Original Article

Parent-employment conflict analysis by ordinal regression: a case study of employed parents in Tehran

Arezoo Bagheri ¹^(D), Mahsa Saadati ^{*1}^(D)

¹ Statistical methods and demographic modeling department, National Institute for Population Research, Tehran, Iran.

Corresponding author and reprints: Mahsa Saadati, Associate Professor of Biostatistics, Statistical Methods and Demographic Modeling Department, National Institute for Population Research, Tehran, Iran. **Email:** mahsa.saadati@gmail.com

Received: 23 Sep 2023 **Accepted:** 2 Mar 2024

Published: 13 May 2024

Abstract

Background: Addressing the evolving dynamics of family structures, the parent-employment conflict (*PEC*) emerges as a significant conundrum of the current century. This article seeks to delve into the intricate factors influencing *PEC* among employed parents in Tehran, Iran.

Methods: This study employed a stratified random sampling method across various regions within Tehran province, in 2017. A structured questionnaire, encompassing demographic details, the history of fertility, and attitudes towards childbearing, alongside the delineation of conflicts between professional responsibilities and parental duties used to collect 449 employed parents. Since *PEC* was an ordinal variable with three categories of low (6-12), middle (12-18), and high (18-30), an ordinal regression method was applied to some selected covariates.

Results: The findings suggest that women comparing to men, those with "secondary and high school" and "diploma" comparing to "master degree and PhD" educational levels, governmental employees comparing to free-lance employees, and those employees working 45 hours and more comparing to employees working less than 40 hours in a week had higher *PEC*.

Conclusion: In general, unless socialization norms and policymakers' views adopt social realities, *PEC* will not reduce. Policymakers should pay more attention to institutionalize of social supports and implement family supportive policies.

Keywords: Family Conflict; Gender Roles; Iran; Ordinal Regression; Tehran.

Cite this article as: Bagheri A, Saadati M. Parent-employment conflict analysis by ordinal regression: a case study of employed parents in Tehran. *Soc Determinants Health*. 2024;10(1):1-12. DOI: http://dx.doi.org/10.22037/sdh.v10i1.43240

Introduction

hanges in the family patterns have been studied by some of the researchers like William Goode (1960) as a world revolution (1). In Iran similar to the other countries, the major causes of these changes are the development of urbanization, education, media communication and health system as well as increasing the labour force women's participation rate. This rate for Iranian women indicates an increscent from 15.5 percent in 2008 to 16.8 percent in 2017 (2,3). One of the significant consequences

of this participation is increasing rate of families whose couples work at the same job status. Couples, as observed by Rapoport and Rapoport (1971), face numerous challenges, including role juggling. environmental pressures, stressors from social networks, and the intricate balancing act of managing multiple roles while navigating societal expectations (4). One of the most usual challenges for dual earner couples when they attempt to balance between their roles in family and their roles at work is Parentemployment conflict (*PEC*) (5). In fact, "*PEC* is a conflict that individuals experience between their role as parents and as employees" (6).

Role conflict has been extensively studied by researchers such as Cohen (2003), who defines it as the outcome of conflicting behavioural expectations inherent in the roles an individual is required to fulfil. In such situations, this person has problem to play a certain role. Cohen (2003) believes that on one hand, role conflict leads to disorder mode and on the other hand causes to be disable to play several roles at the same time (7). Based on the theory of role Goode's strain (1963),when individuals are unable to respond to all demands, they more probably face to a kind of disorder combination and conflict of role This requirements (8). notion is corroborated by Weer and Greenhaus (2014), who posit that family-to-work conflict arises when the demands from the family and work spheres are fundamentally at odds with each other. Consequently, engagement in the work role becomes more challenging due to the simultaneous obligations of the family role (9).

Several researches also devoted to PEC and they state it is a continuing concern regarding satisfaction from work-family balance (10-13) and also the overall life quality for both the individual and the entire family unit(14-16). There is a significant correlation between work-family conflict, particularly familial disarray (17-19), and specific impact on children's its developmental trajectories (20-22). The majority of research studies indicate that more work-family conflict often leads to less satisfaction of family life and job life (23-25) and also inter-role clashes between work and parent roles (26-27). Through reviewing the literature, the importance of workhours (28-29), education (30), job insecurity (31), job performance (32) and heavy workload (33) as factors that, directly or indirectly, can affect PEC could be detected.A parent-employee conflict

measure was conceptualized and developed by Mallard and Lance (1998), while they were reviewing previous models on workfamily conflict (6). They believe that most of global work-family conflict scales may not identify the source of conflict caused by clashes between work and parenting roles. Mallard and Lance (1998) stated that "PEC scale would facilitate further study of the ways in which work roles and parenting roles interfere with one another (6). This scale could also help to identify why some employed parents experience conflict while others do not. Finally, A PEC scale could help to better define the components of work-family conflict, as it seems to be an integral components of work-family conflict". To analysis PEC in this study, Mallard and Lance's PEC scale (1998) was used especially those items that more emphasized on general PEC. To provide realistic suggestions to decrease conflict between parental and work roles. identification and explanation of the related factors with PEC is vital. To do so, the primary objective of this study is to investigate factors of gender, Birth cohort, educational level, activity type, activity time, expenditure, parity, and marriage duration affecting PEC among employed parents in Tehran.

