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## PARENTAL ATTITUDES AND SUSCEPTIBILITY TO IMPULSIVE AGGRESSION. THE MEDIATION ROLE OF ALEXITHYMYA

**Abstract: Aim:** The study aimed at analyzing the relationship between parental attitudes and impulsive aggression, including the mediation role of alexithymia.

**Method:** The following tools were used in the study: Parental Bonding Instrument; Toronto Alexithymia Scale; Buss-Perry Aggression Questionnaire (BPAQ). The study sample was randomly selected from the general population, 197 people aged 22 to 43 ( $M = 34.42$ ;  $SD = 5.47$ ) in total. The study sample included slightly more women (53.8%) than men. Considering the level of education, the largest number of people had higher education (74.1%); the others had secondary education (14.2%) or a bachelor's degree (11.7%).

**Results:** The analyses – correlation, regression, and mediation – showed a moderate relationship between maternal control and difficulties in identifying emotions as well as between fatherly control and overall alexithymia scores and also separately with one of its components – externally-orientated thinking. Maternal control is associated with the development of hostility. On the

other hand, fatherly control increases the tendency to physical aggression, hostility, and anger. Alexithymia is strongly related to physical aggression, hostility, and anger and it is an important mediator between maternal and fatherly control and various aspects of aggression, increasing its intensity. Age correlates positively with the intensity of alexithymia.

**Conclusions:** The study shows strong relationships between parental attitudes, mainly control, and the tendency to develop alexithymia and to various manifestations of aggression. Alexithymia blocks the processes of identification and verbalization of emotions. As a result, the language is no longer used to regulate and control excitement and thus, it increases the risk of aggressive behavior. The results show that future research on the relationship between parental attitudes, alexithymia and aggression shall also include other dimensions of the emotional regulation.

**Keywords:** parental attitudes, alexithymia, aggression.

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## ATTACHMENT STYLES – ALEXITHYMIC AND THE SUSCEPTIBILITY TO AGGRESSION

In the attachment theory proposed by John Bowlby (1973, 1988), a child seeks a close relationship with a chosen person. The relationships determine affective growth, including the development of emotions and their regulation (Mikulincer, and Shaver, 2007; Mikulincer, Shaver, Pereg, 2003). According to attachment theories, early relations with important attachment figures are crucial for the evolution of internal working models for communication, emotional regulation and social behavior (Bowlby, 1988; Cooper, Shaver, Collins, 1998; Laible, 2007; Sroufe, and Fleeson, 1986). Attachment is a state of an individual feeling a strong tendency to seek intimacy with another person, the so-called attachment figure, especially when facing difficulties, danger, or stress. This person is most often the mother (Bowlby, 1988). Since infancy, real-life experiences affect the development of intrapsychic, internal, working, affective-cognitive models (internal working models of self, others, and self versus others), which becomes the basis for the use and development of complex strategies of regulating emotions in many emotional situations as well as for mentalization (Allen, Fonagy, Bateman, 2014).

According to the concept of mental representation of emotions (Maruszewski, Ścigała, 1998), the ability to create verbal and symbolic representations stimulates the mechanisms responsible for the development and regulation of emotions, and thus for the control of impulses. In a secure attachment, i.e. when a child experiences optimal care and control from parents, the cognitive representation created in the child's mind allows for a hidden expectation that any homeostatic imbalances will be corrected. This allows for the child's self-regulation, i.e. the ability to flexibly regulate emotional states in interpersonal relationships as well as in autonomous contexts (Schore, 2009). The reinforcement of such beliefs fosters the experience, interpretation and accurate regulation of emotions. Thus, to allow the growth, one needs to acquire language and communication competences, both in intrapsychic regulation as well as in interpersonal relations, since this enables effective communication.

According to Jon G. Allen, Peter Fonagy and Anthony Bateman (2014), the ability to create mental representations of affective states is essential for mentalization and reflective functioning in emotion-inducing situations. Considering the neural correlates related to the regulation of emotions, it can be assumed that the orbitofrontal part of the brain is specialized in the mobilization of effective behavior strategies when in new or ambiguous situations. It operates below consciousness and gets activated in response to insufficient information – when facing uncertainty and unpredictability.

Sense of security is a vital resource in secure attachment relationships, which, thanks to well-functioning brain structures, can protect against psychopathology caused by sudden stress or trauma experienced during late childhood, adolescence or adulthood. As suggested by Allan N. Schore (2009), it is the predominance of positive emotions in secure attachment that is responsible for the rapid development of brain structures and the complex network of connections between its parts. Repeated many times, the cycles of adjusting, disruption, and re-adjusting of higher levels of neural and mental organization teach the child, and then the adult, to activate adequate strategies of coping with arousal, depending on the stimulation. This also translates into effective processes of regulating emotions in social relations.

In the case of insecure attachment, internal working models strengthen the child's belief that the attachment figure will remain inaccessible or will react negatively to a request for help. This means that the experience of emotions also includes an element of suppression because the emotions are considered too dangerous to be fully experienced or named (Allen, Fonagy, Bateman, 2014). Apart from the belief that there would be no comfort from the caregiver, the internal working model in disorganized attachment also causes numerous dissociative contradictory expectations (Liotti, 2004). Such a relationship is also associated with "ever-growing fear – a child does not consider the caretaker as a "safe base" in a situation of danger or stress because he or she cannot predict the caretaker's reaction (Liotti, 2004). The more the bond is based on fear, feeling of abandonment or being misunderstood, the greater the chaos and the stronger the stress stimulation, both in childhood and in adulthood.

