Research Paper
Relationship Between Maternal Employment and Empathy, Positivity, and Personality Traits of Adolescent Girls

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A B S T R A C T

Background: The shift towards increased workforce participation by women, especially mothers, has given rise to intriguing questions about the potential implications for their children's development. This study contributes to this discourse by comparing adolescent girls' positivity, empathy, and personality traits with regard to working and non-working mothers.

Methods: This descriptive correlational study was carried out in Karaj City, Iran, in 2022. The subjects were 118 students aged 14-18 years from two separate high schools in an urban area recruited by multi-stage cluster random sampling. The sample was divided into two groups of students with working mothers (n=56) and non-working mothers (n=62). The data were collected using the Davis empathy questionnaire, positive psychotherapy inventory, Big Five questionnaire-children, and the researcher-made questionnaire on the mother's employment status. The Pearson correlation coefficient, multivariate analysis of variance, the chi-square test, and the t-test were used for data analysis in SPSS software, version 25. The significance level was set at P<0.05.

Results: Girls with working mothers exhibited higher empathy levels (69.43±8.75) compared to those with non-working mothers (61.77±7.68) (P<0.05). Similarly, positivity scores were higher for girls with working mothers (57.29±9.00) than those with non-working mothers (44.13±12.02) (P<0.05). Significant differences were also found in the five major personality traits so that the girls with working mothers had higher mean scores (233.1±20.40) than those with non-working mothers (183.2±20.23) (P<0.05).

Conclusion: The study revealed that maternal employment may significantly influence the development of empathy, positivity, and personality traits in adolescent girls. These findings underline the potential social and psychological benefits of maternal employment, with implications for understanding adolescent developmental outcomes in the context of family dynamics. Further research is needed to explore these relationships in detail, considering additional environmental and familial variables.

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Highlights

● The research focuses on the potential psychological implications of maternal employment on adolescent girls, drawing upon constructs of empathy, positivity, and Big Five personality traits.

● The research progresses our understanding of the relationship between maternal employment status and adolescent girls' psychological development.

● The findings revealed a direct correlation between maternal employment and higher levels of empathy, positivity, and personality development in adolescent girls, highlighting the potential societal and psychological benefits of maternal workforce participation.

Plain Language Summary

This work discusses how a mother's career can shape what kind of person her daughter grows up to be, focusing on empathy, positivity, and personality traits. Empathy is about understanding and sharing the feelings of others. Positivity involves a tendency to maintain a positive attitude and outlook on life. Personality traits refer to qualities like resilience (ability to recover quickly from difficulties), openness (willingness to experience new ideas and situations), and conscientiousness (being careful and diligent). We discovered that if a mother works, it could make her daughter more empathetic, positive, resilient, open, and conscientious. This means that a mother's job can influence her daughter in good ways. It is essential to understand these findings because they show that when a mother works, it contributes to the family's income and helps shape her daughter's character and attitude. These findings shed new light on discussions about working moms and family life.

Introduction

Adolescence signifies a crucial phase of human development typified by significant physiological, cognitive, and socioemotional transformations. A plethora of research conducted over the past decade has shed new light on this essential period and its influences on various aspects of life. From a biological perspective, adolescence is demarcated by the onset of puberty, encompassing sexual maturation and growth spurts, leading to conspicuous physical modifications (Dahl et al., 2018). The effects of puberty on the adolescent brain are significant, underscoring the relevance of the relationship between pubertal status and the morphometry of the hippocampus, amygdala, and limbic and subcortical structures implicated in emotional and social behaviors (Blanton et al., 2012). The remarkable plasticity of the adolescent brain allows environmental factors to exert strong effects on cortical circuitry, paving the way for intellectual and emotional development and exposing the brain to potentially damaging influences (Konrad et al., 2013).

From a psychosocial perspective, adolescence is characterized by identity exploration and independence development. An observable shift in social dynamics occurs during this phase, with an increased emphasis on peer interactions and the emergence of romantic interests (Van de Bongardt et al., 2015). Adolescence is also typified by heightened emotionality, with increased emotional intensity, variability, and sensitivity commonly experienced (Bailen et al., 2019; Larson et al., 2002). Emotional focus often shifts from families to peer groups during adolescence as teens seek to establish their independence and identity (Brown & Larson, 2009).

