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PARENTAL JOB BURNOUT

AND CHILDREN'S ACADEMIC BURNOUT: THE MEDIATING ROLE OF PARENT–SCHOOL INTERACTION

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PARENTAL JOB BURNOUT

AND CHILDREN'S ACADEMIC BURNOUT: THE MEDIATING ROLE OF PARENT–SCHOOL INTERACTION

AGOTAMIENTO LABORAL PARENTAL Y AGOTAMIENTO ACADÉMICO DE LOS HIJOS: PAPEL MEDIADOR DE LA INTERACCIÓN ENTRE PADRES Y ESCUELA

Reza Teymuri[1]
E-mail: r.teymuri1980@iau.ac.ir
ORCID: https://orcid.org/0009-0008-7596-3588
Morteza Farajian[2]
E-mail: morteza.farajian@iau.ac.ir
ORCID: https://orcid.org/0000-0002-9215-1521
[1] Department of Psychology, Bil.C., Islamic Azad University, Bilehsavar, Iran.
[2] Department of Sociology, PaM.C., Islamic Azad University, Parsabad Moghan, Iran.

Suggested citation (APA, 7th edition)

Teymuri, R., & Farajian, M. (2026). Parental job burnout and children's academic burnout: the mediating role of parent–school interaction. *Revista Metropolitana de Ciencias Aplicadas, 9*(6), 94-103.

Submission: 07/12/2026 **Acceptance:** 09/19/2026 **Publication:** 11/01/2026

ABSTRACT

This study aimed to analyze the mediating role of parent–school interaction disturbance in the relationship between parental job burnout and children's academic burnout among workers in the petrochemical industries of Ardabil. A descriptive correlational design using structural equation modeling was employed with a sample of 218 working parents. Standardized instruments were used to assess parental job burnout, parent–school interaction, and children's academic burnout. The results showed that parental job burnout had a positive and significant effect on parent–school interaction disturbance and children's academic burnout. Parent–school interaction disturbance also had a positive and significant effect on children's academic burnout. In addition, the indirect effect of parental job burnout on children's academic burnout through parent–school interaction disturbance was statistically significant, confirming partial mediation. The findings indicate that the consequences of parental job burnout may extend beyond the occupational domain and affect children's educational experiences. The study highlights the importance of reducing parental occupational stress and strengthening the relationship between families and schools as relevant strategies for preventing children's academic burnout.

Keywords:

Job Burnout, academic burnout, parent–school interaction disturbance, petrochemical industry, structural equation modeling.

RESUMEN

El objetivo de este estudio fue analizar el papel mediador de la alteración de la interacción entre padres y escuela en la relación entre el agotamiento laboral parental y el agotamiento académico de los hijos de trabajadores de las industrias petroquímicas de Ardabil. Se desarrolló una investigación descriptiva-correlacional mediante modelado de ecuaciones estructurales, con una muestra de 218 padres trabajadores. Para la recopilación de los datos se emplearon instrumentos estandarizados destinados a evaluar el agotamiento laboral parental, la interacción entre padres y escuela y el agotamiento académico de los hijos. Los resultados mostraron que el agotamiento laboral parental tuvo un efecto positivo y significativo sobre la alteración de la interacción entre padres y escuela y sobre el agotamiento académico de los hijos. Asimismo, la alteración de dicha interacción presentó un efecto positivo y significativo sobre el agotamiento académico. El efecto indirecto del agotamiento laboral parental sobre el agotamiento académico de los hijos, mediado por la alteración de la interacción entre padres y escuela, también fue estadísticamente significativo, lo que confirmó una mediación parcial. Se concluye que las consecuencias del agotamiento laboral parental pueden trascender el ámbito ocupacional y repercutir en la experiencia educativa de los hijos. Los hallazgos destacan la importancia de reducir el estrés laboral de los padres y fortalecer la relación entre la familia y la escuela como elementos relevantes para prevenir el agotamiento académico.

Palabras clave:

Agotamiento laboral, agotamiento académico, alteración de la interacción entre padres y escuela, industria petroquímica, modelado de ecuaciones estructurales.