An insecure attachment – either high or low control as well as too much or too little care – inhibits a child's proper development, e.g. by evoking and maintaining long-lasting negative emotions, which are difficult to be named. When a caregiver, as an attachment figure, participates in the processes of regulating the child's arousal in a way that cannot be predicted, the child is unable to modulate these processes, and instead, this results in extreme levels of arousal – very high and/or very low. This can be observed in people who felt emotionally abandoned or neglected in their childhood (Dozier, Stovall, Albus, 1999; Main, 1996). The lack of synchrony in the child-parent relationship inhibits corrective functions in child's capacity for stimulation regulation and control. This promotes the development of a tendency to experience various negative emotions, including aggression, on the one hand, and alexithymia, on the other. Alexithymia decreases the ability to correctly identify and understand emotions, including those expressed with facial expression. Hence, the emotions – being important processes informing about mental states and relationships with other people – are used incorrectly, which increases the number of stressful situations experienced. Alexithymia is also associated with a dysfunction in the recognition of facial expressions, which results in deficits in the ability to create a semantic representation of emotional concepts (Grynberg et al., 2012).

According to developmental psychopathology, bonding-related disorders of relationships decrease the ability to create trust-based bonding relations and conduce to a wide spectrum of emotional disorders associated with psychopathology in adult life (Enns, Cox, Clara, 2002). Attachment-related traumas become a source of the fear of rejection and of emotional closeness to other people in adulthood, thus, increasing stress and uncertainty in relationships (Gillath, Shaver, 2007; Greenberg, 1999). This is associated with a limited ability to form bonds, which means that "Attachment trauma in childhood is especially pernicious in hampering development, including the development of resilience that would promote the capacity to cope with later impersonal and interpersonal traumas" (Allen, Fonagy, Bateman, 2014, pp. 213).

Disorders associated with the lack of sense of security result in problems with accurate communication of one's intentions, needs, and emotions in the context of social relationships in general and particularly, in close relationships. Many years of experiencing a parent as inaccessible and insensitive to signals from the child results in chronic negative emotions such as fear, anger or sadness. It can be also conducive to the development of impulsive behavior, including aggression. Impulsive aggression is associated with high excitability, sudden, uncontrolled outbursts, frequently disproportionate to the stimulus. The aggression is usually not aimed at achieving any par-

ticular goals and may also be directed against oneself. Its appearance is not necessarily associated with the perpetrator's antisocial tendencies – usually, it is the result of high emotional tension or failure to cope with the situation in the external world (Pisula, Kołakowski, 2011).

In their study on attachment, satisfaction with the performance of developmental tasks in close relationships and aggressive behavior between partners, Alicja Malina and Dorota Suwalska (2012, p. 80) showed that "attachment style is associated with aggressive behavior. Higher levels of aggression, both physical and verbal, as well as the one manifested with anger and hostility, are typical of partners with insecure attachment styles, whereas lower levels of aggression occur in individuals with a secure attachment style." Similar results were provided by the research of Marzanna Farnicka, Hanna Liberska and Dorota Niewiedział (2016). They showed that increased aggression in children is associated with an insecure attachment style. Individuals with high anxiety and avoidance were more likely to act aggressively.

Giovanni Liotti (2004) also underlines the mediation role of attachment styles in the process of coping with stress and trauma in adulthood. When an adult faces a traumatic situation, the childhood attachment is activated. This, in turn, triggers the so-called internal working models: of self, of others and of the nature of relationships with others. These models include generalized beliefs and assumptions about the availability of others and its principles: the likelihood of receiving support at difficult times and the character of possible interactions. If the emotional memory of such experiences is difficult and results in a threat and unavailability of others, it intensifies the currently experienced trauma and leads to more severe cognitive-emotional disorders, and as a consequence – more intense post-traumatic disorders, which may take the form of externalization or / and internalization of problems (Cierpiąłkowska, 2009).

Gordon Parker, Hillary Tupling and L.B. Brown (1979) attempted to operationalize the attachment concerning the dimensions of attachment styles described by Mary Ainsworth et al. (1969). They also indicated that Ainsworth's work lacked descriptions of the father's relationship with the child. They presumed that relationships with both parents are important for children's mental development, and referring to this idea, they created a tool to study the retrospective perception of relationships with both parents. They considered two dimensions as crucial: care and overprotection.

Considering the level of manifested care and overprotection, the authors distinguished four attachment styles: separately for the mother and the father. The care dimension ranges from emotional warmth and responsiveness of parents towards their child to coldness, emotional inaccessibility, and emotional rejection. The overprotection dimension ranges from psychological autonomy to parents' excessive influence and control. Optimal attachment style (secure) refers to high care and optimal control from the parent. The over-protective-forcing style (anxious-ambivalent) is characterized by high care and high control. The controlling style (avoidant) is characterized by low care and a high degree of control. The last of the distinguished styles – neglecting (disorganized attachment) – refers to low parental care and a low level of control. This attachment style poses the risk of the greatest psychopathology, in childhood, adolescence and in adulthood (Schore, 2009).

According to the authors of the concept, the most optimal style that would foster mental health is the one related to high care and relatively low parental control. The Parker and colleagues' concept, as well as the tool aimed at identifying the attachment styles they created, have been verified in many studies. One of these, conducted

in the USA by Murray W. Enns et al. (2002) including a very large sample of patients ( $n = 5877$ ) suffering from a wide spectrum of disorders – depression, various types of anxiety disorders, traumatic stress disorders, or personality disorders and addictions – revealed that the development of psychopathology is mostly related to the maternal care dimension. The lower the care, the higher the risk of emotional disorders. Only concerning externalization disorders, a different pattern of relationship was observed. Among the studied men, high maternal control correlated with the severity of antisocial disorders. High control from fathers, in turn, correlated with lower severity of externalizing disorder among the men who suffered from this disorder.