Personality traits, enduring patterns of thoughts, feelings, and behaviors, are often organized around the 'big five' model: Extraversion, agreeableness, conscientiousness, neuroticism, and openness to experience (John, 2021; John et al., 2008). Current research emphasizes that the Big Five personality traits evolve and solidify during adolescence (Israel et al., 2019; Soto et al., 2011), playing a critical role in individuals' environmental interactions and influencing a variety of life outcomes, including health, relationships, and career success (Roberts et al., 2007). Many factors, such as biological changes, peer influence, and family environment, affect the development of adolescents' personality traits (Denissen et al., 2013).

Empathy, a multidimensional construct involving affective and cognitive components, is central to social cognition. It facilitates individuals in understanding and sharing others' emotions, fostering prosocial behavior, and promoting positive interpersonal relationships (Decety & Jackson, 2006). Empathy plays a pivotal role in social-emotional development during adolescence, with individuals typically displaying an increased capacity for perspective-taking and emotional understanding. Adolescence is, therefore, seen as a vital stage for developing and consolidating empathic abilities (Van der Graaff et al., 2018). The development of empathy is influenced by multiple factors, including cognitive development, peer interactions, and parental influence (Eisenberg et al., 2015). Recent findings suggest that both mothers' and fathers' dispositional empathy contribute similarly to young children's socioemotional competence (Hu et al., 2020).

Positivity, or positive affect, pertains to the experience of pleasant emotions such as joy, contentment, and gratitude. As a fundamental component of well-being, positivity has been linked to numerous benefits, including better physical health, enhanced cognitive functioning, and improved interpersonal relationships (Fredrickson, 2013). In adolescents, positive peer relationships play a substantial role in fostering positivity. Friendship quality, mutual support, and positive social interactions contribute to happiness and life satisfaction in this demographic (Demir & Özdemir, 2010). Parenting practices and the family environment are significant determinants of positive development in adolescents. A supportive and warm mother-child relationship can nurture positivity, thus contributing to adolescents' well-being (Moreira & Canavarro, 2018).

The effect of maternal employment status on a child's socio-emotional development, including empathy, positivity, and personality traits, has attracted considerable interest. As the primary caregiver, the mother's role shapes the child's personality and mental health. It has been shown that daughters of part-time working mothers have closer relationships with their parents and stronger emotional bonds than mothers who are either fully working or non-working (Richards & Duckett, 2021). While some studies indicate potential drawbacks in terms of reduced parental supervision (Ruhm, 2008), others highlight benefits such as fostering independence and providing positive role models (Gennetian et al., 2008). The implications of maternal employment on adolescents is, however, a multifaceted topic in recent research. For instance, a history of part-time maternal employment during a child's infancy was associated with higher per-

sonal distress in young adulthood. In contrast, maternal employment during other developmental stages did not exhibit significant differences in subsequent depression or personal distress (Chambliss, 2019). For daughters particularly, working mothers may demonstrate the balancing act between professional and individual roles, influencing their self-efficacy, career aspirations, and future success (Yavorsky et al., 2019).

Research by Singh and Kiran (2014) reveals that children of working mothers are more influenced in terms of personality than those of non-working mothers. However, no significant differences have been found in their health, routine work, altruistic behavior, cognitive ability, self-development, self-awareness, and integrity. In another study, Pant and Singh (2015) found significant differences in social and emotional maturity between adolescents of working and non-working mothers, with adolescents of working and better-educated mothers showing higher social maturity. Contrarily, adolescents of non-working mothers exhibited significantly better emotional maturity.

Although past research on maternal employment's impact on children's outcomes has generated mixed findings, fewer studies have concentrated explicitly on comparing empathy, positivity, and personality traits between adolescents with working and non-working mothers, making the present investigation essential. We aim to provide a nuanced understanding of maternal employment's potential impacts on children's socioemotional development. We also deliver concrete information to parents, educators, and policymakers to support children's holistic development in various family contexts.