Methods

In this section study design and data collection, methods are employed to the data and results are outlined.

Study design and data collection

In this secondary study, data from a crosssectional survey titled "Effects of Socio-Economic Rationality Dimensions on Childbearing Behavior in Tehran" (34) were utilized. In this survey, data from 1200 participants were collected. The analysis focused on a sample of 590 (49.2 percent) men aged 20-59 and 610 (50.8 percent) women aged 15-49 residing in Tehran province, Iran, in 2017.The study utilized a multi-stage sampling technique, which involved clustering the 22 metropolitan regions of Tehran province into the following categories based on their level of development: developed (regions 1-3 and 6), relatively developed (regions 5 and 7), middle-developed (regions 4, 8-14, 16, and 20-22), and non-developed (regions 15 and 17-19). Hence, each developmental level in various Tehran regions was treated as a distinct class. The regions within each class were chosen proportionally to their size, leading to the selection of 10 regions (1, 2,4, 5, 8, 10, 14, 15, 18, 20) in Tehran, reflecting the population distribution across the four developmental levels. Within respectively chosen region, four large blocks were identified by random, and samples were systematically gathered within each block between February and May 2017. In line with the study's objective, data from 449 employed parents were predetermined collected using a questionnaire encompassing demographic figures, fertility history, and factors associated with attitudes towards childbearing, including conflicts between parental duties. work and The questionnaire's validity was established through consultation with 10 demographers and sociologists. The reliability of the questionnaire's factors, assessed through Cronbach's alpha, ranged from a minimum of 0.771. No interventions or treatments were applied during the study, and the research objective was clarified to the respondents before the interview process. Participants gave verbal consent to partake in the study, and ethical approval was obtained from the National Population Studies and Comprehensive Management Institute for the questionnaire (code number: 20/18627).

The dependent variable, Parentalemployment Conflict (PEC), was assessed by summing up responses to five Likertscale items: "I believe I've achieved a satisfactory balance between mv responsibilities as a parent and those as an employee*; I feel adequately able to allocate time for myself *; I often find it challenging to balance mv work

responsibilities and the needs of my child(ren) as I would prefer; I often feel like I'm juggling two full-time jobs: one at my workplace and the other as a parent; I enjoy sharing relaxed and pleasant moments with my child(ren)*." An ordinal regression was fitted to the data since *PEC* was an ordinal variable with three categories of low (6-12), middle (12-18), and high (18-30). The primary objective of the current study is to explore variables of gender, birth cohort (<=1971, 1971-1981, >=1981), educational level (Illiterate, Secondary & high school Diploma, Diploma, BC&As, MS & PhD), activity type (Self-employee, Freelance Private sector employee, employee, Governmental employee), activity time (<=39, 40-44, >=45), expenditure (<=2)million Tomans, 2-3.5 million Tomans, >3.5 million Tomans), parity, and marriage duration affecting PEC among employed parents in Tehran.

Statistical Method

In statistics, an ordinal regression model is a type of regression analysis utilized for predicting a polychotomous variable categorized based on its ordinal scale, known as ordinal variables (35). Various logistic regression models have been developed for analysing variables of this nature. However, the most commonly employed logistic ordinal regression method in practice is the constrained cumulative logit model known as the Proportional Odds Model (POM) (36, 37) which finds extensive use in epidemiological biomedical and applications. The correct interpretations of POM depend on satisfying the Proportional Odds (PO) hypothesis (38).

The PO assumption specifies that the influences of any covariates remain consistent or proportionate across the various thresholds. This assumption posits that the covariates exert the same effect on the odds irrespective of the threshold being considered. In ordinal regression, distinct intercept terms exist at each threshold, while a single Odds Ratio (OR) represents

the effect of each covariate. In this model, the event of interest comprises a series of binarv measures that reflect the cumulative outcomes different at thresholds. Rather than formulating an individual event probability, as in logistic regression, ordinal regression considers that event and all others above probability within the ordinal ranking. Cumulative probabilities instead of probabilities of distinct categories are calculated. A single model could be employed to estimate the odds of being at or above a given threshold through entire cumulative splits. The objective of employing a cumulative odds model is to simultaneously account for the influences of a set of covariates across the potential consecutive cumulative splits in the outcome. For the rating of events, the following odd will be modelled:

 $\boldsymbol{\theta}_{\mathbf{j}} = \operatorname{prob}(\mathbf{score} \le \mathbf{j}) / \operatorname{prob}(\operatorname{score} > \mathbf{j})$ (1)

which can also be written as:

 $\theta_{j} = \operatorname{prob}(\mathbf{score} \leq \mathbf{j}) / (1 - \operatorname{prob}(\mathbf{score} \leq \mathbf{j})), \quad (2)$

The ordinal logistic model for a single covariate is as follows:

 $\ln(\theta_{j}) = \alpha_{i} - \beta X \tag{3}$

where j ranges from 1 to the number of categories minus 1. Each logit has a unique α_i term but shares similar coefficient β implying that the effect of the covariate remains constant across various logit functions (adhering to the assumption of the POM). The terms α_i , known as the threshold values, are typically of less interest. Their values do not depend on the covariate values for a specific case. Similar to the intercept in linear regression, each logit has its own threshold value. They are primarily used in the computation of predicted values.To ascertain whether the model enhances the ability to predict outcomes, 'Intercept Only' model (a model without any covariates as the baseline) should be compared with the 'Final' model (the model including all the covariates). The final model is compared against the baseline to determine whether it has notably enhanced the fit to the data. The -2loglikelihood (-2LL) statistic serves as an indicator of the amount of unexplained information that remains after fitting the model. If chi-square statistic is statistically significant, the final model offers a substantial improvement compared to the baseline intercept-only model.

The Goodness-of-Fit statistics contains Pearson's chi-square statistic for the model, as well as another chi-square statistic based on the deviance. These statistics are employed to assess whether the observed data align with the fitted model. If the null hypothesis, which posits a good fit of the model, is supported, it can be inferred that the data and the model predictions are similar, thereby confirming the validity of the model.

Different R^2 statistic (the coefficient of determination) as in linear regression can be computed for logistic and ordinal regression models as pseudo R^2 values. The Nagelkerke pseudo-R² value for the fitted model indicates the percentages of variation of outcome variable which is explained by selected explanatory variable in the model. The appropriateness of PO assumption could be evaluated by the 'test of parallel' which compares the ordinal model with similar coefficients for entire thresholds (labeled Null Hypothesis), to a model with different coefficients for each threshold (labeled General). If the general model provides a significantly superior fit to the data compared to the ordinal PO model (i.e., if the p-value is less than 0.05), then the assumption of PO will be rejected. By computing single score tests of the PO assumption for each covariate, the conclusion regarding the assumption of can be confirmed. The POM nonsignificant test results for all the explanatory variables (P-value > 0.05) confirms the fulfilment of the proportional odds assumption.

Result

In this study, Parent-Employment Conflict (*PEC*) variable modelled by ordinal

regression some of the selected predictors as gender, birth cohort, educational level, activity type, activity time, expenditure, parity, and marriage duration. The descriptive statistics of variables in this study are illustrated in Table (1). 33.4, 45.2, and 18.5 percentages of employees had low (6-12), middle (12-18), and high (18-30) conflict between their jobs and their roles as a parent. Almost 70 percentages of employees were men and more than 40 percentages of them were in 1971-1981 birth cohort. More than 85 percentage of employees had diploma and above educational level. Most of them were working more than 44 hours in a week (59.5

percent) and in governmental sectors (41.4 percent). 85.5 percentages of them expend 3.5 million Tomans and less in a month. The parity of more than 89 percentages of them was 1-2 children. Marriage duration of 41.2 percentages of them was 11-20 years.

PEC crossed by predicted variables is shown in Table (2). Based on the results presented in this table, the most percentages of high *PEC* (18-30 scores) was among employed women (23.8 percent), employees was born in 1971-1981 birth cohort (20.6 percent), secondary and high school educated employees (34.1 percent),

Variables		Frequency	Percentage
	6-12	150	33.4
PEC	12-18	203	45.2
	18-30	83	18.5
Condon	Male	316	70.4
Genuer	Female	133	29.6
	>=1981	137	30.5
Birth Cohort	1971-1981	196	43.7
	<=1971	116	25.8
	Illiterate	11	2.4
	Secondary & high school	41	9.1
Educational Level	Diploma	134	29.8
	BC&As	174	38.8
	MS & PhD	77	17.1
	Self-employee	17	3.8
A ativity type	Freelance employee	131	29.2
Activity type	Private sector employee	115	25.6
	Governmental employee	186	41.4
	<=39	65	14.5
Activity time	40-44	109	24.3
	>=45	267	59.5
	<=2 MT*	191	42.5
Expenditure	2-3.5 MT*	193	43.0
	>3.5 MT*	60	13.4
	1	244	54.3
Parity	2	159	35.4
-	>=3	46	10.2
	0-10	168	37.4
Manula an Duna 4	11-20	185	41.2
Marriage Duration	21-30	81	18.0
	>=31	11	2.4
Total	-	449	100