Many studies also evidence a strong relationship between alexithymia and problems with understanding and regulating emotions in people raised in insecure relationships (Bekker, Bachrach, Croon, 2007) and also between secure attachment and higher level of competence, empathy, ability to establish intimate relationships, emotional awareness and self-awareness (Laible, 2007). Graeme J. Taylor et al. (1991) claim that alexithymia refers to a difficulty in gaining access to one's emotional processes in three areas: (1) mental representation of emotions; (2) behavioral indicators; (3) physiological indicators. The term "alexithymia" is currently used not only to indicate deficits in the verbalization of emotions, but mainly to describe problems related to cognitive processing of affective stimulation, and thus deficits in the regulation of emotions and understanding of physiological emotion correlates. These deficits are associated with difficulties in identifying and verbalizing emotions and relate to focusing only on external reasons for emotional arousal, i.e. externally-oriented thinking (Taylor, Bagdy, Parker, 1997; Maruszewski, Ścigała, 1998; Zdankiewicz-Ścigała, 2017).

Currently, alexithymia is commonly considered as a nonhomogeneous construct, consisting of two dimensions: cognitive and affective (Vorst, and Bermond, 2001). The cognitive dimension includes difficulties in identifying, verbalizing and analyzing one's emotions. The problem with identifying emotions refers to the difficulty in assessing physiological arousal in terms of experienced affective states and their differentiation. Emotional verbalization, in turn, concerns ways of describing one's emotional reactions and communicating one's affective states to others. When experiencing non-specific emotional arousal, people having problems with accurate identification of emotions find it hard to diagnose their emotional states correctly and to describe them verbally, and, at the same time, communicate it to others verbally and non-verbally. The externally-oriented thinking – related to attributing causes of emotional states to situational factors – blocks the processes of mentalization (the creation of mental representations that explain one's mental states and the mental states of others in emotogenic situations) as well as the understanding of cause-and-effect relationships. This impoverishes the development of imaginary processes, also considered as a cognitive deficit in alexithymia.

Disorders resulting from cognitive distortions result in the use of non-adaptive coping strategies in stressful situations – mainly, the suppression of emotions or uncontrolled outbursts (impulsive aggression) in the least suitable stimulus situations. As a consequence, people with high levels of alexithymia experience stronger psychophysiological arousal in emotional situations. Being unable to use adaptive self-regulation strategies to reduce the tension, they do not experience changes in the negative affect they feel. Such retention of negative affect, in turn, leads to difficulties in experiencing positive emotions (Swart Kortekaas, Aleman, 2009). The affective dimension of alexithymia includes low emotional excitability and limited imagination capacity. Low

emotional excitability is defined as a decrease in the amplitude of the excitation level occurring in response to emotional stimuli.

Therefore, the higher the alexithymia level, the more difficult it is for an individual to consciously differentiate physiological arousal. As numerous recent studies indicate, this is associated with interoception deficits, i.e. the ability to record and process body signals (Brewer, Cook, Bird, 2016; Murphy, Catmur, Bird, 2018). Significant deficits were observed in people with high levels of alexithymia as regards their ability to read body work indicators, both concerning strictly physical indicators as well as those related to affective arousal (Brewer, Cook, Bird, 2016). Deficits related to cognitive and affective dimensions as well as non-optimal emotional regulation strategies typical of people with high alexithymia levels may play an important role in the development of various mental disorders and become a risk factor for their occurrence (Kret, Ploeger, 2015).

Fred A. Thorberg et al. (2011) conducted a meta-analysis aimed at determining the relationship between maternal and fatherly care and overprotection and alexithymia. The authors showed that there was a moderate to high relationship between the mother's attention for the child and the tendency to develop alexithymia as a whole, as well as concerning two out of three dimensions of alexithymia: difficulties in verbalizing emotions and identifying emotions. There was no relationship with the third dimension, i.e. the externally-oriented thinking. Hence, the greater the emotional coldness and the lack of responsiveness from the mother, the higher the probability of the child's alexithymia. A moderate relationship was found in terms of the second dimension of parental attitudes towards children, i.e. overprotection. A moderate relationship was found between both maternal and fatherly control and the difficulty in verbalizing emotions subscale. This meta-analysis shows that high control from both parents and low care will promote the development of alexithymia in children.

The relationship between insecure attachment styles and alexithymia has been confirmed in many studies including adults (De Rick, Vanheule, 2006, 2007; Hexel, 2003; Montebarocci et al., 2004; Picardi, Toni, Caroppo, 2005; Zdankiewicz-Ścigała, 2017). Most of the research focused on the analysis of the relationship between attachment styles and alexithymia, considering the latter as a whole, not including its particular dimensions. Some results indicate the relationship between the anxiety dimension in attachment and difficulties in recognizing emotions, whereas the avoidance dimension relates to the invalidation and suppression of emotions, and it is strongly correlated with externally-oriented thinking. Such conclusions were offered in the study conducted by Elizabeth Meins et al. (2008). Picardi et al. (2005), in turn, argue that both dimensions, anxiety and avoidance considered as features of adult attachment, correlate significantly with all dimensions of alexithymia.

A study conducted by Mohammad Ali Besharat et al. (2014) verified the impact of the emotional self-regulatory capacity on the relationship between attachment styles and alexithymia. The results showed a negative relationship between secure attachment style, self-regulatory capacity, and alexithymia. Moreover, a positive relationship between insecure attachment styles and alexithymia was found. Secure attachment is the main predictor of the development of the ability to regulate and identify emotions as well as to express and exchange them effectively in social and emotional interactions. In contrast, insecure attachment styles hinder the development of emotional self-regulation, thus becoming a developmental basis for alexithymia (Besharat et al., 2014).

There is an imbalance in the tendency to experience positive and negative emotions (Dubey, Pandey, 2013) depending on the alexithymia level. This imbalance affects cognitive and emotional-motivational development considerably, and thus, it also impacts the social shaping of self-regulation processes (Maruszewski, Ścigała, 1998). A study by Zbigniew Wajda provides some interesting data on that (2018). His study aimed at verifying whether the perception of relationships with parents changes during short-term psychodynamic-interpersonal group psychotherapy and whether this changes the severity of neurotic symptoms. At the beginning of the therapy, the highest severity of neurotic (anxiety) symptoms were identified among the participants reporting the lowest level of maternal care and the highest level of her control, as well as high levels of fatherly care and control. This study, as one of the few, verified the relationship between psychopathology and parental attitudes presented by both parents.

