

# Personality Inventory for DSM-5 (PID-5): cross-cultural adaptation and content validity in the Brazilian context

## Inventário de Personalidade para o DSM-5 (PID-5): adaptação transcultural e validade de conteúdo para o contexto brasileiro

Ana Maria **Barchi-Ferreira**,<sup>1</sup> Sonia Regina **Loureiro**,<sup>1,2</sup> Albina Rodrigues **Torres**,<sup>3</sup> Thiago Dornela Apolinário **da Silva**,<sup>1</sup> André Luiz **Moreno**,<sup>1</sup> Diogo Araújo **DeSousa**,<sup>4</sup> Marcos Hortes Nishihara **Chagas**,<sup>1,5</sup> Rafael Guimarães **dos Santos**,<sup>1,2</sup> João Paulo **Machado-de-Souza**,<sup>1,2</sup> Natália Mota de Sousa **Chagas**,<sup>1</sup> Jaime Eduardo C. **Hallak**,<sup>1,2</sup> José Alexandre de Souza **Crippa**,<sup>1,2</sup> Flávia L. **Osório**<sup>1,2</sup>

### Abstract

**Objective:** To describe the process of cross-cultural adaptation of the Personality Inventory for DSM-5 (PID-5) to the Brazilian context.

**Methods:** Cross-cultural adaptation involved the steps of independent translation of the instrument, synthesis version, and back-translation. Analysis of content validity was conducted by a multidisciplinary expert committee and consisted of quantitative assessment of agreement indicators. The test was then applied to a target population.

**Results:** All the steps required for a cross-cultural adaptation were followed and satisfactory agreement values ( $\geq 4.75$ ) were reached for most of the structures assessed. Most of the changes suggested by the experts were followed; these changes consisted primarily of adjustments to verb tense and agreement and the inclusion of letters and words to allow gender inflection. In the pre-test, no suggestions were made and the instrument was considered comprehensible.

**Conclusion:** The Brazilian version of the PID-5 was found to be adequate to the Brazilian context from semantic, idiomatic, cultural, and conceptual perspectives. The Brazilian version assessed here can be freely used, was approved by the publishers who hold the copyright on the instrument, and is considered the official version of the instrument. New studies are underway to determine the validity and reliability of the PID-5.

**Keywords:** Personality, scale, cross-cultural adaptation, content validity, PID-5.

### Resumo

**Objetivo:** Apresentar o processo de adaptação transcultural do Personality Inventory for DSM-5 (PID-5) para o contexto brasileiro.

**Métodos:** A adaptação transcultural envolveu as etapas de tradução independente, versão síntese e retrotradução. A validade de conteúdo foi realizada por um comitê multidisciplinar de especialistas, com avaliação quantitativa dos índices de concordância. Por fim, o pré-teste foi conduzido com a população-alvo.

**Resultados:** Todos os estágios da adaptação transcultural foram seguidos, e na maioria das estruturas avaliadas, os valores de concordância foram satisfatórios ( $\geq 4.75$ ). Grande parte das sugestões de modificações feitas pelos especialistas foram acatadas, sendo as principais relacionadas a ajustes no tempo e concordância verbal e a inclusão de letras e palavras para permitir a flexão de gênero. No pré-teste nenhuma sugestão foi apresentada e o instrumento foi considerado compreensível.

**Conclusão:** A versão brasileira do PID-5 mostrou-se adequada ao contexto brasileiro sob as perspectivas semântica, idiomática, cultural e conceitual. A versão brasileira avaliada é de uso livre, foi aprovada pelas editoras responsáveis pelos direitos autorais do instrumento e é considerada oficial. Novos estudos estão sendo conduzidos para aprimorar a busca por evidências de validade e confiabilidade.

**Descritores:** Personalidade, escalas, adaptação transcultural, validade de conteúdo, PID-5.

<sup>1</sup> Departamento de Neurociências e Ciências do Comportamento, Faculdade de Medicina de Ribeirão Preto, Universidade de São Paulo (USP), Ribeirão Preto, SP, Brazil. <sup>2</sup> Instituto Nacional de Ciência e Tecnologia – Medicina Translacional, Ribeirão Preto, SP, Brazil. <sup>3</sup> Departamento de Neurologia, Psicologia e Psiquiatria, Faculdade de Medicina de Botucatu, Universidade Estadual Paulista (UNESP), Botucatu, SP, Brazil. <sup>4</sup> Faculdade Pio Décimo, Aracaju, SE, Brazil. <sup>5</sup> Centro de Ciências Biológicas e da Saúde, Universidade Federal de São Carlos, São Carlos, SP, Brazil.

Submitted Nov 12 2018, accepted for publication Jan 07 2019.

**Suggested citation:** Barchi-Ferreira AM, Loureiro SR, Torres AR, da Silva TDA, Moreno AL, DeSousa DA, et al. Personality Inventory for DSM-5 (PID-5): cross-cultural adaptation and content validity in the Brazilian context. Trends Psychiatry Psychother. 2019;41(3):297-300. <http://dx.doi.org/10.1590/2237-6089-2018-0098>

## Introduction

Personality disorders are considered to be risk factors for mental, social, and physical problems. Hence, it has been argued that "personality assessment is an essential part of good clinical assessment."<sup>1</sup> The Diagnostic and Statistical Manual of Mental Disorders (DSM) has been the main reference in the assessment of personality disorders. Currently, personality disorders are operationalized according to models described in Sections II and III of the DSM-5.<sup>2</sup>

The model in Section II is termed the "categorical model" and is identical to that presented in the 4th revised edition of the DSM.<sup>3</sup> However, many studies have shown significant flaws of the categorical approach to the diagnosis of such disorders, including the extensive overlap between different categories of personality disorders, arbitrary diagnostic thresholds, and inadequate construct validity.<sup>4</sup>

Section III, conversely, proposes a change from this approach to a hybrid dimensional model with less emphasis on behavior and increased relevance of dimensional personality traits and functional impairment.<sup>5</sup> This model comprises two main criteria: the characteristics listed in Criterion A express a dimensional specification of personality functioning, with problems that reflect impairments in the self (identity and self-direction) and in interpersonal functioning (empathy and intimacy); Criterion B, in turn, assesses nonadaptive personality traits in five broad domains (negative affect, detachment, antagonism, disinhibition, and psychoticism), divided into 25 specific facets.<sup>2</sup>

In order to operationalize Criterion B of the new model, a new assessment instrument termed Personality Inventory for DSM-5 (PID-5) has been proposed. It is a self-report questionnaire comprising 220 items scored using a 4-point Likert scale. The instrument is intended to assess and diagnose the six types of personality disorders listed in the DSM-5 as well as trait-specified disorders.<sup>6</sup> The PID-5 was originally proposed in English and has been the subject of many studies involving cross-cultural adaptation to different languages (Italian, German, Dutch, Spanish, and Arabic) and the examination of its psychometric properties, which have proven fairly adequate to date.<sup>7-15</sup>

Therefore, considering that the PID-5 has been widely investigated in the international literature, standing out as a reference in the assessment of nonadaptive personality traits, the present study aimed to describe the process of cross-cultural adaptation of the PID-5 to the Brazilian context and to assess its content validity.

## Method

The study was approved by the ethics committee of Hospital das Clínicas, Faculdade de Medicina de Ribeirão Preto, Universidade de São Paulo (USP), (process 4058/2018) and was performed according to Resolution no. 466/2012 of the Brazilian National Health Council for research with human beings.

The cross-cultural adaptation process started once permission was obtained from Editora Artmed, which holds the copyright on the instrument in Brazil. The process was based on the steps proposed by Beaton et al.,<sup>16</sup> namely, translation, synthesis, back-translation, review by an expert committee, and pre-test.

The original inventory was independently translated into Brazilian Portuguese by three Brazilian researchers with fluency in English, including a psychologist (D.A.S.), a psychiatrist (N.M.S.C.), and a biologist (R.G.S.) (Supplementary Material S1, available online only). A synthesis version of the three translations was then produced to resolve discrepancies and select the terms deemed more adequate to the Brazilian context by two judges (F.L.O., A.M.B.F.) with previous experience in the areas of psychometrics and psychological/personality assessment.

The synthesis version was then back-translated by a bilingual Brazilian psychologist (J.P.M.S.; Supplementary Material S1, available online only) with experience in psychopathology and assessment instruments. The back-translated version was submitted to and approved by Editora Artmed and the American Psychiatric Association Publishing. Analyses of conceptual, semantic, idiomatic, and cultural equivalence were performed by an expert committee consisting of five university professors from the areas of psychopathology (S.R.L., A.L.M.) and psychiatry (A.R.T., M.H.N.C., T.D.A.S.) and with a vast experience in psychometrics and/or personality assessment.

