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EARLY MALADAPTIVE SCHEMAS AND PSYCHIATRIC SYMPTOMS IN ADOLESCENCE

ABSTRACT

Early maladaptive schemas (EMS) represent harmful schemas that are rooted in childhood experiences. Schema therapy is an integrative psychotherapeutic approach and its main aim is to find feasible ways of meeting individual core emotional needs. Core reasons for the emergence of EMSs was their association with difficult and long-term mental disorders. Since then, EMS have been linked to a wide variety of mental and somatic illnesses. Although adolescence is clearly of importance in the developmental process of EMS, studies exploring EMS in adolescents are still limited. However, evidence on interesting associations, including findings typical to this developmental phase, has recently increased. In this review, we describe the current status regarding the concept of EMS and review the present literature on the associations of EMS with psychiatric symptoms in adolescents.

KEYWORDS: ADOLESCENTS; EARLY MALADAPTIVE SCHEMA; MENTAL DISORDER; PSYCHIATRIC SYMPTOM; SCHEMA THERAPY

INTRODUCTION

A schema is defined as a model, frame or structure. Although the term is also used in other fields, psychology generally refers to schema as a model through which an individual looks at oneself and the surrounding world. An important advancement in schema theory was the identification of cognitive schemas guiding the processing of information during child development (1). From a cognitive point of view, the concept of a schema can be defined as a model intertwined around a core belief, which defines something essential about how an individual encompasses themself, others and their own behaviour. Basically, schemas guide the processing of information, and depending on the substance and context, schemas can be either useful or harmful.

The developer of schema therapy, Jeffrey Young, defined early maladaptive schemas (EMS) as harmful schemas that are rooted in childhood experiences (2). It has been suggested that EMS develop as a result of a child's needs not having been adequately addressed during childhood (3). This does not unequivocally mean that the child has been deliberately neglected, since, for example, the child's own temperament influences what kind of interaction corresponds to his or her needs (4). Additionally, some of the factors that presumably predispose to the development of EMS are difficult to prevent, such as early loss. EMS provide one feasible hypothesis of how early-stage stressful life events predispose to later mental disorders (5−7).

A core finding, already at the conceptualization of EMS, was that they are associated, in particular, with long-term psychological problems, such as personality disorders. During the past decade, the literature has significantly increased and empirical findings have associated EMS with a variety of mental disturbances, for example, depression (8), bipolar disorder (9), borderline personality disorder (BPD) and other personality disorders (10−12), psychotic experiences (13) and substance abuse (14,15). In addition, EMS have also been linked to somatic symptoms and illnesses, such as somatization and chronic pain (16,17). In adolescents, the evidence on similar associations is still scarce, but steadily increasing (e.g. 18−20). In this paper, we present the basic concepts and current findings of EMS and schema therapy, and reflect their current status regarding adolescents.

SCHEMA THERAPY

Schema therapy is an integrative psychotherapeutic approach and both its background theory as well as therapeutic instruments include elements from different psychotherapeutic traditions (3). Although schema therapy is included, with good reason, in the family of cognitive behavioural therapies, its background theory is firmly founded on attachment theory coined by John Bowlby (21). As such, attachment theory alone can be considered to be quite integrative in its approach, as it provides a common ground regarding child development for different standpoints stemming from cognitive behavioural, psychodynamic, as well as family therapy traditions. Attachment theory is central to the core emotional needs defined in schema therapy, that is, secure attachment to others, autonomy and sense of identity, expression of needs and emotions, spontaneity and play and realistic boundaries and self-control (3). The main aim in schema therapy is for these core emotional needs to be met in a suitable way.

From a cognitive point of view, Alford and Beck (1997) agreed to the nature of EMS as a concept combining different psychotherapeutic frameworks (22). They suggested that core beliefs represent the cognitive content of a schema. However, compared to schema therapy, Beck (1996) interprets the concepts of schema and schema modes to be closer to each other (23). Beck suggests modes to be powerful psychological reactions based on the schemas, while in schema therapy, modes are differentiated from schemas based on the harmful coping responses associated with them. Compared to cognitive behavioural therapy, in schema therapy there is a stronger emphasis on the therapeutic relationship. In this respect, schema therapy leans more on psychoanalytic tradition, in particular, on the more modern views where genuine interaction is emphasized (24). Additionally, schema therapy includes features and methods from, for example, Gestalt therapy, mentalization-based therapy, dialectical behaviour therapy and positive psychology (25−28).

SCHEMAS AND SCHEMA DOMAINS

In the original schema model, a total of 18 EMS were portrayed (3). They were further classified into five schema domains: 1) Disconnection and Rejection (5 schemas), 2) Impaired Autonomy and Performance (4 schemas), 3) Impaired Limits (2 schemas), 4) Other-Directedness (3 schemas) and 5) Over-vigilance and Inhibition (4 schemas).

However, later studies found limited support for this five-domain model and a four-factor model was suggested as more feasible (29–31). In 2018, based on a thorough factorial analysis, an update to the organization of the schema model was presented (28). There are still 18 EMS, but in the current model the number of schema domains has been reduced to four, and additionally, schemas that are closely related to other domains are identified. EMS and schema domains are presented in *Table 1*.

In general, EMS in the Disconnection and Rejection domain are considered to be most firwmly associated with psychological damage (3). EMS may be conditional and unconditional, the former being typically connected to the latter. For example, an individual may try to compensate an unconditional schema of Defectiveness with a conditional schema of Unrelenting Standards.

Table 1. The 18 early maladaptive schemas categorized into the four schema domains.

Disconnection and Rejection		**Impaired Autonomy and Performance**	
Emotional Deprivation	Feels that others do not respond adequately to emotional needs. Typically contains deficiency of care and empathy	Dependence / Incompetence	Does not believe to be capable of handling one's daily responsibilities and feels dependent on others
Social Isolation / Alienation	Feels different and separate from others	Failure to Achieve	Believes to have failed or will fail. Typically, also includes thoughts of one's own inferiority
Emotional Inhibition	Is obstructed in relation to one's own feelings, wishes and other people. Fears shame and loss of control	Subjugation	Resigns to the will of others because of being afraid of the consequences of refusal. Mainly suppresses needs and / or emotions
Defectiveness / Shame	Experiences being inferior and less valuable than others. Fear of shame can be related to private experiences, such as one's own feelings and thoughts, or to public ones, such as appearance	Abandonment / Instability	Close relatives are perceived as unstable or unreliable and therefore, unable to meet one's emotional or practical needs
Mistrust / Abuse	Assumes that others cannot be trusted, since they wound or exploit	Enmeshment	Emotional entanglement with one or more close relative, based on the belief that at least one of them needs constant support
Pessimism	Thinking is dominated by focusing on the negative aspects of matters and disaster thinking, while ignoring the positive aspects	Vulnerability to Harm	Is excessively afraid of a disaster, which can be a serious illness or an accident, for example
Self-Punitiveness[a]		Insufficient Self-Control[a]	
Vulnerability to Harm[a]		Pessimism[a]	
Excessive Responsibility and Standards		**Impaired Limits**	
Self-Sacrifice	Concentrates too much on the needs of others and often fails to meet one's own needs	Entitlement / Grandiosity	Believes that being superior to others is entitled to a variety of privileges and to take whatever one wants ignoring others
Unrelenting Standards	Has high internal standards, which must be achieved, typically to avoid criticism. Appears as perfectionism and rigid rules	Approval Seeking	Self-respect is based on the acceptance and attention of others, guiding the behaviour and decisions
Self-Punitiveness	Tendency to be harsh on both one's own and others' mistakes, and a rigid belief that mistakes should be punished	Insufficient Self-Control	Lacks self-discipline or is reluctant to use it to achieve one's own goals. May also occur as an emphasis on avoiding undesirable experiences
Enmeshment[a]			
Subjugation[a]			
Pessimism[a]			

