SYSTEMATIC REVIEW

Psychological factors contributing to parenting styles: A systematic review [version 2; peer review: 1 approved, 1 not approved]

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Abstract

Background: The set of strategies used by parents to put their children’s behaviors under control are called parenting styles, which can be influenced by numerous factors including socio-economic variables, cultural differences, personal characteristics, and psychological factors. These factors can differently contribute to parenting style. The purpose of this systematic review was to examine psychological factors affecting parenting style.

Methods: This study was a comprehensive literature review using the keywords of parenting styles, psychological factors, and parenting to search the databases of Google Scholar, PubMed, Scopus, Web of, and Scientific Information Database. In this respect, 416 articles were extracted. 368 articles were removed after reviewing their abstracts and full text and eventually 48 articles were selected to elicit the required data.

Results: Our findings were classified under two categories: factors related to parents (mental status, self-efficacy, parenting stress, perfectionism, personality traits, childhood trauma, marital satisfaction, parents’ attachment style, perceived parenting style, and substance abuse); and those related to children (child developmental and mental disability, child temperament, and anxiety).

Conclusions: Considering the multiple psychological factors that affect parenting style, it is recommended to include an assessment of parent-child psychological status in family programs in order to identify the needs for child-oriented care and take steps towards the development of parenting skills.

Keywords

Parenting Styles, Psychological Factors, Parenting
Amendments from Version 1

- In the Abstract, the following sentence was removed: “These factors can differently contribute to parenting style.”
- The Introduction and Discussion sections were revised.
- The definition of “parenting styles” was rewritten and a different model of parenting style was explained and a brief review of parenting style in literature was added.
- To clarify the research question, one paragraph was added in the Introduction section.
- In the Result section, arrangement of paragraphs were change based on the importance of the factors.
- In Table 1, the number of references was changed.
- In the Discussion section, we compared our results to those of previous reviews in the literature; four paragraphs were added.
- Some writing and grammatical changes were administrated.
- The previous Conclusions section was removed and this section was rewritten.
- We added an “Implication of findings” section.
- Due to some added references, the number of references in the main text and references section was changed.

Introduction

Parenting styles consist of a constellation of parental behaviors, beliefs, and attitudes displayed across a variety of parent-child interactions and so specific parenting behaviors that parents use to socialize their child.1 Baumrind (1971) develop a popular theory of parenting styles in which she identified three different parenting styles are mostly used in literature. Later, (in the 1980s) a fourth was added to her theory.2 The parenting styles’ framework encompasses 4 distinct parenting categories that are derived from two dimensions of interaction: (1) parental control and (2) parental warmth. Authoritative parents are warm and communicative, but they also exert appropriate control. Authoritarian parents exert control while lacking warmth, while permissive parents show warmth but do not exert control. Finally, parents with lacking warmth and control have neglectful parenting. Some researchers define parenting styles as specific interpersonal parental behaviors or characteristics that influence child development. For example, sensitivity, responsiveness, affect, reciprocity, negativity, involvement, harsh discipline.5,21 In the present study, parental behaviors or characteristics were used as models of parenting styles. Authoritative parenting style considered a positive parenting style; and negative parenting styles that are authoritarian, permissive, and neglectful.14 In this respect, positive parenting styles are accompanied by encouraging outcomes for children such as optimism, self-esteem, and social-emotional development, while negative parenting can lead to emotional disorders, behavioral problems, aggression, as well as child anxiety.5 Although, previous review studies have investigated different factors contributing to raising children and child maltreatment, including socio-economic factors,14,16,17 and parent and child characteristics,14,17,22, less is known about psychological factors that contribute to parenting style or limited psychological factors were listed in studies.1,21,23,24 While parents or child psychologic factors may impact parenting abilities or led to dysfunctional parenting.2,28 Clarifying these factors is important for family therapeutic intervention. The objective of this systematic review was to conduct a comprehensive literature review on the psychological factors affecting parenting styles.

Methods

In this review, the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) statement was used as a guideline.29 See Supplementary File 1 for the PRISMA checklist.

Identification of the research question

Considering the “P” component of PICO (Population of interest, intervention, control, outcome) criteria and FINER (Feasibility, Interesting, Novel, Ethical, Relevant) criteria, the research question was developed as below:28,29

What are the psychological factors contributing to parenting styles?

Search strategy

According to the research question in this study, a search was carried out in the databases of Google Scholar, PubMed, Scopus, Web of Science, and Scientific Information Database (a Persian database). In this regard, the required articles were retrieved based on the use of medical subject headings, text words, and related keywords. The search strategy was as follows:

(“Psychosocial Factors” OR Factors OR Determination OR Psychology) AND (“Child Rearing OR Child Rearing Styles” OR Parenting OR “Parent-Child Relations OR Parent-Child Relationship” OR “Parenting Styles”).

Eligibility criteria.

All indexed and non-indexed original cross-sectional, longitudinal or review studies, in English or Persian, that meet the inclusion criteria, addressed the research question, reported parenting styles in at least one of the parents were retrieved, irrespective of the types of parenting style, recruitment method and instruments used for the assessment of parenting style. Studies that reported on the results of clinical trials were excluded from our review. 416 articles published within February 1984 and April 2017 were extracted. The search time lasted for four weeks between January 23rd and February 23rd in 2018.

Study selection.

After removing duplicate articles (191), those remaining were examined in two stages. Firstly, the titles and a summary of all the remaining articles were independently reviewed by two authors (ZS and ZV). At this stage, 120 articles were excluded from the study.

Secondly, the full texts of all the remaining articles were examined and the items not referring to psychological factors in spite of attention to the factors related to parenting styles were excluded. Additionally, the reference lists of the selected articles were reviewed for more articles. Finally, 48 articles were used. Figure 1 illustrates the study flow.
Summarization, extraction, and data reporting
Two authors (ZH and ZV) independently extracted basic study information (author’s name, title and year of publication, sample characteristics, type of study and outcomes such as parenting styles, parent’s behavior, parent-child interaction, family interaction) for all included papers using a predefined evidence table shell. A third author (FE) reviewed the evidence tables for accuracy and completeness. The final evidence table is presented in Table 1. After selecting the final articles, the researchers carefully examined all the relevant articles, extracted the data, and then organized the information needed for the present study. The results of the literature review led to the categorization of the contents on psychological factors contributing to parenting styles into several categories as presented in the Results section.