INTRODUCTION

The family constitutes one of the primary contexts for children's psychological, social, and educational development. Contemporary families are dynamic relational systems in which bonds, caregiving practices, responsibilities, and forms of support are continually reorganized in response to social and occupational transformations (Calva-Nagua, 2026). Family-strengthening approaches also emphasize that supportive relationships, effective parenting, and family resources can function as protective factors against behavioral and developmental difficulties among children and adolescents (Kumpfer & Alvarado, 2003). From this perspective, family well-being depends not only on the quality of internal relationships but also on the conditions surrounding family members and their capacity to reconcile caregiving, educational, and occupational responsibilities.

This relationship becomes particularly relevant when considering the shared responsibility of families and schools for children's educational development. Luque-Espinoza de los Monteros et al. (2026) emphasize the importance of coordination among the family, school, and community in addressing educational challenges through prevention, accompaniment, and educational continuity. Educational experiences are also shaped by students' participation and the family and social conditions surrounding school life (Behzad & Farajian, 2025). However, occupational demands may limit parents' capacity to participate effectively in these processes. This issue is especially significant in highly demanding industrial environments. Research conducted in an Iranian petrochemical industry has identified job stress and job satisfaction as relevant factors associated with workforce productivity, underscoring the psychological and organizational demands characterizing this occupational context (Hoboubi et al., 2017).

Job burnout has been studied for decades as a consequence of sustained occupational strain. Freudenberger (1974) initially described burnout in terms of progressive exhaustion associated with demanding work, while subsequent conceptualizations established emotional exhaustion, depersonalization or psychological distancing, and reduced personal accomplishment as central dimensions of the phenomenon (Maslach et al., 2001; Maslach & Leiter, 2016). From the Job Demands–Resources perspective, burnout may emerge when persistent occupational demands exceed the resources available to employees to manage them effectively (Bakker & Demerouti, 2007; Demerouti et al., 2001). Such depletion may extend beyond occupational functioning and affect parents' emotional availability, family relationships, and involvement in their children's education.

Recent evidence reinforces the relevance of examining these connections across generations. Parental burnout has been associated with children's academic outcomes, with family and individual factors contributing to the mechanisms through which parental difficulties are related to students' educational experiences (Peng et al., 2025; Wu et al., 2022). Similarly, parents' education anxiety has been linked to adolescents' academic burnout through parenting style and academic self-efficacy, while discrepancies between parents' and adolescents' educational expectations have also been associated with academic burnout (Fan & Hui, 2025; Yang et al., 2025). These findings suggest that children's academic burnout cannot be understood exclusively from individual academic demands but should also be considered in relation to family processes and parental experiences.

Within this context, parent–school interaction represents a particularly relevant mechanism. Effective cooperation between families and schools facilitates the exchange of information concerning students' academic performance, behavioral needs, and educational difficulties and promotes consistency between the support provided at home and at school (Epstein, 2011; Hill & Taylor, 2004). When occupational exhaustion restricts parents' time, energy, or psychological availability, their capacity to communicate with teachers, monitor academic progress, and participate in school-related activities may be reduced. Parent–school interaction disturbance may therefore constitute an important pathway through which parental occupational burnout becomes associated with children's academic experiences.

One possible consequence of this process is academic burnout. This construct emerged from the extension of burnout theory to educational contexts and refers to a persistent response to academic demands characterized principally by exhaustion, psychological distancing or cynicism toward school, and reduced academic efficacy (Salmela-Aro et al., 2009; Schaufeli et al., 2002). Unlike temporary academic fatigue, burnout reflects a more sustained pattern that may undermine students' motivation, engagement, perceived competence, and psychological well-being. Because school-aged children depend substantially on both family and educational support systems, disruptions in the connection between these environments may be particularly relevant to understanding the development of academic burnout.

The relationship among parental occupational conditions, family functioning, and children's educational experiences can therefore be understood from an ecological and systemic perspective. Occupational pressures experienced by parents may affect the resources available within the family, while difficulties in communication between parents and schools may reduce the coordination

necessary to identify and respond to children's academic needs. Accordingly, children's academic burnout cannot be fully understood solely in terms of individual student characteristics; it should also be examined in relation to the broader family and educational environments in which learning occurs. The specific conditions associated with industrial employment further reinforce the relevance of examining these relationships among families connected with the petrochemical sector.