[a]Potential secondary domain affiliations

COPING RESPONSES

Young et al. (2003) defined that EMS consist of emotions, cognitions, memories and bodily feelings (3). In order to cope with the difficult thoughts and emotions associated with the EMS, individuals are susceptible to dysfunctional coping responses. These responses can be categorized into three types: compliant surrender, detached avoidance and overcompensation. Compliant surrender indicates that the individual accepts the EMS as the truth and acts accordingly. In detached avoidance, different means to avoid unpleasant thoughts and feelings caused by the activation of the EMS are utilized. An overcompensating individual is actively acting against the EMS. On the one hand, this can be perceived as a somewhat constructive attempt to be non-subjugated, but on the other hand, the means are typically so overstretched and powerful that the EMS is strengthened rather than weakened.

Interestingly, although founded on cognitive behavioural therapy, in schema therapy, behaviour is perceived as a reaction or subordinate to the activated schema, not as a central part of it. In part, this is explained by the coping responses, which define the typical behavioural features. From the standpoint of radical behaviourism (32), as well as modern contextual behavioural science (e.g. 33), this is questionable, since most human activities, both active and passive, may justifiably be conceived as behaviour. Thus, such a straightforward categorization may be a bit artificial. Although mostly a conceptual question, it is important to observe that many fundamental features of the EMS are based on externally observable behaviour, for example, for Self-sacrifice and Enmeshment.

SCHEMA MODES

The schema modes were introduced as an extension of the original schema model (34). A key factor was the finding that patients suffering from the most severe disorders, such as personality disorders, typically have multiple EMS and they swiftly switch between them. Thus, the identification and working with EMS alone was not effective enough (3). Modes can be defined as an organized way of thinking and feeling, and a selection of coping skills associated with an activated schema. That is, where schemas refer to "traits", modes represent "states". Modes can be categorized as Innate child modes, Maladaptive coping modes and Maladaptive parent modes. Additionally, there's a Healthy adult mode, which schema therapy aims to strengthen. The modes are depicted in *Table 2*.

There is an ongoing debate regarding the actual number of schema modes. Some researchers emphasize the need for additional modes in order to improve the understanding of personality, while some strive to keep the model simple and based on the core needs (35). In all, the Vulnerable child mode can be regarded as the mode that manifests the most central unmet needs and thus, typically holds most of the EMS (36).

Table 2. The schema modes.

Innate Child Modes	
Vulnerable Child	Feels lonely, misunderstood and deprived
Angry Child	Indicates anger as a reaction to a situation where one sees their core emotional needs ignored
Impulsive or Undisciplined Child	Acts impulsively or selfishly for immediate satisfaction without considering others
Contented Child	Feels loved and satisfied
Maladaptive Coping Modes	
Compliant Surrenderer	Acts in a passive manner, tolerates abuse and adapts helplessly
Detached Protector	Detaches from people and avoids investing in others
Overcompensator	Acts, for example, in a dominant and controlling manner in order to compensate unmet core needs
Maladaptive Parent Modes	
Punitive Parent	Is punitive and reproachful against oneself and others
Demanding or Critical Parent	Is demanding and presses
Healthy Adult Mode	
Healthy Adult	Meets the needs and limits innate child modes, replaces maladaptive coping modes and neutralizes maladaptive parent modes. Represents normal adult functions

MEASUREMENT OF EMSS AND SCHEMA MODES

The gold standard for measurement of EMS is the Young Schema Questionnaire (YSQ). Currently, the newest versions are the YSQ–Long Form 3 (YSQ-L3) and YSQ–Short Form 3 (YSQ-S3; 37). The psychometric properties of the different versions of the YSQ have been investigated in a number of studies and the properties have been reported to be good (e.g. 38,39). The short and modified second version of the questionnaire (YSQ-S2-Extended; 40) has also been studied in the Finnish population and the psychometric properties of it have been shown to be adequate (41).

Schema modes are typically assessed using the 118-item short version of the Schema Mode Inventory (SMI; 42). SMI is based on a 14-factor model that, compared with the original schema model, adds both two child modes and two coping response modes. The validity and reliability of the scale have been confirmed in different populations (43,44). The measure has also been further adapted, for example, to include more modes (45). Although a Finnish translation of the SMI exists, to our knowledge, it has not yet been validated.

Regarding adolescents, the psychometric properties of the YSQ measures have been assessed only in a handful of studies (e.g. 46,47). Güner (2017) studied an alternative EMS measure, the Early Maladaptive Schema Questionnaires Set for Children and Adolescents (SQS), in a sample of 10 to 16-year-olds and found the psychometric properties of the scale to be adequate (48). The psychometric properties of SMI have been confirmed in a couple of Dutch adolescent samples (49,50). In their study, Roelofs et al. (2016) used an applied version of the SMI, the Schema Mode Inventory for Adolescents (SMI-A; 49).

DEVELOPMENT OF EMS IN ADOLESCENCE

To what extent adolescence is intertwined with the development of EMS is still scarcely studied. One limitation is that there are only a handful of longitudinal studies exploring these questions. However, the basis for the schema development is in childhood events and interactions, and thus, it is plausible that as in personality development, the distinctive features and behavioural repertoire settles during adolescence.

