

ORIGINAL ARTICLE

Which mother-headed households' parenting styles are related to children's behavior problems? A cross-sectional study

MOHAMMAD HOSSEIN KAVEH¹, SADAF SADEGHI², MOHADESEH MOTAMED-JAHROMI²¹ Research Center for Health Sciences, Institute of Health, Department of Health Promotion, School of Health, Shiraz University of Medical Sciences, Shiraz, Iran; ² Student Research Committee, Department of Health Promotion, School of Health, Shiraz University of Medical Sciences, Shiraz, Iran

Key words

Parenting style • Mothers • Children • Behavior problems

Summary

Introduction. Parenting styles are considered as one of the main determinants of individual and social behaviors and the use of dysfunctional styles can create child behavioral problems. The aim of this study was to determine the relationship between mother-child relationship patterns in mother-headed households and children's behavioral problems.

Methods. This is a descriptive-analytical cross-sectional study that was performed on 345 mother-headed households under the coverage of the Imam Khomeini Relief Committee in Shiraz, Iran. Mothers were selected by convenience sampling method and data were collected using several questionnaires including the mother-child relationship evaluation, the child behavior checklist, and social support appraisals scale. Data were analyzed using SPSS software version 21.

Results. The overprotective parenting style, as one of the inef-

ficient models has been used more than others by mother-headed households as well as the mothers with higher education levels used less from the child-rearing style "excessive ease", and benefited more from the support of friends and others. In addition, children of divorced and low-income mothers are more prone to externalizing behavioral problems. The final result was also determined two parenting styles "excessive ease and overprotection" are effective on children's total behavioral problems.

Conclusion. The findings highlight the need to plan and expand socio-economic and educational support services to improve living conditions and parenting skills in mother-headed households. Further research is also suggested to identify the determinants and types of interventions affecting mother-child relationships, children's behavioral problems, and finally quality of life among this low-income and vulnerable group.

Introduction

Throughout the life span, childhood and adolescence are the most important phases of life in which personality traits are formed [1]. Children are considered one of the most vulnerable groups that are exposed to many behavioral and emotional problems during development [2].

Behavior problems are all repetitive, abnormal, and annoying behaviors such as finger sucking, nail-biting, nervous habits and tic, stuttering, and beatings that disrupt the performance of the individual and the family and have negative effects on their learning, communication, and social efficacy [3, 4]. Behavior problems are divided into two broad categories: internalizing and externalizing problems [5]. Externalizing behavior problems are incompatible patterns of behavior that create difficulty for others, such as law-breaking and aggressive behavior [6], and internalizing behavior problems are actions that reflect internal state: anxiety, depression, isolation, and physical complaints [7].

Generally, behavior problems are first seen in the early years of elementary school and peak between the ages of 8 and 15 [8]. These problems as debilitating disorders significantly affect the academic and professional

performance of children and are associated with a high degree of social problems [9]. According to pathological points of view, children's behavioral and psychological problems can be affected by individual factors such as age, gender, stage of psychological and cognitive development, as well as structural factors such as divorce, separation, and remarriage of parents.[10, 11] Among the social factors that affect a child's health, the family has a crucial role. Healthy personality development and success in different areas of life are affected by the communication patterns that govern the family environment [12]. Therefore, if a family becomes a single-parent family due to reasons such as death, divorce, leaving home, and long absence, the children will face various emotional, socioeconomic, and educational difficulties [13].

Extensive research on single-parent families in recent years has shown that the impact of not having a mother or a father is different. Children living alone with their mothers, in addition to facing poverty and the absence of a father, are more likely to suffer from academic failure and behavioral problems, and are more likely to commit crimes in adulthood as well [14]. During the absence of the father, women heads of households, in addition to raising children and performing household chores,

are also the source of income and are required to work outside the home as well as the absence of the mother in childhood causes a lot of harm to the children [15].