The abovementioned results refer to the clinical group of people with neurotic, personality and nutritional disorders. Many studies (see Kret, Ploeger, 2015) indicate that these patients are diagnosed with high levels of alexithymia.

## ALEXITHYMYA AND AGGRESSIVE TENDENCIES

Mental control of affective arousal requires the recognition of its causes. Difficulties in the adequate naming of the experienced emotions results in the experience of emotional arousal or non-specific tension. Because of the stimulation being non-specific, it is difficult for an individual to use a relevant strategy of emotional regulation. Attachment styles are conducive to shaping or blocking the intrapsychic basis for the development of emotional skills. The barrier resulting from the use of invasive defense techniques against experiencing strong negative emotions leads to the development of alexithymia and thus, to self-regulation deficits (Wearden et al., 2005).

This was indicated in a study on the relationship between attachment styles, alexithymia and a tendency to impulsive aggression, conducted by Andrea Fossati et al. (2009). The strongest was the mediation effect of the alexithymia dimension – difficulties in identifying emotions – on the tendency for impulsive behavior. The authors suggest that difficulties in creating mental representations of affective states in people with high levels of alexithymia may be associated with experiencing intense and overwhelming emotions, not only with their inability to identify them cognitively and perceive consciously. Yet, people with high alexithymia level have great difficulties in feeling the emotions and then verbalizing them, which increases the intensity of these emotions and as a result, also the burden of the hardly bearable non-specific affect.

Research on the association between the dimensions of attachment styles and alexithymia showed the strongest relationship between the tendency to aggressive impulsive behavior and the high level of relationship avoidance (fear of closeness), and fear of rejection. In intrapsychic representations of attachment styles, aggression can be perceived as a way to maintain security, regain intimacy, and manage conflict. People with alexithymia are unable to assess their emotional state correctly and are deprived of flexibility in using emotion control and regulation techniques, which becomes an additional source of negative emotions (Maruszewski, Ścigała, 1998). This leads to mental discomfort, pain in the form of somatic sensations, general arousal, all leading to frustration. When combined with difficulty in identifying their source, this can result in aggressive behavior.

Yet, frustration does not necessarily lead to aggression, and aggressive behavior does not always result from the experienced frustration. The occurrence of aggression depends on the person's previous experience, among others. Impulsive aggression, also called reactive aggression, is a form of aggression being a response to a specific situation, for example, a negative affective state or high tension. Unlike instrumental aggression, impulsive aggression is not planned by a perpetrator and its goal is not to cause suffering to the victim, even though the interaction with such a person ends up in severe stress and anxiety anyway. In this case, aggressive behavior is considered an effect of relief of aggression drive associated with the experienced frustration, which becomes a kind of trigger for an aggressive reaction. The need to relieve the growing unpleasant sensation can lead to aggressive behavior – either to relieve the tension or to resist the source of frustration. The reaction to aversive stimulation depends on its interpretation, and the strength of anger is a derivative of the intensity of the physiological stimulation caused by unpleasant events or feelings (Farnicka, Liberska, Niewiedział, 2016). The abovementioned studies show that the stronger the anxiety, the greater the tendency for impulsive aggression.

Theoretically, the relation between alexithymia and aggression seems evident because the ability to consider and talk about emotions is perceived as a protective factor against the development of aggressiveness (Fonagy, 2003). Disorders related to this sphere of functioning shall be considered as the element of mentalization (Fonagy, 2003). Deficits in this ability increase the risk of nonadaptive coping, including aggression, in reaction to frustration (Fossati et al., 2009). Richard S. Pond et al. (2012) indicated that the lower the differentiation of the experienced emotions (participants kept diaries on their emotions, in which they differentiated and described particular emotions experienced each day), the higher the anger and the more frequent the aggressive behaviors. A lot of research documented strong relationships between alexithymia and aggression in various populations: the general population (Fossati et al., 2009); among psychiatric patients (Velotti et al., 2016b); perpetrators of violent crimes (Velotti et al., 2016a). These results confirm the relationship between alexithymia and aggression, especially when it comes to the dimension of difficulties in identifying emotions. Yet, the previous studies did not consider the role of particular aspects of aggression, for instance, hostility.

This study mainly aimed at verifying whether there is a relationship between parental attitudes and the tendency to various aspects of aggression and whether alexithymia plays a mediating role between the attachment dimensions: care and overprotection, and the tendency to various aspects of aggression. According to theoretical background, we assumed the following research hypothesis: 1) the lower the care and the higher the control of both parents, the higher the alexithymia level; 2) the higher the level of control from both parents, the higher the tendency to physical and verbal aggression, anger and hostility; 3) the higher the alexithymia level, the higher the level of physical and verbal aggression, anger and hostility; 4) alexithymia mediates the relationship between control from both parents and physical and verbal aggression, anger and hostility.

## MATERIAL AND METHOD

*The Toronto Alexithymia Scale (TAS-20)* (Parker et al., 1993), translated to Polish and validated psychometrically by Elżbieta Zdankiewicz-Ścigała, Andrzej Kokoszka and Dawid K. Scigala (in press) was used to assess the alexithymia level. Apart from the

general level of alexithymia, the questionnaire also identifies separate indices of alexithymia dimensions: "difficulties describing feelings", "difficulties identifying feelings"; "externally-oriented thinking". The questionnaire consists of 20 items. Each item includes a 5 – point Likert response scale (1 – I strongly disagree; 2 – I partly disagree; 3 – I have no opinion; 4 – I partly agree; 5 – I strongly agree). The scale scores range from 20 to 100 points. The tool is reliable and valid. For the Polish version, Cronbach's alpha equals 0.73 for the general score; 0.55 for the scale of "difficulties describing feelings"; 0.71 for the scale of "difficulties identifying feelings"; 0.51 for the scale of "externally-oriented thinking".