In a study conducted in a sample of college students, both childhood emotional abuse and neglect were linked to depression and anxiety, and these associations were mediated by specific EMS (5). Additionally, in one study EMS were found to mediate the link between psychopathological symptoms and attachment anxiety in full, and further, in part between psychopathology and attachment avoidance (51). However, an important limitation for samples including adults, even young, is that the assessment of experiences regarding childhood attachment and adversities is retrospective, which is subjective to cognitive bias. Simard et al. (2011) conducted a longitudinal study linking the attachment type at 6 years of age with EMS 15 years later (7). Insecure attachment in general was not associated with EMS, however, particularly insecure ambivalent child attachment was, as well as insecure preoccupied attachment style as adult. More recently, Roelofs et al. (2013) studied a clinically referred sample of 12 to 18-year-olds and found partial support that EMS operate as mediators between attachment quality emotional problems (52). Although the evidence is still scarce, EMS may be hypothesized to represent "a cognitive mediator in the relation between attachment insecurity and psychopathology" (52).

EMS AND MENTAL DISORDERS IN ADOLESCENCE

In adults, EMS have been studied in relation to various types of psychiatric symptoms and disorders. For example, EMS have been linked to depression (8), bipolar disorder (9), BPD (10,11) and other personality disorders (12). Additionally, EMS have been associated with attention-deficit hyperactivity disorder (53), eating disorders (54), obsessive-compulsive disorder (55), post-traumatic stress disorder (56) and other anxiety disorders (57), as well as with schizophrenia (58), psychotic experiences (13) and somatization and somatoform disorders (16,59).

In young people, there is evidence that EMS are linked to both depressive and anxiety-related symptoms (60). Regarding the separate EMS, depression has been associated with Insufficient Self-Control, Incompetence, Defectiveness and Vulnerability to Harm (61). The schema domain Other-Directedness, as well as Disconnection and Rejection, appear to mediate the connection between depressive symptoms and the quality of attachment relationships (18). Other-Directedness, in addition to Over-vigilance and Inhibition, have also been suggested to mediate the connection between depression and co-rumination in females (62). Among a sample of college students, the EMS Defectiveness/Shame, Vulnerability to Harm and Self-Sacrifice mediated the connection between childhood experiences of emotional neglect and abuse and depression and anxiety later in life (5). Furthermore, the EMS of Vulnerability to Harm and Defectiveness/Shame

mediated the link between emotional neglect and dissociative symptoms. Regarding the stability of depression, the schema domains Impaired Autonomy, Disconnection and Rejection and Other-Directedness have been found to have a significant effect on the stability of adolescents' depression (63). Orue et al. (2014) assessed a large sample (n=1170) of adolescents in a 12-month follow-up study and found evidence that schema domains are linked to either depression or social anxiety, or both, also in longer time periods (64). However, there are also findings that indicate that the impact of EMS on adolescents' depression is relevant mainly in late adolescence (65).

EMS appear to increase the vulnerability to anxiety symptoms (60). Regarding anxiety, the relevance of EMS has most firmly been associated with the development of social anxiety symptoms in adolescents (66). The schema domain of Other-Directedness has been suggested to mediate the relation between exposure to emotional bullying experiences and neurotic personality features with social anxiety (4). However, in addition to Other-Directedness, Impaired Limits and Impaired Autonomy and Performance have also been linked to social anxiety (67).

Among young adults, there is also evidence that EMS may mediate the connection between eating pathology and experiences of abuse in childhood (68). In adolescents, the relevance of EMS has been observed in relation to anorexia nervosa (20). Regarding eating disorder symptoms, the EMS of Dependence/Incompetence and Defectiveness/Shame have been suggested to mediate the link between the symptoms and parental bonding (69). Eating pathology has been linked to EMS in overweight adolescents as well (70,71). Obese adolescents have been shown to have elevated levels of EMS, and the EMS to be connected to both externalizing and internalizing psychological symptoms (70). Zhu et al. (2016) also found a link between EMS, in addition to impulsivity and life event stress, and binge eating (72).

In a study among young adults, Meyer et al. (2001) reported an association of EMS with bulimic symptoms, but the link was mediated by BPD characteristics (73). Indeed, different aspects of BPD have also been shown to be linked to EMS in adolescents and young adults (74). However, when diagnostic features of BPD have been assessed in young people in relation to EMS, compared with controls, BPD is associated with substantial levels of EMS, but the schema profiles are not directly associated with the actual diagnostic criteria (75).

It has been observed that different types of EMS predict the development of different disorders (76). On the other hand, although externalizing and internalizing problems differ in their manifestation, Disconnection and Rejection appears to be associated with both types of problems in adolescence (77). In addition, a recent study highlighted Disconnection and Rejection, as well as Impaired Autonomy, as mediators between childhood maltreatment and psychological symptoms in adolescence (78). Thus, these findings also support the early observation by Young et al. (2003) that Disconnection and Rejection appears to be linked to most significant psychological damage (3).

EMS AND HARMFUL BEHAVIOUR IN ADOLESCENTS

NON-SUICIDAL SELF-INJURY

In adults, there is a moderate amount of studies linking EMS and suicidality in clinical samples, such as patients suffering from bipolar disorder (79,80) or obsessive-compulsive disorder (81). In addition, there are studies on EMS and parasuicidal behaviour (82). Regarding young adults, studies on non-suicidal self-injurious behaviour have shown that EMS may have a role in the behaviour. Lewis et al. (2015) suggested that high scores for Emotional Inhibition and Social Isolation/Alienation, and low scores for Entitlement/Grandiosity EMS, may differentiate those having self-injurious behaviour from those who do not harm themselves (83). Besides Social Isolation/Alienation, also Insufficient Self-Control, Emotional Deprivation and Mistrust/Abuse may differentiate those who harm themselves from others (84).

In student populations, EMS of Emotional Deprivation and Defectiveness have been suggested to be significantly linked to suicidal ideation and suicide proneness (85). Insufficient Self-Control may also mediate the link between proneness to suicide and procrastination (86). Both interpersonal and intrapersonal schemas also have significance on different motivations to harm oneself (87). Among adolescent inpatients, research has shown that EMS, in addition to other cognitive factors, may mediate the link between socioenvironmental factors and adolescents' mood problems and suicidality (88). Regarding young eating disorder patients, there are indications that individuals with self-harm behaviour have higher levels of EMS compared to eating disorder patients who do not harm themselves (89).

SUBSTANCE ABUSE

Among adults, EMS have been associated with both alcohol dependency and other substance use disorders (e.g. 90–93). In a sample of young adults, Shorey et al. (2012) reported that some patients with opioid dependency had as many as all the 18 EMS, the most prevalent one being Insufficient Self-Control (94). In addition to Insufficient Self-Control, also Subjugation, Abandonment, Emotional Deprivation and Mistrust/Abuse have been reported to be related to cannabis dependency (95). In one report, compared with a non-clinical control group, substance abusing young women had higher scores on 16 out of the 18 EMS, while substance abusing young men had higher scores on 9 out of the 18 EMS (18,96). EMS have also been associated with alcohol misuse in student populations (14). In this age group, consumption of alcohol has been associated with several EMS, for example, Entitlement/Grandiosity, Mistrust, Abandonment and Vulnerability to Harm (97). When comparing adolescents who do not use alcohol, or use it only occasionally, to adolescents who misuse alcohol, the two groups differ in terms of activation of the EMS in general, and particularly on the EMS of Defectiveness, Abandonment, Insufficient Self-Control, Grandiosity, Emotional Inhibition and Vulnerability (98).