Table 1. Frequency Distribution of Model Variables

*Million Tomans

		PEC			Test statistics	P-value	
Variables		6-12	12-18	18-30	i est statistics	I -valut	
Condon	Male	36.1	46.8	17.1	2.050*	0.217	
Gender	Female	30.2	46.0	23.8	5.039*	0.217	
	>=1981	34.3	47.8	17.9			
Birth Cohort	1971-1981	34.9	44.4	20.6	0.005**	0.945	
	<=1971	33.6	48.7	17.7			
	Illiterate	36.4	63.6	0.0			
	Secondary & high school	22.0	43.9	34.1		0.017***	
Educational Level	Diploma	28.9	45.3	25.8	18.561*		
	BC&As	37.6	46.5	15.9			
	MS & PhD	40.5	48.6	10.8			
Activity type	Self-employee	28.6	57.1	14.3		0 5 4 5 * * *	
	Freelance employee	40.9	39.4	19.7	4.001*		
	Private sector employee	29.8	50.9	19.3	4.991*	0.545	
	Governmental employee	33.1	48.1	18.8			
	<=39	47.6	42.9	9.5		0.089	
Activity time	40-44	29.8	46.2	24.0	2.899**		
	>=45	33.2	47.3	19.5			
	<=2 million Tomans	35.3	46.0	18.7		0.775	
Expenditure	2-3.5 million Tomans	36.0	43.0	21.0	0.082**		
	>3.5 million Tomans	27.6	58.6	13.8			
	1	31.0	50.6	18.4			
Parity	2	37.7	43.5	18.8	0.664**	0.415	
	>=3	41.9	34.9	23.3			
Marriage Duration	0-10	34.5	44.6	20.8			
	11-20	35.8	47.2	17.0	0.065**	0 700	
	21-30	30.8	50.0	19.2	0.005	0.799	
	>=31	50.0	30.0	20.0			

Table 2. Parent-Employment Conflict Crossed by Predicted Variables

*Pearson Chi-Square, **Linear-by-Linear Association, *** Fisher's Exact Test

freelance employs (19.7 percent),employees working 40-44 hours in a week (24.0 percent), employees expend 2-3.5 million Toman in month (21.0 percent), employees with more than 3 children (23.3 percent), and married less than 10 (20.8 percent) or more than 30 (20.0 percent) years ago. The results of Table (2) indicates that educational level had just a significant association with *PEC* (P-value=0.017).

Table (3) shows the model fitting information of fitted POM for *PEC*. Before starting to study each explanatory variable influences in the model, It is necessary to assess whether the model enhances our

capability to predict PEC. The -2loglikelihood (-2LL) statistic, often referred to as the deviance, for both the baseline and the final model is provided in the model fitting Information table. A chi-square test is then conducted to assess the difference between the -2LL values of the two models. Table (3), the statistically significant In result of chi-square statistic (Pvalue<0.000) suggests that comparing to the baseline intercept-only model, the final model offers a substantial improvement. It indicates that the fitted model provides enhanced predictions compared to merely guessing based on the marginal probabilities for the PEC categories.

Table 3 Model	Fitting	Information	for Fitted	POM Model
Table 5. Model	rung	mormation	101 Filleu	r Owi widdei

Model	-2 Log Likelihood	Chi-Square	df	P-value
Intercept Only	833.083			
Final	788.758	44.325	16	0.000

The Goodness-of-Fit for fitted PO model is indicated in Table (4). The results of this table suggest that demonstrates a strong fit (p-value>0.3).

Table 4. Goodness-of-Fit for Fitted POM Model

	Chi-Square	df	P-value
Pearson	769.184	754	0.343
Deviance	770.501	754	0.330

The Nagelkerke pseudo- R^2 value=11.7 percent for the fitted POM indicates the percentages of variation of *PEC* which is explained by selected explanatory variable in the model.

The 'test of parallel lines' results are presented in Table (5). Given the non-significant value of this test as shown in Table (5) (p-value>0.1), the PO assumption is accepted.

Table 5.Test of Parallel Lines for Fitted POM Model										
	-2 Log Chi- P-									
Model	Likelihood	Square	df	value						
Null	788.758									
Hypothesis										
General	765.465	23.294	16	0.106						

At the 5 percent level of significance, the score test of the PO assumption is not significant, indicating that the assumption may not hold (Table, 5). However, the pvalue of the score test is found small (0.106). Table (6) presents the parameter estimates including 95% confidence intervals for fitted POM for PEC by selected explanatory variables of as gender, birth cohort, educational level, activity type, activity time, expenditure, parity, and marriage duration. If the confidence intervals do not include zero, then we can say that the estimate is statistically significant at the 5% level. This means that there is strong evidence that the population parameter is different from zero. This table also provides odds ratios along with their corresponding 95% confidence intervals, computed by exponentiating the estimates. Moreover, the last column of Table (6) indicates the p-values of the PO assumption single score tests. The insignificant test

