fathers (H5). This hypothesis was only supported for mothers. This finding contributes to previous studies showing that working mothers with higher balance between their work and home-related tasks are more likely to have healthy eating habits (Agrawal et al., 2018; Pagnan et al., 2017). Specifically, our results indicate that mothers' enhancement of their moods, skills, or behaviours derived from workplace support for families manifested in the family domain (i.e., work-to-family enrichment, De Simone et al., 2014; Kinnunen et al., 2006) is the mechanism that can have a positive impact in their diet quality. On the other hand, fathers' work-to-family enrichment is not associated with a better diet quality for themselves. Further research is needed, however, to better understand this gender difference in dual-earner couples.

4.2. Partners effects

The first hypothesis testing partner effects (i.e., crossover associations from one family member to another) stated that one parent's perceived workplace support for families is positively associated with the other parent's diet quality (H2a), and with their adolescent child's

diet quality (H2b). This two-fold hypothesis was supported only for the crossover effects from fathers' perceived workplace support for families to mother's diet quality. No effects were observed from mothers to fathers, nor from neither parent's perceived workplace support for families to the adolescent's diet quality. Crossover studies in different-sex couples have underscored the critical role of men's support in positive outcomes for both members of the couple (Orellana et al., 2021), and our findings support this asymmetrical relationship. That is, during the first months of the COVID-19 pandemic, fathers' perceived workplace support for families was a contributor to mothers' diet quality, but not vice versa.

One possible explanation for the positive link between fathers' perceived workplace support for families and mothers' diet quality is that fathers may be providing instrumental support in the home, for instance, by sharing household tasks (Leung et al., 2020). Mothers in this sample spent more hours per day cooking, but the hours that fathers dedicate to this activity (and possibly to related food tasks) may alleviate the mothers' food-related responsibilities, keeping them from seeking external sources of meals (e.g., ready-made or fast food). Dietary improvement is linked to increased cooking at home (Smith, 2018), and a complementary finding in this study shows that families consumed homemade meals frequently. As indicated in a previous hypothesis, fathers' involvement in cooking and other food-related tasks appears to have increased (i.e., food decision and purchase, Schnettler et al., 2020, 2021), compared to data from Chilean dual-earner parents in non-pandemic times (Schnettler et al., 2017). Hence, fathers may be contributing to this frequency because of the workplace support for families they receive, and this in turn may positively reflect in the mothers' diet quality. On the other hand, however, neither parents' perceived workplace support for families was directly linked to their adolescent children's diet quality. This null finding suggests that resources that parents gain from workplace support for families are not directly invested in their children's eating habits. Nevertheless, this result requires further research regarding underlying mechanisms, which were also observed in this study in the case of fathers and their adolescent children, as discussed below.

Hypothesis 6 proposed partner effects, from one parent's work-to-family enrichment to the other parent's diet quality (H6a), and from each parent's work-to-family enrichment to the adolescent's diet quality (H6b). This hypothesis was not supported for partner effects between parents. These findings contradict previous studies supporting work-to-family enrichment crossover between couples (Carlson et al., 2019; Chen et al., 2015; Hobfoll et al., 2018; Lo Presti et al., 2020), as well as evidence suggesting a positive association between work-to-family enrichment and positive outcomes in the food domain in different-sex couples (Schnettler et al., 2020, 2021). One possible explanation of this lack of partner effects may be related to the type of outcome, given that crossover associations from one partner's work-to-family enrichment to the other partner's positive outcome have been found for subjective measures, such as satisfaction with family life and marital satisfaction (Carlson et al., 2019; Lo Presti et al., 2020). To the best of our knowledge, this is the first study testing the crossover from work-to-family enrichment to an objective measure, such as diet quality. Nevertheless, further research is needed to explore other possible underlying mechanisms, as previous studies have suggested that the effects of one partner's work-to-family enrichment on the other partner's positive outcomes are indirect. For instance, Presti et al. (2020) found that, in dual-earner couples, one member of a dual-earner partner's work-to-family enrichment positively influenced their other partner's satisfaction with family life through work-life balance.