The following aspects were taken into account by the experts in each analysis: a) conceptual equivalence: refers to whether the terms used effectively reflect the original concept; b) semantic equivalence: refers to whether words retained their meaning in the original and translated versions; c) idiomatic equivalence: refers to whether denotative and literal meanings of the terms/expressions used corresponded to or retained the same meaning as those used in the original scale; d) cultural equivalence: refers to the coherence and compatibility of the terms used with the Brazilian cultural context.<sup>16</sup>

The analyses were independently performed and documented in an assessment form developed for the study. The experts were instructed to rate each item according to the following scale: 1 = not equivalent; 2 = poorly equivalent; 3 = somewhat equivalent; 4 =

fairly equivalent; and 5 = very equivalent. Next, means and standard deviations were calculated for each item, with values  $\geq 4.0$  considered satisfactory.<sup>17</sup>

Finally, the judges examined the committee's considerations, accepting pertinent suggestions and elaborating the final synthesis version to be used in the pre-test. The pre-test involved five participants with different levels of education, varying from complete primary school to higher education degree. Participants were asked to read, paraphrase, and comment on their understanding of the instructions, items, and response options of the instrument.

## Results

The first three steps of the cross-cultural adaptation of the PID-5 were followed as proposed by Beaton et al.,<sup>16</sup> including approval by the publishers that hold the copyright on the original instrument. Most of the items assessed in respect to the different types of equivalence presented satisfactory agreement values ( $\geq 4.75$ ); only items 2, 17 and 86 presented agreement values  $< 4.0$ , as presented in Supplementary Material S2 (available online only) and, briefly, in Table 1.

No suggestions were made for the title or the instructions, which maintained the wording of the synthesis version. The committee's suggestions for response statements #2 and #3 were accepted and changed from "de vez em quando falso ou um pouco falso" and "de vez em quando verdadeiro ou um pouco verdadeiro" to "algumas vezes ou um pouco falso" and "algumas vezes ou um pouco verdadeiro".

Concerning the items in general, the following changes were made: a) the phrase "muitas vezes" was replaced with the adverb "frequentemente"; b) words and letters were included to reflect gender inflections when necessary, for example "sozinho(a)" and "bom(boa)"; and c) verb tense and agreement were adjusted. Further changes related to particular items are shown in Supplementary Material S3 (available online only).

Minor changes were made in a total of 25 items (11.4%). Items #17 and #86 were the ones with the lowest agreement values. In item #17, the low score was associated with idiomatic equivalence, whereas in item #86 it was related to conceptual equivalence. These items were changed according to the experts' suggestions.

In the pre-test assessment, participants made no suggestions and considered the instrument comprehensible. The Brazilian version of the PID-5, termed "Inventário de Personalidade para o DSM-5," was recognized as the official Brazilian Portuguese version of the instrument by the copyright holder.

## Discussion

The PID-5 is intended to assess nonadaptive personality traits according to the new dimensional model of the DSM-5 and has been widely used worldwide in both clinical and research settings. The instrument has been investigated in many studies, which have provided evidence of its validity and reliability in different cultures.<sup>14,15</sup> Until now, cross-cultural adaptation complemented by content validity analysis had not been performed in Brazil, a gap that was filled with the present study.

The process of cross-cultural adaptation of an instrument is important because it enables the equivalence of measures regardless of the context in which the instrument is used.<sup>18</sup> The process of content validation of the Brazilian version of the PID-5 was rigorous and followed the method proposed by Beaton et al.,<sup>16</sup> one of the most commonly used in studies with similar goals.

Among the pre-established steps, a translation team was created with translators from different academic backgrounds to increase the likelihood of finding the most suitable terms for the general population and to avoid technical and specific terms. Nevertheless, the experience of psychiatry and psychology professionals was crucial to preserve those characteristics of the

**Table 1** - Experts' agreement on different types of equivalence for the Brazilian version of the Personality Inventory for DSM-5 (PID-5).

Structure	Semantic		Idiomatic		Cultural		Conceptual	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Title	5.00	0.00	4.80	0.45	5.00	0.00	5.00	0.00
Instructions	4.80	0.45	4.60	0.55	4.40	1.34	5.00	0.00
Statements (n=4)	4.90	0.12	4.40	0.49	4.58	0.19	4.60	0.00
Items (n=220)	4.87	0.26	4.76	0.31	4.92	0.21	4.92	0.21
Total	4.87	0.26	4.75	0.32	4.91	0.22	4.92	0.21

SD = standard deviation.

instrument that make it appropriate for the target population, since an adequate translation requires a balanced handling of linguistic, cultural, contextual, and scientific considerations about the construct in question.<sup>19</sup>

The board of professionals selected to assess the content validity of the PID-5 comprised bilingual experts from the areas of psychometrics and psychological assessment with extensive knowledge of the construct assessed by the instrument, as recommended in scientific literature.<sup>18</sup> Quantitative methods were also used to minimize the influence of subjective factors on the process.<sup>20</sup> Most of the structures assessed in this study presented satisfactory equivalence indices, and each suggestion made by the expert committee was rigorously examined. Many of these suggestions were included in the final version of the instrument and were essential in the cross-cultural adaptation of the PID-5 to the Brazilian context.

In order to expand the use of the PID-5 in the Brazilian territory, and to account for diverse social and demographic characteristics of this vast country, the investigators ensured the exclusion of slangs or words that could hinder comprehension. The pre-test showed that the instructions, response statements, and items of the Brazilian version of the PID-5 were understood by the target population.

Based on the procedures described, we conclude that the PID-5 has been [successfully?] adapted to the Brazilian context in semantic, idiomatic, cultural, and conceptual terms, and is now available to be tested with respect to its psychometric properties in the search for evidence of validity and reliability. The instrument can be used freely and may be requested via e-mail to the authors (flaliosorio@ig.com.br, anabarchif@gmail.com). It is also available at the website of Editora Artmed through the URL <https://loja.grupoa.com.br/dsm-5-p990255>.

## Disclosure

No conflicts of interest declared concerning the publication of this article.

## Acknowledgements

The study was supported by Coordenação de Aperfeiçoamento de Pessoal de Nível Superior (CAPES) and Conselho Nacional de Desenvolvimento Científico e Tecnológico (CNPq; Productivity Research Fellow, process 301321/2016-7).

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## Correspondence:

Flávia de Lima Osório  
Av. dos Bandeirantes, 3900  
14048-900 - Ribeirão Preto, SP - Brazil  
Tel.: +55 (16) 36022837  
E-mail: flaliosorio@ig.com.br

# The effects of parental rearing styles and early maladaptive schemas in the development of personality: a systematic review

O efeito dos estilos parentais e esquemas desadaptativos precoces no desenvolvimento da personalidade: uma revisão sistemática

Lissia Ana Basso,<sup>1</sup> Amanda Borges Fortes,<sup>2</sup> Cintia Pacheco e Maia,<sup>2</sup> Elisa Steinhorst,<sup>1</sup> Ricardo Wainer<sup>1</sup>

## Abstract

**Introduction:** The present paper aims to identify and characterize studies that assess the repercussions of parental rearing styles on development of psychopathological symptoms and to examine the possible relations between parental rearing behaviors and development of early maladaptive schemas (EMS).

**Methods:** A systematic search was conducted on the PsychNet, BVS, Scopus, Web of Science and PubMed databases for empirical studies published up to 2018 in Portuguese, English, or Spanish that investigated and characterized the effects of parental rearing styles.

**Results:** The electronic search identified 321 articles on the various different databases, only 22 of which met the criteria for inclusion and were read in full. Correlations were found between EMS and maternal rejection, parental rearing styles and depression in the studies. EMS were also found to act as mediators in the relationship between parental rearing styles and/or education and dysfunctional symptoms during personality development.

**Conclusions:** In the studies selected, parental rearing styles stood out from other variables that influence personality development and activation of schematic patterns. It is therefore important to highlight the importance of conducting studies in this area to provide information that can promote care and prevention strategies in early childhood.

**Keywords:** Early maladaptive schemas, parental styles, personality.

## Resumo

**Introdução:** O objetivo do presente artigo é identificar e caracterizar estudos que avaliem a repercussão dos estilos parentais na formação de sintomas psicopatológicos e verificar uma possível relação dos padrões parentais com o desenvolvimento dos esquemas iniciais desadaptativos (EIDs).

**Método:** Uma busca sistemática foi realizada nas seguintes bases de dados: PsychNet, BVS, Scopus, Web of Science e PubMed. Foram buscados estudos empíricos publicados até 2018, escritos em português, inglês ou espanhol, que investigassem e caracterizassem os efeitos dos estilos parentais.

**Resultados:** A busca eletrônica identificou 321 artigos nas diferentes bases de dados, dentre os quais apenas 22 preencheram os critérios de seleção e foram lidos na íntegra. Os estudos demonstraram que há correlação entre EIDs, rejeição materna, estilos parentais e depressão. Também foi encontrada a participação dos EIDs como mediadores na relação entre estilos parentais e/ou educação e sintomas disfuncionais na formação da personalidade.