AGGRESSIVE BEHAVIOUR

In adults, EMS have been associated with aggression in different samples consisting of, for example, criminal offenders (99) and perpetrators of violence in intimate partner relationships (100). In the latter population, the association has also been studied in relation to trauma exposure (101). Although there is some variation, particular EMS appear to be rather common among adults with pathological aggression: Entitlement/Grandiosity, Mistrust/Abuse, and the schema domains of both Impaired Limits and Disconnection and Rejection (102). Interestingly, the two same domains have been shown to be linked to aggression in individuals with substance use disorders (103), and, in particular, Disconnection and Rejection with overt and physical aggression in patients with BPD as well (104).

In student populations, the link between EMS and aggression has also been observed (105). Entitlement, Mistrust and Insufficient Self-Control have been shown to be related to trait aggressiveness (106). Research also indicates that the Disconnection and Rejection schema domain may mediate the link between childhood experiences of emotional abuse and violence in intimate partner relationships later in life, for both the perpetrators and victims (107). In addition, Subjugation may mediate the connection between dysfunctional parenting recollection and victimization in intimate relationship violence, whereas Mistrust/Abuse and Insufficient Self-Control may mediate the link between the similar recollections and being a perpetrator of such violence (108). In a study among young couples, Shanks et al. (2013) found the schema domains of Impaired Autonomy, as well as Disconnection and Rejection to be associated with violence in women, whereas for men, mainly hostility mediated the link between Impaired Limits and violence (109).

In adolescents, the relevance of EMS in aggression has attained interest, although the studies mostly have combined theory and measurements of EMSs with wider conceptualizations and measurements of cognitive schemas. EMS have been linked to aggression regarding, for example, social information processing (110), aggression of children towards their parents (111), family violence exposure (112), perpetration of dating violence (113) and antisocial behaviour (114). EMS have also been studied in the context of cyberbullying, and the results indicate that both victims/aggressors and victims involved in cyberbullying have higher scores for most EMS compared with those who are not involved in the phenomenon (115).

CONCLUSION

Although the theory behind EMS is firmly based on tried theories, the categorization and the actual number of EMS and schema modes is still subject to fine-tuning. In adults, EMS have been strongly associated with a wide range of psychopathology, and research on similar links, as well as associations typical for adolescents, is slowly but steadily increasing. One of the most important aspects for the emergence of schema therapy was the endeavour to improve treatment of patients suffering from such difficult disorders that are challenging for traditional psychotherapy treatments. Taking into account both the developmental aspects and malleability associated with adolescence, and the high risk for emergence of mental disturbances, adolescence is also a tempting phase for interventions. In this spirit, for example, current guidelines for BPD emphasize the importance of identifying and initiating evidence-based treatment already in adolescence (e.g. 116,117). Thus, intervention studies on schema therapy applied to adolescents are more than welcome. Interestingly, primary results for a group-based intervention for adolescents have been reported (118).

Although these advancements are of high importance, also other interesting aspects of EMS in adolescence are yet to be explored. For example, how attachment problems progress to actual EMS, what their actual significance as a risk factor is for the emergence of mental disorders, and to what extent EMS are stable during adolescence.

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References

1. Piaget J. *The origins of intelligence in children.* New York, NY: International Universities Press 1952. doi: 10.1037/11494-000

2. Kellogg SH, Young JE. *Schema therapy for borderline personality disorder.* J Clin Psychol. 2006;62:445−58. doi: 10.1002/jclp.20240

3. Young JE, Klosko JS, Weishaar ME. *Schema therapy: a practitioner's guide.* New York, NY: Guildford Press 2003.

4. Calvete E. *Emotional abuse as predictor of early maladaptive schemas in adolescents: contributions to the development of depressive and social anxiety symptoms.* Child Abuse Negl. 2014;38:735−46. doi: 10.1016/j.chiabu.2013.10.014

5. Wright MO, Crawford E, Del Castillo D. *Childhood emotional maltreatment and later psychological distress among college students: the mediating role of maladaptive schemas.* Child Abuse Negl. 2009;33:59−68. doi: 10.1016/j.chiabu.2008.12.007

6. Thimm JC. *Relationships between early maladaptive schemas and psychosocial developmental task resolution.* Clin Psychol Psychother. 2010;17:219−30. doi: 10.1002/cpp.647

7. Simard V, Moss E, Pascuzzo K. *Early maladaptive schemas and child and adult attachment: a 15-year longitudinal study.* Psychol Psychother-T. 2011;84:349−66. doi: 10.1111/j.2044-8341.2010.02009.x

8. Halvorsen M, Wang CE, Eisemann M, Waterloo K. *Dysfunctional Attitudes and Early Maladaptive Schemas as Predictors of Depression: A 9-Year Follow-Up Study.* Cogn Ther Res. 2010;34:368−79. doi: 10.1007/s10608-009-9259-5

9. Nilsson AKK, Jørgensen CR, Straarup KN, Licht RW. *Severity of affective temperament and maladaptive self-schemas differentiate borderline patients, bipolar patients, and controls.* Compr Psychiatry. 2010;51:486−91. doi: 10.1016/j.comppsych.2010.02.006

10. Sempértegui GA, Karreman A, Arntz A, Bekker MH. *Schema therapy for borderline personality disorder: a comprehensive review of its empirical foundations, effectiveness and implementation possibilities.* Clin Psychol Rev. 2013;33:426−47. doi: 10.1016/j.cpr.2012.11.006

11. Frías Á, Navarro S, Palma C, Farriols N, Aliaga F, Salvador A, Aluco E, Martinez B, Solves L. *Early maladaptive schemas associated with dimensional and categorical psychopathology in patients with borderline personality disorder.* Clin Psychol Psychother. 2018;25:e30−e41. doi: 10.1002/cpp.2123

12. Bamelis LL, Evers SM, Spinhoven P, Arntz A. *Results of a multicenter randomized controlled trial of the clinical effectiveness of schema therapy for personality disorders.* Am J Psychiatry. 2014;171:305−22. doi: 10.1176/appi.ajp.2013.12040518.