Risk of bias
Critical appraisal checklists were used to evaluate the quality of the studies. Checklists were adapted from the Newcastle–Ottawa quality assessment scale\textsuperscript{30} to assess three broad perspectives of each study: the selection of the study groups, the comparability of the groups, and the ascertainment of either the exposure for case-control studies or the outcome of interest for cohort studies and cross-sectional studies. This checklist includes 8 questions for case-control studies and cohort studies with a maximum 9 score. For cross-sectional studies, this checklist includes 6 questions with maximum 7 score. Ottawa quality assessment scale has established content validity and inter-rater reliability\textsuperscript{31,32}. We used The HE QAT to assess the methodological quality of all included reviews as well. The HE QAT assesses 10 criteria to measure the extent to which the methodological approach of a review guarded against bias with maximum 10 scores 33. In this review, studies that received ≥ 5 scores from the Newcastle–Ottawa scale and The HE QAT were included\textsuperscript{30,33}.

Ethical considerations
The authors assumed ethical considerations and general standards of publication including avoidance of plagiarism as well.
<table>
<thead>
<tr>
<th>First Author and Publication Year</th>
<th>Study Type</th>
<th>Population</th>
<th>The aim of the study</th>
<th>Main Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Belsky et al. /1984</td>
<td>Review</td>
<td>96 Studies</td>
<td>The determinants of parenting</td>
<td>Personal psychological resources of parents; characteristics of the child (difficult temperaments) are related to parenting.</td>
</tr>
<tr>
<td>Stith et al. /2009</td>
<td>Meta-analytic review</td>
<td>155 studies</td>
<td>Identifying the relative strength of various risk factors for child physical abuse and neglect</td>
<td>Child social competence, parent-child relationship, parent perceptions of the child as a problem, parent's level of anger and parent's self-control, were a risk factor for child physical abuse and neglect.</td>
</tr>
<tr>
<td>Lovejoy et al. /2000</td>
<td>Meta-analytic review</td>
<td>46 studies</td>
<td>Assess the relationship between depression and parenting behavior</td>
<td>Depression has the strongest effect on negative maternal behavior and a somewhat lesser degree on behavior from the child.</td>
</tr>
<tr>
<td>Christian et al. /2017</td>
<td>Systematic review</td>
<td>23 articles, 3 books, and various government websites</td>
<td>Explore factors that increase successful parenting skills and that contribute to problem behavior in children.</td>
<td>Child social competence, parent-child relationship, parent's level of stress, and level of self-esteem, were a risk factor for child physical abuse and neglect.</td>
</tr>
<tr>
<td>Oyserman et al. /2000</td>
<td>Review</td>
<td>36 studies</td>
<td>Review of studies of parenting among mothers with a serious mental illness</td>
<td>No significant relation was found between parent anxiety and parental control. A substantial association was found between child anxiety and parental control.</td>
</tr>
<tr>
<td>VanDerBreggen et al. /2006</td>
<td>Longitudinal study</td>
<td>158 mother with a child (9 to 12 years old) and peers as well as teachers of these children</td>
<td>Examine harsh parenting, maternal depressed affect, and marital quality in relation to children's externalizing behaviors.</td>
<td>Maternal depressed affect had both direct effects on child anxiety and parent anxiety and parental control.</td>
</tr>
<tr>
<td>Adam et al. /2004</td>
<td>Review</td>
<td>102 mothers with their 2-year-old child</td>
<td>Examined whether associations between adult attachment and parenting or parent emotional well-being were mediated through parenting.</td>
<td>Dismissing attachment was associated with lower warmth/responsiveness only among mothers with higher levels of depressive symptoms.</td>
</tr>
<tr>
<td>Prinz et al. /2005</td>
<td>Review</td>
<td>23 studies</td>
<td>Examines the potential roles of maternal self-efficacy (PSE) in parent-child interaction with children 2 years old.</td>
<td>Some findings suggest that parental self-efficacy (PSE) may influence parent-child interaction, particularly via parenting practices and behaviors.</td>
</tr>
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<td>Banyard et al. 2003 [1]</td>
<td>Cross-sectional study</td>
<td>152 women who had at least 1 child (1–10 years old) 76 of Women with childhood sexual abuse compared 78 women</td>
<td>Exploration the impact of complex trauma (Sexual and physical abuse, violence) and depression on parenting and protective factors</td>
<td>Higher rates of trauma exposure were related to decrease parenting satisfaction, reports of child neglect, use of physical punishment. Maternal depression was a mediator in this relation.</td>
</tr>
<tr>
<td>Webster-Stratton et al. 1988 [2]</td>
<td>Cross-sectional study</td>
<td>46 depressed mothers Compared to 49 non depressed mothers with their children (3 – 8 years old) 76 depressed mothers</td>
<td>Examine the relationship of reported maternal depression to prior and current life stressors and to mother perceptions of child adjustment, parenting behaviors, and child conduct problems.</td>
<td>Depressed mother was more critical than non depressed mothers, but the behavior of children of depressed mothers showed no differences. Depressed mothers were more likely to have experienced child abuse.</td>
</tr>
<tr>
<td>Levendosky et al. 2001[3]</td>
<td>Cross-sectional study</td>
<td>120 women with their children (7–12 years old) 46 depressed mothers Compared to 49 non depressed mothers with their children (3 – 8 years old)</td>
<td>Examine a model of the interrelated effects of domestic violence on women and children, focusing specifically on parenting</td>
<td>Lower psychological functioning of mothers was related to poorer parenting and had direct effects on children. Child abuse was the more important predictor of children’s adjustment. Maternal satisfaction had an association with parenting.</td>
</tr>
<tr>
<td>Moore et al. 2004 [4]</td>
<td>Cross-sectional study</td>
<td>68 mother–child dyads with a child (7–15 years old) 158 mothers 118 children 78 mothers 73 children</td>
<td>Impacts of maternal and child anxiety on interactions between mothers and children</td>
<td>Mothers of anxious children were less warm toward their children. There was an interaction between mother and child anxiety in predicting maternal catastrophizing.</td>
</tr>
<tr>
<td>Chen et al. 2002 [5]</td>
<td>Cross-sectional study</td>
<td>463 mothers who had children (3–6 years old) 463 mothers 447 children</td>
<td>Examine factors related to parenting practices in Chinese mothers with preschoolers</td>
<td>Maternal depression was predictive of both authoritative and authoritarian parenting practices.</td>
