



## EMOTIONAL REGULATION AND SOCIAL SUPPORT AS CONDITIONS FOR AGGRESSOR AND VICTIM EXPERIENCE IN EARLY AND LATE ADOLESCENCE - DEVELOPMENTAL PSYCHOPATHOLOGY LENSES

 **Marzanna Farnicka**

*Institute of Psychology Zielona Góra University, Poland.*

*Email: [m.farnicka@wpaps.uz.zgora.pl](mailto:m.farnicka@wpaps.uz.zgora.pl)*



### ABSTRACT

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The aim of this research was to examine the hypothetical model of conditionings of adolescents to positive adaptation and to identify risk and protective factors for being victims or aggressors in interpersonal relation. In the research exploratory model adopted for the study, the following variables were considered: temperament; attachment; aggressiveness; social support; resilience; and previous victim or aggressor experiences. The study group comprised 779 adolescents (399 in early; 380 in late adolescence). Path analysis was used to examine the interrelationships and to identify the direct and indirect pathways. In early adolescence, main triggers for victim experiences were low resilience and aggressiveness, in girls, and aggressiveness and past victim experience in boys. For aggressor experiences there were low resilience and high sadness among girls, and sadness and aggressiveness, among boys. In late adolescence, the main triggers of victim experiences were previous victim experience and sadness (inhibited by classmate support and resilience) and for aggressor experiences, there were hostility, sadness and previous aggressor experience. The main conclusion that can be drawn from this study is that the potential preventive and therapeutic interventions require consideration of factors such as age, level of educational success, aggressiveness and social support.

**Contribution/Originality:** This is study exemplifies the mechanism of adaptation and identifies risk and protective factors for being victims or aggressors in interpersonal relations. In the presented research the development of mechanism of emotion regulation and the importance of resilience in the development of aggressive behaviors have been described particularly.

### 1. INTRODUCTION

Longitudinal studies have shown the fluctuation of aggression and victimization in childhood and adolescence. Generally, aggression and victimization increase in early adolescence and gradually decrease towards the end of adolescence (Werner, 1989). Many children, when entering adolescence, already experience problems that affect their social functioning, such as early traumas, cognitive distortions, insecure attachment bonds, or risky temperament (Slotter & Finkel, 2009; Werner, 1989; Zeanah & Sonuga-Barke, 2016). Many other children, though, only develop problems with social interactions when they become adolescents, which result from family distortions (divorce, maltreatment), peer-related problems (rejection, gangs, being different) low school achievements or

individual problems (emotional control, self-image, problems with undertaking developmental tasks; (Card, Stucky, Sawalani, & Little, 2008; Meldrum, Young, & Weerman, 2012).

Sometimes the change in the nature of the relations with parents or peer groups is directly connected with the strengthening of aggressive behavior or victimization experience (Hadiwijaya, Klimstra, Vermunt, Branje, & Meeus, 2017; Olweus, 1979). This behavior may have various forms, from verbal and psychological aggression to physical violence and indirect violence (Card et al., 2008). There are various models describing the emergence of disorders in the functioning of adolescents in the school environment, which frequently focus on problems characteristic of this life period, such as externalization- and internalization or problems related with emotional and behavioral functioning (Eisenberg, Spinrad, & Eggum, 2010). According to Achenbach (1993), externalization and internalization problems are connected with specific strategies of coping with difficult experiences, emotions and thoughts as well as other developmental conditions. The externalization of disorders is connected with lack in self-regulation of emotions, and internalization with over control. These strategies are often the cause of undertaking difficult and unacceptable risky behavior. In adolescence, the problems of externalization or internalization appear (among others) in the form of lowered mood, self - esteem, loneliness, anxiety, depressive disorders, which manifest themselves in attention – deficit, hyperactivity, oppositional defiant disorders or aggressive or victim behavior (Lahey, 2008; Nikolas & Nigg, 2013).