13. Boyda D, McFeeters D, Dhingra K, Rhoden L. *Childhood maltreatment and psychotic experiences: Exploring the specificity of early maladaptive schemas.* J Clin Psychol. 2018;74:2287−301. doi: 10.1002/jclp.22690

14. Simons RM, Sistad RE, Simons JS, Hansen J. *The role of distress tolerance in the relationship between cognitive schemas and alcohol problems among college students.* Addict Behav. 2018;78:1−8. doi: 10.1016/j.addbeh.2017.10.020

15. Özdin S, Sarisoy G, Şahin AR, Arik AC, Özyıldız Güz H, Böke Ö, Karabekiroğlu A. *Early maladaptive schemas in patients with bipolar and unipolar disorder.* Int J Psychiatry Clin Pract. 2018;22:151−6. doi: 10.1080/13651501.2017.1387268

16. Davoodi E, Wen A, Dobson KS, Noorbala AA, Mohammadi A, Farahmand Z. *Early maladaptive schemas in depression and somatization disorder.* J Affect Disord. 2018;235:82−9. doi: 10.1016/j.jad.2018.04.017

17. Saariaho THJ, Saariaho ASI, Karila IA, Joukamaa MI. *Early maladaptive schemas in Finnish adult chronic male and female pain patients.* Scand J Pain. 2010;1:196−202. doi: 10.1016/j.sjpain.2010.09.003

18. Roelofs J, Lee C, Ruijten T, Lobbestael J. *The mediating role of early maladaptive schemas in the relation between quality of attachment relationships and symptoms of depression in adolescents.* Behav Cogn Psychother. 2011;39:471−9. doi: 10.1017/

S1352465811000117

19. Shorey RC, Stuart GL, Anderson S. *Early maladaptive schemas among young adult male substance abusers: a comparison with non-clinical group.* J Subst Abuse Treat. 2013;44:522−7. doi: 10.1016/j.jsat.2012.12.001

20. Damiano SR, Reece J, Reid S, Atkins L, Patton G. *Maladaptive schemas in adolescent females with anorexia nervosa and implications for treatment.* Eat Behav. 2015;16:64−71. doi: 10.1016/j.eatbeh.2014.10.016

21. Bowlby J. *The making and breaking of affectional bonds: I. Aetiology and psychopathology in the light of attachment theory.* Br J Psychiatry. 1977;130:201−10. doi: 10.1192/bjp.130.3.201

22. Alford PA, Beck AT. *The integrative power of cognitive therapy.* New York, NY: Guilford Press 1997.

23. Beck AT. Beyond belief: *A theory of modes, personality, and psychopathology.* In: Salkovskis P (ed.). *Frontiers of cognitive therapy.* New York, NY: Guilford Press 1996.

24. Shane M, Shane E, Gales M. *Intimate attachments: Toward a new self psychology.* New York, NY: Guilford Press 1997.

25. Lockwood G, Shaw I. *Schema therapy and the role of joy and play.* In: Broersen J, van Vreeswijk M. (eds.). *The Wiley-Blackwell handbook of schema therapy: Theory research and practice.* Chichester, UK: Wiley 2012.

26. Montgomery-Graham S. *DBT and schema therapy for borderline personality disorder: Mentalization as a common factor.* J Contemp Psychother. 2016;46:53−60. doi: 10.1007/s10879-015-9309-0

27. Taylor DJ, Arntz A. *Schema therapy.* In: Wood AM, Johnson J. (eds.). *The Wiley-Blackwell handbook of positive clinical psychology.* Chichester, UK: Wiley-Blackwell 2016.

28. Bach B, Lockwood G, Young JE. *A new look at the schema therapy model: organization and role of early maladaptive schemas.* Cogn Behav Ther. 2018;47:328−49. doi: 10.1080/16506073.2017

29. Kriston L, Schäfer J, von Wolff A, Härter M, Hölzel LP. *The latent factor structure of Young's early maladaptive schemas: Are schemas organized into domains?* J Clin Psychol. 2012;68:684−98. doi: 10.1002/jclp.21846

30. Lockwood G, Perris P. *A new look at core emotional needs.* In: Broersen J, van Vreeswijk M (eds.). T*he Wiley-Blackwell handbook of schema therapy: Theory research and practice.* Chichester, UK: Wiley 2012.

31. Young JE. *Early maladaptive schemas – Revised.* New York, NY: Cognitive Therapy Center of New York 2014.

32. Skinner BF. *The operational analysis of psychological terms.* Psychol Rev. 1945;52:270−7. doi: 10.1037/h0062535

33. Zettle RD, Hayes SC, Barnes-Holmes D, Biglan A. *The Wiley Handbook of Contextual Behavioral Science.* Chichester, UK: Wiley Blackwell 2016. doi: 10.1002/9781118489857

34. Young JE, First MB. *Schema mode listing.* Schema Therapy Institute 2003. Retrieved from: www.schematherapy.com/id72.htm

35. Flanagan CM. *Unmet needs and maladaptive modes: a new way to approach longer-term problems.* J Psychother Integr. 2014;24:208−22. doi: 10.1037/a0037513

36. Rafaeli E, Bernstein DP, Young JE. *Schema therapy: Distinctive features.* East Sussex, UK: Routledge 2011.

37. Young JE. *Young schema questionnaire – Short form 3 (YSQ-S3).* New York, NY: Cognitive Therapy Center of New York 2005.

38. Schmidt NB, Joiner TE, Young JE, Telch MJ. *The Schema Questionnaire: Investigation of psychometric properties and the hierarchical structure of a measure of maladaptive schemata.* Cognit Ther Res. 1995;19:295−321. doi: 10.1007/BF02230402

39. Lee CW, Taylor G, Dunn J. *Factor structure of the Schema Questionnaire in a large clinical sample.* Cognit Ther Res. 1999;23:421−51. doi: 10.1023/A:1018712202933

40. Young JE, Brown, G. *Young Schema Questionnaire – Short form, 2nd ed.* New York, NY: Cognitive Therapy Center of New York 2003.

41. Saariaho T, Saariaho A, Karila I, Joukamaa M. *The psychometric properties of the Finnish Young Schema Questionnaire in chronic pain patients and a non-clinical sample.* J Behav Ther Exp Psychiatry. 2009;40:158−86. doi: 10.1016/j.jbtep.2008.07.005

42. Young JE, Arntz A, Atkinson T, Lobbestael J, Weishaar ME, van Vreeswijk MF. *The Schema Mode Inventory.* New York, NY: Schema Therapy Institute 2007.

43. Lobbestael J, van Vreeswijk M, Spinhoven P, Schouten E, Arntz A. *Reliability and validity of the short Schema Mode Inventory (SMI).* Behav Cogn Psychother. 2010;38:437−58. doi: 10.1017/S1352465810000226.