</tr>
<tr>
<td>Goodman et al. 1990 [6]</td>
<td>Cross-sectional study</td>
<td>Schizophrenic (n = 53) and depressed (n = 25) women and matched control well women (n = 23 with their children (3–5 years old)</td>
<td>Asses relation between schizophrenic and depressed mothers and parenting</td>
<td>Quality of parenting was lowest in schizophrenic women and more variable in depressed women. Certain parenting practices significantly predicted children’s IQ scores and social behavior.</td>
</tr>
<tr>
<td>Alavi et al. 2015 [7]</td>
<td>Cross-sectional study</td>
<td>110 mothers with their parity aggressive children 110 mothers 109 children</td>
<td>Explore the relationship between stress and parenting styles with marital satisfaction of mothers of parity aggressive children</td>
<td>Authoritarian parenting style had an inverse relationship with marital satisfaction. Permissive parenting style had no relationship with marital satisfaction. Authoritative parenting the style had a positive relationship with marital satisfaction.</td>
</tr>
<tr>
<td>Li et al. 2015 [8]</td>
<td>Cross-sectional study</td>
<td>639 father–mother dyads and their children (3–6 years old) 639 father–mother dyads 639 children</td>
<td>Examine the relationships between parents’ parenting stress and their harsh discipline and the moderating effects of marital satisfaction and parent gender</td>
<td>Both mothers’ and fathers’ parenting stress were directly associated with their harsh discipline. Mothers’ marital satisfaction attenuated the association between their parenting stress and harsh discipline.</td>
</tr>
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<tr>
<td>Ponnet et al. /2013</td>
<td>Cross sectional study</td>
<td>227 Couple and their children (10–18 years old)</td>
<td>Explore how various sources of stress and support experienced by fathers and mothers influence their own parenting styles and the parenting styles of the partner</td>
<td>There were actor effects of parenting stress on demanding and responsive parenting styles and there was a partner effect between positive aspects of marital relationship and responsive parenting style.</td>
</tr>
<tr>
<td>Salibi et al. /2013</td>
<td>Cross sectional study</td>
<td>200 mothers with a daughter (16 years old)</td>
<td>The relationship between mother's parenting styles and perfectionism with children's emotional and social adjustment</td>
<td>Parenting styles have a crucial role in adolescent emotional adjustment, but no in social adjustment. In dimensions of perfectionism with increasing interpersonal sensitivity, perceived parental pressure and organization as well as emotional conflict more increased.</td>
</tr>
<tr>
<td>Besharat et al. /2010</td>
<td>Cross sectional study</td>
<td>800 parents who had a high school students</td>
<td>Assessing the relationship between parental perfectionism and parenting styles.</td>
<td>The dimensions of parental perfectionism affect the characteristics of parenting styles.</td>
</tr>
<tr>
<td>Kitamura et al. /2009</td>
<td>Cross-sectional study</td>
<td>663 fathers and 889 Mothers with children (mean age 12.2 years)</td>
<td>Examine the relationships between parenting styles and personality traits over generations</td>
<td>Personality traits were transmitted directly from the parents to the children and the parents' parenting styles had independent effects upon the children's personality traits.</td>
</tr>
<tr>
<td>Huver et al. /2010</td>
<td>Cross-sectional study</td>
<td>688 parents of adolescents (12–19 years old)</td>
<td>Examined the relation between parental personality and parenting style</td>
<td>Emotional stability was associated with lower strict control. Extraverted, agreeable, and less emotionally stable individuals were most likely to be authoritative parenting styles.</td>
</tr>
<tr>
<td>Aluja et al. /2007</td>
<td>Prospective study</td>
<td>134 couples parents of Adolescents (mean ages 14.04 years)</td>
<td>Explore the relation between personality, social values, and marital satisfaction on parents' rearing styles</td>
<td>Warmth and acceptance are related to a responsible and emotionally stable personality profile, high marital satisfaction, and the preference for prosocial values.</td>
</tr>
<tr>
<td>Dickson et al. /2014</td>
<td>Cross-sectional study</td>
<td>120 parents (≥18 years old)</td>
<td>Investigate the relationship between parental personality and parenting style</td>
<td>Parents with agreeable personality are not more permissive then those with the other personality traits. Conscientious parents were significantly higher than extraversion, and agreeableness but not from neuroticism and openness on authoritative parenting.</td>
</tr>
<tr>
<td>Prinzie et al. /2009</td>
<td>Meta-analytic review</td>
<td>Investigate the association between big five personality factors and three dimensions of parenting</td>
<td>Higher levels of extraversion, agreeableness, conscientiousness, and openness and lower levels of neuroticism related to more warmth and behavioral control, higher levels of agreeableness and lower levels of neuroticism related to more autonomy support.</td>
<td>8</td>
</tr>
<tr>
<td>Maddahi et al. /2011</td>
<td>Cross-sectional study</td>
<td>382 university students</td>
<td>Examine the relationship between Parenting styles and personality traits</td>
<td>There is an inverse relationship between neuroticism and authoritative parenting style and the relationship between neuroticism with (authoritarian and permissive) parenting styles. There is a relationship between agreeableness, extraversion, and openness with authoritative and permissive parenting styles.</td>
</tr>
<tr>
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<tr>
<td>Browne et al. /2012</td>
<td>Cross-sectional study</td>
<td>867 children less than 4 years with their parents and their sibling (1-5 years old)</td>
<td>Examine the relationship between the Big Five personality dimensions and differential positivity and negativity in parenting</td>
<td>Maternal and paternal agreeableness was inversely related to reports of differential positivity. Agreeableness predicted observed differential negativity.</td>
</tr>
<tr>
<td>Rezayi Aval. et al /2016</td>
<td>Cross-sectional study</td>
<td>92 parents who had preschool children</td>
<td>Examine the relationship between five dimensions of personality characteristics and mental health of parents on parenting styles</td>
<td>There is relationship between neuroticism with (authoritarian and permissive) styles and an inverse relationship with the (authoritative) style. There is relationship between mental health and (permissive and authoritative) parenting styles and an inverse relationship with (authoritarian) parenting style.</td>
</tr>
<tr>
<td>Edobor et al. /2015</td>
<td>Cross-sectional study</td>
<td>560 teenagers students</td>