results for all the covariates (P-value > 0.05) reveal that the data supports the the proportional odds adherence to assumption. Thus, the fitted POM is valid.In Table (6), the threshold coefficients are generally not analyzed separately. Instead, they represent the intercepts, precisely indicating the point (in terms of a logit) where the *PEC* may be predicted to transition into higher categories. The model there are confirms that systematic influences in PEC related to gender (pvalue=0.006), educational level (pvalue<0.001). activity type (pvalue=0.007), and activity time (pvalue=0.001). Furthermore, the significance of these explanatory variables on *PEC* is affirmed by the presence of odds ratios falling within the 95% confidence interval between the lower and upper limits. relation to educational level, In the coefficients of "secondary and high school" and "diploma" educational levels are 1.737 and 1.118, respectively. By taking the exponent of these coefficients, the ORs could be calculated $(\exp(1.737) = 5.680)$, exp(1.118) = 3.059, which indicates that the odds of "secondary and high school" and "diploma" educational levels to have a parent-employment higher inter-role conflict is 5.68 (95% CI, 2.463 - 13.100) and 3.06 (95% CI, 1.610 - 5.813) times of the odds of "master degree and PhD" educational level, respectively.

There are significant and negative relations between gender, activity type, and activity time and PEIRC. Men comparing to women are 0.490 (exp(-0.714), 95% CI, 0.295 to 0.812) times. freelance employees comparing to governmental employees are 0.461 (exp(-0.773), 95% CI, 0.264 to 0.807) times, and employees working less than 40 hours comparing to employees working 45 hours and more in a week are 0.337 (exp(-1.087), 95% CI, 0.180 to 0.632) times more likely to have lower parent-employment inter-role conflicts.

						95% C	onfidence	5	95% Co	nfidence	Single
				Std.	P-	Interval β		Odds	Interval of OR		score
Variables			þ	Error	value	Lower Upper		ratio	Lower	Upper	test
						Bound	Bound		Bound	Bound	(P-value)
Threshold	<i>PEC</i> =low (6-	12)	-1.592	0.698	0.023	-2.956	-0.224	0.204	0.052	0.799	
Threshold	PEC =middle	(12-18)	0.665	0.694	0.038	0.600	0.706	1.944	1.822	2.026	-
	Condon	Male	-0.714	0.258	0.006**	-1.221	-0.208	0.490	0.295	0.812	0,600
	Gender	Female									0.000
	Dinth	>=1981	-0.138	0.437	0.752	-0.994	0.719	0.871	0.370	2.053	
	Difui Cohort	1971-1981	-0.026	0.315	0.934	-0.642	0.591	0.974	0.526	1.805	0.683
	Colloit	<=1971									
		Illiterate	0.620	0.663	0.350	-0.679	1.920	1.859	0.507	6.824	
	Educational	Secondary &high school	1.737	0.426	0.000**	0.901	2.572	5.680	2.463	13.100	
	Level	Diploma	1.118	0.328	0.001**	0.476	1.760	3.059	1.610	5.813	0.210
		BC&As	0.257	0.285	0.367	-0.301	0.815	1.293	0.740	2.260	
		MS & PhD									
	Activity type	Self-employee	-0.350	0.547	0.523	-1.423	0.723	0.705	0.241	2.061	
		Freelance	0 772	0.295	0.007**	1 222	0.214	0.461	0.264	0.907	
		employee	-0.773	0.285	0.007***	-1.332	-0.214	0.401	0.264	0.807	
Location		Private sector	0.116	0.257	0.651	0.620	0.288	0.800	0.528	1 474	0.356
		employee	-0.110	0.237	0.051	-0.020	0.366	0.890	0.558	1.4/4	
		Governmental									
		employee									
	Activity	<=39	-1.087	0.321	0.001**	-1.715	-0.459	0.337	0.180	0.632	
	time	40-44	-0.223	0.261	0.393	-0.734	0.289	0.800	0.480	1.335	0.778
	time	>=45									
		<=2 million	-0.218	0.326	0.504	-0.856	0.421	0.804	0.425	1.524	
		Tomans	0.210	0.520	0.501			0.004	0.425	1.02	
	Expenditure	2-3.5 million	-0.087	0.309	0.778	-0.693	0.519	0.917	0.500	1.680	0.112
		Tomans									0.112
		>3.5 million									
		Tomans		0.4.5							
-	Parity		-0.227	0.160	0.156	-0.541	0.086	0.797	0.582	1.090	-
	Marriage Du	ration	0.001	0.022	0.962	-0.043	0.045	1.001	0.958	1.046	-

Table 6. Parameter Estimates of Ordinal Regression of PEC by Selected Variables

Significance of the Wald test at the *0.05 level and at the **0.01 level.

Discussion

This study principal objective was to examine the variables influencing Parental-Work Conflict (*PEC*) among employed parents in Tehran, considering variables such as gender, birth cohort, educational level, activity type, activity time, expenditure, parity, and marriage duration.