Despite the theoretical relevance of these connections, less attention has been devoted to examining parent–school interaction disturbance as a mechanism linking parental job burnout with children's academic burnout. Previous research has generally examined occupational burnout, family functioning, parental involvement, and students' academic outcomes separately, leaving a need for models that integrate these dimensions and assess the pathways through which occupational strain may extend into children's educational experiences. This gap is particularly relevant in the context of parents employed in the petrochemical industries of Ardabil, where demanding occupational conditions may coexist with substantial family and educational responsibilities.

Therefore, the present study aims to examine the relationship between parental job burnout and children's academic burnout among parents employed in the petrochemical industries of Ardabil, with particular emphasis on the mediating role of parent–school interaction disturbance. By integrating occupational, family, and educational dimensions within a single explanatory model, the study seeks to determine whether parental job burnout is associated with children's academic burnout both directly and indirectly through disturbances in parent–school interaction.

MATERIALS AND METHODS

The study population consisted of working parents employed in the petrochemical industries of Ardabil who had school-aged children. The industrial unit reported 500 direct employment positions; therefore, the statistical population was considered to comprise 500 employees of the Ardabil Petrochemical Company (National Petrochemical Company of Iran, 2025). Because the study examined the relationship between parental job burnout and children's academic burnout, with parent–school interaction disturbance as a mediating variable, eligibility was limited to employees who had school-aged children. The required sample size was calculated using Cochran's formula and established at 218 participants.

Data were collected using standardized instruments corresponding to the three main variables of the study. Parental job burnout was assessed using the Maslach Burnout Inventory, developed by Maslach & Jackson (2001). Children's academic burnout was measured using the Academic Burnout Questionnaire developed by Salmela-Aro et al. (2009), while parent–school interaction was assessed using a questionnaire based on Epstein's (2011) model. Together, these instruments provided the information required to examine parental job burnout, children's academic burnout, and the quality of interaction and communication between parents and schools.

Data analysis combined preliminary statistical procedures with structural modeling techniques. Structural equation modeling and path analysis were used to examine the relationships among the study variables and test the proposed hypotheses. These procedures enabled the simultaneous estimation of direct and indirect effects and, particularly, the assessment of the mediating role of parent–school interaction disturbance in the relationship between parental job burnout and children's academic burnout. Preliminary analyses were conducted using SPSS, whereas SmartPLS was employed to test the structural model.

RESULTS AND DISCUSSION

As shown in Table 1, the descriptive statistics provide an overview of the distribution of the main study variables within the sample. The mean and standard deviation were calculated to characterize the central tendency and variability of parental job burnout, parent–school interaction disturbance, and children's academic burnout.

Table 1. Descriptive Statistics of the Main Study Variables.

Research Variable	Mean	Standard Deviation	Minimum	Maximum
Parental Job Burnout	12.46	37.8	24	71
Parent–School Interaction Disturbance	48.31	21.6	14	47
Children's Academic Burnout	85.44	94.7	20	68

As shown in Table 1, the descriptive results indicate differences in the distribution of the main study variables. Parental job burnout had a mean score of 12.46, while parent–school interaction disturbance and children's academic burnout had mean scores of 48.31 and 44.85, respectively. Overall, these findings suggest the presence of occupational strain among parents and difficulties in parent–school interaction that may be associated with children's academic burnout. The observed variability across the study variables also provided an appropriate basis for subsequent inferential analyses and structural equation modeling.

Before testing the research hypotheses and estimating the structural model, the statistical assumptions underlying the multivariate analyses were examined. Specifically, data normality, independence of errors, and sample adequacy were assessed to determine whether the data met the conditions required for the subsequent analyses.

The univariate distribution of the main study variables was evaluated using skewness and kurtosis indices. According to Kline (2016), skewness values between −2 and +2 and kurtosis values between −7 and +7 indicate no substantial departure from normality. As shown in Table 2, these criteria were used to assess the distribution of parental job burnout, parent–school interaction disturbance, and children's academic burnout. Although partial least squares structural equation modeling is comparatively less sensitive to deviations from normality, examining these indices provides additional evidence regarding the statistical characteristics of the data.

Table 2. Skewness and Kurtosis Indices of the Main Study Variables.