**Conclusão:** Nos estudos selecionados, estilos parentais se destacaram entre as variáveis envolvidas na formação da personalidade e ativação dos padrões esquemáticos. Portanto, frisa-se a importância de estudos na área, a fim de aprofundar conhecimentos para promover saúde e melhores estratégias de prevenção em crianças.

**Descritores:** Esquemas iniciais desadaptativos, estilos parentais, personalidade.

<sup>1</sup> Wainer Psicologia Cognitiva, Porto Alegre, RS, Brazil. <sup>2</sup> Pontifícia Universidade Católica do Rio Grande do Sul (PUCRS), Porto Alegre, RS, Brazil.

Submitted Sep 14 2017, accepted for publication Jan 17 2019.

**Suggested citation:** Basso LA, Fortes AB, Maia CP, Steinhorst E, Wainer R. The effects of parental rearing styles and early maladaptive schemas in the development of personality: a systematic review. Trends Psychiatry Psychother. 2019;41(3):301-313. <http://dx.doi.org/10.1590/2237-6089-2017-0118>

## Introduction

From the moment a baby is born, his/her parents, or caregivers, are the main source of nurturance, protection and education. The parents' behaviors with regard to discipline, hierarchy and emotional support are what we call parental rearing style, or behavior.<sup>1</sup>

Jeffrey Young, founder of Schema Therapy, suggests that in order to become psychologically healthy adults, it is important that our core psychological needs are adequately met by our parents/caregivers during childhood. In cases of parental neglect these needs are frustrated and the probability of the child developing early maladaptive schemas (EMS) is higher. EMS are rigid mental structures, comprising emotions, cognitions, bodily sensations and memories that are formed and maintained by ongoing patterns of damaging experiences with relevant individuals. Maladaptive schemas start to form in early childhood and become a guide for the organization of incoming information, being elaborated and gaining stability throughout one's lifetime.<sup>2</sup>

Among the biological, environmental and social variables responsible for development of these patterns, parental rearing styles are especially relevant. Extensive research, in studies with various different foci, has investigated parental rearing styles/behaviors and their repercussions for the development of children and adolescents.<sup>1,3-5</sup> According to Carvalho & Silva,<sup>6</sup> parental rearing styles are capable of minimizing or maximizing the impact of social and biological variables on personality development. However, the authors of the present study were unable to find studies assessing these variables and focusing on EMS, or other aspects of personality.

Taking into account the above, and adopting the Schema Therapy model as a foundation, this paper aims to emphasize the importance of characterizing family functioning to better understand the problems of clients presenting at centers providing psychiatric and psychological services. Moreover, due to the limited number of manuscripts published on the aforementioned subject and model, it is extremely relevant to identify and characterize studies that do assess the repercussions of parental rearing styles for development of anxiety, humor and personality disorder symptoms and to examine the possible relations between parental rearing behaviors and development of EMS.

## Methods

In the present study, the authors searched for empirical studies published up to 2018 in Portuguese, English or Spanish that investigated and characterized

the effects of parental rearing styles and their relationship with Early Maladaptive Schemas in participants with no age limits.

For this purpose, the PsychNet, BVS, Scopus, Web of Science and PubMed databases were used. The descriptors adopted were [early maladaptive schemas] OR [schema therapy] OR [Young Schema Questionnaire] OR [Young Parental Inventory] AND [rearing styles] OR [parenting styles] OR [child rearing] AND [psychopathology] OR [personality disorder] OR [symptoms].

The inclusion criteria were: a) empirical studies; b) studies written in English, Portuguese or Spanish; c) studies whose dependent variable was EMS; and d) studies in which the repercussions of parental rearing styles were presented. The lead evaluator excluded duplicate articles and non-scientific articles. Two evaluators read the articles' titles and abstracts; in case of disagreement between the two evaluators, a third evaluator assessed the abstracts. After this step, manuscripts that did not meet the inclusion criteria were excluded. Subsequently, the lead evaluator and a third evaluator read the materials carefully, selecting manuscripts that met the inclusion criteria. The exclusion criteria were: a) studies of effectiveness/efficacy of intervention; b) studies in languages other than English, Spanish or Portuguese; and c) studies that did not investigate parental rearing styles.

## Results

### Article selection

The electronic search identified 321 articles in the different databases. Of these, six (1.86%) were excluded because they were not scientific articles and 238 (74.1%) duplicates were also excluded. After reading the titles and abstracts of 77 (32.4%) articles, 55 (71.4%) were excluded for the following reasons: 41 (74.5%) were not based on or did not consider the Schema Therapy model; six (10.9%) were not written in English, Portuguese or Spanish; five (9.1%) did not present data on parental rearing styles; and three (5.45%) were not empirical articles; achieving 81.81% concordance. Subsequently, the main evaluator and a third evaluator read the materials carefully and selected 22 (28.5%) manuscripts that met the inclusion criteria. A flowchart illustrating the manuscript selection process is presented below (Figure 1).

Table 1 shows the general characteristics of the studies selected, including the first author and year of publication, the country where the research was carried out, the characteristics of the groups that comprised the samples (number and age), the objectives and the

instruments used. It also shows the main results of each article and their respective limitations.

Among the 22 studies that investigated and characterized the effects of parental rearing styles and their relationship with Early Maladaptive Schemas, 36.3% of the manuscripts referred to Asian samples,<sup>7,8,14-17,20,26</sup> 27.27% referred to European samples,<sup>12,13,21-27</sup> 18% referred to samples from North America<sup>11,19,28</sup> and Latin America<sup>18</sup> and 9.1% referred to samples from Oceania.<sup>9,10</sup> Regarding sample characteristics, 68.1% of the studies had subjects aged between 16 and 70 years old,<sup>8-14,17,22-27</sup> and another 22.7% evaluated university students.<sup>7,15,16,18,20</sup> Only 31.8% of the 22 manuscripts' samples were composed of comparative groups.<sup>10,13,17,22-26</sup>

Except for the study conducted by Lumley et al.,<sup>19</sup> which measured EMS using the Schema Questionnaire for Children (SQC), all of the other studies assessed EMS using the Young Schema Questionnaire (YSQ).<sup>7,8,12-</sup>

<sup>14,17,18,20-25,27</sup> The Young Parenting Inventory (YPI) was used to evaluate parental perception in 33.3% of the studies.<sup>9,11,14-18,25,26</sup> Another instrument used was the Parental Bonding Instrument (PBI).<sup>7,16,20,22-24</sup> It is noteworthy that the manuscripts employed a wide range of instruments for measuring parental perception, such as, the Parental Authoritative Questionnaire,<sup>7</sup> the Bonding Parental Inventory,<sup>15</sup> the Measure of Parental Style,<sup>10</sup> EMBU,<sup>12,13,21,27</sup> the Child Report of Parenting Behavior Inventory,<sup>19</sup> and the Parental Child Relationship Survey.<sup>20</sup>

In accordance with the eligibility criteria, the studies selected investigated variables other than EMS and perceptions of parental rearing styles, such as depressive symptoms,<sup>11,14,16,19,24,27</sup> anxiety symptoms,<sup>16,19,21</sup> eating psychopathologies,<sup>9,12,13</sup> Personality Disorder, Post-Traumatic Stress Disorder (PTSD)<sup>10</sup> and Drug Addiction (DA).<sup>17</sup> With reference to studies that evaluated depressive symptoms, five used