44. Reiss N, Krampen D, Christoffersen P, Bach B. *Reliability and validity of the Danish version of the Schema Mode Inventory (SMI).* Psychol Assess. 2016;28:e19-26. doi: 10.1037/pas0000154

45. Bamelis LL, Renner F, Heidkamp D, Arntz A. *Extended schema mode conceptualizations for specific personality disorders: an empirical study.* J Pers Disord. 2011;25:41–58. doi: 10.1521/pedi.2011.25.1.41

46. Saritas D, Gencöz T. *Psychometric properties of "Young Schema Questionnaire – Short Form 3" in a Turkish adolescent sample.* J Cogn Behav Psychot. 2011;11:83−96.

47. Yan Y, Wang J, Yu W, He L, Oei TPS. *Young Schema Questionnaire: Factor Structure and Specificity in Relation to Anxiety in Chinese Adolescents.* Psychiatry Investig. 2018;15:41−8. doi: 10.4306/pi.2018.15.1.41.

48. Güner O. *Psychometric Properties and Normative values of Early Maladaptive Schema Questionnaires Set for Children and Adolescents (SQS).* Clin Psychol Psychother. 2017;24:534−54. doi: 10.1002/cpp.2049

49. Roelofs J, Muris P, Lobbestael J. *Acting and Feeling Like a Vulnerable Child, an Internalized "Bad" Parent, or a Healthy Person: The Assessment of Schema Modes in Non-Clinical Adolescents.* J Pers Disord. 2016;30:469−82. doi: 10.1521/pedi_2015_29_209

50. van Wijk-Herbrink MF, Roelofs J, Broers NJ, Rijkeboer MM, Arntz A, Bernstein DP. *Validation of Schema Coping Inventory and Schema Mode Inventory in Adolescents.* J Pers Disord. 2018;32:220−41. doi: 10.1521/pedi_2017_31_295

51. Bosmans G, Braet C, Van Vlierberghe L. *Attachment and symptoms of psychopathology: early maladaptive schemas as a cognitive link?* Clin Psychol Psychother. 2010;17:374−85. doi: 10.1002/cpp.667

52. Roelofs J, Onckels L, Muris P. *Attachment quality and psychopathological symptoms in clinically referred adolescents: the mediating role of early maladaptive schema.* J Child Fam Stud. 2013;22:377−85. doi: 10.1007/s10826-012-9589-x

53. Miklósi M, Máté O, Somogyi K, Szabó M. *Adult attention deficit hyperactivity disorder symptoms, perceived stress, and well-being: The role of early maladaptive schemata.* J Nerv Ment Dis. 2016;204:364−69. doi: 10.1097/NMD.0000000000000472

54. Legenbauer T, Radix AK, Augustat N, Schütt-Strömel S. *Power of cognition: How dysfunctional cognitions and schemas influence eating behavior in daily life among individuals with eating disorders.* Front Psychol. 2018;9:1−13. doi: 10.3389/fpsyg.2018.02138

55. Haaland AT, Vogel PA, Launes G, Haaland VØ; Hansen B; Solem S; Himle JA, *The role of early maladaptive schemas in predicting exposure and response prevention outcome for obsessive-compulsive disorder.* Behav Res Ther. 2011;49:781−8. doi: 10.1016/j.brat.2011.08.007

56. Ahmadian A, Mirzaee J, Omidbeygi M, Holsboer-Trachsler E, Brand S. *Differences in maladaptive schemas between patients suffering from chronic and acute posttraumatic stress disorder and healthy controls.* Neuropsychiatr Dis Treat. 2015;11:1677–84. doi: 10.2147/NDT.S85959

57. Hawke LD, Provencher MD. *Early Maladaptive Schemas: Relationship With Case Complexity in Mood and Anxiety Disorders.* J

Cognit Psychother. 2013;27:359−69. doi: 10.1891/0889-8391.27.4.359

58. Bortolon C, Capdevielle D, Boulenger J-P, Gely-Nargeot M-C, Raffard S. *Early maladaptive schemas predict positive symptomatology in schizophrenia: A cross-sectional study.* Psychiatry Res. 2013;209:361−66. doi: 10.1016/j.psychres.2013.03.018

59. Henker J, Keller A, Reiss N, Siepmann M, Croy I, Weidner K. *Early maladaptive schemas in patients with somatoform disorders and somatization.* Clin Psychol Psychother. 2019;1−12. doi: 10.1002/cpp.2363

60. Cámara M, Calvete E. *Early maladaptive schemas as moderators of the impact of stressful events on anxiety and depression in university students*. J Psychopathol Behav Assess. 2012;34:58−68. doi: 10.1007/s10862-011-9261-6

61. Harris AE, Curtin L. Parental Perceptions, *Early Maladaptive Schemas, and Depressive Symptoms in Young Adults*. Cogn Ther Res. 2002;26:405−16. doi: 10.1023/A:1016085112981

62. Balsamo M, Carlucci L, Sergi MR, Klein Murdock K, Saggino A. *The mediating role of early maladaptive schemas in the relation between co-rumination and depression in young adults.* PLoS One. 2015;10:1−14. doi: 10.1371/journal.pone.0140177

63. Calvete E, Orue I, Hankin BL. *A longitudinal test of the vulnerability-stress model with early maladaptive schemas for depressive and social anxiety symptoms in adolescents.* J Psychopathol Behav Assess. 2015;37:85−99. doi: 10.1007/s10862-014-9438-x

64. Orue I, Calvete E, Padilla P. *Brooding rumination as a mediator in the relation between early maladaptive schemas and symptoms of depression and social anxiety in adolescents.* J Adolesc. 2014;37:1281−91. doi: 10.1016/j.adolescence.2014.09.004

65. Braet C, Vlierberghe LV, Vandevivere E, Theuwis L, Bosmans G. *Depression in Early, Middle and Late Adolescence: Differential Evidence for the Cognitive Diathesis-Stress Model.* Clin Psychol Psychother. 2013;20:369-83. doi: 10.1002/cpp.1789

66. Calvete E, Orue I, Hankin BL. *Early maladaptive schemas and social anxiety in adolescents: The mediating role of anxious automatic thoughts.* J Anxiety Disord. 2013;27:278−88. doi: 10.1016/j.janxdis.2013.02.011

67. González-Díez Z, Calvete E, Riskind JH, Orue I. *Test of an hypothesized structural model of the relationships between cognitive style and social anxiety: A 12-month prospective study.* J Anxiety Disord. 2015;30:59−65. doi: 10.1016/j.janxdis.2014.12.014

68. Jenkins PE, Meyer C, Blissett JM. *Childhood abuse and eating psychopathology: The mediating role of core beliefs.* J Aggress Maltreat Trauma. 2013;22:248−61. doi: 10.1080/10926771.2013.741665

69. Turner HM, Rose KS, Cooper MJ. *Parental bonding and eating disorder symptoms in adolescents: The meditating role of core beliefs.* Eat Behav. 2005;6:113−8. doi: 10.1016/j.eatbeh.2004.08.010