<td>Investigated the influences of parenting styles on the personality traits of students</td>
<td>Students ‘extraversion depends on democratic parenting styles. Students’ agreeableness depends on authoritarian parenting styles. Students’ neuroticism does depend on neglectful parenting styles.</td>
</tr>
<tr>
<td>Frias-Armenta1. et al. /1998</td>
<td>Qualitative study</td>
<td>105 mothers and their children (mean age 7.8 years old)</td>
<td>Explore the determinants of harsh parenting</td>
<td>Family dysfunction had an indirect effect through parenting style. Some sociodemographic variables also indirectly influenced the use of beliefs maternal punishment.</td>
</tr>
<tr>
<td>Bailey et al. /2012</td>
<td>Cross-sectional study</td>
<td>93 mothers who had a child 4 to 6 years old</td>
<td>Assess the impact of childhood maltreatment history on parenting</td>
<td>Childhood maltreatment, specifically witnessing family violence, neglect and emotional maltreatment were significantly associated with mothers’ observed hostility toward their children.</td>
</tr>
<tr>
<td>Awuah et al. /2013</td>
<td>Cross-sectional study</td>
<td>200 married participants aged 22-60 years</td>
<td>The relationship between parenting style, attachment style and marital satisfaction among married men and women</td>
<td>Positive relationship was established between authoritative parenting style and secure attachment style. Persons securely attached were found to be more satisfied in marriage.</td>
</tr>
<tr>
<td>Osborne et al. /1996</td>
<td>Cross-sectional study</td>
<td>169 children (mean age 154 months)</td>
<td>Children’s perceptions of inter parental conflict, of parent-child relations, and measures of child adjustment were examined in to explore the role of parent and child gender in these associations.</td>
<td>Marital conflict negatively impacted perceptions of father-child relationships after controlling for the effect of marital conflict on mother-child relationships. Perceptions of inter parental conflict were more strongly associated with negative mother-son relationships compared to same-gender dyads.</td>
</tr>
<tr>
<td>Tavassolie et al. /2016</td>
<td>Cross-sectional study</td>
<td>27 couples, 36 fathers 128 mothers with children (1–48 months)</td>
<td>Relations between maternal and paternal perceived parenting style, marital conflict, and child behavior outcomes.</td>
<td>Mothers’ and fathers’ authoritarianism and permissiveness were associated with increased child internalizing and externalizing behavior problems, marital conflict was related to child behavior problems.</td>
</tr>
<tr>
<td>Kotchick et al. /2002</td>
<td>Review</td>
<td>53 studies</td>
<td>Examines the literature on variables and contextual factors that shape parenting practices</td>
<td>Social context factors: ethnicity, culture, family socioeconomic status and neighborhood /community context, child characteristics, parent's characteristics and family environment are related to parenting.</td>
</tr>
<tr>
<td>Cowan et al. /1996</td>
<td>Cross-sectional study</td>
<td>27 couples with their firstborn children (mean age 3.5 years)</td>
<td>Investigation relation between parents’ attachment histories and children’s behavior problem</td>
<td>There were inverse relation between mothers’ and fathers’ attachment, positive marital quality, and Positive parenting style with their children’s internalizing behavior and externalizing behavior.</td>
</tr>
<tr>
<td>Study Type</td>
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<td>Population</td>
<td>The aim of the study</td>
<td>Main Results</td>
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<tr>
<td>Longitudinal study</td>
<td>Zakeri et al. /2011</td>
<td>60 university students</td>
<td>Examined the relationship between parenting styles and self-esteem.</td>
<td>Acceptance-involvement and psychological autonomy-granting styles were positive predictors of the self-esteem. Heart and liver of men were more strongly related to the mother's support than to the father's.</td>
</tr>
<tr>
<td>Cross-Sectional study</td>
<td>Simons et al. /1991</td>
<td>45 children and their mothers</td>
<td>Examine intergenerational transmission of harsh parenting.</td>
<td>Grandparents who had engaged in aggressive parenting produced children who were more likely to engage in aggressive behavior. Grandparents who had engaged in non-assertive parenting were more likely to produce children who were more likely to engage in passive behavior.</td>
</tr>
<tr>
<td>Retrospective study</td>
<td>Kendler et al. /1997</td>
<td>100 parents who had a child (mean age = 4 years)</td>
<td>To understand the relationship between parenting and child development.</td>
<td>Down's syndrome children obtained more parental care and control than normal children.</td>
</tr>
<tr>
<td>Cross-sectional study</td>
<td>Gau et al. /2008</td>
<td>45 families of children with Down syndrome (2-14 years old) and 50 families of normally developing children (3-15 years old)</td>
<td>Examine the relationship between parenting styles and emotional/behavioral problems among children with Down's syndrome, their siblings, and controls.</td>
<td>Down's syndrome children obtained more paternal care and control than normal children.</td>
</tr>
<tr>
<td>Cross-sectional study</td>
<td>Yu et al. /2009</td>
<td>125 mothers (mean age 40 years) and their 4-6 years old children</td>
<td>Examine the relationship between parenting styles and emotional/behavioral problems among children and their siblings.</td>
<td>The relationship between parenting styles and emotional/behavioral problems was stronger among children with Down's syndrome, their siblings, and controls.</td>
</tr>
<tr>
<td>Cross-sectional study</td>
<td>McBride et al. /2014</td>
<td>130 two parent families (mean age = 46 years)</td>
<td>Examine the relationship between parenting styles and emotional/behavioral problems among children and their siblings.</td>
<td>The relationship between parenting styles and emotional/behavioral problems was stronger among children with Down's syndrome, their siblings, and controls.</td>
</tr>
<tr>
<td>Longitudinal study</td>
<td>Rubin et al. /1999</td>
<td>60 families who had a child (mean age = 4 years)</td>
<td>Examine the relationship between parenting styles and their emotional/behavioral problems.</td>
<td>The findings support the conclusion that young children's emotional/behavioral problems are influenced by their parents' styles.</td>
</tr>
<tr>
<td>Cross-sectional study</td>
<td>Motalebi et al. /2013</td>
<td>188 boy (13-19 years old) and their parents</td>
<td>Examine the association between parenting styles and their emotional/behavioral problems.</td>
<td>The findings support the conclusion that young children's emotional/behavioral problems are influenced by their parents' styles.</td>
</tr>
</tbody>
</table>
as multiple and simultaneous submissions and respect for the intellectual property rights of studies.