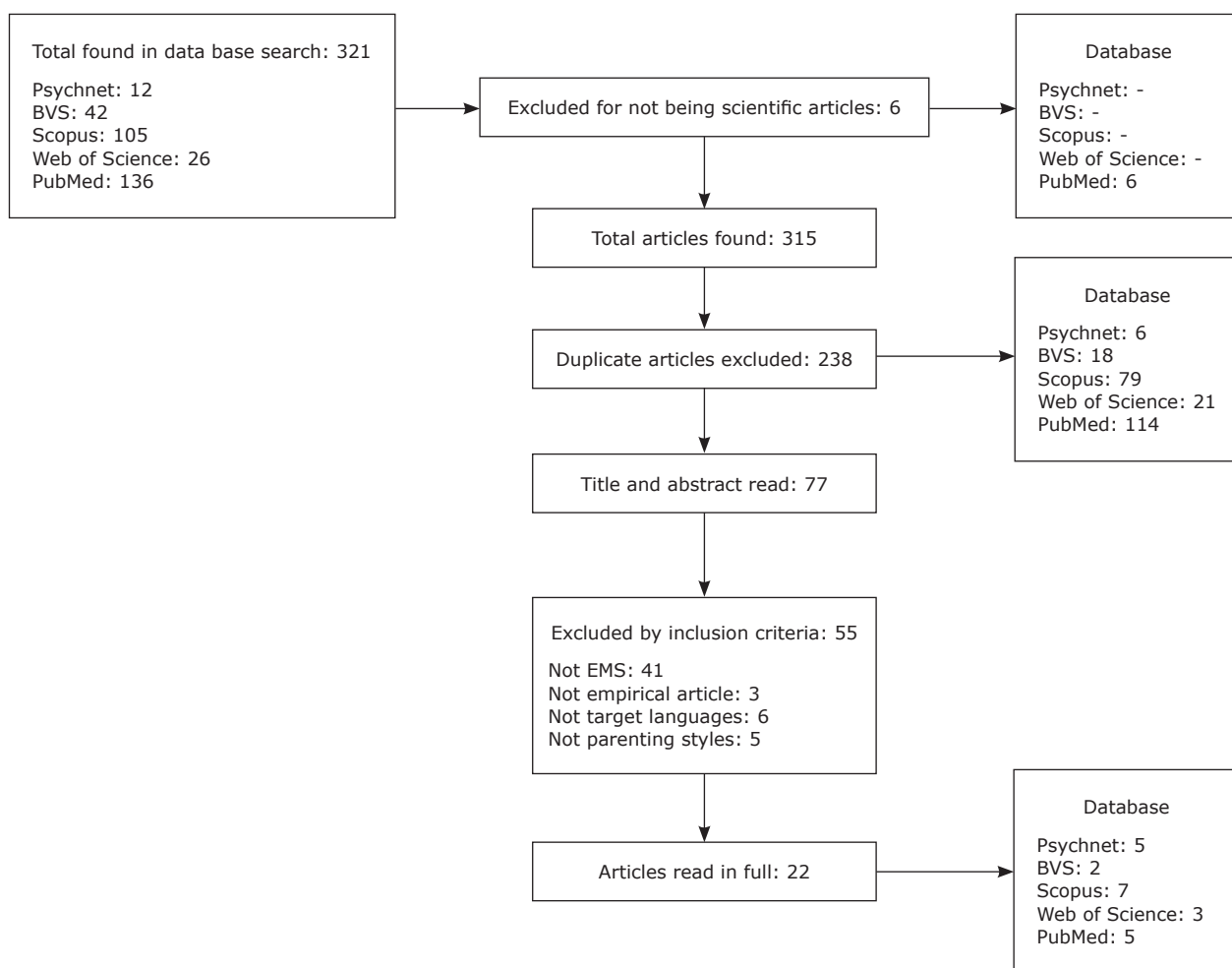


Figure 1 - Manuscript selection flowchart

**Table 1** - General characteristics of the studies selected

Author	Country	Sample	Objective	Instruments	Main Results	Limitations
Batool <sup>7</sup>	Pakistan	- 100 university students (young adults)	- Mediating role of EMS between perceptions of parental rearing styles and symptoms of personality disorders	1. PAQ 2. YSQ-SF 3. PDQ	- Permissive parenting style had positive correlations with histrionic, narcissistic and anti social personality disorders; - Authoritarian parenting had positive correlations with EMS and depressive personality disorder; - EMS had positive correlations with histrionic, antisocial, narcissistic and depressive personality disorder; - EMS partially mediated between permissive paternal parenting style and narcissistic personality disorder and between authoritarian paternal parenting style and depressive personality disorder.	- Concentrated on four personality disorders; - Measured role of overall schemas instead of investigating the effects of the eighteen schemas; - Investigated the entire phenomenon of personality disorders through the lens of paternal malparenting; - Generalizations cannot be made.
Beigi <sup>8</sup>	Iran	- 50 participants with personality disorder and ages ranging from less than 20 to over 30 years (mean age: 26); and their parents	- To determine the role of parents' schemas in the etiology of their children's schemas in different types of personality disorders	1. MCMI-III 2. YSQ-SF	- In the first cluster, VUL in children correlated with VUL and DS schemas in mother. The child's ED schema correlated perfectly with ED in father; - In the second cluster, VUL in children correlated with AB, DS, FA, EM and VUL in mother. The child's ED schema correlated perfectly with father's ED schema; - In the third cluster, the VUL in the child correlated with mother's VUL, AB, MA, ISC and DS significantly. The ED schema correlated perfectly with ED in the father; - MA schema in the father were predictors of developing third cluster in the child. SI schema in the mother was a predictor of developing third cluster in the child. SUB and VUL schemas in the child predict the third cluster of personality disorders.	- The cross-sectional design does not allow causal attributions to be made; - Limited sample size; - Self-report method.
Brown <sup>9</sup>	Australia	- 174 participants - 18 to 65 years	- To investigate whether dysfunctional schema coping modes mediate the relationship between perceived negative parenting and the eating disorder behaviors of restricting, bingeing, and overcompensation (purging and overexercising)	1. YPI-R 2. SMI 3. EDSS	- The perfectionistic overcontroller and self-aggrandiser modes mediated the relationships between perceived negative parenting and compensatory behavior. The compliant surrenderer mode was found to mediate the relationships between negative parenting and both restricting and compensatory behavior. The detached protector and detached self-soother modes further mediated the relationships between perceived negative parenting experiences and both restriction and compensatory behavior; - Both restricting and compensatory behavior were weakly correlated with a variety of different perceived negative parenting experiences. The strongest correlations were seen between Perfectionistic Overcontroller and both controlling and conditional/narcissistic father, between Detached Self-soother and belittling, emotionally depriving and emotionally inhibited mother and between both Compliant Surrenderer and Detached Protector and emotionally inhibited mother. Restriction was weakly to moderately correlated with all dysfunctional coping modes except Bully/attack, with the strongest correlation being with Perfectionistic Overcontroller. Binge eating was only weakly correlated with a single mode – the Detached Protector. Finally, compensatory behavior was strongly correlated with the Detached Protector, with weak to moderate correlations with all other dysfunctional coping modes.	- Each of the behaviors was only measured with a single question; - Only the coping mode subscales of the SMI were included, and re-included the Perfectionistic Overcontroller coping mode, after it being excluded from the original SMI; - Self-report method; - The cross-sectional design; - Perceptions of parenting styles are subjective.

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Table 1 (cont.)