*The Aggression Questionnaire* (Buss, Perry, 1992) adapted to Polish by Elżbieta Aranowska, Jolanta Rytel and Agnieszka Szymańska (2015) was used to assess the level of aggression. The questionnaire includes 29 items aimed at measuring the aggressive tendencies (both physical and verbal aggression), anger and hostility. A participant is asked to respond by choosing one number on the 5-point scale indicating the extent to which he or she agrees with the statement. Scores for items 9 and 16 are reversed. The questionnaire assesses the level of physical and verbal aggression, anger and hostility as well as the general level of aggression. For the Polish version, the Cronbach's alpha equaled: 0.85 for physical aggression; 0.72 for verbal aggression; 0.83 for anger; 0.77 for hostility and 0.89 for the general score (Aranowska, Rytel, 2011).

*Parental Bonding Instrument (PBI)* – authored by Parker, Tupling, and Brown (1979) and adapted to Polish by Agnieszka Popiel and Monika Sitarz. The questionnaire is a self-report tool addressed to people aged 16 and more. A participant is asked to refer to 50 statements on the attitudes and behaviors of each parent, indicating how they remembered their parents during the first 16 years of their lives. Twenty-five of the statements refer to maternal attitudes and behaviors, whereas the other 25 refer to fatherly attitudes and behaviors. A participant is asked to assess the statements on a 4-point scale: very like, moderately like, moderately unlike, very unlike. The questionnaire comprises two dimensions: 1) care, attention and warmth versus rejection and coldness and 2) autonomy versus control/overprotection. Cronbach's alpha for the scale of care equals 0.93, and for the scale of control – 0.89. The questionnaire allows for qualitative analysis of the achieved scores and for distinguishing four bonding styles: optimal (high care and low control); affectionate constraint (high care and high control); affectionless control (low care and high control) and neglectful (low care and low control). The authors assumed that the parent-child relationship characterized by high emotional care and low psychological control is the most optimal for the mental development.

## PARTICIPANTS

The study was conducted following the recommendations of the Research Ethics Committee of the SWPS University. Social media announcements informing about the purpose of the study were published to invite people to participate. The invitation also informed that the study was addressed to people who had not had traumatic events, such as a traffic accident or the death of a loved one in the three years preceding the study. Then each participant was invited for an individual meeting at the SWPS University in Warsaw or the Academy of Special Education in Warsaw. The study was

conducted in 2017 and 2018. In the beginning, all participants received the necessary information about the study. Before completing the questionnaires, they were asked to sign an informed consent form containing all necessary information about the study and the rights of the participants. Also, having been informed of the confidentiality of their data, they were asked to read and fill in a form including information on any previous treatment in a mental health clinic, addiction to psychoactive substances or any trauma experienced in the previous three years. People who indicated that they had not had such an experience were qualified for the actual study. There were 197 people aged 27 to 43 included in the study ( $M = 34.42$ ;  $SD = 5.47$ ). There were slightly more women in the study sample (53.8%). Considering education, people with higher education were the largest group (74.1%); the others had secondary education (14.2%) or bachelor's degree (11.7%).

## RESULTS

The statistical analyses aimed at verifying the hypothesis posed in the study were conducted using IBM SPSS Statistics, version 24. Using this software, descriptive statistics were calculated, which allowed for the analysis of the distribution of the variables. The hypotheses were tested using several correlation analyses, ANOVA and mediation analysis using macro PROCESS by Andrew F. Hayes (2013). As commonly accepted,  $\alpha = 0.05$  was considered the level of significance. Table 1 presents basic descriptive statistics for the analyzed indicators. Also, the distribution of all variables was determined using two measures: skewness and kurtosis. The obtained results showed that only the distribution of externally-oriented thinking variable slightly deviated from a normal distribution (indicating the leptokurtic distribution). In other cases, the variables were normally distributed.

TABLE 1  
Basic descriptive statistics for the analyzed indicators

	Min	Max	<i>M</i>	<i>SD</i>	Skewness	Kurtosis
Difficulties verbalising emotions	5	23	11.10	3.89	0.44	-0.28
Difficulties identifying emotions	7	31	14.52	5.74	0.82	0.18
Externally-oriented thinking	8	33	15.60	4.42	0.94	1.04
Overall alexithymia score	20	82	41.22	11.60	0.79	0.77
Care – mother	0	36	24.13	9.29	-0.80	-0.27
Overprotection – mother	0	38	13.57	8.55	0.49	-0.48
Care – father	0	36	18.60	10.16	-0.19	-0.97
Overprotection – father	0	34	11.10	7.57	0.84	0.14
Physical aggression	9	37	18.42	5.69	0.89	0.76
Verbal aggression	7	23	14.27	3.39	0.14	-0.37
Anger	7	32	17.75	5.22	0.30	-0.32
Hostility	7	30	17.59	5.33	0.11	-0.55

To verify the first hypothesis on the relationship between the level of parental care and control and the level of alexithymia, Pearson's  $r$  correlation analysis was performed. The results (Table 2) show a moderate correlation between fatherly care and a tendency towards alexithymia as regards the dimension of difficulties in verbalizing emotions. The lower the care, the higher the deficits in the verbalization of emotions. There was no correlation between maternal care and the intensity of alexithymia in the study group. The higher the maternal control, in turn, the greater the difficulties in identifying feelings. The relationship between fatherly control and externally-oriented thinking and overall alexithymia score is also moderately significant.