**Results**

The quality assessment of all studies presented in Table 1 is included in Supplementary File 2. The review of the literature led to the categorization of psychological factors affecting parenting styles as factors related to parents and those to children.

A summary of the included studies is presented in Table 1.

**Psychological characteristics relating to parents**

**Mental health status.** Parents’ mental health status is often directly correlated with parenting styles. As can be seen, parents affected with psychological distress may treat their own children with hostility and rejection. Such parents may adopt harsh disciplinary rules and probably make use of physical punishment\(^{16,23}\). In this regard, it has been shown that a history of depressive disorders is inversely correlated with authoritative parenting styles and it is positively correlated with authoritarian parenting style\(^{21}\). Moreover, depressed parents do not show proper sentiments or emotions towards their children or their feelings about parenting responsibilities are assumed negative\(^{4}\). These parents may have low self-esteem, reduced self-efficacy, negative emotions, more anger, and distress, as well as negative worthlessness to themselves or negative attitudes towards their parenting abilities\(^{1,35,38}\), which have an impact on the trust between parents and children\(^{35,37,38}\). On the other hand, mothers suffering from bipolar disorder are likely to adopt an avoidant and insecure attachment style towards their children and show more anger in their interactions with family members\(^{19}\). Anxiety can be also a stressor with undesirable effects on a healthy coping system and parents’ compliance problems and finally create negative parenting. Such parents may use harassment of their children as the first choice of parenting\(^{18}\), or parents’ interactions with their children and their parenting may be accompanied by excessive control and rejection\(^{19,40}\).

One of the serious problems in the domain of parents’ mental health affecting parenting can be schizophrenia. In this regard, it has been shown that children that have schizophrenic parents grow up with many environmental stressors, such as parental dysfunction. Schizophrenia also has a significant effect on the ability to maintain a close and reciprocal relationship and this issue has an impact on parenting capacity. It has been observed that mothers of schizophrenic women are more remote, insensitive and it is likely to be correlated with less parenting skills\(^{52}\). In addition, such parents may be less involved with their children and they cannot create a positive emotional atmosphere for them\(^{19}\).

**Parenting stress.** One of the factors associated with parents’ characteristics is parenting stress. Parenting stress arises when parenting demands exceed the actual resources available to parents that permit them to succeed in parenting. Accordingly, parents with higher parenting stress are more rejectionists and less protective\(^{42}\). Greater parenting stress tends to use more punishment and less affection toward children\(^{26}\). Stresses affecting parenting also include child-rearing stress as well as a sense of being restrained due to the presence of children\(^{43}\). It has been also observed that parents with parenting stress adopt authoritarian parenting styles\(^{25}\). Parenting stress can similarly give parents anxiety and emotional distress and cause irritability and hostile behaviors by creating negative feelings. These parents may easily react with psychological aggression and physical punishment in the case of misbehavior by children\(^{25}\).

**Personality traits.** Parental personality traits are among the most important factors influencing parenting styles\(^{3,46}\). According to the existing literature, the personality traits of extraversion, conscientiousness, agreeableness, and openness to experience can be accompanied by greater intimacy in parenting styles\(^{3,14,47}\) and a neurotic personality trait can be seen in less intimate parents. Giving a smaller amount of autonomy to children is also related to authoritarian parenting styles\(^{3,14,46}\). Parents with agreeable personality traits, due to their ability to obtain more social support and avoid social conflicts, generally are less likely to develop depression\(^{9,30}\). Agreeable parents also try to have flexible and child-centered parenting. Parents who are open to new experiences have emotionally stable personality traits and enjoy new experiences using their imagination and participate in a wide range of mental and experiential endeavors; therefore, this personality trait may be associated with positive parenting since having a child is a new experience\(^{31}\). As well, parents who are conscientiousness are disciplined and they are individuals with good parenting roles. Their children also accept them as an appropriate model\(^{19}\). Moreover, extraverted individuals have positive emotional states and feel good about themselves and the world; and ultimately neurotic-psychotic parents have much more adverse and negative emotions\(^{9,12}\).

**Childhood trauma.** The history of physical, sexual, or emotional abuse among parents in their childhood is considered as a risk factor leading to negative parenting styles\(^{9,63}\).

In this respect, perceived childhood maltreatment towards parents can have an effect on creating interpersonal problems including interactions with their own children. It is also a risk factor for subsequent emotional defects, which can result in a series of interpersonal difficulties such as distrust, uncertainty, and avoidance of intimate relationships. Also, there is a relationship between physical and emotional abuse in childhood and adverse outcomes for parents such as less parenting competence, more parenting stress, reduced use of effective parenting styles, parental hostility, use of physical punishment, and neglect towards children. In other words, a history of maltreatment can create a lasting environment during the development of children that can last until adulthood. Moreover, it has been observed that mothers with sexual abuse history in childhood may suffer from greater parenting stress, which can lead to diminished empathy with their own children\(^{9,44}\).

**Marital satisfaction.** Among the parental characteristics contributing to parenting styles is marital satisfaction\(^{9}\). In this respect, parents with satisfactory marital relationships may have positive behaviors with their children. Conversely, when parents are dissatisfied with marital relationships, negative
emotions and behaviors can be transferred through parent-child interactions\textsuperscript{23}. Marital conflict as a stressor can affect couples and increase their anger. Consequently, this anger can spread to children and decrease affection towards them\textsuperscript{11,53}. It has been argued that marital maladjustment can lead to an increase in instability in socio-emotional domains in families resulting in ineffective and inconsistent parenting practices by parents\textsuperscript{56}.