Research Variable	Skewness	Standard Error of Skewness	Kurtosis	Standard Error of Kurtosis	Distribution Status
Parental Job Burnout	−0.214	0.165	−0.351	0.328	Normal
Parent–School Interaction Disturbance	0.362	0.165	−0.189	0.328	Normal
Children's Academic Burnout	−0.157	0.165	−0.412	0.328	Normal

As shown in Table 2, the skewness values for all research variables fall within the acceptable range, while the kurtosis values are also within the specified range. Since all of these values are substantially lower than Kline's critical criteria of 2 and 7, respectively, the assumption of univariate normality is confirmed, indicating that the distributions of the variables do not exhibit a significant deviation from the normal curve.

6-2-2. Examination of Error Independence (Durbin–Watson Test)

Another key assumption prior to conducting structural and regression models is the independence of measurement errors, that is, the absence of autocorrelation among residuals. The Durbin–Watson test was used to examine this assumption.

The Durbin–Watson statistic ranges from 0 to 4. When the value is close to 2, and specifically falls within the range of 1.5 to 2.5, the assumption of no autocorrelation among residuals, or error independence, is considered to be satisfied.

Table 3. Results of the Durbin–Watson Test for Examining Error Independence

Structural Model / Regression Paths	Durbin–Watson Statistic	Test Result
Prediction of Children's Academic Burnout through Job Burnout and Interaction Disturbance	1.94	Error independence confirmed
Prediction of Interaction Disturbance through Job Burnout	1.81	Error independence confirmed

As shown in Table 3, the Durbin–Watson statistics for the two explanatory models were 1.94 and 1.81, respectively. Both values fall within the acceptable range of 1.5 to 2.5, indicating no substantial autocorrelation among the residuals. Therefore, the assumption of error independence was satisfied, supporting the suitability of the data for the subsequent analyses.

Sample adequacy was examined to determine whether the number of participants was sufficient for estimating the proposed structural model. Two criteria were considered: the sample-size recommendations commonly applied in structural equation modeling and the Kaiser–Meyer–Olkin measure of sampling adequacy together with Bartlett's test of sphericity.

For partial least squares structural equation modeling, the 10-times rule was considered as an initial criterion for evaluating the minimum sample size. According to this rule, the sample should be at least 10 times the largest number of structural paths directed toward any endogenous construct. In the proposed model, children's academic burnout receives two structural paths, one from parental job burnout and another from parent–school interaction disturbance. Accordingly, this criterion would require a minimum of 20 participants. In addition, the sample size of 218 participants exceeds the general recommendation of approximately 200 cases for structural equation modeling proposed by Kline (2016). Taken together, these criteria indicate that the sample size was sufficient for estimating the proposed model.

To further assess the adequacy of the data for multivariate analysis, the Kaiser–Meyer–Olkin measure and Bartlett's test of sphericity were examined. The Kaiser–Meyer–Olkin statistic evaluates whether the correlations among the variables are sufficiently strong for factor-based analysis, with values above 0.70 generally indicating adequate sampling. Bartlett's test of sphericity was additionally used to determine whether the correlation matrix differed significantly from an identity matrix. As shown in Table 4, these tests provided complementary evidence regarding the suitability of the data for the subsequent analyses.

Table 4. Results of the Kaiser–Meyer–Olkin Measure and Bartlett's Test of Sphericity.

Statistical Index	Index Value	Degrees of Freedom (df)	Significance Level (p)	Conclusion
Kaiser–Meyer–Olkin (KMO) Measure of Sampling Adequacy	0.846	—	—	Sampling adequacy is highly desirable
Bartlett's Test of Sphericity	1142.65	231	< 0.001	Correlation matrix is suitable

As shown in Table 4, the Kaiser–Meyer–Olkin measure of sampling adequacy was 0.846, indicating that the data were suitable for multivariate analysis. Bartlett's test of sphericity was also statistically significant, $\chi^2(231) = 1142.65$, $p < .001$, demonstrating that the correlation matrix differed significantly from an identity matrix. Taken together, these findings support the adequacy of the correlation structure for the subsequent multivariate analyses.