TABLE 2

Relationship between parental attitudes and alexithymia – Pearson's  $r$  coefficient

	Care – mother	Overprotection – mother	Care – father	Overprotection – father
Difficulties verbalising emotions	–0.048	0.116	–0.147*	0.12
Difficulties identifying emotions	–0.129	0.155*	–0.092	0.106
Externally-oriented thinking	0.113	0.003	0.022	0.170*
Overall alexithymia score	–0.037	0.117	–0.086	0.157*

\* Correlation significant at the level of 0.05 (two-tailed)

To verify the second hypothesis we also performed a Pearson's correlation analysis (Table 3). The results showed that the aggression scores were correlated with overprotection manifested by both the father and the mother. We observed that the increase in aggressive behavior was mainly associated with fatherly control – the higher the control, the greater the tendency to physical aggression, anger, and hostility. The greater the control from mothers, the higher the hostility felt by the participants. Other aspects of aggression did not correlate with the degree of maternal control.

TABLE 3

Relationship between parental attitudes and aggression – Pearson's  $r$  coefficient

	Physical aggression	Verbal aggression	Anger	Hostility
Care – mother	–0.04	–0.053	–0.087	0.021
Overprotection – mother	0.084	0.087	0.075	.237**
Care – father	–0.124	–0.109	–0.082	–0.07
Overprotection – father	.180*	0.096	.152*	.272**

\* Correlation significant at the level of 0.05 (two-tailed)

\*\* Correlation significant at the level of 0.01 (two-tailed)

To verify the hypothesis on the relationship between alexithymia and various aspects of aggression, Pearson's correlation analysis was performed again. The aggression scores were related to the alexithymia scale. Notably, we observed moderately strong relationships between alexithymia dimensions and overall alexithymia score and hostility. The higher the level of alexithymia, the higher the tendency to experience hostility.

TABLE 4  
Relationship between alexithymia and aggression – Pearson's r coefficient

	Physical aggression	Verbal aggression	Anger	Hostility
Difficulties verbalising emotions	0.223**	0.066	0.184**	0.399**
Difficulties identifying emotions	0.254**	0.13	0.299**	0.443**
Externally-oriented thinking	0.297**	0.095	0.158*	0.298**
Overall alexithymia score	0.314**	0.123	0.270**	0.467**

\* Correlation significant at the level of 0.05 (two-tailed)

\*\* Correlation significant at the level of 0.01 (two-tailed)

As expected, the performed analysis indicated that the parental attitudes, especially the control exerted by parents, results in the tendency to alexithymia in the studied group. It also relates to various aspects of aggression. To verify the last research hypothesis, we performed a more advanced statistical analysis. First, using the Process macro model 4 (Hayes, 2013), we verified whether difficulties in identifying emotions significantly mediate the relationship between parental attitudes and aggression. Additionally, each model was tested controlling for age and gender, including their potential effect on the mediator as well as the dependent variable. First, we tested the direct effects of parental attitudes on various aspects of aggression as well as the indirect effects of the alexithymia components. The first model verified whether difficulties in identifying emotions mediate the relationship between maternal control and hostility. The model fit the data well ( $F(4,192) = 17.49$ ;  $p < 0.001$ ) and explained about 27% of variation of the hostility variable. Using the Sobel's test, the mediation effect was confirmed for the subscale of difficulties in identifying emotions ( $Z = 1.99$ ;  $p < 0.05$ ). Both, the direct effect (effect = 0.2189;  $<0.0845; 0.3534>$ ) as well as the indirect effect (effect = 0.1581;  $<0.0344; 0.2818>$ ) were significant after entering the mediator between the maternal control and the tendency to hostility, which leads to the conclusion on the partial mediation. Moreover, entering control variables indicated the significant effect of age on the independent variable ( $coeff = -0.19$ ;  $<-0.3173; -0.0713>$ ), which means that younger participants reported lower hostility, regardless of their gender.

Figure 1 shows the graphic interpretation of the achieved result.

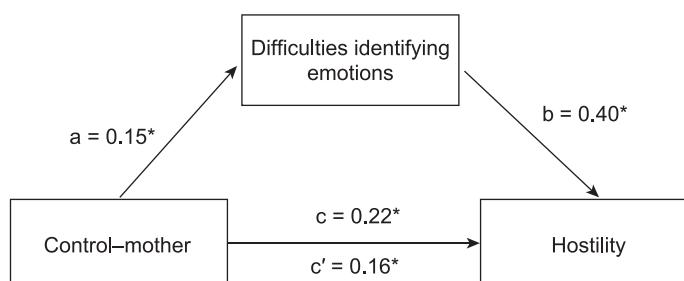


FIGURE 1. The tested model explaining the mediation role of difficulties in identifying emotions in the relationship between maternal control and the experienced hostility: a – relationship between the predictor and the mediator, b – the relationship between the mediator and the dependent variable; c – direct relationship, c' – indirect relationship \* $p < 0.05$

Similar analyses were performed to assess the mediation role of alexithymia in the relationship between fatherly control and physical aggression (Fig. 2). To verify that, we conducted the mediation analysis, and confirmed it with the use of the Sobel's test. The results indicated a mediation at the level of statistical tendency  $z = 1.7866$ ;  $p = 0.074$ . After entering the mediator, the strength of the relationship between the independent variable and the dependent variable decreased to insignificant, and the relationship strength between the mediator and the dependent variable equaled to  $b = 0.24$ ;  $p < 0.05$ . The tested model explained 25.3% of the variation. Moreover, we observed a strong impact of the control variable – gender – on the level of physical aggression ( $coeff = 0.37 < 0.2438; 0.4935 >$ , regardless of the participants' age. This means that the deficits in cognitive processing of affect developed as a result of insecure attachment bonds among adults are a very important predictor of the tendency to use physical aggression. The higher the level of alexithymia, the greater the tendency to such behaviors, being even greater among males.