From the developmental and evolutionary point of view, aggressive behavior may be a manifestation of adaptation-related difficulties with the fulfilment of school obligations (problems in managing school stress) and with the pursuit of developmental tasks. In this case aggressive behavior may serve as a way of releasing emotional tension emerging from adolescents' inability to meet the expectations of adults. This tension involves anger, anxiety, uncertainty, sadness, or shame (Eisenberg et al., 2010; Jacobson, 2016; Nigg, 2017). According to Ostrov and Godleski's model, there is a correlation between the choice of aggressive or victim behavior and the social as well as personal gender pattern (Ostrov & Godleski, 2010).

From the perspective of developmental psychopathology, individuals can exhibit both negative and positive adaptation, which is conditioned by the interaction of specific developmental (biological, bio-psycho-social, environmental, interactional relational) and situational factors. Adaptation relies on a set of criteria including the absence of serious mental problems and/or problem behavior, possession of psychosocial competencies and successful fulfilment of age-appropriate developmental tasks. Positive adaptation (i.e. good adjustment) is treated as an outcome of a dynamic interactive process through which an individual – despite past or present adverse life circumstances – acquires an array of skills to use their internal and external resources. The process is triggered by regulation mechanisms including resilience, self-efficacy or mentalization processes (Schwarzer, 1998).

### *1.1. Purpose of the Study*

The study refers to the common areas of socio-cognitive developmental psychology and cognitive-contextual developmental psychology. The purpose of this research was to examine the hypothetical model of the determinants of problems in relationships and to determine, on the basis of this model, what causes adolescents to become victims or aggressors in interpersonal relations. It was also expected that developmental risks and protective factors, as well as the relations between the aggressive and the victim behavior could be observed. This knowledge could show the interactions of factors which may be useful in early intervention and prevention of problems in interpersonal relations among adolescents.

In the current study the following areas were examined: (1) adolescents' intrapersonal variables (temperament, attachment, aggressiveness, resilience), (2) social support, (3) their current emotional state (sadness, anxiety) and gender. The study assumed that there were specific individual and social conditions that facilitated taking on the role of the aggressor or the victim (Krahé, 2013; Ostrov, Kamper, Hart, Godleski, & Blakely-McClure, 2014). In this paper, being an aggressor and being a victim are treated as parallel forms of social behavior in interpersonal

relationships and that may be explained by the same processes (Osterman et al., 1994; Pratt, 2006). Assuming the aggressor and/or the victim behavior is treated as an output of the interaction of individual and sociocultural factors and as readiness for aggression or victimization revealed in interpersonal contacts.

### 1.2. The Research Model

The main purpose of the presented study was to determine the developmental specific risk and protective factors and to analyze the effect of psychological conditions and relations existing between the perpetrator and victim behavior in two periods of adolescence (early and late adolescence). This knowledge could help to find specific interactions of factors in adolescence which may be useful in early intervention or prevention of problems in interpersonal relations among adolescents.

### 1.3. The Mechanism of Changes

The interaction of specific circumstances created by the sociocultural context and the individual's subjective conditions leads to the emergence of the individual's own resources which can influence directly the individual's inner state and the activated regulation mechanisms as well as methods of situation assessment. The study model marks the current emotional states indicating the specific nature of current experiences (strength, content, direction). It also needs to be stressed that episodes of the individual's functioning recur over time and culminate in the formation and consolidation of specific ways of coping, experiencing emotions and handling particular situations. Furthermore, recurrent episodes of similar functioning may change not only flexible structures but also those recognized as stable (e.g. attachment or social and cultural expectations regarding gender roles and ways of conforming to them).