70. Van Vlierberghe L, Braet C. *Dysfunctional schemas and psychopathology in referred obese adolescents.* Clin Psychol Psychother. 2007;14:342−51. doi: 10.1002/cpp.546

71. Van Vlierberghe L, Braet C, Goossens L. *Dysfunctional schemas and eating pathology in overweight youth: A case–control study.* Int J Eat Disord. 2009;42:437−42. doi: 10.1002/eat.20638

72. Zhu H, Luo X, Cai T, He J, Lu Y, Wu S. *Life event stress and binge eating among adolescents: The roles of early maladaptive schemas and impulsivity.* Stress Health. 2016;32:395-401. doi: 10.1002/smi.2634

73. Meyer C, Leung N, Feary R, Mann B. *Core Beliefs and Bulimic Symptomatology in Non-Eating-Disordered Women: The Mediating Role of Borderline Characteristics.* Int J Eat Disord. 2001;30:434-40. doi: 10.1002/eat.1104

74. Esmaeilian N, Dehghani M, Koster EHW, Hoorelbeke K. *Early maladaptive schemas and borderline personality disorder features in a nonclinical sample: A network analysis.* Clin Psychol Psychother. 2019;26:388−98. doi: 10.1002/cpp.2360

75. Lawrence K, Allen J, Chanen A. *A Study of Maladaptive Schemas and Borderline Personality Disorder in Young People.* Cogn Ther Res. 2011;35:30−9. doi: 10.1007/s10608-009-9292-4

76. Van Vlierberghe L, Braet C, Bosmans G, Rosseel Y, Bögels S. *Maladaptive Schemas and Psychopathology in Adolescence: On*

the Utility of Young's Schema Theory in Youth. Cogn Ther Res. 2010;34:316−32. doi: 10.1007/s10608-009-9283-5

77. Van Wijk-Herbrink MF, Bernstein DP, Broers NJ, Roelofs J, Rijkeboer MM, Arntz A. *Internalizing and externalizing behaviors share a common predictor: The effects of early maladaptive schemas are mediated by coping responses and schema modes.* J Abnorm Child Psychol. 2018;46:907−20. doi: 10.1007/s10802-017-0386-2

78. Yiğit İ, Kılıç H, Guzey Yiğit M, Çelik C. *Emotional and physical maltreatment, early maladaptive schemas, and internalizing disorders in adolescents: A multi-group path model of clinical and non-clinical samples.* Curr Psychol. 2018;1−11. doi: 10.1007/s12144-018-0068-4

79. Khosravani V, Mohammadzadeh A, Sharifi Bastan F, Amirinezhad A, Amini M. *Early maladaptive schemas and suicidal risk in inpatients with bipolar disorder.* Psychiatry Res. 2019;271:351−9. doi: 10.1016/j.psychres.2018.11.067

80. Nilsson KK. *Early maladaptive schemas in bipolar disorder patients with and without suicide attempts.* J Nerv Ment Dis. 2016;204:236−9. doi: 10.1097/NMD.0000000000000451

81. Khosravani V, Sharifi Bastan F, Samimi Ardestani M, Jamaati Ardakani R. *Early maladaptive schemas and suicidal risk in an Iranian sample of patients with obsessive-compulsive disorder.* Psychiatry Res. 2017;255:44−-8. doi: 10.1016/j.psychres.2017.06.080

82. Leppänen V, Vuorenmaa E, Lindeman S, Tuulari J, Hakko H. *Association of parasuicidal behaviour to early maladaptive schemas and schema modes in patients with BPD: The Oulu BPD study.* Personal Ment Health. 2016;10:58−71. doi: 10.1002/pmh.1304

83. Lewis SP, Lumley MN, Grunberg PH. *Early maladaptive schemas and non-suicidal self-injury among young adults: A preliminary investigation.* Couns Psychol Q. 2015;28:386−402. doi: 10.1080/09515070.2015.1074887

84. Castille K, Prout M, Marczyk G, Shmidheiser M, Yoder S, Howlett B. *The Early Maladaptive Schemas of self-mutilators: Implications for therapy.* J Cogn Psychother. 2007;21:58−71. doi: 10.1891/088983907780493340

85. Langhinrichsen-Rohling J, Thompson K, Selwyn C, Finnegan H, Misra T. *Maladaptive schemas mediate poor parental attachment and suicidality in college students.* Death Stud. 2017;41:337−44. doi: 10.1080/07481187.2017.1280714

86. Klibert J, LeLeux-LaBarge K, Tarantino N, Yancey T, Lamis DA. *Procrastination and suicide proneness: A moderated-mediation model for cognitive schemas and gender.* Death Stud. 2016;40:350−7. doi: 10.1080/07481187.2016.1141262

87. Quirk SW, Wier D, Martin SM, Christian A. *The influence of parental rejection on the development of maladaptive schemas, rumination, and motivations for self-injury.* J Psychopathol Behav Assess. 2015;37:283−95. doi: 10.1007/s10862-014-9453-y

88. Reinecke MA, DuBois DL. *Socioenvironmental and cognitive risk and resources: Relations to mood and suicidality among inpatient adolescents.* J Cogn Psychother. 2001;15:195−222.

89. Pauwels E, Dierckx E, Schoevaerts K, Claes L. *Early maladaptive schemas in eating disordered patients with or without non-suicidal self-injury.* Eur Eat Disord Rev. 2016;24:399−405. doi: 10.1002/erv.2460

90. Shorey RC, Stuart GL, Anderson S. *Differences in early maladaptive schemas in a sample of alcohol- and opioid-dependent women: Do schemas vary across disorders?* Addict Res Theory. 2013;21:132−40. doi: 10.3109/16066359.2012.703266

91. Shorey RC, Elmquist J, Anderson S, Stuart GL. *The Relationship Between Early Maladaptive Schemas, Depression, and Generalized Anxiety among Adults Seeking Residential Treatment for Substance Use Disorders.* J Psychoactive Drugs. 2015;47:230−8. doi: 10.1080/02791072.2015.1050133

92. Khosravani V, Mehdizadeh A, Dortaj A, Alvani A, Amirinezhad A. *b) Early maladaptive schemas, behavioral inhibition/approach systems, and defense styles in the abusers of opiate, stimulant, and cannabis drugs and healthy subjects.* J Subst Use. 2017;22:317−23. doi: 10.1080/14659891.2016.1208776

93. Janson DL, Harms CA, Hollett RC, Segal RD. *Differences between Men and Women Regarding Early Maladaptive Schemas in*

an Australian Adult Alcohol Dependent Clinical Sample. Subst Use Misuse. 2019;54:177−84. doi: 10.1080/10826084.2018.1480038

94. Shorey RC, Stuart GL, Anderson S. *The early maladaptive schemas of an opioid-dependent sample of treatment seeking young adults: A descriptive investigation.* J Subst Abuse Treat. 2012;42:271−8. doi: 10.1016/j.jsat.2011.08.004