Author	Country	Sample	Objective	Instruments	Main Results	Limitations
Cockram <sup>10</sup>	Australia	<ul style="list-style-type: none"> <li>- 220 Vietnam Veterans from Australia and New Zealand</li> <li>- 163 with PTSD</li> <li>- 57 without PTSD</li> </ul>	<p>Study 1:</p> <ul style="list-style-type: none"> <li>- To examine relationships between childhood parenting experiences, EMS and PTSD in a convenience sample of male Vietnam war Veterans</li> </ul>	<p>Study 1:</p> <ol style="list-style-type: none"> <li>1. DQ</li> <li>2. MOPS</li> <li>3. YSQ -L3</li> <li>4. ASDS</li> </ol>	<p>Study 1:</p> <ul style="list-style-type: none"> <li>- Average parental style scores differed significantly between PTSD and no PTSD groups in both parenting categories and in all subscales of the MOPS;</li> <li>- The PTSD group experienced greater indifference, abuse and overcontrol from both parents than the no PTSD group;</li> <li>- Veterans diagnosed with PTSD scored higher on the YSQ-L3 and on the MPS than veterans not diagnosed with PTSD.</li> <li>- VUL and EI schema discriminated significantly between veterans with PTSD and those without PTSD.</li> </ul>	<ul style="list-style-type: none"> <li>- Use of retrospective accounts;</li> <li>- Limits on how far to generalize the study results;</li> <li>- Participants were volunteers and not randomly selected;</li> <li>- Current PTSD status was not measured in the first study.</li> </ul>
Haugh <sup>11</sup>	USA	<ul style="list-style-type: none"> <li>- 657 university students</li> <li>- 18 to 46 years old</li> </ul>	<ul style="list-style-type: none"> <li>- To examine the interaction between childhood maltreatment and child's temperament in formation of EMS</li> <li>- To examine EMS as risk factors for development of depressive symptoms</li> </ul>	<ol style="list-style-type: none"> <li>1. YSQ-SF-3</li> <li>2. YPI</li> <li>3. ATQ-SF</li> <li>4. BDI-II</li> </ol>	<ul style="list-style-type: none"> <li>- Negative affect and extraversion temperament factors were significantly related to depressive symptoms and EMS domains;</li> <li>- Temperament was shown to have a significant influence on the indirect effect of parenting on depressive symptoms through EMS.</li> <li>- Significant associations were found between maladaptive parenting styles and both EMS domains and depressive symptoms;</li> <li>- ED, Belittling, and Overprotective styles were significantly and positively related to EMS domains and BDI-II scores;</li> <li>- ED parenting was most strongly correlated to the RD domain;</li> <li>- Overprotective parenting was most strongly correlated with the IAP domain;</li> <li>- The influence of parenting on depressive symptoms was shown to be mediated by EMS (RD, and IAP domains).</li> </ul>	<ul style="list-style-type: none"> <li>- Only included parenting, temperament and schema factors that were most relevant to depression;</li> <li>- Self-report measures;</li> <li>- The measure of parenting reported experiences from when subjects were children;</li> <li>- Lack of diversity in the sample;</li> <li>- Non-clinical population with depressive symptoms (minimum to moderate ranges);</li> <li>- Participants only reporting the mother as primary caregiver.</li> </ul>
Jones <sup>12</sup>	UK	<ul style="list-style-type: none"> <li>- 66 females with eating disorders</li> <li>- 16 to 59 years old</li> </ul>	<ul style="list-style-type: none"> <li>- To examine the possible moderating role of core beliefs in the relationship between parental rearing behaviors and eating psychopathology</li> </ul>	<ol style="list-style-type: none"> <li>1. EDI</li> <li>2. YSQ-SF-3</li> <li>3. SEMBU</li> </ol>	<ul style="list-style-type: none"> <li>- SI, VUL, and SS schema moderated the predictive influence of paternal rejection on eating psychopathology;</li> <li>- Both SI and VUL beliefs were found to moderate the relationship between paternal rejection and drive for thinness;</li> <li>- SS beliefs moderated the effect of paternal rejection on body dissatisfaction;</li> <li>- Paternal rejection predicted body dissatisfaction except when the individual held intense, dysfunctional beliefs about needing to meet other people's needs.</li> </ul>	<ul style="list-style-type: none"> <li>- Self-report measures;</li> <li>- Retrospective measure of parental rearing;</li> <li>- The women were a self-selected group and had self reported their current eating psychopathology status.</li> </ul>
Jones <sup>13</sup>	UK	<ul style="list-style-type: none"> <li>- 66 females with current eating psychopathology, 16-59 years old</li> <li>- 50 female volunteers in a non-clinical group, 18-62 years old</li> </ul>	<ul style="list-style-type: none"> <li>- To explore the relationship between recollections of paternal rearing behavior and eating psychopathology</li> <li>- To determine whether specific core beliefs would act as mediators between aspects of parenting and eating symptomatology</li> </ul>	<ol style="list-style-type: none"> <li>1. EDI</li> <li>2. YSQ-SF-3</li> <li>3. SEMBU</li> </ol>	<ul style="list-style-type: none"> <li>- Negative recollections of paternal rearing behaviors, and higher levels of several core beliefs were related to eating symptomatology;</li> <li>- AB, DS and VUL schema were found to mediate the influence of aspects of paternal rearing behaviors on eating psychopathology;</li> <li>- Paternal rearing behaviors were predictive of eating psychopathology;</li> <li>- Perception of paternal overprotection is predictive of drive for thinness;</li> <li>- Perceived paternal rejection can lead to the development of a combination of fear that significant others will not be able to continue providing emotional support and to underlying feelings of shame and inferiority.</li> <li>- No associations were found between eating psychopathology and perceptions of parenting or core beliefs within the non-clinical group</li> </ul>	<ul style="list-style-type: none"> <li>- Self-report measures;</li> <li>- Retrospective measure of parental rearing;</li> <li>- The women were a self-selected group.</li> </ul>

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**Table 1** (cont.)

Author	Country	Sample	Objective	Instruments	Main Results	Limitations
Khajouei Nia <sup>14</sup>	Iran and India	<ul style="list-style-type: none"> <li>- 200 women with depressive symptoms</li> <li>- 16 to 60 years old</li> <li>- 100 from India</li> <li>- 100 from Iran</li> </ul>	<ul style="list-style-type: none"> <li>- To investigate the contribution of parental rearing styles to depression symptoms of women</li> <li>- To examine the role of early maladaptive symptoms as mediators and moderators of this association</li> </ul>	<ol style="list-style-type: none"> <li>1. BDI</li> <li>2. YSQ-SF</li> <li>3. YPI</li> </ol>	<ul style="list-style-type: none"> <li>- The association between parental rearing styles and depressive symptoms was not moderated by EMS;</li> <li>- AB EMS had a mediating role in the relationship between maternal rearing style and depression in Iran;</li> <li>- AB and PP EMS mediated the effects of paternal rearing style and depression in India;</li> <li>- The correlation between childhood experiences and depression in adulthood was mediated by EMS.</li> </ul>	<ul style="list-style-type: none"> <li>- Only female sample.</li> </ul>
Kooraneh <sup>15</sup>	Iran	<ul style="list-style-type: none"> <li>- 357 undergraduate students at Islamic Azad University</li> </ul>	<ul style="list-style-type: none"> <li>- To predict EMS using BPS (root development)</li> </ul>	<ol style="list-style-type: none"> <li>1. YSQ-SF</li> <li>2. BPI</li> </ol>	<ul style="list-style-type: none"> <li>- The best parenting style was authoritarian, and most schemas belong to the fields of RD, IA, and OVI, respectively;</li> <li>- The authoritarian parenting style could positively predict EMS in the area of RD, either could explain 3.4% of the variance of EMS in the area of OD.</li> <li>- The permissive parenting style could not explain EMS in the areas of RD, IAP, IL, OD or OVI;</li> <li>- The authoritative parenting style could negatively predict EMS in the area of RD, and could explain 3.4% of the variance of EMS in the area of OD, but not in IAP, IL or OVI.</li> </ul>	<ul style="list-style-type: none"> <li>- Self-report measure and a student sample;</li> <li>- The results are not applicable to other communities.</li> </ul>
Körük <sup>16</sup>	Turkey	<ul style="list-style-type: none"> <li>- 400 university students (25% male and 75% female)</li> </ul>	<ul style="list-style-type: none"> <li>- To investigate the relationships between perceived parenting parental attachment styles and psychological symptoms</li> </ul>	<ol style="list-style-type: none"> <li>1. YPI</li> <li>2. PBI</li> <li>3. BSI</li> </ol>	<ul style="list-style-type: none"> <li>- Pessimistic/fearful mother, overprotective/worrywart father and emotionally divesting father perceptions meaningfully predicted depression and anxiety;</li> <li>- Pessimistic/fearful mother and belittling/captious mother perceptions meaningfully predicted negative-self symptoms;</li> <li>- Pessimistic/fearful mother, overprotective/worrywart father and belittling/captious mother meaningfully predicted somatization;</li> <li>- Caring/controlling behaviors of the father and protecting behaviors of the mother meaningfully predicted depression in the negative direction;</li> <li>- Caring/controlling behaviors of the mother and protecting behaviors of the father meaningfully predicted anxiety in the negative direction.</li> <li>- Caring/controlling behaviors of the mother and protecting, and caring/controlling behaviors of the father meaningfully predicted negative-self symptoms and hostility in the negative direction.</li> </ul>	<ul style="list-style-type: none"> <li>- Did not report limitations.</li> </ul>
Jalali <sup>17</sup>	Iran	<ul style="list-style-type: none"> <li>- 56 opioid dependent males, 20 to 45 years old</li> <li>- 56 not opioid dependent males, 20 to 45 years old</li> </ul>	<ul style="list-style-type: none"> <li>- The aim of this study was to examine differences in early maladaptive schemas and parenting origins between opioid abusers and non-opioid abusers</li> </ul>	<ol style="list-style-type: none"> <li>1. SCID-I</li> <li>2. YSQ-L3</li> <li>3. YPI</li> </ol>	<ul style="list-style-type: none"> <li>- The means for all EMS in the clinical group were higher than the control group and this was especially more apparent in AB, ED, SI, EG, ISC, SS, AR, US and PU schemas.</li> <li>- The two groups differed significantly in terms of EMS, EMS domains;</li> <li>- The clinical group had higher scores than the control group in terms of parenting origins;</li> <li>- Approximately, all EMS were related to their parenting origins. The only exceptions, where differences in means were not significant, were MA, DS, DI, and FA in mothers' parenting origins, and FA, DV and SS in fathers' parenting origins</li> <li>- Opioid abusers scored higher for EMS and parenting origins than non-opioid abusers and parenting origins were related to their corresponding schemas.</li> </ul>	<ul style="list-style-type: none"> <li>- All participants were male.</li> </ul>

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Table 1 (cont.)