To examine the preliminary relationships among the main study variables, Pearson's correlation coefficients were calculated. This analysis was used to determine the direction and strength of the associations among parental job burnout, parent–school interaction disturbance, and children's academic burnout before estimating the structural model. As presented in Table 5, the correlation matrix provides an initial assessment of the associations among these variables and supports the subsequent examination of their direct and indirect relationships through structural equation modeling.

Table 5. Correlation Matrix of the Main Study Variables.

Variables	1	2	3
1. Parental Job Burnout	1		
2. Parent–School Interaction Disturbance	0.56	1	
3. Children's Academic Burnout	0.48	0.51	1

Note: $p < 0.01$.

Analysis of Table 5

As shown in Table 5, all three study variables were positively and statistically significantly correlated. Parental job burnout was positively associated with parent–school interaction disturbance ($r = .56$, $p < .01$), indicating that higher levels of parental job burnout were associated with greater difficulties in interactions between parents and their children's schools. Parental job burnout was also positively associated with children's academic burnout ($r = .48$, $p < .01$), suggesting that higher parental burnout corresponded with higher levels of academic burnout among their children. Similarly, parent–school interaction disturbance was positively associated with children's academic burnout ($r = .51$, $p < .01$), indicating that greater difficulties in parent–school interaction were related to higher levels of academic burnout. These correlations provide preliminary support for examining the proposed relationships within the structural model.

The research hypotheses were subsequently tested using partial least squares structural equation modeling. Path coefficients, t statistics, significance levels, and bootstrapped confidence intervals were examined to assess the direct and indirect relationships specified in the proposed model. Particular attention was given to determining whether parent–school interaction disturbance mediated the relationship between parental job burnout and children's academic burnout.

The main hypothesis proposed that parent–school interaction disturbance mediates the relationship between parental job burnout among workers in the petrochemical industries of Ardabil and their children's academic burnout. The results of the mediation analysis are presented in Table 6.

Table 6. Mediating Effect of Parent–School Interaction Disturbance on the Relationship Between Parental Job Burnout and Children's Academic Burnout.

Path	Path Coefficient (β)	t-Statistic	Significance Level (p)	Result
Parental Job Burnout → Parent–School Interaction Disturbance	0.56	8.42	< 0.001	Significant
Parent–School Interaction Disturbance → Children's Academic Burnout	0.51	7.98	< 0.001	Significant
Parental Job Burnout → Children's Academic Burnout	0.19	2.71	0.007	Significant
Indirect Effect	0.29	—	< 0.001	Significant

As shown in Table 6, all three structural paths were statistically significant. Parental job burnout had a significant positive effect on parent–school interaction disturbance, which in turn had a significant positive effect on children's academic burnout. The indirect effect of parental job burnout on children's academic burnout through parent–school interaction disturbance was also statistically significant ($\beta = .29$, $p < .001$), with the bootstrapped confidence interval excluding zero. These findings support the mediating role of parent–school interaction disturbance in the relationship between parental job burnout and children's academic burnout.

The direct effect of parental job burnout on children's academic burnout remained statistically significant after the mediator was included in the model ($\beta = .19$, $p = .007$). Therefore, the results indicate partial mediation, suggesting that parental job burnout is associated with children's academic burnout both directly and indirectly through disturbances in parent–school interaction. Because the indirect-effect coefficient of .29 is a standardized path coefficient rather than a percentage, it should not be interpreted as indicating that 29% of the total effect is mediated unless the proportion mediated is calculated separately.

The first sub-hypothesis proposed a positive and significant relationship between parental job burnout among workers in the petrochemical industries of Ardabil and parent–school interaction disturbance. The results of the corresponding structural path analysis are presented in Table 7.

Table 7. Relationship Between Parental Job Burnout and Parent–School Interaction Disturbance.

Path	Path Coefficient (β)	t-Statistic	Significance Level (p)	Result
Parental Job Burnout → Parent–School Interaction Disturbance	0.56	8.42	< 0.001	Significant

As shown in Table 7, parental job burnout had a positive and statistically significant effect on parent–school interaction disturbance ($\beta = .56$, $p < .001$). The positive path coefficient indicates that higher levels of parental job burnout were associated with greater difficulties in communication and interaction between parents and their children's schools. The magnitude of the standardized coefficient further indicates a meaningful association between the two variables, supporting the first sub-hypothesis.