On the other hand, mental health professionals attribute the main cause of behavioral problems in the family to the patterns of communication that exist between parents and especially mothers and children [16]. Communication patterns or parenting styles are the methods that parents use in dealing with their children [17]. Influenced by Baumrind's theory, four types of parenting styles are authoritarian, authoritative, neglectful, and permissive [18]. Research on these four patterns shows that these patterns can have positive and negative consequences in children [19]. In an authoritarian style, parents are assertive and lack intimacy and love in their behavior and speech, an authoritative style, with a combination of restraint and high emotional support, provides appropriate levels of independence and two-way communication between child and parent, a neglectful style characterized by insufficient determination, high love of parents and overprotection, and finally, in the permissive style, parents do not show enough determination and love in dealing with the child [20]. Each of these communication patterns can predict the psychological and social development or behavioral problems of children in the future [21].

Regarding the relationship between parenting style and child behavioral problems, Shafipour et al., showed in a study that authoritative parenting has an important role in preventing behavioral problems in children, and on the other hand, a neglectful style can lead to behavioral problems in children [22]. Alizadeh et al., in their study, stated that the relationship pattern of acceptance leads to a reduction in internalizing and externalizing behavioral problems in children [19]. Also in a study by Anton et al., demonstrated that the children are more exposed to externalizing behavioral problems due to the socio-economic conditions of the mother [23].

In fact, parenting styles occur in the socio-economic-cultural context and are affected by it and as result, the consequences of diverse parenting styles may be different in terms of socio-economic and cultural conditions [24]. In addition, it seems consequences of raising children by mothers in a society where support systems are active and available are different from a society where access to support services is limited [25]. Therefore, specific studies in this field can provide adequate information for planning interventions for educational authorities, and also help to take beneficial measures for the mental health of mothers and then children.

Iran is a developing country with a middle and low-income level. The aftermath of the Eight-Year War and the ensuing international sanctions have put severe pressure on the country, social welfare organizations, and public and private charities to meet the needs of disadvantaged populations. Mother-headed households are one of the poorest populations in Iranian society, often economically and socially disadvantaged, and themselves and their children may be at risk of psychological, behavioral, and social problems. Therefore, it is important to study the

parenting style and behavioral problems of their children to provide different services.

According to our research, no study has been conducted in Iran on the relationship between mother-child relationship patterns and child behavioral problems in families with mother-headed households. Therefore, the aim of this study was conducted to investigate the relationship between mother and child relationship patterns with children's behavioral problems in mother-headed households under the coverage of Imam Khomeini Relief Foundation in Shiraz, Iran.

Methods

STUDY DESIGN AND SETTING

This descriptive and correlational study was conducted from December 2018 to May 2019. Study setting were several centers under coverage of Imam Khomeini Relief Foundation (IKRF) located in Shiraz city in the south part of Iran. The IKRF is a charitable organization in the Islamic Republic of Iran, established in March 1979 to provide social and cultural services to poor families in Iran and some other countries.

STUDY POPULATION AND SAMPLE SIZE

The research population was women heads of households who were covered by Shiraz Imam Khomeini Relief Foundation. The sample size was estimated 313 people, based on the similar study [4]. Considering a 10% attrition rate, 345 women heads of households who were referred to the centers covered by Imam Khomeini Relief Foundation were selected with the convenience sampling method. The inclusion and exclusion criteria were considered based on Table I.

INSTRUMENTS

The data collection instruments included a demographic information form, the Mother-Child Relationship Evaluation (MCRE), The Child Behavior Checklist (CBCL), Social Support Appraisals (SS-A) scale. Demographic characteristics of the participants included education level, marital status, occupation, household income status, and types of housing.

Mother-Child Relationship Evaluation (MCRE)

The Maternal-child relationship was measured through the Mother-Child Relationship Evaluation (MCRE) questionnaire. This scale was developed by Robert M. Roth in 1980 and assesses the mother's attitude toward interacting with the child on four subscales including child acceptance, excessive ease, overprotection, and child rejection [26]. Each subscale has 12 items and there are totally 48 items in this questionnaire. Responses are scored on a five-point Likert scale from 1 (strongly disagree) to 5 (strongly agree). The reliability and validity of this questionnaire in Iran was confirmed by Zamiri in 2005, and Cronbach's alpha coefficient for the subscales of child acceptance, excessive ease,

Tab. I. Inclusion and exclusion criteria.