**Parents’ attachment style.** Parental characteristics including their attachment style and family conditions in the past such as stress or supportive relationships in their immediate family can determine their parenting styles\textsuperscript{62,58}. People with secure attachment styles towards their own parents consider their relationships, whether positive or negative, clear, consistent and coherent. These parents have more intimate parenting style and they are responsive to their children\textsuperscript{58}. However, parents with insecure or anxious attachment in their childhood can have pervasive anger as well as lower intimacy and participation in their current relationships with their children\textsuperscript{11,58}. These problems can have long-term consequences in mental health and interpersonal relationships in terms of parenting or some parents showing more anger towards their own parents may make special efforts to create positive relationships with their own children\textsuperscript{8}.

**Self-efficacy.** Parents with higher self-efficacy are endowed with more self-confidence in order to achieve effective parenting skills and competence and they are also likely to have more success with positive parenting. Parental self-efficacy may affect parenting satisfaction and such an impact on coping ability can be positive. These parents may proactively make efforts in problematic situations, such as lack of social support or presence of economic problems, to reduce the negative effects of these problems on their children. In contrast, parents with lower levels of self-efficacy may not be able to adopt positive parenting strategies\textsuperscript{35}.

**Perfectionism.** Perfectionism is a parental characteristic and also a personality trait. Accordingly, perfectionist parents try to be perfect and unflawed. They are extremely critical of themselves and their behaviors. These parents similarly consider wishes and goals they could not reach for themselves for their own children and apply their own standards to the\textsuperscript{44}. Moreover, these parents may show their love for their children when children act in accordance with parents expectations. In order to maintain their self-esteem, they also put more pressure on their children to avoid failures, characterizing authoritarian parenting styles. Furthermore, perfectionist parents have high expectations of their children and these parental characteristics can result in authoritative parenting styles if they are responsive to their children\textsuperscript{51}.

**Perceived parenting style.** Individuals that have loving and responsive childhood with no severe restrictions on them are endowed with healthy socio-emotional development; they also have high self-esteem and internalized control\textsuperscript{56}. As a result of emotional security, behavioral independence and social competence created in them can lead to the formation of a healthy personality and personal maturity and these people can rely more on others. Eventually, these individuals have active interactions as well as more intimacy and acceptance towards their children in the future and ultimately adopt a positive parenting style\textsuperscript{14}. In contrast, there are parents with harsh parenting during their own childhood who may treat their children strictly and believe in using more physical punishment for their children as their parents believed\textsuperscript{61,62}.

**Substance abuse.** Substance abuse is considered as a factor affecting parenting\textsuperscript{20}. Substance abuse is also recognized as a risk factor for maltreatment of children and may cause the use of violence\textsuperscript{53}. Marital problems, as well as psychological disorders of substance-abusing individuals, are related to poor parenting\textsuperscript{20}.

**Psychological factors relating to children**

**Developmental and mental disabilities.** Illnesses and disabilities of children can cause emotional distress in parents, which may lead to psychopathology, such as more anxiety, in both parents. This mental disorder can also result in negative and inappropriate parenting styles\textsuperscript{1}. For example, children with disabilities such as Down’s syndrome may have more behavioral problems than children without this disability, and their parents overprotect them which can lead to improper parenting. On the other hand, the siblings of these children may be cared for and controlled less than children that have no disability\textsuperscript{20}. When parents cannot deal with emotional difficulties and control child temperament because of too much stress, they cannot have positive parenting styles, especially the ability to respond appropriately using a suitable approach towards their children\textsuperscript{7}. Although it is demonstrated that if parents perceive the cause of their children’s difficult emotional temperaments, it is possible that earning necessary skills to address these problems can reduce stress in parents and create a more positive parenting style\textsuperscript{8}.

**Child temperament.** Child temperament such as negative emotions, maladjustment, and anger can make it difficult to care for children. It can also undermine parents’ performance particularly in childhood and their behavior may become more hostile lacking love and affection\textsuperscript{104}. Parents of children with a difficult temperament also have higher parenting stress and psychological problems, such as feeling negative about their parenting. Some characteristics seen in children, such as hyperactivity and inability to establish suitable social relationships, are similarly considered among their temperament characteristics and can have an adverse effect on parent-child relationships\textsuperscript{65}. In addition, shyness is among the characteristics associated with child temperament. Thus, children with behavioral inhibition and social fearfulness are restrained and their tolerance threshold is different\textsuperscript{66}. Thus, parents show more intimate behaviors towards children who have more social interactions and they are more likely to adopt much more authoritative parenting styles\textsuperscript{67}. Finally, parents with children with higher emotional intelligence can establish a better relationship with them and they may also adopt positive parenting styles\textsuperscript{67}.

**Anxiety.** Anxiety disorder in children may lead to the adoption of a negative parenting style, such as more control. For example, a study revealed that parenting was significantly correlated
with children’s anxiety disorder. Such a disorder, regardless of the level of anxiety in parents, is associated with a less intimate relationship with children. Moreover, children’s anxiety also causes mothers to have overprotection for their own children in 22,39. As well, parents having children affected with an anxiety disorder may give them less independence and show not as much acceptance and love to them.31

Discussion
This systematic review was an attempt to examine a range of psychological factors related to parenting styles to offer a useful collection that considers parent-child characteristics. The results of this study showed that studies that identify effective psychological factors for parenting styles were related. Consequently, increased self-efficacy and reduced parenting stress, as well as lower depression and anxiety in parents, could lead to the adoption of more appropriate strategies46,23,25,35. Moreover, dimensions of perfectionism in parents and parental personality traits could affect parenting styles5,45,47. The range of parents’ psychological disturbances such as depression and anxiety could also affect parental dysfunction, leading to child maltreatment; and consequently, parents’ psychopathology could increase the likelihood of inappropriate and ineffective parenting20–22.