On the other hand, Hypothesis 6 b stated that parents' work-to-family enrichment was positively associated with their adolescent children's diet quality. This hypothesis was supported for fathers, but not for mothers. The lack of a direct relationship between the mothers' work-to-family enrichment and their adolescent children's diet quality agree with previous findings showing that mother's work-to-family

enrichment is indirectly associated with their adolescent children's positive outcomes (Matias & Recharte, 2020). However, this association is direct for fathers and adolescents. This finding contradicts results from the aforementioned study (Matias & Recharte, 2020), which reported no direct nor indirect link between fathers' work-to-family enrichment and their adolescent children's well-being. Our results thus, on the contrary, indicate that fathers' work-to-family enrichment may directly cross over to their adolescent children, leading to a positive outcome such as an improved diet quality. The relationship found in this study may suggest the increasing participation of fathers in their children's eating practices (Schnettler, Miranda-Zapata et al., 2018; Sharif et al., 2017). This increased involvement may be due to the evolving nature of gender roles in the home, alongside the participation of men in overall childcare as a consequence of the pandemic (Farré et al., 2020; Lyttelton et al., 2020). Thus, our results indicate that fathers' resources gained from the workplace and invested in the family domain can have a positive impact in part of the adolescents' eating habits, suggesting that fathers can have a direct role in their children's food-related life.

5. The mediating role of work-to-family enrichment

The last hypothesis of this study (H7) tested actor and partner effects of both parents' work-to-family enrichment as a mediator between both parents' perceived workplace support for families and diet quality for the three family members. This hypothesis was partially supported. The mediating role of work-to-family enrichment was not observed in actor effects for either parent, whereas partner effects were only found for fathers' work-to-family enrichment and adolescents' diet quality. The lack of a mediating role of work-to-family enrichment in the same parent (actor effects) contradicts studies showing that this construct mediates between workplace support and positive organizational outcomes (e.g., Olierr-Malaterre et al., 2020), as well as between workers' workplace resources and their well-being and family functioning (Carlson et al., 2019). Given that family functioning has been related to a healthier diet (Utter et al., 2018), future research is needed to explore the mediating role of work-to-family enrichment between workplace family support and other food-related variables.

Regarding partner effects, work-to-family enrichment had a mediating role only between fathers and adolescents, that is, fathers' perceived workplace support for families linked fathers' work-to-family enrichment to their adolescent children's diet quality. The lack of a mediating role of the mother's work-to-family enrichment is consistent with the lack of a direct association between mother's work-to-family enrichment and their adolescent children's diet quality, as it was previously discussed. In the case of fathers, it can be said that the flow of positive family-oriented work resources leads to work-to-family enrichment, which in turn leads to higher diet quality in their adolescent children. This finding expands on those reported by Carlson et al. (2019) which showed that work-to-family enrichment mediates between work resources acquired by the worker and their partner's well-being; in this study, the mediating role of work-to-family enrichment applies also to positive outcomes in adolescent children. This beneficial relationship is found for fathers only, however, and in the context of the COVID-19 pandemic.

This study has certain limitations. The first limitation relates to the APIM's language, which proposes actor and partner effects, but the cross-sectional design of this study only allows to establish associations between variables. A second limitation is the non-probabilistic nature of the sample. The sample was self-selected, and while families were representative of socioeconomic status in Chilean population (AIM, 2016), these families had a larger composition than the average Chilean family (INE, 2018). Another limitation is that data is self-reported, and participants might have responded driven by social desirability regarding expectations about their work and family life, and dietary intake. Moreover, only mothers answered questions about frequency of family meals, source of family meals (e.g., homemade foods, fat-food