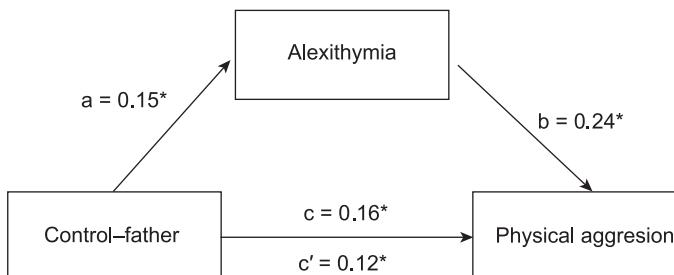
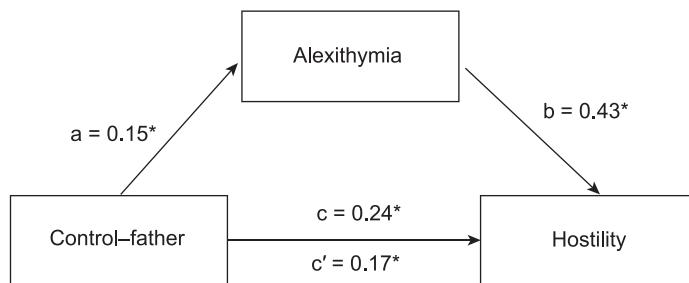


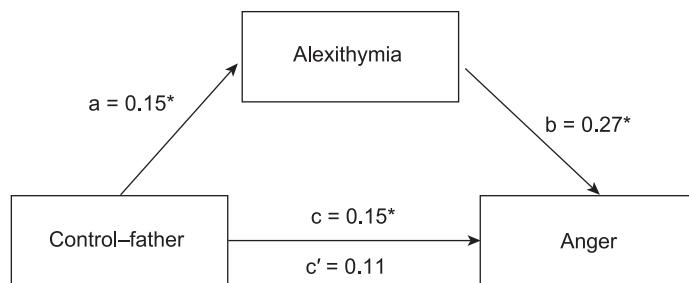
FIGURE 2. The tested model explaining the mediation role of overall alexithymia scores in the relationship between fatherly control and physical aggression: a – relationship between the predictor and the mediator, b – the relationship between the mediator and the dependent variable; c – indirect relationship,  $c'$  – indirect relationship \* $p < 0.05$

The next analysis aimed at verifying the mediation role of alexithymia in the relationship between fathers' control and hostility (Fig. 3). To check whether alexithymia mediates the relationship between the control manifested by the father and the tendency to be hostile, a mediation analysis was performed and then validated using the Sobel's test. The analysis showed a partial mediation –  $1.9849$ ;  $p < 0.05$ . After introducing the mediator between fatherly control and hostility, both the direct effect ( $effect = 0.2387; < 0.1035; 0.3738 >$ ) and indirect ( $effect = 0.1747; < 0.0520; 0.2973 >$ ) occurred statistically significant. Such a result suggests partial mediation – after the introduction of the mediator, the strength of the relationship between the independent variable and the dependent variable decreased ( $c' = 0.17$ ;  $p < 0.05$ ), and the strength of the relationship between the mediator and the dependent variable equaled  $b = 0.43$ ;  $p < 0.05$ . The tested model explained 29.2% of the variability. Moreover, the analysis indicated a significant impact of the controlled variable – age – on hostility ( $coeff = -0.19; < -0.3312; -0.0597 >$ ), which means that younger people showed a lower level of hostility, regardless of their gender. Such a result is consistent with the model showing the role of maternal control for hostility in children, discussed earlier (Fig. 1). The obtained results suggest the equally important role of fatherly control for the tendency to hostility and the development of alexithymia, as well as the role of alexithymia in the development of the tendency to experience hostility.



**FIGURE 3.** The tested model explaining the mediation role of overall alexithymia scores in the relationship between fatherly control and hostility: a – relationship between the predictor and the mediator, b – the relationship between the mediator and the dependent variable; c – indirect relationship,  $c'$  – indirect relationship \* $p < 0.05$

In the last analysis, we verified the mediation role of alexithymia for the relationship between fatherly control and anger experienced by their children in their adult lives. To confirm whether alexithymia mediates the relationship between fatherly control and the tendency to anger we performed the mediation analysis (Fig. 4), validated with the use of the Sobel's test. The result was at the level of statistical tendency, yet, considering the confidence intervals, the result can be considered significant  $z = 1.78$ ;  $p = 0.0739$ . After entering the mediator to the tested model, the strength of the relationship between the independent and dependent variables decreased to insignificant ( $c' = 0.11$ ; n.s.) and the strength of the relationship between the mediator and the dependent variable equaled  $b = 0.27$ ;  $p < 0.05$ . The tested model explained 9.6% of the variation and it showed no effect of the controlled variables either on the mediator or the dependent variable. The results showed partial mediation in the case of anger. The relationship is weaker than in the case of hostility.



**FIGURE 4.** The tested model explaining the mediation role of overall alexithymia scores in the relationship between fatherly control and anger: a – relationship between the predictor and the mediator, b – the relationship between the mediator and the dependent variable; c – indirect relationship,  $c'$  – indirect relationship \* $p < 0.05$

## DISCUSSION

The basic assumption underlying this study linked the tendency for impulsive aggression with a lack of a basic sense of security in the parent-child relationship. Hence, the study aimed at verifying the hypothesis on a direct relationship between parental atti-

tudes, understood as the result of two dimensions of care and overprotection/control, and the tendency to experience various aspects of impulsive aggression. Based on the theoretical background discussed earlier, it was assumed that alexithymia is an important factor conducive to emotional disorders. The study was conducted on the general population. Among the participants, there were no psychiatric patients addicted to psychoactive substances or people who had suffered injuries in the three years preceding the study.