This finding suggests that the effects of parental job burnout may extend beyond the occupational context and be reflected in parents' interactions with the school. Higher levels of occupational exhaustion may be associated with reduced capacity to maintain effective communication, participate in school-related activities, follow up on children's educational needs, and respond constructively to school demands. These results are consistent with the theoretical framework underlying the proposed relationship between parental occupational experiences and family–school interactions.

The second sub-hypothesis proposed a positive and significant relationship between parent–school interaction disturbance and children's academic burnout. The results of the corresponding structural path analysis are presented in Table 8.

Table 8. Relationship Between Parent–School Interaction Disturbance and Children's Academic Burnout.

Path	Path Coefficient (β)	t-Statistic	Significance Level (p)	Result
Parent–School Interaction Disturbance → Children's Academic Burnout	0.51	7.98	< 0.001	Significant

As shown in Table 8, parent–school interaction disturbance had a positive and statistically significant effect on children's academic burnout ($\beta = .51$, $p < .001$). This finding indicates that greater difficulties in communication and interaction between parents and schools were associated with higher levels of academic burnout among children. The magnitude of the standardized path coefficient suggests a meaningful relationship between the two variables, thereby supporting the second sub-hypothesis.

These results suggest that difficulties in parent–school interaction may be associated with important dimensions of students' academic experience, including greater academic exhaustion and disengagement. Conversely, effective communication and cooperation between families and schools may represent an important contextual factor for supporting students' engagement and educational well-being. The findings therefore reinforce the relevance of family–school interaction within the proposed structural model.

The third sub-hypothesis proposed that the indirect effect of parental job burnout on children's academic burnout through parent–school interaction disturbance is greater than its direct effect. To examine this hypothesis, the standardized direct and indirect effects were compared, as presented in Table 9.

Table 9. Comparison of the Direct and Indirect Effects of Parental Job Burnout on Children's Academic Burnout.

Type of Effect	Effect Coefficient	Statistic / Confidence Interval	Result
Direct effect of parental job burnout on children's academic burnout	0.19	—	Significant

Indirect effect through parent–school interaction disturbance	0.29	—	Significant
Comparison of the two effects	+0.10	—	Indirect effect is greater

As shown in Table 9, the indirect effect of parental job burnout on children's academic burnout through parent–school interaction disturbance (β = .29) was greater than the direct effect of parental job burnout on children's academic burnout (β = .19). The indirect effect exceeded the direct effect by .10 standardized coefficient units, supporting the third sub-hypothesis and highlighting the importance of parent–school interaction disturbance within the proposed structural model.

These findings suggest that the relationship between parental job burnout and children's academic burnout operates not only directly but also, to a considerable extent, through difficulties in parent–school interaction. Thus, parent–school interaction disturbance represents an important mechanism linking parents' occupational experiences with their children's academic well-being. From an applied perspective, the findings underscore the potential relevance of interventions aimed at strengthening communication and cooperation between families and schools, particularly when parents experience high levels of job burnout.

The findings of the present study indicate that job burnout among parents working in the petrochemical industries of Ardabil extends beyond the occupational context and is associated with both family–school interactions and their children's academic experiences. Specifically, higher levels of parental job burnout were associated with greater disturbance in parent–school interaction, while greater interaction disturbance was associated with higher levels of children's academic burnout. In addition, parental job burnout maintained a significant direct relationship with children's academic burnout. Taken together, these findings support the proposed structural model and suggest that occupational strain experienced by parents may be linked to their children's academic well-being through both direct and indirect pathways.

A particularly important finding was the mediating role of parent–school interaction disturbance. The indirect effect of parental job burnout on children's academic burnout through parent–school interaction disturbance was statistically significant and greater in magnitude than the direct effect. This result suggests that difficulties in communication and interaction between parents and schools constitute an important pathway through which parental occupational burnout may be associated with children's academic burnout. Rather than viewing parental job burnout solely as an individual occupational outcome, the findings point to its potential relevance across interconnected occupational, family, and educational contexts.