Parenting is also influenced by the characteristics of parents’ personality traits5. parents with greater agreeableness, extraversion, who are conscientiousness and open to new experiences, with lower neuroticism, are more intimate, organized, and stable and they are also more responsive to their children.47.

In Berg-Nielsen’s review, mothers with depression and anxiety, as well as parents with certain personality disorders, have a parental style often characterized by some aspect of negativity30. In a systematic review by Christian, 2017, depression and anxiety were noted as a direct link to difficulties in the parent-child relationship and poor parent-child interactions18. In a meta-analytic review by van der Bruggen et al., 2008, direction association between child anxiety, and parental control was unknown52. The history of parental evolution and the way parents have interacted with their own parents can also influence how they behave with their children in the future.61. If parents have been mentally disturbed in these previous relationships, their parenting ability can be adversely affected.16,54. Parents experiencing love in their childhood and having a secure attachment to their parents can show more positive parenting in adulthood for their children, while insecure attachments may be a risk factor for future parenting and reduce their positive parenting capacities.16,39. Studies have also shown how childhood trauma, as well as physical, sexual, and emotional abuse during childhood, can shape parenting styles in the future. The experience of these injuries can similarly lead to emotional and social impairment and disturb parent-child interactions, and consequently make parents adopt negative parenting styles16,54.

Contrary with present review systematic review by Christian, 2017 parents who themselves experienced abuse as children may be effective and engaged parents to their own children even if they did not have that experience with their own family of origin. When clients through the therapeutic process build skills that lead to successes in their parenting relationships they gain the confidence needed to keep improving the parent-child relationship31.

The results of this study indicated that parents having satisfactory and supportive marital relationships were more sensitive and responsive to their child’s needs24,25. In addition, psychological factors such as depression and parenting stress can affect other types of family relationships, such as marital and parent-child relationships23,25,43. In line with our study, in the Erel and Burman, 1995 meta-analytic review, there was a positive relationship between the quality of the marital relationship and the quality of the parent-child relationship46. Parents with a satisfying marital relationship may receive more support from their spouse; the positive feeling from a satisfying marital relationship may spill over to a parent-child relationship31. Moreover, substance abuse was recognized as a risk factor for exercising violence against children83.

In line with Berg-Nielsen’s review, our study association between maternal drug use and dysfunctional parenting was reported. In general, the findings suggested that children’s psychological characteristics such as developmental and mental disabilities, temperament, social fearfulness and shyness, attachment, anxiety, and emotional intelligence should be considered in determining the factors contributing to parenting styles. These factors may also bring about psychological problems in parents such as negative feelings about parenting or even lead to challenging behaviors in children or mental health problems in children or parents, which in turn can have an effect on parenting styles30,63,47.

In Berg-Nielsen’s review, anxiety in children has been correlated with parental negative control, rejection, and inconsistency. And parents of depressed children may be less warm and supportive, less communicative, and more critical20.

In conclusion, the review showed that some child or parental psychopathologic factors contribute to dysfunctional parenting.

Limitations
Although this study examined the psychological factors contributing to parenting styles, the impact of couples’ psychological characteristics on each other’s parenting styles was not elucidated. Therefore, future research can shed light on the psychological characteristics of couples interacting with each other as well as the effects on their parenting styles. Despite these limitations, it seems the result of this study can be used in the development and implementation of family health intervention programs. Also, clinicians, psychologists, psychiatrists, and counselors may consider the psychological factors affecting parenting styles reported in this review for further interventions; the assessment of parent-child mental health status, as well as positive parenting education and in this way help with positive parent-child interactions.
Implication of findings
Consultants, psychologists, and therapists can use the findings of this study to provide services to families.

Data availability
All data underlying the results are available as part of the article and no additional source data are required.

Supplementary material
Supplementary File 1: PRISMA checklist.
Click here to access the data.

Supplementary File 2: Quality assessment of all articles.
Click here to access the data.

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26. Hemati Alamdarloo G: A comparison of parenting styles of mothers of

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Version 2

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Maryam Zamanian
Department of Epidemiology, School of Health, Arak University of Medical Sciences, Arak, Iran

Competing Interests: No competing interests were disclosed.

I confirm that I have read this submission and believe that I have an appropriate level of expertise to confirm that it is of an acceptable scientific standard.

Version 1

Reviewer Report 04 March 2019

https://doi.org/10.5256/f1000research.16306.r44614

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Weiqiao Fan
Research Institute of International and Comparative Education, Department of Psychology, Shanghai Normal University, Shanghai, China

The topic of the manuscript is extremely important and interesting. The manuscript provided a summary for factors of parenting styles. However, the manuscript did not establish a clear research gap and a clear research purpose. The author(s) did not provide logic rationales for the research. What’s more, there is not a logical introduction to deduce the research questions. In other words, more attention should be paid for the major issues. Therefore, I do not think the manuscript should be indexed.

There are some specific comments to the manuscripts, which may help the author(s) to improve the work.
1. There are many models for parenting styles in the literature. Different model may relate with different factors. However, the author(s) did not touch this issue. Or rather, this is not a logical introduction to this paper. Accordingly, this manuscript cannot have a significant contribution in theory or practice.

2. The definition of “parenting styles” in the first sentence is not liberal. And it cannot reflect the main meaning of parenting style in literature.

3. In Introduction section, the concepts and theory are not clear. Authors should clearly describe parenting styles, the factors and models. Meanwhile, the research questions and significance of the study should also be clearly stated.

4. I cannot see a thorough review for “review of parenting style” in literature. This should be the foundation of the current manuscript.

5. In Method section, each subsection is well defined with clear headings, but in “search strategy” section, I find it difficult to understand why the retrieved articles were based on medical subject headings.

6. After results, the author(s) should explain the results and compare the results to those previous review works in the literature, rather than simply repeating the results.

7. The author(s) should also add some sections as contribution and implication section to discuss the contributions of the manuscript in theory at least.

8. The authors should reorganize the paragraphs based on the importance of factors or some other logics.

9. The writing and grammar should be improved, and the manuscript is limited by the lack of clarity in the writing.

**Are the rationale for, and objectives of, the Systematic Review clearly stated?**
Partly

**Are sufficient details of the methods and analysis provided to allow replication by others?**
Yes

**Is the statistical analysis and its interpretation appropriate?**
I cannot comment. A qualified statistician is required.