In this study, men comparing to women were less likely to have higher *PEC*. In other words, women 2.042 times (exp (0.714)) are more likely to have higher *PEC*. This finding indicates that the gender roles ideology among Tehranian men continues. Thus, traditionally, men pay more attention to the work roles and pay less attention to the family roles. In the other way, the increasing women's participation rate in the labour market caused Tehranian women to be involved in get involved men in parenting roles and as much as they can't be successful, their PEC increases. This finding is corroborated by previous studies that show a statistically meaningful relationship between unequal involvement in parental roles, gender inequality and PEC (39, 40). These transformations align with the demands of transitioning from traditional to modern identity. Women, in their pursuit of embracing a modern identity, strive to excel in both their professional and family responsibilities. However, due to persistent imbalances in household duties, the burden of Parental-Work Conflict (PEC)disproportionately falls women on compared to men. Consequently, the widening gap in domestic responsibilities contributes to an elevated sense of PEC among women. This reflects women's

the work roles. At the same time, they try to

endeavour to break free from traditional gender roles.

Our present findings revealed that people with "secondary and high school" and "diploma" educational levels have a higher PEC than people with "master degree and PhD" educational level. Similarly, in Schieman and Glavin's (2011) study. individuals with less than a high school degree experiences more conflict (41). Several authors have explored the impact of educational attainment on individuals juggling work and parenting responsibilities (42-45). This relationship is often attributed to its potential influence on job performance. Patel et al. (2006) specifically highlighted that employees with higher levels of education have a tendency to demonstrate better career performance when compared to their counterparts with lower educational qualifications. This suggests a correlation between educational achievement and professional effectiveness in navigating both work and parenting roles (33).

In this study, a significant relationship between employee type and PEC was resulted. So that governmental employees comparing to free-lance employees were more likely to have higher PEC (2.166 times, exp(0.713)). This finding could be explained based on some factors like as the lake of job control and flexibility working hours among governmental employees. There is a large volume of published studies describing the role of mentioned factors and PEC (46-48). In the same vein, Greenhaus and Parasuraman (2014) and Loscocco (1997) studies show that job control and work flexibility is likely to have a lesser impact on the work-family conflict of the self-employed compared to those employed within organizations (49,50).Governmental employees, constrained by inflexible work schedules, may face challenges in maintaining control over their tasks, risking potential task loss if not adhering to the prescribed schedule. In contrast, freelance employees, who work

according to personalized schedules, enjoy greater control over their work environment, fostering a sense of freedom. Consequently, this autonomy empowers them to exercise better control over their tasks, contributing to a reduced sense of Parental-Work Conflict (*PEC*).

Another noteworthy aspect of the findings indicates that employees working 45 hours or more per week exhibit higher levels of *PEC* compared to those working fewer than 40 hours (2.965 times, exp (1.087)). Simply put, full-time employees are more prone to experiencing elevated PEC than their partcounterparts. This observation time suggests that part-time employees, by achieving a balance between parental and professional responsibilities, can effectively manage their time and. consequently, encounter lower levels of *PEC*. This is particularly applicable when the distribution of workload aligns with the part-time schedule. In accordance with the findings of Razak et al. (2011), our study underscores the potential negative consequences of full-time employment, such as a heavier workload and high job demands within a fixed schedule, which contribute to an increased risk of PEC among full-time employees (51).

The implications drawn from this study carry significant weight for future practices and policies. It is evident that men in Tehran adhere to traditional gender roles, exhibiting minimal inclination to increase their involvement in household chores. This underscores the necessity for comprehensive, long-term planning aimed at supporting employees of both gender, particularly through the implementation of flexible work hours. Additionally, there is a crucial need for the dissemination of gender equality values to encourage greater participation of men household in responsibilities. Without a shift in societal norms and the alignment of policymaker perspectives with social realities, the prevalence of *PEC* is unlikely to diminish.

Furthermore, to enhance job performance among less educated employees, a targeted approach to elevate their job skills is recommended. A key policy initiative should involve the provision of telecommuting (distance) options for governmental employees, coupled with a fair and equitable distribution of workload among job demands and full-time employees. To lessen PEC among full-time employees, implementing certain policies, including flexible work arrangements and telecommuting opportunities, can be strategically employed. Policymakers must prioritize the institutionalization of social support and the implementation of familyfriendly policies to create a more conducive work environment.

Conclusions

As this study relied on secondary data, the questionnaire used in the study lacked information on key aspects such as job satisfaction, marriage satisfaction, and the socio-economic status (just expenditure was measured) of the employed parents. These are crucial factors that could significantly contribute to understanding Parental-Work Conflict (PEC), and their absence in the study constitutes a limitation. The study was constrained in exploring the impact of these important variables on the phenomenon of PEC. A recommendation for future research involves expanding the sample size considering factors related to life and job satisfactions to encompass the entire country. This expansion could contribute to the generalizability and external validity of the study's results, offering insights that are more reflective of the broader population.

Acknowledgement

The authors would like to thank Dr Adel Abdolahi for providing acces his survey data.