Based on the results of numerous statistical analyses, it was shown that control exercised by both father and mother is a significant factor for the development of a tendency to impulsive aggression. However, this impact depends on the type of aggression considered. It can be stated that in this study group, control exercised by parents, both mother, and father, is also associated with the tendency to alexithymia. The obtained results partly correspond to the previous results of other researchers cited in the introduction. It is worth noting that the relationship between father's care and difficulties in verbalizing emotions occurred significant: the lower the care, the fewer problems with recognizing emotions. This result combined with the observed moderate correlation between fatherly control and the externally-oriented thinking indicate that both parents play an important role in the emotional development of children. Additionally, on the one hand, this facilitates the development of affective regulation mechanisms, but on the other, this can predict the suppression of emotions as well their expression in the form of impulsive aggression. The conducted mediation analysis revealed the direct effects of the father's control on physical aggression, hostility, and anger.

Moreover, alexithymia occurred a significant factor increasing the level of the experienced aggression. In particular, alexithymia occurred to be the main predictor explaining the tendency for physical aggression. Additional analyses including controlled variable – age and gender – revealed a stronger tendency to physical aggression among men. Age was not significant. The analysis of the impact of controlled variables on the manifestation of hostility, in turn, showed a significant impact of age regardless of the respondents' gender. The older the person, the stronger the hostility. Strong correlations between particular dimensions of alexithymia and the manifestations of aggression are shown in Table 4. Only verbal aggression did not correlate with alexithymia significantly.

As demonstrated in the theoretical part, alexithymia is associated with considerable disorders resulting from cognitive distortions as regards emotional experience, interpretation, and reactions. Also, poor verbalization of emotional experiences hinders effective communication in interpersonal relationships. As shown in the cited studies, this might result in the use of non-adaptive coping strategies in stressful situations, for example, the suppression of emotions or uncontrolled bursts (impulsive physical aggression and hostility) in the least suitable stimulus situations. The results obtained fully confirm such an assumption. Growing up in a system requiring compliance with the demands and expectations of parents, facing the constant need to suppress the needs, desires, and emotions, can result in a tendency to develop deficits in the ability to record and process signals from the body.

Lack of awareness of one's physiological arousal and the resultant accumulation of mental tension are conducive to the experience of negative affect and the tendency to be overcome with it and/or suppress it. Excessive requirements resulting in the emotional and physical separation of both parents from the child as well as of the child

from the parents conduce to antagonisms instead of cooperation. Both parties infect each other with strong negative emotions. Parents who experience frustration due to their children's "disobedience", suffer from fear, anger or behave aggressively, activate the same states in their children, without even understanding the underlying mechanisms or causes. Unable to see the reasons for the child's fear, sadness, and anger, parents perceive the child as non-cooperative, negativistic, malicious.

As shown in previous studies, alexithymia is frequently symptomatic of parents who demonstrate avoidant attachment style (see: Zdankiewicz-Ścigała, 2017), which exacerbates the problems with communication in interpersonal relationships and thus, escalates the nonspecific arousal that might be relieved by impulsive aggression displayed either by parents or children (Iniewicz et al., 2011). The obtained results correspond to the previous findings of Susan Forward (1994), which confirms the important role of fathers in conditioning aggressive behaviors among children. Literature provides numerous studies on the role of fathers in shaping negative behaviors among children who show the same behavior pattern in their adulthood (Lipowska-Teusch, 1992). Interestingly, the participants' age and partially also their gender occurred significant factors modifying the observed effects. In this study group, age correlated with a higher level of alexithymia and hostility. Gender, in turn, was a significant predictor of physical aggression in a model including fatherly control as an independent variable and alexithymia as a mediator.

## CONCLUSIONS

A significant deficit in the case of alexithymia is the inability to modulate affective processes by cognitive processes, which is expressed in disorders of experience, interpretation, and regulation of emotions. People displaying high levels of alexithymia are more prone to use non-adaptive affect regulation strategies when facing stressful situations, e.g. suppressing emotions, than those of low level of this feature. As a consequence, they experience stronger psychophysiological arousal and do not register changes in the experience of negative affect. Furthermore, they rarely use adaptive emotion regulation strategies, such as cognitive reappraisal (Swart, Kortekaas, Aleman, 2009). According to the study, alexithymia, as an invasive defensive strategy against high-stimulus situations, leads to the development of deficits as regards cognitive and affective aspects of emotional regulation. This blocks the processes of identification and verbalization of emotions, and thus, the language is no longer used to change oneself or the others, because communication is disturbed or distorted. It is difficult to communicate effectively when there is no common meaning or accurate mutual understanding. Such processes may play an important role in the development of various types of mental disorders, including the tendency to various forms of aggression, as demonstrated in this study.

## LIMITATIONS

The presented study was correlational, including the theoretical model that entailed assumptions on particular relationships between the studied variables. The obtained results suggested a moderate significance of the study variables. Very promising results

were obtained in the case of hostility. The percentage of the explained variation was moderately high, and both, the fatherly control and alexithymia occurred significant predictors of the experience of hostility. This result encourages more in-depth, quasi or even experimental future studies. It is also worth looking for other factors that may be associated with a tendency to manifest hostility, e.g. impulsiveness as a personality trait and its relationship with alexithymia. Also, the study group involved slightly more women. Even though no significant gender differences were found in individual tests, many studies show that women display significantly lower levels of alexithymia than men (Gavi et al., 2016). In future studies, it is worth controlling the selection of people for the study to fully balance the proportions as regards the participants' gender and age. The analysis of the relationship between age and alexithymia shows that older people demonstrate higher levels of alexithymia (Soni, Bhargava, Rajput, 2018), which was also confirmed in this study. These limitations, however, do not affect the main trend observed in the results: the higher control, excessiveness of stimulation and intrusiveness in the child-parent relationship, the higher the likelihood of disorders in the sphere of emotional development, which results in the experience of strong negative emotions, such as anger or hostility, and "no words for feelings", because words that assign meaning to the experienced emotions make them too painful and threatening to mental integrity or identity

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