In conclusion, while existing literature provides invaluable insights into maternal employment's impact on child development, a significant gap exists in understanding its specific effects on empathy, positivity, and personality traits. Existing research also presents contradictory results, mirroring the complexity of these relationships. Therefore, in this study, we focus on the relationship between maternal employment and the variables of empathy, positivity, and personality traits in adolescent girls.

Materials and Methods

This research was descriptive correlational. The study setting was the educational districts of Karaj City, Iran, and the research population comprised female adolescent students studying in these educational areas in 2022. The sample size for this study was calculated based on the formula proposed by Tabachnick and Fidell (2013): "50 +

8m", where "m" represents the number of predictor variables. This study had a dichotomous predictor variable, which dictated a sample size of at least 66 individuals. However, anticipating potential issues such as incomplete questionnaires or non-cooperation from some participants, the initial sample was increased to include 130 individuals. After removing incomplete questionnaires and non-responsive participants, we obtained a final count of 118 complete and usable questionnaires. These 118 subjects formed the final sample used for data extraction and subsequent stages of the research. This strategy ensured we had a sufficient sample size to maintain statistical power while accounting for potential sample attrition. The sampling method in the present study was a multi-stage cluster random sampling. Three educational districts in Karaj were chosen to be considered for inclusion in this study. Educational districts 1, 3, and 4 were randomly selected to ensure a representative population sample. Two girls' schools were randomly selected within each chosen area. Subsequently, three classes were randomly assigned to participate in the study within each selected school. The students in these classes were divided into two groups: Those with employed and working mothers (n=56) and those with non-working mothers (n=62). Schools and parents were informed of the study, its purpose, and procedures, and parents provided written informed consent. Confidentiality and anonymity were maintained by all participants. The inclusion criteria were as follows: Consent of mother and child to participate in the research, age range of 15 to 18 years, and residing in Karaj. The exclusion criteria were as follows: The presence of any mental disorder according to the opinion of the mother or school principal and incomplete or incorrect completion of the questionnaire.

Study instruments

Mother's employment status

Information on maternal employment status was collected through a demographic questionnaire, with mothers classified as working or non-working. The demographic variables examined in this study include the mother's education level, marital status, occupation type, number of children, and the age of the adolescent daughter.

Davis empathy questionnaire

The Davis empathy questionnaire was introduced by Davis in 1983 (Davis, 1983) and consists of 21 items to assess and measure empathy levels. The questionnaire includes three factors: Empathic concern (questions 1, 4, 7, 10, 14, 17, and 18), perspective-taking (questions 2, 5, 9, 12, 16, 19, and 21), and personal distress (questions 3, 6, 8, 11, 13, 15, and 20). The scoring of this questionnaire is based on a 5-point Likert scale ranging from strongly agree=4 to strongly disagree=0. Questions 3, 6, 9, 16, 19, and 20 are scored reversely. The score range for this questionnaire is from 0 to 84, with higher scores indicating higher levels of empathy. The validity of this scale has been confirmed in Davis's research. Also, its reliability has been reported to be suitable, with a Cronbach α coefficient above 0.70. Furthermore, in Iran, the validity and reliability of this tool have also been confirmed, with a reported reliability of 0.71 using the Cronbach α coefficient (Khodabakhsh & Mansouri, 2012). In the current study, the reliability of this questionnaire was obtained favorable with a Cronbach α coefficient of 0.74.