Authors' contribution

Dr Arezoo Bagheri developed the study concept, design, analyzing data, and revision of the manuscript, and Dr Mahsa Saadati participated in drafting, writing the article and data interpretation.

Ethical considerations

Questionnaires were filled with the participants' satisfaction and written consent was obtained from the participants in this study.

Funding

The present article was based on a survey under the title of "Effects of socioeconomic rationality dimensions on childbearing behavior in Tehran" supported by National Institute for Population Research in 2017, under the registered number of 21/26845.

Conflicts of interest

The authors declare no conflict of interest.

References:

1. Goode WJ. A theory of role strain. American sociological review. 1960 Aug 1:483-96.

2. Statistical Centre of Iran (SCI). Population and Housing Census, Available from https://www.amar.org.ir. 2008.

3. Statistical Centre of Iran (SCI). Population and Housing Census, Available from https://www.amar.org.ir. 2017.

4. Rapoport, R. N., & Rapoport, R. Dual-career families: Middlesex, England: Penguin Books. 1971.

5. Bhowon U. Role salience, work-family conflict and satisfaction of dual-earner couples. Journal of business studies quarterly. 2013 Dec 1;5(2):78.

6. Mallard AG, Lance CE. Development and evaluation of a parent-employee interrole conflict scale. Social Indicators Research. 1998 Nov;45:343-70.

7. Cohen, B. Principles of sociology. Translator Gholam Abbas Tavassoli and Reza Fazel, Tehran, publication of Samt. 2003.

8. Goode, W. J. World revolution and family patterns. 1963.

9. Weer C., Greenhaus J.H. Family-to-Work Conflict. In: Michalos A.C. (eds) Encyclopedia of Quality of Life and Well-Being Research. Springer, Dordrecht. 2014.

10. Aryee S, Srinivas ES, Tan HH. Rhythms of life: antecedents and outcomes of work-family balance in

employed parents. Journal of applied psychology. 2005 Jan;90(1):132.

11. Beham B, Drobnič S. Satisfaction with workfamily balance among German office workers. Journal of Managerial Psychology. 2010 Aug 17;25(6):669-89.

12. Beham B, Präg P, Drobnič S. Who's got the balance? A study of satisfaction with the work–family balance among part-time service sector employees in five western European countries. The International Journal of Human Resource Management. 2012 Oct 1;23(18):3725-41.

13. McNamara TK, Pitt-Catsouphes M, Matz-Costa C, Brown M, Valcour M. Across the continuum of satisfaction with work–family balance: Work hours, flexibility-fit, and work–family culture. Social science research. 2013 Mar 1;42(2):283-98.

14. Greenhaus JH, Collins KM, Shaw JD. The relation between work–family balance and quality of life. Journal of vocational behavior. 2003 Dec 1;63(3):510-31.

15. Md-Sidin, S., Sambasivan, M., & Ismail, I. (2010). Relationship between work-family conflict and quality of life: An investigation into the role of social support. Journal of Managerial Psychology, 25(1), 58-81.

16. Qu H, Zhao XR. Employees' work–family conflict moderating life and job satisfaction. Journal of business research. 2012 Jan 1;65(1):22-8.

17. Repetti, R. L., Saxbe, D. The effects of job stress on the family: One size does not fit all. Handbook of families and work: Interdisciplinary perspectives, 62-78. 2009.

18. Repetti, R., Wang, S. W. Parent employment and chaos in the family. Chaos and its influence on children's development: An ecological perspective, 191-208. 2010.

19. Wachs TD. Relation of maternal personality to perceptions of environmental chaos in the home. Journal of Environmental Psychology. 2013 Jun 1;34:1-9.

20. Dumas JE, Nissley J, Nordstrom A, Smith EP, Prinz RJ, Levine DW. Home chaos: Sociodemographic, parenting, interactional, and child correlates. Journal of Clinical Child and Adolescent Psychology. 2005 Feb 1;34(1):93-104.

21. Evans, G. W., Wachs, T. D. Chaos and its influence on children's development. Washington, DC: American Psychological Association. 2010.

22. Fiese, B. H., Winter, M. A. The dynamics of family chaos and its relation to children's socioemotional well-being. Chaos and its influence on children's development: An ecological perspective, 49-66. 2010.

23. Nawab S, Iqbal S. Impact of work-family conflict on job satisfaction and life satisfaction. Journal of basic and applied scientific research. 2013;3(7):101-110.

24. Nsaful, A. A. Effect of work-family conflict on employees" job and family satisfaction: Testing the moderating role gender (Doctoral dissertation, University of Cape Coast). 2016.

25. Mensah AO, Amissah EF, Nsaful AA. Gender as a moderator between work-family conflict, job and family satisfaction. AFRREV IJAH: An International Journal of Arts and Humanities. 2018 Sep 10;7(3):1-2.