Inclusion criteria	Exclusion criteria
At least elementary level of literacy Having a child 4-18 years old Consent to participate in the study	Persistent serious psychological problem Doing not return the questionnaires Defective completion of questionnaires

overprotection, and child rejection was reported at 0.77, 0.71, 0.78 and 0.72, respectively [27]. To get the total score, the scores of the items are added together and the higher scores indicate a better attitude.

The Child Behavior Checklist (CBCL)

Behavioral problems were assessed using the parent rating form of the Child Behavior Checklist (CBCL) developed by Achenbach [28]. The 113-item questionnaire reflects the behavioral and emotional problems of children ages 4 to 18, and parents rate their child's behavior over the past six months on a three-point scale with incorrectly = 0, somewhat correct = 1, and correct = 2. This questionnaire evaluates the types of behavioral problems of children and adolescents in 8 specific areas. The list of child behavioral problems consists of three scales: total problems, externalizing, and internalizing problems [8]. The reliability and validity of the Persian version of CBCL, the parent rating form have been confirmed in a study by Ashori and Karimnezhad in 2020 and Cronbach's alpha coefficients on the subscales of externalizing, internalizing, and the total problem were 0.83, 0.90, and 0.86, respectively [29].

Social Support Appraisals Scale (SS-A)

To assess the social support of mothers, the SS-A scale was used that developed by Vaux et al, in 1986 based on Cobb's definition of social supports[30]. The SS-A measures how much a person feels loved and a member of a group such as family or friends. The SS-A measures how much a person feels loved and a member of a group such as family or friends. This 23-item questionnaire includes three areas: family, friends, and others. Questionnaire items were scored by means of a 5-point Likert scale from a score of 1 (very little) to a score of 5 (very much). The total score of the test varies from 23 to 115. The reliability of the Persian version of the questionnaire was proven by Khabaz et al, with Cronbach's alpha equaling 0.74 [31].

STATISTICAL ANALYSIS

Data analysis was performed using SPSS software version 21. Descriptive statistics (mean, standard deviation, frequency, and percentage) were used to describe the research variables. Independent t-test, one-way ANOVA, and eta squared statistic (for measuring the effect size) were used to characterize the relationship between variables at a significant level of $p < 0.05$.

ETHICAL CONSIDERATION

This study was approved by the Ethics Committee of the Shiraz University of Medical Science (No: 13847 – 42 –

01 - 95). All participants were informed that participation in the study was voluntary. Then, all participants gave informed consent. They were also assured that the data collected would remain confidential.

Results

The total number of mothers who participated until the end of the study and completed the questionnaires was 334, with a participation rate of 97%. The age range of mothers was from 25 to 53 years old with a mean age of (39 ± 2.59) and the children aged between 6 and 18 years old with a mean age of (10.64 ± 3.67). The distributions of mothers' demographic variables are presented in Table II.

According to Table II, 95.5% ($n = 319$) of the participants were literate and had the ability to read and write, 49.4% of mothers ($n = 165$) were divorced and 60.2% ($n = 201$) were unemployed, 65.6% of mothers ($n = 219$) had financial support.

Table III is demonstrated that among the independent variables, total child behavioral problems, overprotective child-rearing style, and mothers' perceived support from the family have the highest mean.

According to Table IV, it was determined that among the 4 mother-child relationship styles, there is a significant difference between the excessive ease model and the mother's education level and as the mother's education level increases, the mean score of excessive ease pattern decreases. The results also showed that there is a significant difference between mean friend support and other support (government, organizational, social, etc.) with mother's education level, and as mothers' education

Tab. II. Mothers' demographic characteristics.

Variable	Categories	N (%)
Education level	Illiterate	15 (4.5)
	Up to primary school	163 (48.8)
	Up to secondary school/ Graduate	134 (40.1)
	Higher education	22 (6.6)
Marital status	Widow	88(26.3)
	Divorced	165(49.4)
	Unbound	81(24.3)
Mothers' job	Unemployed	201 (60.2)
	Employed	133 (39.8)
Types of housing	Self-owned house	119 (35.6)
	Parents' home	108 (32.4)
	Rented	107 (32)
Financial Support	Yes	219 (65.6)
	No	115 (34.4)

Tab. III. Differences in questionnaires' subscales.