Author	Country	Sample	Objective	Instruments	Main Results	Limitations
Lucadame <sup>18</sup>	Uruguay	- 310 Uruguayan university students	- To analyze whether EMS act as mediators between the domains of early parental styles and development of symptoms of depression	1. YPI 2. YSQ-L3 3. LSB-50	- For both parents, the EMS of AB, SI and IS mediate the relationship between early perceived parenting styles (from the domains RD and IA) and symptoms of depression for both parents; - EMS mediates the relationship between parental styles and symptoms of depression.	- Self-report instruments.
Lumley <sup>19</sup>	Canada	- 198 boys and girls (103 girls, 95 boys) - 9 to 14 years old	- To investigate how cognitive schema organization relates to parental perception and depressive symptoms in early adolescence	1. CDI 2. MASC 3. CSQ 4. PDST 5. CRPBI	- There was no significant relationship between anxiety symptoms and either positive or negative EMS organization; - Organization of positive and negative EMS was significantly related to depression symptoms; - Negative EMS content was only related with ethnicity; - The analyses show that depression symptoms were related with ethnicity and that anxiety symptoms were related with sex; - High negative EMS scores were associated with high depression scores; - Low parental responsivity levels were significantly associated with major depression symptoms and high levels of psychological control; - Parental psychological control was associated with race/ethnicity - Parental responsivity emerged as the only predictor of the NSO.	- Sample composition: data is not generalizable to other populations; - Self-report instruments.
Monirpoor <sup>20</sup>	Iran	- 345 university students (218 females, 127 males)	- To assess fathers' roles as predictive of early maladaptive cognitive schemas	1. YSQ-SF 2. PBI-FF 3. PCRS	- Father care and father emotional involvement predicted 20.7% of the ED schema variance; - Father excessive support and emotional interaction predicted 9.3% of the MA schema variance, 11.7% of the SI schema variance and 13.4% of the DF schema variance; - Father care and excessive support predicted 13.6% of the SUB schema variance. - Father excessive support predicted 0.9% of the AB schema variance, 2.4% of the EM self schema variance and 1.5% of the US schema variance; - Positive father's affection predicted 8.5% of the FA schema variance and 9.4% of the DI schema variance; - Father excessive support and positive father's affection predicted 5.9% of the VUL schema variance; - Relationship with father predicted 8.7% of the EI schema and 5.5% of the EM schema; - Relationship with father and lack of child's anger toward father predicted 8.9% of the ISC schema	- Did not report limitations.
Muris <sup>21</sup>	Netherlands	- 173 non-clinical adolescents (87 boys and 86 girls) - 12 to 15 years old	To investigate whether: - Detrimental parental rearing behaviors are associated with the presence of EMS - The personality trait of neuroticism is positively related to such EMS - Detrimental parenting behaviors and neuroticism each account for a unique proportion of the variance in EMS scores - EMS are associated with psychopathological symptoms	1. YSQ-A 2. EMBU-C for children 3. BFQC 4. PQY	- Detrimental rearing behaviors were associated with the presence of maladaptive schemas; - The personality trait of neuroticism was positively related to a broad range of maladaptive schemas; - Neuroticism and detrimental parental rearing behaviors both accounted for a unique proportion of the variance in distorted thinking patterns; - Maladaptive schemas were linked to various types of psychological symptoms, including symptoms of anxiety disorders, depression, disruptive behavior, eating problems and substance use. - Parental rearing behaviors accounted for a significant proportion of the variance in YSQ-A scores, except for DI.	- The study was cross-sectional in nature; - Sample of non-clinical adolescents who were predominantly Caucasian, with relatively high educational levels; - The sample was rather small ( $N=173$ ) and as a result it was not possible to perform factor analysis on the items of the YSQ-A; - Self-report measures; - Unclear whether a questionnaire like the YSQ-A truly measures maladaptive schemas.

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Table 1 (cont.)

Author	Country	Sample	Objective	Instruments	Main Results	Limitations
Pellerone <sup>22</sup>	Italy	- 248 males (130 with anti-social personality disorder, 19 to 70 years old; 118 healthy, 20 to 70 years old)	- To investigate the presence of cognitive schemas, in a group of male adult prisoners - To explore whether parental style influences cognitive patterns in a group of offenders - To investigate the predictive variables of these cognitive schemas in adult offenders	1. SCID-II 2. PBI 3. YSQ-L3	- The target group have an affectionate constraint attachment with their mother, while one third of the population has a negligent attachment with their father; - Offenders scored significantly higher than non-offenders on the level of paternal control and the YSQ subscales. - The study underlines the influence of maternal care on most of the cognitive schemas, and the role of father's control in the tendency to SI and DS in the offenders; - Being an inmate, having a low level of maternal care and a high level of maternal control are predictive of the tendency to social rejection, and being an inmate with young age, reduced maternal care and high maternal control are predictive of IAP.	- The results in no way allow for casual conjectures; - All tests were self-report; - Small sample size.
Pellerone <sup>23</sup>	Italy	- 209 adults (118 males, 91 females) - 20 to 60 years old (M = 37.52; SD = 11.42)	- To verify whether being parents and living at home with parents affect parenting style and cognitive domains - To examine how variables of parenting influence cognitive styles - To examine age as moderating variable of the relation between parenting styles and cognitive domains in a group of adult men and women	1. PBI 2. YSQ	- Being a younger adult male with mother's parenting style characterized by a lower level of nurturance is predictive of the RD domain, whereas being a younger adult woman, with a higher level of maternal control is predictive of the IL domain; - The analysis of whether being parents and living at home with parents affect parenting or cognitive domains found no significant effect. - The type of maternal parenting affects all domains except SI and SUB; - Age moderates the correlation between parenting behavior and maternal nurturance and IAP domains.	- The results in no way allow for casual conjectures; - Did not use a measure to account for socially desirable responding and/or the tendency to minimize pathology; - Did not use current parental behaviors; - Small sample size that may have limited the generalizability of the findings and the ability to identify other differences in maladaptive schemas.
Shah & Weller <sup>24</sup>	England	- 60 depressive individuals (17 men, 43 women) - 67 healthy individuals (33 men, 34 women)	- To investigate the possible mediating role of core beliefs in depressive parental relations - To examine whether this relationship between parental rearing styles and depression in adulthood is mediated by the EMS	1. PBI 2. YSQ 3. BDI	- The experimental group recalled less affectionate and more overprotective parental care, in relation to the control group; - The depressed group were differentiated by poorer perceived parenting (low care and high overprotection); - DS, SS and ISC EMS were more present in the experimental group. - DI, VUL, US and EI EMS mediated the relationship between maternal bond and paternal overprotection and levels of depression in the experimental group.	- Did not report limitations.
Simon <sup>25</sup>	Hungary	- 47 transsexuals: 30 MF (M = 17 FM (M = 27.06 years) - 157 controls: 43 men 114 women (M = 23.6 years)	- To characterize MF and FM transsexuals in psychopathology, core conceptualizations of the self and the world, and parenting experiences by comparing them to controls of the same and the opposite sex - To delineate differences in MF and FM transsexuals in these three areas	1. YSQ 2. YPI 3. SC-90-R	- Subjects with GID demonstrated a level of psychiatric distress comparable to that of controls. - Subjects with GID display elevated scores, however, on multiple EMS compared to nontranssexual subjects, indicating feelings of isolation, emotional deprivation and an urge to meet others' needs, with MF transsexuals also conceptualizing themselves as more vulnerable and deficient than controls. - Parenting experiences of transsexual subjects were characterized by increased maternal dominance, emotional abuse and neglect compared to controls, with males being exposed to a disengaged maternal style and more paternal emotional neglect and criticism. - Both MF and FM transsexuals were made to feel that they will inevitably fail in areas of achievement.	- Retrospective analyses. - Diagnosis interviews. - Not utilizing a psychiatric control group.

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**Table 1** (cont.)

Author	Country	Sample	Objective	Instruments	Main Results	Limitations
Soygüt <sup>26</sup>	Turkey	- 94 undergraduate students, 17 to 26 years old	- To examine the relationship between the perception of parenting styles and interpersonal schemas - To investigate the role of interpersonal schemas in mediating between the perception of parenting style and psychological symptoms	1. YPI 2. ISQ 3. SCL-90-R	- Perceived parenting styles have predictive power for a number of interpersonal schemas; - Parenting perceptions showing maximum positive correlations with depression were belittling/captious mother, ruling/former mother, overprotective/worrywart mother and belittling/captious father. - Positive correlations with anxiety were found to be belittling/captious mother, overprotective/worrywart mother, pessimistic/fearful mother, and ruling/former father. - The Hostility situation of interpersonal schemas played a mediating role between psychological symptoms and normative, belittling/criticizing, pessimistic/worried parenting styles on the mother forms; and normative, belittling/criticizing, emotionally depriving, pessimistic/worried, punitive, and restricted/emotionally inhibited parenting styles on the father forms of the scales.	- Limited number of undergraduates in sample; - Assessments were limited to self-reports.
Thimm <sup>27</sup>	Norway	- 108 participants (75% women) - 19 to 68 years old (M = 40.3)	- To investigate whether EMS mediate the relationship between perceived parental rearing style and personality disorder symptomatology	1. s-EMBU 2. YSQ-L3 3. DSM-IV, ICD-10 4. GAFS 5. BDI	- All schemas were associated with the three personality disorder clusters; - The BDI are related to maternal rejection, to the five schema domains and the personality disorder clusters A, B and C; - The results showed that EMS mediated the relationship between parental rearing styles and personality disorder symptoms; - Rejection from both parents and less emotional warmth from mother were significantly related to cluster A and B personality pathology, whereas cluster C symptoms were associated with paternal rejection; - RD, OD, IAP, OVI were significantly related to parenting rejection.	- Retrospective analyses. - Self-report instruments. - Sample composition – data cannot be generalized to other populations.
Wright <sup>28</sup>	USA	- 301 undergraduate students (143 men, 158 women); M = 20.37 years	- To study the long-term influences of parental emotional abuse and emotional neglect in young adults, in relation to dissociative, anxiety and depression symptoms - To identify which symptoms were mediated by the EMS	1. CAST-6 2. LEQ 3. YSQ 4. TSC-40	- VUL, SS and DS EMS mediated the relationship between emotional neglect and anxiety and depression symptoms. - VUL and DS EMS were mediated in the relationship between the child's emotional neglect and dissociative symptoms. Emotional neglect was related to dissociative symptoms and mediated by DV and VUL EMS. - Sexual abuse was also a significant predictor of dissociation. - Emotional abuse and neglect, alcoholic parents and income were significant predictors of anxiety and depression and were mediated by VUL, DS and SS EMS. - Emotional abuse was significantly correlated to VUL, SS and DS EMS. Emotional abuse and neglect have a greater psychological impact than physical abuse and neglect.	- The data found cannot be generalized to clinical or community populations. - Retrospective analyses.