Positive psychotherapy inventory (PPTI)

The positive psychotherapy inventory (PPTI) was developed by Rashid in 2008 to measure individual levels of happiness based on Seligman's theory of happiness and well-being. It consists of 21 items and is scored on a 4-point Likert scale from 0 to 3. It includes 3 subscales: Pleasant life (items 1, 4, 7, 10, 13, 16, and 19), engaged life (items 2, 5, 8, 11, 14, 17, 20), and meaningful life (items 3, 6, 9, 12, 15, 18, and 21). The pleasant life items can have a score between 0 and 21, with higher scores indicating higher levels of pleasure. The average score for adults who are not depressed is 13, while it is 8 for those who are depressed. The range of engaged life is 0 to 21, with higher scores indicating greater engagement. The average score for adults who are not depressed is 14, while it is 10 for those who are depressed. Life meaning score ranges from 0 to 21, with higher scores indicating higher levels of meaning. The average rating for non-depressed adults is 12, and for depressed adults is 9. The overall happiness score is calculated by adding the scores of pleasant, engaged, and meaningful life subscales. The maximum score in this test is 63, and the minimum score is 0. A higher score, closer to 63, indicates a greater level of positivity in the individual, while a lower score, closer to 0, indicates lower happiness levels. The average score for individuals without depression is 39, and that of individuals with depression is 27, according to Guney (2011). Rashid, (2008) reported a general reliability coefficient (a Cronbach α) of 0.90 for the inventory and α coefficients for the subscales ranging from 0.78 to 0.80. Additionally, regarding the Persian version of this tool, Ghorbani et al. (2015) obtained a Cronbach α of 0.80 for the overall scale and internal consistency coefficients for the three components ranging from 0.80 to 0.92. In the current study, the reliability of this questionnaire was obtained at 0.75 by calculating the Cronbach α coefficient.

The big five questionnaire-children (BFQ-C)

The big five questionnaire-children (BFQ-C) is one of the most important personality assessment tools for children and adolescents based on the 5-factor model of personality introduced by Barbaranelli, Caprara, Rabasca, and Pastore (Gaio, 2012). The initial version of the questionnaire was in Italian and has been translated into various languages since then. Different studies indicate that the English and European versions of the BFQ-C demonstrate good reliability and validity, making it suitable for research purposes, clinical assessment, and diagnosis. The BFQ-C is a 65-item questionnaire used to measure the five fundamental personality factors in children and adolescents. The measured factors include extraversion, neuroticism, openness, agreeableness, and conscientiousness. Each question is rated on a 5-point Likert scale, ranging from 0 (almost never) to 4 (almost always). The total score for each of the five factors is determined by calculating the individual item scores, and higher scores indicate better personality traits. The questionnaire is administered individually and completed by the child or adolescent. The questionnaire's psychometric properties have been examined in children and adolescents from different countries, confirming its validity and reliability (Barbaranelli et al., 2008). In the Netherlands, the Cronbach α coefficient for its factors ranges from 0.71 (openness) to 0.83 (neuroticism) (Muris et al., 2005). In a study conducted by Aliakbari et al. (2013) in Iran, on a sample of 445 individuals, the results indicate that the overall scale has a reliability coefficient of 0.82, and the domain-specific subscales' reliability ranges from 0.92 to 0.96. In the current study, the reliability of this questionnaire was obtained at 0.77 by calculating the Cronbach α coefficient.

Data analysis

The chi-square test was used to compare demographic variables between groups of adolescents with and without working mothers. Descriptive statistics were calculated for all variables. The independent sample t-test was performed to compare the two groups' empathy, positivity, and personality traits. Multivariate analysis of variance was used to simultaneously compare the three main variables of empathy, personality traits, and positivity. The Pearson correlation analysis was used to test a possible relationship between mothers' employment status and their children's empathy, positivity, and personality traits. Levene's and Box M tests were used to examine the homogeneity of variances. All analyses were performed using SPSS software, version 25, at a significance level of $P<0.05$.

Results

The study data were collected from 118 students (56 with working mothers and 62 with non-working mothers). All subjects completed the questionnaires, ensuring no data was missing.

Considering the low frequency in some categories, some variable classes were first merged to compare individual variables and characteristics of mothers in the working and non-working mothers groups. Then, they were compared using a contingency table and the chi-square test. The results are presented in Table 1.

The results showed a significant difference in the number of children and the level of postgraduate education between working and non-working mothers (Table 1). Therefore, in the final model, the number of children and the level of education were included and controlled as confounding variables.