Variables	Categories	Mean ±SD	95%CI		P-value
			Lower bound	Upper bound	
Child Behavioral problems	Internalizing	1.26 ± 0.65	1	3	0.000
	Externalizing	1.23 ± 0.60	1	3	
	Total	1.27 ± 0.64	1	3	
Mother-child relationship	Acceptance of child	26.06 ± 2.87	18	35	0.000
	Overprotection	33.20 ± 4.28	18	48	
	Excessive ease	27.99 ± 4.48	15	43	
	Child rejection	33.07 ± 3.32	24	43	
Mother perceived support	Friend Support	25.87 ± 4.03	12	34	0.000
	Family Support	33.78 ± 3.81	17	40	
	Others Support	31.10 ± 4.07	14	40	

Significant level < 0.05.

Tab. IV. Comparison of the mean score of mothers' perceived support and types of MCRE based on level of education.

	Subcategories	Illiterate (15)	Up to primary school (163)	Up to secondary school/ Graduate (134)	Higher education (22)	P-value*
Types of MCRE	Acceptance	26.20 ± 2.54	26.15 ± 2.71	25.93 ± 3.06	26.13 ± 3.21	0.919
	Overprotection	34.13 ± 5.80	32.99 ± 4.04	33.35 ± 4.10	33.22 ± 5.83	0.737
	Excessive Ease	29.40 ± 5.12	28.55 ± 4.58	27.55 ± 4.11	25.59 ± 4.56	0.008
	Child rejection	32.80 ± 3.23	32.92 ± 3.30	33.36 ± 3.25	32.54 ± 3.94	0.571
Mothers' perceived support	Family	34.46 ± 1.92	33.71 ± 4.04	33.58 ± 3.81	35.00 ± 2.81	.376
	Friends	24.33 ± 2.89	25.13 ± 4.10	26.48 ± 3.84	28.63 ± 3.65	0.000
	others	30.40 ± 2.44	30.16 ± 3.76	31.85 ± 4.25	33.95 ± 4.04	0.000

* One-way ANOVA.

level increases, the mean scores of supports of friends and others increase ($P < 0.05$).

Table V showed that there was a significant difference between the total mean score of child behavioral problems and externalizing problems with the mother's marital status. So that the mean scores of total and externalizing problems in children with divorced mothers were higher than others. Regarding the comparison of mothers' average incomes and children's behavioral problems, it was found that children's total and externalizing behavioral problems have a statistically significant

difference with the amount of mothers' income, and the mean scores of total and externalizing behavior problems in the income group "300,000-5,200,000 Rials" were higher than others.

The eta squared (η^2) statistic was used to investigate the association between child-rearing style and children's behavioral problems. According to Table VI, two child-rearing styles "excessive ease, overprotective" have a statistically significant effect on total child behavioral problems. The value of eta squared for excessive ease and overprotection showed that there is a medium

Tab. V. Comparison of the mean score of mothers' marital status and income with child behavioral problems.

	Subcategories (n)	Internalizing problems M ± SD	Externalizing problems M ± SD	Total problems M ± SD
Marital status	Widow (132)	49.96 ± 9.65	49.05 ± 8.16	50.48 ± 9.55
	Divorced (159)	49.94 ± 10.15	51.68 ± 11.59	50.80 ± 10.72
	Unbound (43)	50.30 ± 10.68	46.69 ± 7.38	45.52 ± 7.18
	P-value	0.977	0.005	0.007
Income (Rials)	300000-5200000 (297)	49.94 ± 9.85	50.55 ± 10.22	50.60 ± 10.22
	5210000-10100000(33)	51.13 ± 11.64	45.16 ± 5.95	45.40 ± 5.97
	10110000-15000000(4)	45.05 ± 3.74	48.96 ± 10.67	43.10 ± 9.081
	P-value	0.495	0.013	0.007

Significant level < 0.05.

Tab. VI. The eta squared (η^2) statistic results.

Types of MCRE Children' behavioral problems	Acceptance		Overprotection		Excessive Ease		Child rejection	
	η^2	P-value	η^2	P-value	η^2	P-value	η^2	P-value
Internalizing	0.095	0.243	0.056	0.893	0.070	0.687	0.057	0.877
Externalizing	0.118	0.232	0.120	0.212	0.138	0.072	0.117	0.133
Total	0.098	0.227	0.288	0.000	0.284	0.000	0.191	0.184

Significant level < 0.05.

effect size ($\eta^2 > 0.2$), therefore, in this study, these two parenting styles are effective on children's total behavioral problems.