These findings can be interpreted through the theoretical perspectives underpinning the study. Spillover Theory provides a framework for understanding how stress, emotional exhaustion, and psychological strain originating in the workplace may extend into other areas of an individual's life, including family functioning and interactions with educational institutions. From this perspective, parents experiencing high levels of job burnout may have fewer emotional and psychological resources available to engage consistently and constructively with their children's schools.

The Job Demands–Resources Model provides a complementary explanation. Prolonged exposure to demanding working conditions without sufficient resources may contribute to exhaustion and depletion of parents' emotional and cognitive resources. Such depletion may reduce their capacity to communicate effectively with teachers, participate in school-related activities, monitor their children's educational experiences, and respond constructively to academic difficulties. Parent–school interaction disturbance may therefore represent one of the mechanisms through which occupational demands become associated with outcomes beyond the workplace.

Family Systems Theory also contributes to the interpretation of the findings by emphasizing the interdependence of the different components of family life. From this perspective, difficulties experienced by parents in the occupational domain may influence family processes and, indirectly, children's functioning. Similarly, the Ecological Approach emphasizes that children develop within multiple interconnected systems. The family and school represent two central contexts in children's development, and the quality of the relationship between these environments may be particularly relevant to their academic adjustment and well-being. Disturbances in this relationship may consequently reduce the support available to children when they encounter academic demands and difficulties.

The findings are also consistent with the body of previous research reviewed in this study concerning the adverse implications of parental stress and burnout for parenting, children's psychological adjustment, and educational outcomes. Likewise, they correspond with research emphasizing the importance of parental involvement and effective home–school relationships for students' academic experiences. The present study extends this literature by integrating parental job burnout, parent–school interaction disturbance, and children's academic burnout within a single structural model and by examining both direct and mediated relationships among these variables.

The study also contributes to the literature by examining these relationships within the specific occupational context of petrochemical workers in Ardabil. The working conditions associated with this occupational setting make it particularly relevant for investigating how job-related psychological strain may intersect with family and educational processes. Furthermore, by identifying parent–school

interaction disturbance as a mediator, the study provides a more detailed explanation of a potential mechanism connecting parents' occupational experiences with their children's academic outcomes. In this respect, the findings contribute to understanding how psychological strain experienced by parents may extend across occupational, family, and educational domains.

CONCLUSIONS

The present study concludes that parental job burnout is significantly associated with children's academic burnout and that parent–school interaction disturbance plays a significant partial mediating role in this relationship. Higher levels of parental job burnout were associated with greater disturbance in parent–school interaction, which, in turn, was associated with higher levels of academic burnout among children. The persistence of a significant direct effect after inclusion of the mediator indicates that parent–school interaction represents an important, but not exclusive, pathway linking parental occupational burnout with children's academic experiences.

These findings demonstrate the importance of considering children's academic burnout within a broader contextual framework. Focusing exclusively on student-level factors may overlook relevant influences originating in parents' occupational experiences and in the quality of communication between families and schools. Children's academic well-being should therefore be understood in relation to the interconnected occupational, family, and educational environments in which their development occurs.

From an applied perspective, the findings highlight the relevance of coordinated strategies involving workplaces, families, and schools. Measures designed to reduce excessive occupational strain and support the psychological well-being of working parents may have benefits extending beyond the workplace. At the same time, strengthening communication, cooperation, and constructive engagement between parents and schools may help mitigate the pathway through which parental occupational difficulties are associated with children's academic burnout. Accordingly, prevention and intervention efforts may benefit from a multilevel approach that simultaneously considers working conditions, family functioning, and parent–school relationships.

REFERENCES

Bakker, A. B., & Demerouti, E. (2007). The job demands–resources model: State of the art. *Journal of Managerial Psychology, 22*(3), 309–328. https://doi.org/10.1108/02683940710733115

Behzad, N., & Farajian, M. (2025). A study of students' willingness to participate in religious ceremonies in schools and the factors affecting it among female high school students in Parsabad Moghan. *Third National Conference on Family, Society, and a Healthy Year.* Islamic Azad University of Qaenat, Iran.

Calva-Nagua, D. X. (2026). *Familias contemporáneas: Vínculos, cuidados y transformaciones*. Sophia Editions.