It is also important to note that attempts to determine the level of adaptation typically refer to a certain consolidated manner of an individual's mental functioning which has arisen from the reinforcement of an adaptive pattern specific to that individual at a given time and in a given situation. In other words, the old experience and old context are structured and restructured by cognitive, emotional processes (Pascual-Leone & Sparkman, 1980) and temporal perspective (Trempeła, 2000) and they represent and activate emotional processes and motivation (Labouvie-Vief, Diehl, Jain, & Zhang, 2007). From the point of *dynamical social psychology* (proposed by Nowak, Vallacher, Tesser, and Borkowski (2000)) at the time of numerous changes and when there is a lot of new information, the self is rather an emergent property that emerges as an experiential phenomenon from the interaction of psychological perceptions and experience where a set of decision rules generates complex behavior. This is a model based on the activity of individuals. Therefore, in the proposed model of self-structure, incoming information of a random structure increases the organization among elements (provided information is not too intense to overpower the system).

The society-of-self model is useful for revealing properties of the self-system that are common to complex systems composed of many interconnected elements. Thus, one can gain insight into the emergence of stable self-understanding from the dynamic interplay of initially disordered elements and external influences. Moreover, the individual with a low pressure for integration may benefit from social feedback and other sources of self-relevant information, as long as such information does not convey highly conflicting evaluations. This information can facilitate the person's self-integration. This suggests that individuals may turn to others to facilitate their own internal process of achieving coherence in their self-concept. This approach contains a hidden idea of integration and existing knowledge on the structure and process of the self-system.

The variables considered in the research model are well known as predictors of mental health and risk factors of aggression and victimization as presented in Figure 1. The model clearly depicts that the tendency to become frustrated is part of emotional reactivity and an element of negative affect (anger as a temperamental component). It influences impulse control and aggressive response in a situation of provocation (Eisenberg et al.,

2010). Aggressiveness is characterized as a personality trait that is conducive to uncontrolled, aggressive behavior, and to the tendency to externalize hostility and anger (Buss, 1961). This trait is quite stable in time and persists as a special behavioral pattern from childhood to adolescence (Olweus, 1979). Eisenberg et al. (2005); Greenberg, Siegel, and Leitch (1983) and Jacobson (2016) conducted research which found that close mutual relations between parents and adolescents significantly helped the adolescent to cope with various problems. This may mean that attachment to parents can be a protective factor that reduces the risk of non-adaptive behavior (Zeanah & Sonuga-Barke, 2016).

Resilience is a widely-used concept. Nevertheless, studies vary substantially in its definition and measurement. For some, resilience is a result of coping with risk factors; for others, it is a feature of the growing individuality and therefore it is assumed that it is positively related to other behavior regulators, including the sense of self-efficacy, which may be manifested by an increase in aggressive behavior. Resilience allows the individual to rebound from adversity as a strengthened and more resourceful person. It is important to note that resilience is not only about overcoming a stressful situation, but also about recovering from a difficult or traumatic situation with “competent functioning”. Research shows that individuals with high levels of resilience have better self-esteem and are more likely to ask for social support (Connor & Davidson, 2003).