Discussion

This study investigated the relationship between the child-rearing style of mother-headed households and children's behavioral problems. The results showed that the overprotective child-rearing style, as one of the inefficient models, more than three other styles has been used by mother-headed households. Lazar et al. congruent with our finding concluded that mother-headed households are more likely to use dysfunctional communication and behavioral patterns [32]. This could be because mother-headed households may have had less time, patience, and financial and emotional support, and most importantly, they have fear of losing their children. Contrary to the results of the present study, Mullins et al, stated that despite more perceived vulnerability, and stress in mother-headed households, they do not use an overprotection style more than others [33]. Yaffe Y also confirmed that there is a significant difference in communication patterns between mother-headed households and non-head household ones, but in contrast with our finding considers the more common pattern used by mother-headed households to be an efficient style "authoritative" [34].

The results showed that the higher mothers' education, the less inclined they are to use the child-rearing style "excessive ease". Anton et al, consistent with the present study stated that the family socioeconomic status, especially the mother's education level, and income, is related to the mother-child relationship pattern; mothers with higher education are more likely to use effective relationship models, and on the other hand, mothers with lower education are 65% more likely than mothers with university education to use the inefficient model of excessive ease [23].

The results also showed that increasing education level causes mothers to benefit from the support of friends and others as well because, in the educational process, friends play a major role in supporting the individual, and friendship networks are formed [35]. Abd Hamid consistent with the results of the present study described that the support of friends and neighbors plays a key role in tolerating the challenges and directly can affect the mental health of mother-headed households, then, these mothers prefer to share their problems with friends [36]. Another result of the study showed the children of

divorced mothers are more likely to have externalizing behavioral problems. The researchers believe that children who experience the absence of a father show more behavioral problems than children in normal families [37]. According to Liu et al., children of single-parent families face externalizing behavioral problems included aggressive behavior, withdrawal, and social problems [38]. Daryanani et al., in line with this finding described that children of mother-headed households experience an increase in depressive symptoms and externalizing behavioral problems [39]. On the other hand, Riediger et al., did not find a significant difference in the prevalence of child behavioral problems in single-parent and double-parent adolescents [40].

Another study result showed that children of mothers with very low incomes are more prone to externalizing behavioral problems. Other researchers have also found a statistically significant relationship between the income status of mother-headed households with externalizing behavioral problems of children, and have attributed every \$ 10,000 increase in income to a 0.79 unit decrease in externalizing behavioral problems of children [23]. According to Daryanani research, single-parents' families are far more impoverished than two-parent families due to loss of partner income, lower mothers' education, and discriminatory wages against women, and this poverty affects externalizing behavioral problems of children [39].

According to the final result two parenting styles "excessive ease and overprotection "are effective on children's total behavior problems. Alidosti et al., in line with this finding, concluded that the permissive parenting style is related to the general behavior problems of children [41]. Some researchers believed overprotective parenting style is significantly higher in children with behavioral disorders and leads to both internalizing and externalizing problems [42, 43]. It seems both parenting styles " excessive ease and overprotective" cause different behavioral and emotional problems in children will vary based on the family, cultural, and psychosocial conditions that govern the child's life.

STRENGTHS AND LIMITATIONS

According to the searches, this is the only study that has been done on the relationship between mother-child relationship patterns and child behavioral problems on mother-headed households in Iran, and the findings of the present study can be a basis for future research. The present study has several limitations. Sampling was done by the convenience method and data collection was based

on self-report. On the other hand, many respondents had low levels of literacy that may somewhat decrease the validity of the answers. In addition, generalizing the findings of this study are also questionable to employed head households and higher incomes women, or women who are covered by other charitable public and private organizations.