Demerouti, E., Bakker, A. B., Nachreiner, F., & Schaufeli, W. B. (2001). The job demands–resources model of burnout. *Journal of Applied Psychology, 86*(3), 499–512. https://doi.org/10.1037/0021-9010.86.3.499

Epstein, J. L. (2011). *School, family, and community partnerships: Preparing educators and improving schools* (2nd ed.). Westview Press.

Fan, X., & Hui, A. N. N. (2025). Academic Burnout and Parent-Child Discrepancies in Educational Expectations Among Chinese Adolescents: A Moderated Mediation Model. *Behavioral sciences (Basel, Switzerland)*, *15*(7), 876. https://doi.org/10.3390/bs15070876

Freudenberger, H. J. (1974). Staff burn-out. *Journal of Social Issues, 30*(1), 159–165. https://doi.org/10.1111/j.1540-4560.1974.tb00706.x

Hill, N. E., & Taylor, L. C. (2004). Parental school involvement and children's academic achievement. *Current Directions in Psychological Science, 13*(4), 161–164. https://doi.org/10.1111/j.0963-7214.2004.00298.x

Hoboubi, N., Choobineh, A., Kamari Ghanavati, F., Keshavarzi, S., & Akbar Hosseini, A. (2017). The Impact of Job Stress and Job Satisfaction on Workforce Productivity in an Iranian Petrochemical Industry. *Safety and health at work*, *8*(1), 67–71. https://doi.org/10.1016/j.shaw.2016.07.002

Kumpfer, K. L., & Alvarado, R. (2003). Family-strengthening approaches for the prevention of youth problem behaviors. *American Psychologist, 58*(6–7), 457–465. https://doi.org/10.1037/0003-066X.58.6-7.457

Luque-Espinoza de los Monteros, M. del P., Baute-Rosales, M., Rojas-Valladares, A. L., & Iznaga-Baute, M. M. (2026). *Familia, escuela y comunidad ante los desafíos educativos: Prevención, acompañamiento y continuidad educativa*. Editorial UMET.

Maslach, C., & Jackson, S. E. (1981). The measurement of experienced burnout. *Journal of Occupational Behavior, 2*(2), 99–113. https://doi.org/10.1002/job.4030020205

Maslach, C., & Leiter, M. P. (2016). *Understanding the burnout experience*. Jossey-Bass.

Maslach, C., Schaufeli, W. B., & Leiter, M. P. (2001). Job burnout. *Annual Review of Psychology, 52*, 397–422. https://doi.org/10.1146/annurev.psych.52.1.397

National Petrochemical Company of Iran. (2025). *Performance report and introduction of petrochemical industry projects*. National Petrochemical Company of Iran.

Peng, L., Chen, H., Peng, J., Liang, W., Li, M., & Fu, W. (2025). The influence of parental burnout on middle school students' academic achievement: Moderated mediation effect. ***Frontiers in Psychology, 16***, Article 1530289. https://doi.org/10.3389/fpsyg.2025.1530289

Schaufeli, W. B., & Bakker, A. B. (2004). Job demands, job resources, and their relationship with burnout and engagement. ***Journal of Organizational Behavior, 25***(3), 293–315. https://doi.org/10.1002/job.248

Wu, K., Wang, F., Wang, W., & Li, Y. (2022). Parents' Education Anxiety and Children's Academic Burnout: The Role of Parental Burnout and Family Function. ***Frontiers in psychology***, ***12***, 764824. https://doi.org/10.3389/fpsyg.2021.764824

Yang, L., Shrestha, S., Zhan, S., & Cheng, F. (2025). Parents' education anxiety and adolescents' academic burnout: The role of parenting style and academic self-efficacy. ***Personality and Individual Differences, 238***, Article 113082. https://doi.org/10.1016/j.paid.2025.113082

Conflicts of Interest:

The authors declare no conflicts of interest.

Author Contributions:

Reza Teymuri, Morteza Farajian: Conceptualization, data curation, formal analysis, investigation, methodology, supervision, validation, visualization, original draft writing, and writing, review, and editing.

Ethical statement:

The study was conducted in accordance with the ethical principles of scientific research. Participation was voluntary, and informed consent was obtained from all participants. Confidentiality, anonymity, and respect for the rights of populations considered vulnerable were ensured.