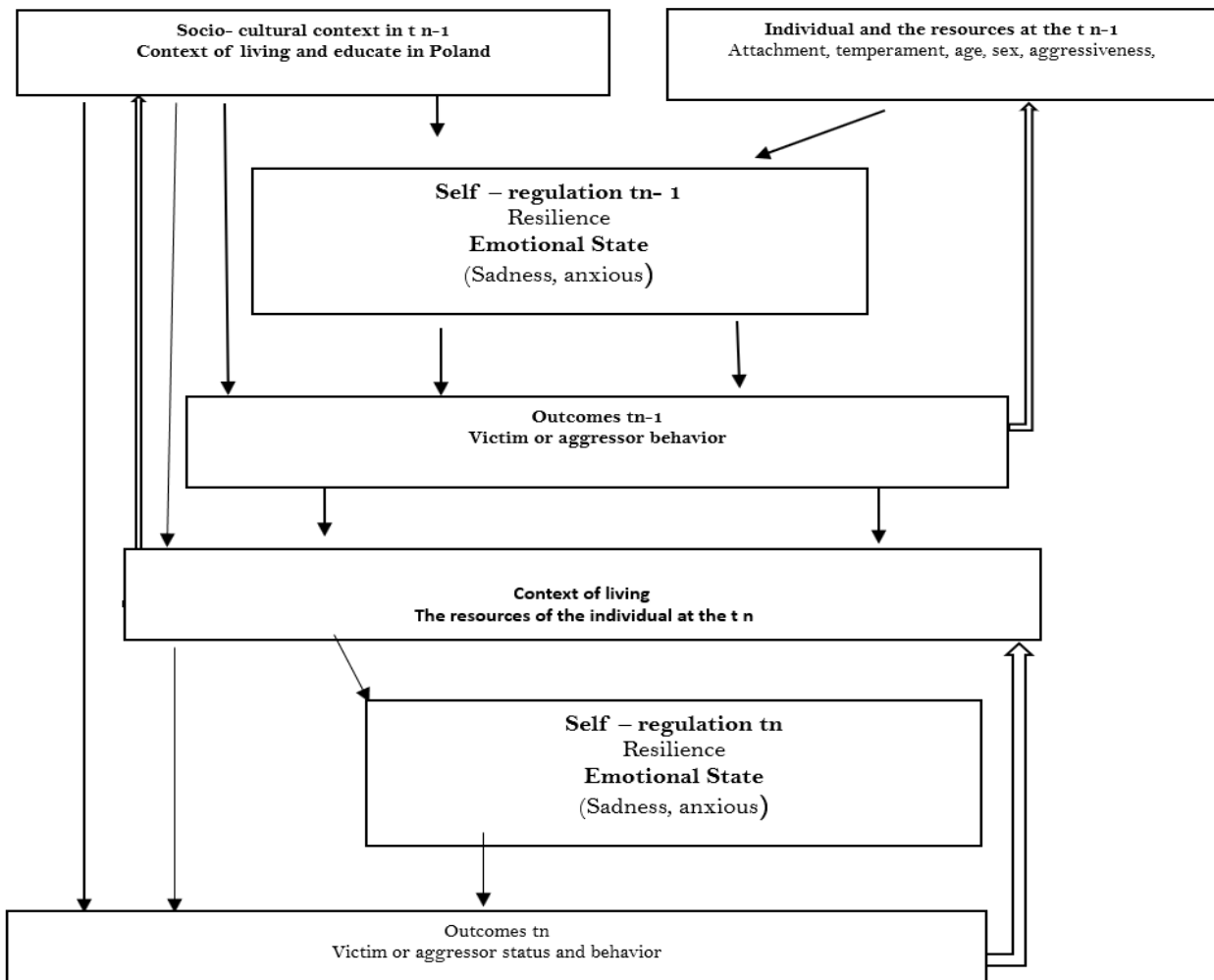


Figure 1. The study assumptions: Model of interactions between groups of factors and their flexibility.

Note:  $t-1$  – first measurement,  $t$  – second measurement.

The importance of social support is highlighted in numerous studies. A few studies conclude that high parental support may lower negative adaptation, and high peer support with a low sense of parental support may increase it Davidson and Demaray (2007); Slotter and Finkel (2009). In addition, social support is a highly modifiable factor that can be used to improve existing suicide (McGirr et al., 2008) and bullying prevention programs worldwide.

The natural indicator of positive adaptation should be a level of well-being understanding as a high level of positive emotions and comfortable (high or medium) general level of self-efficacy. On the opposite side there are emotions expected with undertaking victim or aggressor roles. They involve sadness and anxiety and an uncomfortable (low) level of self-efficacy. According to McGirr et al. (2008) a high level of anxiety and sadness is connected with the victim and often aggressor role. The meta-analysis by Dixon and Smith (2011) and research conducted by Bogg and Finn (2010) led to the conclusion that adolescents with higher than average level of anxiety and sadness and a lower level of self-esteem tend to become aggressors more frequently. In addition, Ybrant (2008) indicated that problems included in internalization disorders, such as elevated levels of anxiety and sadness, were predictors and/or indicators of aggressive and criminal behavior. In their studies Eisenberg, Smith, Sadovsky, and Spinrad (2004); Finkel (2007) and Finkel, Campbell, and Brunell (2006) indicated the importance of anxiety as a risk factor in aggressive behaviour.