Conclusion

The findings of this study confirmed the existence of obvious needs and deficiencies in the socio-economic status as well as the knowledge and ability of female-headed households to raise healthy children. If these needs and shortcomings are not properly addressed, adverse health and social development consequences will occur. These findings clearly indicate the need to plan and expand both quantitatively and qualitatively socio-economic and educational support services to improve the living conditions and parenting skills of female-headed households. Further research is also suggested to identify the determinants and types of interventions affecting mother-child relationships, children's behavioral problems, and finally quality of life among this low-income and vulnerable group. Empowerment of women, including in the field of entrepreneurship and family role-playing skills, especially in public education and schools, is one of the proposed strategies.

Acknowledgements

We are grateful to dear mother-headed households who participated in the study, as without their support the study could not have been conducted. The present study was scientifically approved and financially supported by the Vice-chancellor of research at Shiraz University of Medical Sciences, Shiraz, Iran.

Conflict of interest statement

None of the authors has any conflict of interest to declare.

Authors' contributions

MH.K. conceptualized the study project, supervised the implementation process, and edited the manuscript. SS participated in data gathering, data analysis, and the writing of the manuscript. M.MJ contributed to data analysis and the writing of the manuscript. All authors read and approved the final manuscript.

References

- [1] Costa Jr PT, McCrae RR, Löckenhoff CE. Löckenhoff. Personality across the life span. *Ann Rev Psychol* 2019;70:423-48. <https://doi.org/10.1146/annurev-psych-010418-103244>

- [2] Gregory AM, Sadeh A. Sleep, emotional and behavioral difficulties in children and adolescents. *Sleep Med Rev* 2012;16:129-36. <https://doi.org/10.1016/j.smrv.2011.03.007>
- [3] Heberle AE, Krill SC, Briggs-Gowan MJ, Carter AS. Predicting externalizing and internalizing behavior in kindergarten: Examining the buffering role of early social support. *J Clin Child Adolesc Psychol* 2015;44:640-54. <https://doi.org/10.1080/15374416.2014.886254>
- [4] Santos LMd, Queirós FC, Barreto ML, Santos DNd. Prevalence of behavior problems and associated factors in preschool children from the city of Salvador, state of Bahia, Brazil. *Braz J Psychiatry* 2015;38:46-52. <https://doi.org/10.1590/1516-4446-2014-1596>
- [5] TeBrinke LW, Menting AT, Schuiringa HD, Zeman J, Deković M. The structure of emotion regulation strategies in adolescence: Differential links to internalizing and externalizing problems. *Soc Dev* 2021;30:536-53. <https://doi.org/10.1111/sode.12496>
- [6] Plueck J, Eichelberger I, Hautmann C, Hanisch C, Jaenen N, Doepfner M. Effectiveness of a teacher-based indicated prevention program for preschool children with externalizing problem behavior. *Prev Sci* 2015;16:233-41. <https://doi.org/10.1007/s1121-014-0487-x>
- [7] Jamnik MR, DiLalla LF. Health outcomes associated with internalizing problems in early childhood and adolescence. *Front Psychol* 2019;10:60. <https://doi.org/10.3389/fpsyg.2019.00060>
- [8] Zolfaghari AR, Fathi D, Massah O. Behavior disorders prevalence in high school students in Hamedan Province. *Arch Rehabil* 2014;15:45-52.
- [9] Cooper P, Cefai C. Evidence-based approaches to social, emotional and behavior difficulties in schools. *KEDI J Educ Policy* 2013.
- [10] De Falco S, Emer A, Martini L, Rigo P, Pruner S, Venuti P. Predictors of mother-child interaction quality and child attachment security in at-risk families. *Front Psychol* 2014;5:898. <https://doi.org/10.3389/fpsyg.2014.00898>
- [11] Strohschein L. Parental divorce and child mental health: Accounting for predisruption differences. *J Divorce Remarriage* 2012;53:489-502. <https://doi.org/10.1080/10502556.2012.682903>
- [12] Newman BM, Newman PR. *Development through life: A psychosocial approach* 2017: Cengage Learning.
- [13] Stephen EN, Udisi L. Udisi. Single-parent families and their impact on children: A study of Amassoma community in Bayelsa State. *Eur J Res Soc Sci* 2016;4.
- [14] Maldonado LC, Nieuwenhuis R. Family policies and single parent poverty in 18 OECD countries, 1978-2008. *Community Work Fam* 2015;18:395-415. <https://doi.org/10.1080/13668803.2015.1080661>
- [15] Breivik K, Olweus D, Endresen I. Does the quality of parent-child relationships mediate the increased risk for antisocial behavior and substance use among adolescents in single-mother and single-father families? *J Divorce Remarriage* 2009;50:400-26. <https://doi.org/10.1080/10502550902766282>
- [16] Galvin KM, Braithwaite DO, Schrodtt P, Bylund CL. *Family communication: Cohesion and change*. 2018 Routledge.
- [17] Pinquart M, Kauser R. Do the associations of parenting styles with behavior problems and academic achievement vary by culture? Results from a meta-analysis. *Cult Divers Ethn Minor Psychol* 2018;24:75. <https://doi.org/10.1037/cdp0000149>
- [18] Odongo AA, Aloka PJ, Raburu P. Influence of parenting styles on the adolescent students' academic achievement in Kenyan day secondary schools. 2016. <http://ir.jooust.ac.ke:8080/xmlui/handle/123456789/8883>
- [19] Alizadeh S, Talib MBA, Abdullah R, Mansor M. Relationship between parenting style and children's behavior problems. *Asian Soc Sci* 2011;7:195-200. <http://dx.doi.org/10.5539/ass.v7n12p195>