**Are the conclusions drawn adequately supported by the results presented in the review?**
Partly

**Competing Interests:** No competing interests were disclosed.

**Reviewer Expertise:** personality theory and assessment; career assessment

I confirm that I have read this submission and believe that I have an appropriate level of expertise to state that I do not consider it to be of an acceptable scientific standard, for reasons outlined above.

Author Response 30 Mar 2019

Zohreh Shahhosseini, Mazandaran University of Medical Sciences, Sari, Iran

The topic of the manuscript is extremely important and interesting. The manuscript provided a summary for factors of parenting styles. However, the manuscript did not establish a clear research
gap and a clear research purpose. The author(s) did not provide logic rationales for the research. What’s more, there is not a logical introduction to deduce the research questions. In other words, more attention should be paid for the major issues. Therefore, I do not think the manuscript should be indexed. There are some specific comments to the manuscripts, which may help the author(s) to improve the work.

- There are many models for parenting styles in the literature. Different model may relate with different factors. However, the author(s) did not touch this issue. Or rather, this is not a logical introduction to this paper. Accordingly, this manuscript cannot have a significant contribution in theory or practice.

- Response: Introduction section was revised in page 2, paragraph 1, line 1-15

- The definition of “parenting styles” in the first sentence is not liberal. And it cannot reflect the main meaning of parenting style in literature.

- Response: Introduction section was revised in page 2, paragraph 1, line 1-3

- In Introduction section, the concepts and theory are not clear. Authors should clearly describe parenting styles, the factors and models. Meanwhile, the research questions and significance of the study should also be clearly stated.

- Response: Introduction section was revised in page 2, paragraph 1, line 1-15 and in page 2, paragraph 2, line 4-6

- I cannot see a thorough review for “review of parenting style” in literature. This should be the foundation of the current manuscript.

- Response: Introduction section was revised in page 2, paragraph 1, line 3-15

- In Method section, each subsection is well defined with clear headings, but in “search strategy” section, I find it difficult to understand why the retrieved articles were based on medical subject headings.

- Medical Subject Headings is a comprehensive controlled vocabulary for the purpose of indexing journal articles and books in the life sciences; it serves as a thesaurus that facilitates searching.

- After results, the author(s) should explain the results and compare the results to those previous review works in the literature, rather than simply repeating the results.

- Response: Discussion section was revised in page 11, paragraph 1, line 1-5 and in, paragraph 2, line 8-10 and page 12, paragraph 1, line 7- 11

- The author(s) should also add some sections as contribution and implication section to discuss the contributions of the manuscript in theory at least.

- Response: Implication section was add in page 12, paragraph 3, line 1-2

- The authors should reorganize the paragraphs based on the importance of factors or some other logics.

- Response: Introduction section was revised in page 5-9

- The writing and grammar should be improved, and the manuscript is limited by the lack of clarity in the writing.

- Response: It was revised.

**Competing Interests:** No competing interests were disclosed.
Maryam Zamanian
Department of Epidemiology, School of Health, Arak University of Medical Sciences, Arak, Iran

In my view this paper is valuable and suitable for indexing after doing the comments

- The methodological quality of the study is fair but I think it should be evaluated by an expert of Psychiatry in terms of psychology concepts, classifications of Psychological characteristics and other issues.
- Maybe the category of “Psychological factors relating to children” is not needed.
- The section of “These factors can differently contribute to parenting style. Thus,” is unnecessary in abstract section.
- The introduction section of manuscript needs more clarification on parenting styles and factors contributing to raising children and the importance of.
- The discussion section just has repeated the results, while it should compare the results with those from other studies, and provide possible reasons to explain the results with additional clarifications. Moreover it should be written in order of most to least important.
- The conclusions section is just one recommendation, not the real conclusion. It should be written more powerful and as a real conclusion of research which re-states the main points in a new concise way.
- It should be worked to improve the quality of the English grammar throughout the manuscript.

Are the rationale for, and objectives of, the Systematic Review clearly stated?
Yes

Are sufficient details of the methods and analysis provided to allow replication by others?
Yes

Is the statistical analysis and its interpretation appropriate?
Not applicable

Are the conclusions drawn adequately supported by the results presented in the review?
Partly

Competing Interests: No competing interests were disclosed.

I confirm that I have read this submission and believe that I have an appropriate level of expertise to confirm that it is of an acceptable scientific standard, however I have significant reservations, as outlined above.

Zohreh Shahhosseini, Mazandaran University of Medical Sciences, Sari, Iran

- In my view this paper is valuable and suitable for indexing after doing the comments
The methodological quality of the study is fair but I think it should be evaluated by an expert of Psychiatry in terms of psychology concepts, classifications of Psychological characteristics and other issues.

- Maybe the category of “Psychological factors relating to children” is not needed.
  Response: Some child psychologic factors affecting parenting styles so “Psychological factors relating to children” did not delete.

- The section of “These factors can differently contribute to parenting style. Thus,” is unnecessary in abstract section.
  Response: Introduction section was revised in page 1, paragraph 2, line 3

- The introduction section of manuscript needs more clarification on parenting styles and factors contributing to raising children and the importance of .
  Response: Introduction section was revised in page 2, paragraph 1, line 1-15 and in page 2, paragraph 2, line 4-6

- The discussion section just has repeated the results, while it should compare the results with those from other studies, and provide possible reasons to explain the results with additional clarifications. Moreover it should be written in order of most to least important.
  Response: The Discussion section was revised in page 11, paragraph 1, line 1-5 and in, paragraph 2, line 8-10 and page 12, paragraph 1, line 7-11

- The conclusions section is just one recommendation, not the real conclusion. It should be written more powerful and as a real conclusion of research which re-states the main points in a new concise way.
  Response: The conclusions section was revised in page 12, paragraph 1, line 6-7 and in, It should be worked to improve the quality of the English grammar throughout the manuscript.

- Response: It was revised.

**Competing Interests:** No competing interests were disclosed.