Students with working mothers scored more on empathy, positivity, and personality traits than non-working mothers. The mean empathy scores were 69.43±8.75 and 61.77±7.68 for the students with working and non-working mothers, respectively. Regarding positivity, the mean scores for students with and without working mothers were 57.29±9 and 44.13±12.02, respectively. For the personality traits, the average scores for students with and without working mothers were 233.1±20.4 and 183.2±20.23, respectively.

Table 2 presents significant differences between empathy and two of its components (empathic concern and perspective-taking) and between the two groups of teenagers with working and non-working mothers ($P<0.05$). According to Table 2, empathy and its mentioned components have higher means in the group of teenagers with working mothers compared to teenagers with non-working mothers. However, the personal distress component did not show a significant difference between the two groups ($P>0.05$) (Table 2).

There were significant differences between the two groups regarding the personality traits and their four components (extraversion, conscientiousness, neuroticism, and openness) ($P<0.05$). In other words, personality traits and all four components were higher in teenagers with working mothers compared to those with non-working mothers. However, no significant difference was seen in the mean score of agreeableness between the two groups ($P>0.05$) (Table 3).

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Table 1. Comparing demographic variables between girls with working and non-working mothers

Demographic Variables		No. (%)		Test		
		Non-working	Working	Chi-square	df	P
Student's age (y)	≤15	6(9.7)	6(10.7)	0.65	2	0.722
	16-17	44(71.0)	36(64.3)			
	≥18	12(19.4)	14(25.0)			
Children	≤2	34(56.7)	46(82.1)	8.784	1	0.003
	>3	26(43.3)	10(17.9)			
Education	Diploma	18(30.0	2(3.6)	44.062	4	0.000
	Associate's degree	32(53.3)	12(21.4)			
	Bachelor's degree	10(16.7)	29(51.8)			
	Master's degree	0(0.0)	11(19.6)			
	Doctorate/PhD	0(0.0)	2(3.6)			
Mother's age (y)	≤40	30(50.0)	18(33.3)	5.886	2	0.053
	41-50	22(36.7)	32(59.3)			
	>51	8(13.3)	4(7.4)			
Marital status	Married	55(91.7)	54(96.4)	0.441	1	0.249
	Divorced	5(8.3)	2(3.6)			

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The mean score of positivity and all of its three components (engaged life, pleasant life, meaningful life) were significantly different between the two groups of teenagers with working and non-working mothers (P<0.05). In other words, positivity and its three components had higher means in teenagers with working mothers than those with non-working mothers (Table 4).

Significant positive correlations between empathy, personality traits, and positivity were revealed in the analysis.

Table 2. Comparing the mean scores of empathy and its components between the students with working and non-working mothers

Components of Empathy	Group	No.	Mean±SD	t	df	P
Empathic concern	Non-working	62	19.16±2.99	-5.460	116	0.000
	Working	56	22.43±3.51			
Perspective-taking	Non-working	62	21.74±3.89	-4.559	116	0.000
	Working	56	24.79±3.30			
Personal distress	Non-working	62	20.87±3.81	-1.789	110.658	0.076
	Working	56	22.21±4.29			
Empathy	Non-working	62	61.77±7.68	-5.061	116	0.000
	Working	56	69.43±8.75			

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Table 3. Comparing the mean scores of personality traits and its components between the girls with working and non-working mothers

Component	Group	No.	Mean±SD	t	P
Extraversion	Non-working	62	37.7±8.18	-9.65	0.000
	Working	56	50.1±5.71		
Agreeableness	Non-working	62	34.8±7.42	-1.56	0.122
	Working	56	36.9±7.35		
Conscientiousness	Non-working	62	42.0±8.93	-8.76	0.000
	Working	56	55.4±7.57		
Neuroticism	Non-working	62	31.8±5.60	-9.24	0.000
	Working	56	41.1±5.30		
Openness	Non-working	62	36.9±7.19	-10.24	0.000
	Working	56	49.6±6.13		
Personality traits	Non-working	62	183.2±20.23	-13.34	0.000
	Working	56	233.1±20.40		

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The correlation coefficient between empathy and personality traits was 0.569 (P<0.001), indicating a moderate positive relationship. Positivity was also moderately and positively correlated with empathy (r=0.410, P<0.001) and more strongly associated with personality traits (r=0.677, P<0.001).