AB = abandonment; AR = approval-seeking/recognition-seeking; ASDS = The Acute Stress Disorder Scale; ATQ-SF = Adult Temperament Questionnaire-Short Form; BDI = Beck's Depression Inventory; BFQC = The Big Five Questionnaire for Children; BPI = Baumrind's Parenting Inventory; BSI = Brief Symptoms Inventory; CRPBI = Child Report of Parent Behavior Inventory; CAST-6 = Children of Alcoholics Screening Test; CDI = Children's Depression Inventory; CSQ = Children Schema Questionnaire; DIP-Q = DSM-IV ICD-10 Personality Questionnaire; DPI = dependence/incompetence; DQ = Demographic Questionnaire; DS = defectiveness/shame; ED = emotional deprivation; EDDS = Eating Disorder Diagnostic Scale; EDI = Eating Disorder Inventory; EG = entitlement/grandiosity; EI = emotional inhibition; EM = Enmeshment; EMBU-C = EMBU for children; EMS = Early Maladaptive Schemas; ENT = Entitlement; FA = failure to achieve; FM = female to male; GAFS = Global Assessment of Functioning Scale; GID = gender identity disorder; IAP = Impaired Autonomy and Performance; IL = impaired limits; ISC = insufficient self-control; ISQ = Interpersonal Schema Questionnaire; LEQ = Lifetime Experiences Questionnaire; LSB-50 = The Brief Symptom Check List; M = mean; MA = mistrust and abuse; MASC = Multicomponent Anxiety Scale for Children - 10; MCMI-III = Millon Clinical Multi-Axial Inventory; MF = Punishment; RD = rejection and disconnection; SC-90-R = Symptom Checklist-0-R; SCL-90-R = Symptom Checklist-90-R; SD = standard deviation; sEMBU = EMBU short form; SI = social isolation; SMI = Schema Mode Inventory; SS = self-sacrifice; SUB = subjugation; TSC-40 = Trauma Symptom Checklist; US = unbalanced standards; VUL = vulnerability; YPI = Young Parenting Inventory; YPI-R = Young Parental Inventory Revised; YSQA = Agedown version of the YSQ; YSQ-LF = Young Schema Questionnaire - Long Form; YSQ-S3 = Young Schema Questionnaire-Short Form Version 3.

the Beck Depression Inventory (BDI),<sup>11,14,16,25</sup> Lumley et al.<sup>19</sup> used the Children's Depression Inventory (CDI) to evaluate depressive symptoms in children and only one of them contained an experimental group with major depressive disorder.<sup>14</sup> Finally, only Haugh et al.<sup>11</sup> investigated temperament, using the Adult Temperament Questionnaire-Short Form (ATQ-SF).

In seven studies, relations were found between depression and poor parenting styles, such as authoritarian parenting<sup>7</sup>; emotional deprivation and excessive parental control<sup>11</sup>; maternal pessimism, paternal overprotection and emotional alienation<sup>16</sup>; low parental care and overprotection<sup>24</sup>; emotional neglect, alcoholic parents and income<sup>28</sup>; and maternal rejection.<sup>27</sup> Additionally, Lumley et al.<sup>19</sup> found an association between low levels of parental responsiveness, symptoms of major depression and high levels of psychological control. The structural organization of both tightly-interconnected negative schemas and loosely-interconnected positive schemas were significantly associated with depressive symptoms.

It should be noted that the studies also revealed that dysfunctional parenting is related to development of pathological symptoms of depressive personality,<sup>7</sup> A, B and C clusters of personality disorders<sup>8,27</sup> and, more specifically, of antisocial personality disorder.<sup>22</sup> As observed by Beigi et al.,<sup>8</sup> this can be explained by the type of child-rearing, such as permissive and authoritative parenting,<sup>7</sup> negligible attachment,<sup>22,23</sup> parental rejection and overprotection and deficient parental host, as indicated by Thimm.<sup>27</sup> Besides the personality symptoms, poor parenting styles were related to development of several EMS, in 63.6% of the studies.<sup>7,10-13,17,20-23,25-28</sup>

Simon et al.<sup>25</sup> assessed the possible repercussions of parental functioning in groups of transsexuals (Male-to-Female [MF]/Female-to-Male [FM]) in comparison to control groups (men and women), noting that MF transsexuals reported a higher number of adverse parenting experiences and a more negative view of self and others, compared to FM transsexuals and the control groups. With regard to Early Maladaptive Schemas in transsexual groups, the study inferred that the coerced suppression of their own sense of self for years, social exclusion and rejection of the need to be accepted by members of the other sex seemed to lead to high levels of interpersonal sensibility and contributed as important social factors in their development. On the other hand, both groups displayed higher independence from social feedback with lesser need to gain recognition from others.<sup>25</sup>

In parallel, the results also showed that MF transsexuals were more likely to develop psychiatric

symptoms and described their mothers as less caring, less affective and more controlling during their childhood, when compared with controls. In turn, MF transsexuals saw their mothers as abusive and unreliable and with insufficient autonomy and achievement. MF transsexuals described their fathers as less caring, less available, less reliable and more critical and depreciative.<sup>25</sup>

EMS mediated the relationship between parental rearing styles and/or parental education and dysfunctional symptoms over the course of personality development in 66.6% of the studies. Among the symptoms investigated, we highlight personality disorder symptoms,<sup>7,27</sup> depression,<sup>11,14,18,24</sup> eating psychopathologies,<sup>13</sup> and, finally, we found mediation of EMS in the relationship between negligent and abusive parental rearing styles – which were also identified as predictors – and dissociative, anxiety and/or depressive symptoms.<sup>28</sup> Moreover, compliant surrender mode was found to mediate negative parenting and restrictive and compensatory behaviors in an Australian sample with eating disorder.<sup>9</sup>

In terms of specific EMS, the most prevalent EMS in the studies were vulnerability,<sup>8,12,20,24,25,27</sup> dependence/incompetence,<sup>20,24,27</sup> and failure,<sup>20,25,27</sup> from the second domain (impaired autonomy and performance), as well as abandonment<sup>13,14,20,22</sup> and emotional deprivation,<sup>8,20,25</sup> related to the first domain (disconnection/rejection). Additionally, parental control,<sup>5,10,16,21-23</sup> emotional abuse<sup>3,10,25,28</sup> and rejection<sup>4,12,13,21,27</sup> were the most frequent parenting styles.

## Discussion

During personality development, environmental, social and biological variables interfere with the construction and activation of schematic patterns of functioning.<sup>2</sup> Amongst these variables, the present study focused on parental rearing style.

Maladaptive personality patterns start to be formed the moment a child begins to interact with the world and are shaped by life experiences throughout the child's development.<sup>2</sup> Carvalho & Silva<sup>6</sup> state that parental rearing styles have the capacity to minimize or maximize the impact of other variables on personality development. Therefore, the aim of this article was to conduct a systematic review of studies related to the repercussions for personality development of parental rearing styles and examine possible relationships between parenting styles and the development of EMS.

The 22 manuscripts included in this study presented data that reveal that poor parenting had negative

effects on the personality development of the samples studied. The authors observed the relationships between parenting styles and depressive and anxiety symptoms, eating disorders and personality disorders. The results of these studies show a significant presence of EMS as potential mediators between the two variables.<sup>7,11,13,14,18,28</sup> In agreement with what has been reported in other manuscripts, parental neglect is considered a relevant variable for development of depression,<sup>29</sup> and the impact of maltreatment in childhood can be mediated by cognitive vulnerability, which includes negative attributional styles and maladaptive schemas.<sup>30</sup>

This is coherent with Young's theory<sup>2</sup> regarding the influence of early experiences in the process of schema development and consolidation, considering parental rearing styles as one of the most important sources of early fruitful or damaging experiences. As a whole, the studies reviewed demonstrate that the negative repercussions of neglect, abuse and poor parenting response during childhood and a child's difficulty in having his/her core emotional needs met<sup>2</sup> are connected.