- [20] Kuppens S, Ceulemans E. Ceulemans, Parenting styles: A closer look at a well-known concept. *J Child Fam Stud* 2019;28:168-81. <https://doi.org/10.1007/s10826-018-1242-x>
- [21] Hunt JC. Associations between different parenting styles and child behavior. 2013.
- [22] Shafipour SZ, Sheikhi A, Mirzaei M, KazemnezhadLeili E. Parenting styles and its relation with children behavioral problems. *J Holist Nurs Midwifery* 2015;25:49-56. https://hnmj.gums.ac.ir/browse.php?a_id=459&slc_lang=en&sid=1&ftxt=1&html=1
- [23] Anton MT, Jones DJ, Youngstrom EA. Youngstrom, Socio-economic status, parenting, and externalizing problems in African American single-mother homes: A person-oriented approach. *J Fam Psychol* 2015;29:405. <https://psycnet.apa.org/record/2015-24732-005>
- [24] Sorkhabi N, Mandara J. Are the effects of Baumrind's parenting styles culturally specific or culturally equivalent? 2013. <https://doi.org/10.1037/13948-006>
- [25] Lavasani MG, Borhanzadeh S, Afzali L, Hejazi E. The relationship between perceived parenting styles, social support with psychological well-being. *Procedia Soc Behav Sci* 2011;15:1852-6. <https://doi.org/10.1016/j.sbspro.2011.04.014>
- [26] Roth R. Manual for the mother-child relationship evaluation. Los Angeles: Western Psychological Services, 1980.
- [27] Zamiri R. The relationship between the type of delivery and the emotional relationship between the child and the mother in preschool girls (kindergartens under the supervision of the welfare organization of Mashhad). Islamic Azad University of Roodehen Branch. 2005.
- [28] Achenbach TM, Ruffle TM. The Child Behavior Checklist and related forms for assessing behavioral/emotional problems and competencies. *Pediatr Revi* 2000;21:265-71. <https://pedsinreview.aappublications.org/content/21/8/265>
- [29] Ashori M, Karimnezhad R. The effect of play therapy training with filial therapy model on behavioral problems of children and resiliency of deaf mothers. *J Posit Psychol* 2019; 5:85-98. https://ppls.ui.ac.ir/article_24399_0.html?lang=en
- [30] Vaux A, Phillips J, Holly L, Thomson B, Williams D, Stewart D. The social support appraisals (SS-A) scale: Studies of reliability and validity. *American J Comm Psychol* 1986;14:195-218. <https://link.springer.com/article/10.1007%2FBF00911821>
- [31] Khabaz M, Behjati Z, Naseri M. Relationship between social support and coping styles and resiliency in adolescents. 2012. <https://www.sid.ir/en/journal/ViewPaper.aspx?ID=264222>
- [32] Lazar A, Guttman J, Abas L. Parental authority in divorced families. *J Divorce Remarriage* 2009;50:356-68. <https://www.tandfonline.com/doi/abs/10.1080/10502550902766514>
- [33] Mullins LL, Wolfe-Christensen C, Chaney JM, Elkin TD, Wiener L, Hullmann SE, Fedele DA, Junghans A. The relationship between single-parent status and parenting capacities in mothers of youth with chronic health conditions: The mediating role of income. *J Pediatr Psychol* 2011;36:249-57. <https://doi.org/10.1093/jpepsy/jsq080>
- [34] Yaffe Y. Do single mothers differ from non-single mothers in their parenting styles? A brief report study. *J Fam Stud* 2017;22:27-36. <http://ijfs.padovauniversitypress.it/2017/2/3>