outlets), and number of hours per day that they, their male partner and another person spent cooking. Presenting these questions to fathers would have provided a wider perspective on how the household is run regarding eating habits and food tasks. In addition, although the AHEI may be a useful tool to measure diet quality, this measure does not include all possible food groups and the quantity of food consumed is not assessed. Another limitation was that the study design predated the pandemic, and thus the questionnaire was not tailored to address work and family conditions that emerged with the pandemic, such as whether participants were working from home or kept commuting during lockdown. These conditions may have provided further context to the results regarding to work resources, enrichment and dietary habits during the pandemic. Future studies should account for these limitations by including longitudinal designs and probabilistic sampling; and by replicating these analyses to observe whether significant relationships found in this study (i.e., fathers' effects of perceived workplace support for families and work-to-family enrichment on, respectively, their female partners' and their children's diet quality) remain after the pandemic.

Despite these limitations, this is the first study that analyses actor and partner effects for the relationships between both parents' perceived workplace support for families and work-to-family enrichment, and the three family members' diet quality in different in different-sex dual-earner parents with adolescent children. Results showed that although resources acquired from a positive workplace support for families enhanced work-to-family enrichment regardless of the parent's gender, important gender differences emerged among parents regarding the influence of both constructs on their own and their adolescent children's diet quality. First, only the father's perceived workplace support for families positively influenced their own diet quality, while in parallel it positively influenced the mother's diet quality, but not vice versa. Second, the mother's work-to-family enrichment derived from a positive workplace support for families only positively influenced their own diet quality, while the father's work-to-family enrichment positively influenced their adolescent children's diet quality, and served a mediating role between the father's perceived workplace support for families and their adolescent children's diet quality. Therefore, while mothers' resources derived from workplace support for families only allowed them to achieve a better diet quality through an increase in their work-to-family enrichment, resources acquired by fathers allowed them, their female partner and their children (via work-to-family enrichment) to achieve a healthier diet quality. These findings underscore the important role of father's work resources to improve, or at least keep, the diet quality of all family members during the first month of the COVID-19 pandemic in dual earner couples with adolescent children.

These results have research and practical implications. In terms of research, our results contradict studies reporting that mothers greatly influence their children's and male partners' eating habit and diet quality (Rhodes et al., 2016; Schnettler et al., 2017). This influence was not observed in this study, and instead it showed that the father's work-family dynamics had a significant role in their adolescent children's diet quality. Future research should continue to assess the extent of the fathers' perceived workplace support for families on their family members' diet, and test whether this influence is typical in dual earner-couples with adolescent children, or it is a consequence of the pandemic. Further research should also assess the type of workplace support that may allow working mothers to positively influence their family's diet quality, particularly during a time of social or sanitary crisis. Future studies should also explore the relationships proposed in this study in families in other stages of life, e.g., dual-earner parents with younger children, other family structures, and families with different levels of adherence to gender equality among their members.

In terms of practical implications, this study suggests links between workplace resources and dietary patterns that can benefit not only the individual, but also their family members. Mothers, fathers and their adolescent children in this sample have diets that require changes to be

considered healthy. This knowledge can inform the aims of family-oriented organizational policies, to encourage parents to invest personal resources (e.g., time, energy, positive moods) in food-related tasks at home, to enhance their own as well as their children diet quality. The findings of this study also underscore the need for policymakers and organizations to situate their family-friendly workplace policies in the context of the pandemic, with a gender perspective and emphasis on working mothers, who are more likely to carry more responsibilities at home.

Author contributions

BSch designed the research study and wrote the first draft of the manuscript. BSch and LO conducted the research. HP handled and revised the database. EMZ analyzed the data. BSch and LO revised manuscript drafts. EMZ, MS, GL, CAB and ML provided a critical analysis of the study throughout all stages. All authors approved the manuscript in its final form.

Ethical statement

The Ethics Committee of Universidad de La Frontera approved this study (protocol 007/19).

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Data availability

Data is available upon request to the lead author.

Declaration of competing interest

None.

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