For a child to become a psychologically healthy adult, his/her parents must be able to meet emotional needs common to every child, and which are considered essential to a healthy personality development.<sup>2</sup> These needs are distributed across five different domains: acceptance and connection; autonomy and performance; realistic limits; the right to express thoughts, emotions and feelings; and spontaneity and play.<sup>2</sup> In other words, in order to create a positive environment for the development of a healthy personality, it is important that parental rearing style be assertive and respect needs that are specific to the chronology of human development. Otherwise, the probability of the individual developing psychological or psychiatric symptoms increases, which may lead to diagnosis of a personality disorder in adulthood.<sup>7,8,22,27</sup> As such, the bibliographic review conducted by Carvalho & Silva<sup>6</sup> shows a remarkable relationship between parental rearing styles, EMS and traces of what may be the individual's personality functioning in the future.

According to the Schema Therapy model, EMS are dimensional, that is, they can be more or less severe and pervasive depending on the extent to which they have been generalized. This generalization is due to activation of the same cognitions, emotions and bodily sensations through different life experiences, normally involving relevant figures in the individual's remote environment. When this is the case, activation and, consequently, perpetuation of schemas is facilitated, and these schemas become more central to the individual's personality. According to the model, the way a person

cope with schema activation tends to become the foundation of most psychiatric disorders.<sup>2</sup>

The Schema model proposes that the way an individual copes in adulthood with schematic activation is likely to be a fairly faithful representation of the way he/she coped in childhood with the damaging situations/experiences that form the foundation on which the EMS were developed. Young's<sup>2</sup> studies also suggest that at the time that the coping mechanisms that have since become maladaptive were developed in childhood, they probably represented the most effective or adaptable way the child found to survive and preserve himself/herself from the adverse situations experienced with important figures in that period.<sup>2</sup>

This reveals how childhood experiences and coping strategies may be linked to maladaptive behaviors and psychopathological symptoms in adult life. To exemplify, we highlight the study by Brown et al.,<sup>9</sup> which sought to investigate whether coping strategies were mediators of the relationship between perceived negative parenting experiences and eating disorders. The findings reported confirm the theoretical hypotheses and consolidate the view that mechanisms of coping with hypercompensation, avoidance and resignation appear to play a role in maintaining the symptoms of eating disorders and that there are multiple complex relationships between them and EMS that merit investigation.

In the present study, when mentioning the act of trying to preserve, or protect, oneself, the authors do not refer to any ability that the child might have to prevent these adverse experiences from contributing to development of EMS. Considering that children have the right to have their basic needs met and that is parents' duty to meet them,<sup>2</sup> what the authors are referring to when discussing preservation are behaviors that can minimize the distress and suffering caused by these needs not being met. In other words, these behaviors represent an adaptation to the harmful elements of the remote environment.

Moreover, especially when referring to parental rearing styles, the development of EMS can be thought of as a reaction/adaptation to these parental rearing behaviors. It can be considered that the parents have a special ability to have their children adapt to their style, instead of having them opposed to it (even in the presence of extremely harmful and adverse stimuli), given the substantiality of their role for their children's survival. Parents play such an important role because of the nature of their bond with their children. Evolutionary researchers like Bowlby<sup>31</sup> and Trivers<sup>32</sup> studied, respectively, the importance of this bond and what determines and influences the parental investment that influences the bond.

When observing child behavior, one can perceive that children strive to find ways of having at least part of their needs met, and, normally through trial and error, they, very intuitively, work out how to do this with their parents. This movement can be seen as an adaptation to their parents, as the children's reaction, with the tools they have, to the parents' rearing styles, so they can soften the way the parents' behaviors reverberate in their inner world, or at least make it more bearable.

Analyzing the importance of parental rearing styles in personality development, one could hypothesize that, in evolutionary terms, even with a certain amount of deprivation and suffering, it would be more advantageous for children (in terms of survival) to adapt to their parents' style (to whom they are attached, and who are normally attached to them) rather than not to do so. This does not mean, however, that this adaptation is a matter of choice or that there are necessarily any alternatives to it, but it considers that maybe children tend to behave, intuitively, in a way that maximizes meeting of their needs and preserves the bond with caregivers .

Drawing from clinical experience, the authors noted that, even after repeated abuse and/or neglect situations, children's attitudes towards their parents are likely to remain mostly positive, forgiving and obedient (especially at an early age). There seems to be a special need for reconciliation between absolutely distinct, and oftentimes dichotomic, images a child has of his/her mother or father, who, depending on the emotional state the parent is in (depressed, irritated, detached X euthymic, calm, connected, etc.), the child can love or hate. Thus, for instance, seeing himself/herself as someone who deserves punishment or neglect could serve as a powerful tool for reduction of an incredibly distressing cognitive dissonance: seeing the person who your life depends on as incapable or not sufficiently emotionally connected to you to want or be able to meet your most basic emotional needs.

In their study about vulnerability and depression, Ingram & Ritter<sup>33</sup> found evidence that children raised in a household where they are neglected by the mother are more prone to develop depression when adults and to have negative emotions and cognitions about themselves. These authors also found that these children are likely to have a predominantly negative self-image, and that this way of looking at themselves may have been developed as a reaction to parental rearing style – from the mother's side. In this study, Ingram & Ritter<sup>33</sup> suggest that, if a child is being raised by a neglectful mother, he/she may begin to internalize what he/she sees as being a maternal view (of the child) that would be coherent with the attitude of not taking good care of this child, who thus starts to develop representations

of himself/herself that are coherent with the perception of not being worthy of care and nurturance – which is in agreement with the description of EMS from the first domain, Disconnection and Rejection.<sup>2</sup>

Two studies reported specific social and cultural variables that could have contributed to schema construction. In the study with transsexuals, the feeling of social exclusion and the need to be accepted by members of the same sex were considered factors relevant<sup>25</sup> to development of EMS. In the opposite direction, interesting but isolated data suggested that an overprotective/anxious parenting style, hypothetically dysfunctional,<sup>2</sup> was perceived as functional and could lead to an expected and positive interpersonal cycle in Turkey's collectivistic society.<sup>26</sup> Notwithstanding, this speculative interpretation about the role, influence and impact of culture and social experiences in the development of EMS or adaptive behavior, which has been emerging spontaneously, should be investigated in new studies assessing this relationship.

With regard to limitations, 59% of the studies referred to the characteristics of the samples investigated and the fact that the results could not be generalized.<sup>7,8,10,11,13-15,17,21,27,28</sup> Small sample sizes may have limited their ability to detect further differences and larger sample sizes might therefore enable future studies to contribute more, allowing for more fine-grained analyses. Furthermore, half of the studies presented limitations related to the use of self-reporting tools, which may contribute to biased responses and may increase the likelihood of association between the measures used.<sup>8,9,11-13,15,19,21,22,26,27</sup>

Use of instruments of retrospective analysis was considered a limitation in 31.8% of the studies, since participants may recall their most recent parenting experiences, be influenced by schemas currently in operation, facilitate distortions and allow inferences about perceived parenting behaviors.<sup>10,11,13,23,25,27,28</sup> One alternative would be to conduct longitudinal studies, which could minimize this effect if they evaluated the present moment – although memory distortions may still occur anyway, considering that the participant would not be answering questions about the present moment.

Other limitations reported were the cross-sectional study designs,<sup>8,9,21-23</sup> since no conclusions can be drawn on cause-effect relations between the variables investigated. An appropriate research study design would ideally include a prospective cohort study or multi-method approach, for example. Finally, just three manuscripts did not mention limitations.<sup>16,20,24</sup>

Not many articles were found that met the inclusion criteria for the present study, which goes to show the



scarcity of published research in this area, despite the relevance of the topic. It is important to note that the data obtained from the manuscripts in this systematic review are the fruit of studies conducted on several continents, hence allowing a general mapping of what is being investigated, even considering the small samples. Comparative studies would be extremely relevant, since cultural, social and demographic aspects could broaden understanding of the phenomena. In conclusion, it is suggested that future research be conducted to broaden and deepen knowledge about the formation of personality structures, with the objective of providing information that can promote care and prevention strategies in early childhood.

## Disclosure

No conflicts of interest declared concerning the publication of this article.

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## Correspondence:

Lissia Ana Basso  
Av. Osvaldo Aranha, 1022/ 910, Bom Fim  
90035-191 Porto Alegre, RS - Brazil  
Tel.: +55 (51) 998301456  
E-mail: lissiabasso7@gmail.com