- [35] Flashman J. Academic achievement and its impact on friend dynamics. *Sociol Educ* 2012;85:61-80. <https://journals.sagepub.com/doi/abs/10.1177/0038040711417014>
- [36] Abd Hamid SR, Salleh S. Exploring single parenting process in Malaysia: Issues and coping strategies. *Procedia Soc Behav Sci* 2013;84:1154-9. <https://doi.org/10.1016/j.sbspro.2013.06.718>
- [37] Abedini Z, Mirasab M, Fathi Azar E. A Comparative Study of Identity Styles, Quality of Life and Behavioral Problems between Single Parent and Two Parent Adolescents. *J Educ Learning* 2017;6:235-45. <http://doi.org/10.5539/jel.v6n2p235>
- [38] Liu X, Guo C, Okawa M, Zhai J, Li Y, Uchiyama M, Neiderhiser JM, Kurita H. Behavioral and emotional problems in Chinese children of divorced parents. *J Am Acad Child Adolesc Psychiatry* 2000;39:896-903. <https://doi.org/10.1097/00004583-200007000-00019>
- [39] Daryanani I, Hamilton JL, Abramson LY, Alloy LB. Single mother parenting and adolescent psychopathology. *J Abnorm Child Psychol* 2016;44:1411-23. <https://link.springer.com/article/10.1007/s10802-016-0128-x>
- [40] Riediger ND, Shooshtari S, Moghadasian MH. The influence of sociodemographic factors on patterns of fruit and vegetable consumption in Canadian adolescents. *J Am Diet Assoc* 2007;107:1511-8. <https://doi.org/10.1016/j.jada.2007.06.015>
- [41] Alidosti M, Dehghani SL, Babaei-Heydarabadi A, Tavassoli E. Comparison of parenting style in single child and multiple children families. *Iran J Health Sci* 2016;4: 49-54. http://jhs.mazums.ac.ir/browse.php?a_code=A-10-521-2&slc_lang=en&sid=1
- [42] Gere MK, Villabø MA, Torgersen S, Kendall PC. Overprotective parenting and child anxiety: The role of co-occurring child behavior problems. *J Anxiety Disord* 2012;26:642-9. <https://doi.org/10.1016/j.janxdis.2012.04.003>
- [43] Berkien M, Louwerse A, Verhulst F, Van der Ende J. Children's perceptions of dissimilarity in parenting styles are associated with internalizing and externalizing behavior. *Eur Child Adolesc Psychiatry* 2012;21:79-85. <https://link.springer.com/article/10.1007/s00787-011-0234-9>

Received on November 1, 2021. Accepted on January 10, 2022.

Correspondence: Mohadeseh Motamed-Jahromi. Iran, Shiraz, Razi bulvard, School of Health, Department of Health Promotion - E-mail: mohadesehmotamed@gmail.com - Tel: +98 7137256007 - Fax: +98 7137260225

How to cite this article: Kaveh MH, Sadeghi S, Motamed-Jahromi M. Which mother-headed households' parenting styles are related to children's behavior problems? A cross-sectional study *J Prev Med Hyg* 2022;63:E90-E96. <https://doi.org/10.15167/2421-4248/jp-mh2022.63.1.2382>

© Copyright by Pacini Editore Srl, Pisa, Italy

This is an open access article distributed in accordance with the CC-BY-NC-ND (Creative Commons Attribution-NonCommercial-NoDerivatives 4.0 International) license. The article can be used by giving appropriate credit and mentioning the license, but only for non-commercial purposes and only in the original version. For further information: <https://creativecommons.org/licenses/by-nc-nd/4.0/deed.en>