To meet the assumptions of multivariate analysis of variance, we evaluated the equality of variances and covariances across the groups. Levene's test indicated homogeneity of variances for all variables (P<0.05), while Box's M test showed homogeneity of covariances (P<0.001), allowing for the use of Wilks' Lambda in further analysis. In the multivariate analysis of variance, after adjusting for confounding variables, the mother's employment significantly affected the dependent variables (empathy, personality traits, positivity). In contrast, the number of children and the mother's education did not (P<0.01). Table 5 provides a detailed explanation of the findings, emphasizing the influence of maternal employment on the evaluated outcomes.

Table 4. Comparing mean scores of positive orientation and its components between the girls with working and non-working mothers

Component	Group	No.	Mean±SD	Levene's Test		T for Equality of Means		
				F	P	t	df	P
Engaged life	Working	56	11.91±3.19	2.621	0.108	6.843	116	0.000
	Non-working	62	7.44±3.84					
Pleasant life	Working	56	13.18±4.05	0.182	0.670	5.322	116	0.000
	Non-working	62	9.00±4.44					
Meaningful life	Working	56	13.00±3.02	6.904	0.010	5.949	110.840	0.000
	Non-working	62	9.03±4.18					
Positive orientation	Working	56	38.09±8.67	3.812	0.053	6.788	116	0.000
	Non-working	62	25.47±11.21					

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Table 5. Multivariate analysis of variance comparing mean scores of the three variables across the groups

Source	Variables	Sum of Squares	df	Mean Square	F	P	Partial η²
Children	Empathy	32.676	1	32.676	0.493	0.484	0.005
	Personality traits	18.935	1	18.935	0.045	0.833	0.000
	Positivity	506.323	1	506.323	5.100	0.026	0.045
Mother's education	Empathy	233.573	4	58.393	0.881	0.478	0.032
	Personality traits	1071.639	4	267.910	0.634	0.639	0.023
	Positivity	877.753	4	219.438	2.210	0.073	0.076
Error	Empathy	7090.993	107	66.271			
	Personality traits	45199.475	107	422.425			
	Positivity	10623.880	107	99.289			

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Discussion

The present study compared adolescent girls' positivity, empathy, and personality traits with working and non-working mothers. The results revealed significant differences between adolescent girls with working mothers and those with non-working mothers, with the former exhibiting higher levels of empathy, positivity, and Big Five personality traits. These findings contribute to the ongoing debate about the impact of maternal employment on child development and indicate that working mothers can positively influence their daughters' socio-emotional development.

The observed higher levels of empathy among daughters of working mothers align with previous research suggesting that maternal employment may provide valuable opportunities for children to develop empathic abilities. Such opportunities could include exposure to diverse social contexts, interpersonal experiences, and problem-solving situations that working mothers may encounter, enhancing their daughters' perspective-taking and emotional understanding skills (Decety & Jackson, 2006). By managing multiple roles, it is also possible that working mothers might model empathy in their interactions with others, which their daughters then learn and emulate.

The increased positivity observed among daughters of working mothers could be explained by the role modeling hypothesis, which posits that children tend to emulate their parents' attitudes and behaviors (Bandura, 1977). If working mothers experience satisfaction and positivity in their employment, they may model positive attitudes and behaviors that their daughters adopt, enhancing their overall positivity. Additionally, working mothers might provide their daughters with more diverse experiences and broader worldviews, contributing to their positivity and well-being (Demir & Özdemir, 2010; Moreira & Canavarro, 2018). The findings of this study can be further contextualized in light of the research by Marks and Houston (2002). In their research, working mothers often viewed their employment as a crucial aspect of their identity and a source of personal fulfillment. This sense of achievement, coupled with the challenging balance of managing work and family life, may create an environment conducive to developing empathetic skills, positivity, and adaptive personality traits, as observed in our results. On the other hand, non-working mothers who prioritize their roles in child-rearing might provide consistent emotional support and focused supervision, which could lead to different socio-emotional competencies in their daughters. Marks and Houston (2002) have emphasized the significant contributions of both working and non-working mothers to child development.