95. Grebot E, Dardard J, Briet G. *Schémas précoces inadaptés, croyances addictives et styles défensifs chez des étudiants consommateurs de cannabis [Early maladaptive schemas, addictive beliefs and defensive styles among student cannabis users].* Ann Med Psychol (Paris). 2016;174:93−9. doi: 10.1016/j.amp.2014.03.013

96. Shorey RC, Stuart GL, Anderson S. *Differences in Early Maladaptive Schemas between a Sample of Young Adult Female Substance Abusers and a Non-clinical Comparison Group.* Clin Psychol Psychother. 2014;21:21−8. doi: 10.1002/cpp.1803

97. Díaz CAG, Arévalo JB, Angarita EV, Ruiz YS. *Relación entre el consumo excesivo de alcohol y esquemas maladaptativos tempranos en estudiantes universitarios [Relation between excessive consumption of alcohol and early maladaptive schemes in university students].* Rev Colomb Psiquiatr. 2010;39:362−74. doi: 10.1016/S0034-7450(14)60256-0

98. Briet G. *Schémas précoces inadaptés et dimensions de la personnalité chez des adolescents consommateurs abusifs d'alcool [Early maladaptive schemas and personality domains among adolescent alcohol abusers].* Journal de Thérapie Comportementale et Cognitive. 2017;27:184−92. doi: 10.1016/j.jtcc.2017.03.001

99. Dunne AL, Gilbert F, Lee S, Daffern M. *The role of aggression-related early maladaptive schemas and schema modes in aggression in a prisoner sample.* Aggress Behav. 2018;44:246–56. doi: 10.1002/ab.21747

100. Corral C, Calvete E. *Early maladaptive schemas and personality disorder traits in perpetrators of intimate partner violence.* Span J Psychol. 2014;17:1−10. doi: 10.1017/sjp.2014.1

101. LaMotte AD, Taft CT, Weatherill RP. *Mistrust of others as a mediator of the relationship between trauma exposure and use of partner aggression.* Psychol Trauma. 2016;8:535−40. doi: 10.1037/tra0000157

102. Askari I. *Early maladaptive schemas and cognitive-behavioral aspect of anger: Schema model perspective.* J Ration Emot Cogn Behav Ther. 2018;1–22. doi: 10.1007/s10942-018-0311-9

103. Shorey RC, Elmquist J, Anderson S, Stuart GL. *Early maladaptive schemas and aggression in men seeking residential substance use treatment.* Pers Individ Dif. 2015;83:6−12. doi: 10.1016/j.paid.2015.03.040

104. Frías Á, Navarro S, Palma C, Farriols N, Aliaga F, Salvador A, Aluco E, Martínez B, Solves L. *Early maladaptive schemas associated with dimensional and categorical psychopathology in patients with borderline personality disorder.* Clin Psychol Psychother. 2018;25:e30-e41. doi: 10.1002/cpp.2123

105. Marengo SM, Klibert J, Langhinrichsen-Rohling J, Warren J, Smalley KB. *The relationship of early maladaptive schemas and anticipated risky behaviors in college students.* J Adult Dev. 2018;1–11. doi: 10.1007/s10804-018-9313-1

106. Tremblay PF, Dozois DJA. *Another perspective on trait aggressiveness: Overlap with early maladaptive schemas.* Pers Individ Dif. 2009;46:569−74. doi: 10.1016/j.paid.2008.12.009

107. Gay LE, Harding HG, Jackson JL, Burns EE, Baker BD. *Attachment style and early maladaptive schemas as mediators of the relationship between childhood emotional abuse and intimate partner violence.* J Aggress Maltreat Trauma. 2013;22:408−24. doi: 10.1080/10926771.2013.775982

108. Hassija CM, Robinson D, Silva Y, Lewin MR. *Dysfunctional Parenting and Intimate Partner Violence Perpetration and Victimization among College Women: the Mediating Role of Schemas.* J Fam Viol. 2018;33:65−73. doi: 10.1007/s10896-017-9942-3

109. Shanks É, Boucher S, Fernet M. *Les domaines de schémas, la communication et i'utilisation de comportements violents chez les jeunes couples [Schema domains, communication, and the use of violent behaviors in young couples].* Rev Psychoeduc. 2013;42:377−93.

110. Calvete E, Orue I. *Social Information Processing as a Mediator between Cognitive Schemas and Aggressive Behavior in Adolescents.* J Abnorm Child Psychol. 2012;40:105−17. doi:10.1007/s10802-011-9546-y

111. Calvete E, Orue I, Gamez-Guadix M, Bushman BJ. *Predictors of Child-to-Parent Aggression: A 3-Year Longitudinal Study.* Dev Psychol. 2015;51:663−76. doi: 10.1037/a0039092

112. Calvete E, Orue I. *Cognitive Mechanisms of the Transmission of Violence: Exploring Gender Differences among Adolescents Exposed to Family Violence.* J Fam Viol. 2013;28:73−84. doi: 10.1007/s10896-012-9472-y

113. Calvete E, Fernández-González L, Orue I, Little TD. *Exposure to family violence and dating violence perpetration in adolescents: Potential cognitive and emotional mechanisms.* Psychol Violence. 2018;8:67−75. doi: 10.1037/vio0000076

114. Calvete E. *Justification of Violence and Grandiosity Schemas as Predictors of Antisocial Behavior in Adolescents.* J Abnorm Child Psychol. 2008;36:1083-95. doi: 10.1007/s10802-008-9229-5

115. Mallmann CL, de Macedo Lisboa CS, Calza TZ. *Cyberbullying e Esquemas Iniciais Desadaptativos em Adolescentes Brasileiros [Cyberbullying and early maladaptive schema in Brazilian adolescents].* Revista Colombiana de Psicología. 2017;26:313−28. doi: 10.15446/rcp.v26n2.60631

116. National Institute for Health and Care Excellence. *Borderline personality disorder: recognition and management.* Published 28 January 2009. Available at: https://www.nice.org.uk/guidance/cg78 Accessed 28 June, 2019.

117. National Health and Medical Research Council. *Clinical Practice Guideline for the Management of Borderline Personality Disorder.* Melbourne, Australia: National Health and Medical Research Council 2012. Available at: https://www.nhmrc.gov.au/about-us/publications/clinical-practice-guideline-borderline-personality-disorder
Accessed 28 June, 2019.

118. Roeloefs J, Muris P, van Wesemael D, Broers NJ, Shaw I, Farrell J. *Group-Schematherapy for Adolescents: Results from a Naturalistic Multiple Case Study.* J Child Fam Stud. 2016;25:2246−57. doi: 10.1007/s10826-016-0391-z