26. Bittman M. Parenting and employment. Family time: The social organization of time. 2004 Feb 26:152e170.

27. Malinen K, Rönkä A, Sevón E, Schoebi D. The difficulty of being a professional, a parent, and a spouse on the same day: Daily spillover of workplace interactions on parenting, and the role of spousal support. Journal of prevention & intervention in the community. 2017 Jul 3;45(3):156-67.

28. DiRenzo MS, Greenhaus JH, Weer CH. Job level, demands, and resources as antecedents of work–family conflict. Journal of Vocational Behavior. 2011 Apr 1;78(2):305-14.

29. Adkins CL, Premeaux SF. Spending time: The impact of hours worked on work–family conflict. Journal of Vocational Behavior. 2012 Apr 1;80(2):380-9.

30. Albertsen K, Rafnsdóttir GL, Grimsmo A, Tómasson K, Kauppinen K. Workhours and worklife balance. SJWEH Suppl. 2008;(5):14–21.

31. Richter A, Näswall K, Sverke M. Job insecurity and its relation to work—family conflict: Mediation with a longitudinal data set. Economic and Industrial Democracy. 2010 May;31(2):265-80.

32. Patel CJ, Govender V, Paruk Z, Ramgoon S. Working mothers: Family-work conflict, job performance and family/work variables. SA Journal of Industrial Psychology. 2006 Jan 1;32(2):39-45.

33. Ilies R, Schwind KM, Wagner DT, Johnson MD, DeRue DS, Ilgen DR. When can employees have a family life? The effects of daily workload and affect on work-family conflict and social behaviors at home. Journal of applied psychology. 2007 Sep;92(5):1368.

34. Abdolahi A. Effects of socio-economic rationality dimensions on childbearing behavior in Tehran. National Population Studies & Comprehensive Management Institute. 2017.

35. Gutiérrez PA, Perez-Ortiz M, Sanchez-Monedero J, Fernandez-Navarro F, Hervas-

This work is licensed under a <u>Creative Commons</u> <u>Attribution-NonCommercial 4.0 International License</u> Martinez C. Ordinal regression methods: survey and experimental study. IEEE Transactions on Knowledge and Data Engineering. 2015 Jul 17;28(1):127-46.

36. Hosmer Jr DW, Lemeshow S, Sturdivant RX. Applied logistic regression. John Wiley & Sons; 2013 Apr 1.

37. Pongsapukdee V, Sukgumphaphan S. Goodness of fit of cumulative logit models for ordinal response categories and nominal explanatory variables with two-factor interaction. Science, Engineering and Health Studies. 2007:29-38.

38. Ananth CV, Kleinbaum DG. Regression models for ordinal responses: a review of methods and applications. International journal of epidemiology. 1997 Dec 1;26(6):1323-33.

39. Keene JR, Quadagno J. Predictors of perceived work-family balance: Gender difference or gender similarity?. Sociological Perspectives. 2004 Mar;47(1):1-23.

40. Powell GN, Greenhaus JH. Sex, gender, and decisions at the family \rightarrow work interface. Journal of management. 2010 Jul;36(4):1011-39.

41. Schieman S, Glavin P. Education and workfamily conflict: Explanations, contingencies and mental health consequences. Social Forces. 2011 Jun 1;89(4):1341-62.

42. Gallie D, Russell H. Work-family conflict and working conditions in Western Europe. Social Indicators Research. 2009 Sep;93:445-67.

43. McGinnity F, Calvert E. Work-life conflict and social inequality in Western Europe. Social Indicators Research. 2009 Sep;93:489-508.

44. Grönlund A, Öun I. Rethinking work-family conflict: dual-earner policies, role conflict and role expansion in Western Europe. Journal of European Social Policy. 2010 Jul;20(3):179-95.

45. Notten N, Grunow D, Verbakel E. Social policies and families in stress: gender and educational differences in work–family conflict from a European perspective. Social indicators research. 2017 Jul;132:1281-305.

46. Cousins CR, Tang N. Working time and work and family conflict in the Netherlands, Sweden and the UK. Work, employment and society. 2004 Sep;18(3):531-49.

47. Shockley KM, Allen TD. When flexibility helps: Another look at the availability of flexible work arrangements and work–family conflict. Journal of vocational behavior. 2007 Dec 1;71(3):479-93.

48. Allen TD, Johnson RC, Kiburz KM, Shockley KM. Work–family conflict and flexible work arrangements: Deconstructing flexibility. Personnel psychology. 2013 Jun;66(2):345-76.

49. Greenhaus JH, Parasuraman S. A work-nonwork interactive perspective of stress and its consequences. InJob Stress 2014 Feb 4 (pp. 37-60). Routledge.

50. Loscocco KA. Work–family linkages among self-employed women and men. Journal of Vocational behavior. 1997 Apr 1;50(2):204-26.

51. Razak AZ, Yunus NK, Nasurdin AM. The impact of work overload and job involvement on work-family conflict among Malaysian doctors. Labuan e-Journal of Muamalat and Society (LJMS). 2011 Jun 30;5:1-10.