The results concerning personality traits are consistent with the study by Singh and Kiran (2014), suggesting that children of working mothers are more influenced in terms of personality. It is plausible that working mothers offer their daughters diverse experiences, which may facilitate the development of various personality traits, such as openness to experience. Furthermore, working mothers might serve as role models, teaching their daughters about the importance of conscientiousness and perseverance in the workplace, thereby fostering these traits.

However, our findings contrast with previous studies, which found either negative or non-significant effects of maternal employment on various aspects of child development (Ruhm, 2008; Chambliss, 2019). These discrepancies might be due to differences in sample characteristics, measures used, or cultural contexts, highlighting the need for further research to clarify the circumstances under which maternal employment can positively affect children's socioemotional development. It should be noted that these findings do not diminish the essential role that non-working mothers play in their daughters' development. Different family contexts provide unique experiences and opportunities for development. Non-working mothers may offer their children valuable emotional support, stability, and intensive parental supervision (Pant & Singh, 2015), which are also crucial for the socio-emotional development of adolescents. The specific effects of maternal employment on children's outcomes likely depend on a multitude of factors, including the quality of parenting, family resources, and social support, which future research should consider.

Conclusion

In conclusion, this study adds to the body of literature supporting the positive impact of maternal employment on children's socioemotional development, specifically empathy, positivity, and personality traits among adolescent girls. It underscores the importance of providing societal support for working mothers. It emphasizes the need for comprehensive understanding and consideration of diverse family contexts in child development research and policy formulation.

This study makes a valuable contribution to the literature by focusing on the less explored socioemotional variables in relation to the mother's employment status. The results may help develop interventions or strategies to support children's social and emotional development in different family settings. Further studies are encouraged to elucidate how maternal employment affects children's development. Investigating moderators and potential mediators, such as the quality of mother-child relationships, the mother's satisfaction with work or home roles, the role of other caregivers in the family, and the role of the family's socioeconomic status in children's psychosocial development, is also suggested.

It is important to remember that these results do not suggest that one group is superior to another in fostering children's socioemotional development. Instead, they point out the potential influences working and non-working mothers may have on their children. In addition,

these results cannot be generalized to all students with working mothers and those without, as the sample was relatively small and limited to a specific urban area.

This study is not intended to make value judgments on family choices in maternal employment. Instead, we seek to add knowledge on how these different choices can relate to children's social and emotional development. It is important to note that many factors may contribute to these development outcomes, and maternal employment is only one of many aspects of the child's environment.

However, our study is not without its limitations. First, the cross-sectional design of this research prevents us from making definitive causal inferences about the relationships between maternal employment status and adolescents' empathy, positivity, and personality traits. Longitudinal research designs could provide a more comprehensive understanding of these relationships over time. Second, we utilized self-reported measures, which could introduce response bias. Future studies could benefit from incorporating multiple informant reports or more objective measures. Additionally, we acknowledge that the sample used in this study may not represent all adolescents and their mothers. Future research should include a more diverse sample, considering different occupational sectors, varying socioeconomic statuses, and diverse family structures.

Ethical Considerations

Compliance with ethical guidelines

The Scientific Committee at Danesh Alborz University approved the study, and all ethical considerations have been properly addressed. This study adhered to all standard ethical guidelines for research involving human subjects. Informed consent was obtained from the mothers and students, and all responses were kept confidential and anonymous. The study also sought to balance the benefits of advancing our understanding of the effects of maternal employment on children's development with any potential harm or discomfort to the participants.

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Authors' contributions

Conceptualization, methodology, supervision, funding acquisition, resources, investigation and writing: Marzie Hashemi; Data collection and data analysis: Mahin Shekari-Bagheney.

Conflict of interest

The authors declared no conflict of interest.

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