The role of gender (Björkqvist, Lagerspetz, & Kaukiainen, 1992; Krahé, 2013) in development and social functioning is often mentioned in the context of aggression and victimization (Bussey & Bandura, 1999). As for age, it is treated as a variable that expresses the cumulative effect of a number of other changes, such as: biological maturation of the body, making new social roles, related experiences, and social expectations. Here, age has an ordering function. It is used to compare the developmental experience of an individual and groups (early adolescence, late adolescence).

The study was conducted for exploratory purposes; however, the research question was: What are the main conditions of acting as an aggressor or a victim in the crucial moments of adolescence and does it undergo temporal changes? Hypotheses described below were adopted.

*H.1. – There are differences between girls and boys (in both age groups) in terms of the determinants of victim and aggressor experience.*

*H.1.1. A higher level of aggressiveness and a higher level of temperamental activity and anger are associated with more frequent experiences of being the aggressor.*

Studies by Smith (2011) show that the perpetrators of peer aggression during adolescence were individuals with increased levels of anger and temperamental activity, and with cognitive readiness to perceive other people's behaviour as hostile. Daniels, Gibula, and Ochberg (1970) indicate that aggressive behaviour is related to a sense of self-efficacy.

*H.1.2. Adolescent secure attachment is associated with less frequent victim or aggressor experiences.*

Studies conducted by Greenberg et al. (1983) show the importance of the quality of attachment to parents for the well-being of adolescents (the more secure it is and the more it is based on trust and acceptance, the better the teenagers' well-being). Kirby (2002) conducted studies indicating that close relationships between parents and adolescents significantly improve adolescent coping with various problems. Studies reveal the protective nature of positive bonds with parents and the (lower) level of rebellion, and show that adolescents who are securely attached to their parents cope better with stress and are less influenced by their peer groups. This means that attachment to parents may be a protective factor that reduces the risk of maladaptive behavior (Masten & Obradović, 2006; Zeanah & Sonuga-Barke, 2016).

*H.1.3. Higher level of resilience is associated with less frequent experience of being a victim.*

Studies show that individuals with a high level of resilience have higher self-esteem and are more likely to ask for social support (Connor & Davidson, 2003). On the other hand, resilience itself is considered a protective factor.

*H. 1.4. A higher sense of social support is associated with less frequent experience of being an aggressor or victim.*

Positive relations with peers, experiencing emotional support, the right peer group, the right parenting style are considered to be protective factors (Masten & Obradović, 2006; Slotter & Finkel, 2009). Zucker found that a low level of parental support and coldness in relationships were risk factors for the development of adolescents (Zucker, Wong, Puttler, & Fitzgerald, 2003). Studies conducted by Zimmerman, Bingenheimer, and Notaro (2002) among

adolescents of higher risk (coming from environments where they were exposed to drug addiction and violence) showed that having an adult informal mentor could protect the respondents from the use of psychoactive substances, from being violent or from undertaking criminal behavior.

#### *H.1.5. Sadness and anxiety coexist with more frequent experiences of being an aggressor or victim.*

Studies conducted by Smith (2011) showed that adolescents with a higher than average level of anxiety and sadness and a lower self-esteem tended to be aggressors. Moreover, research by Ybrant (2008) indicated that problems classified as internalizing disorders, such as increased levels of anxiety and sadness, were predictors and / or indicators of the occurrence of aggressive and criminal behavior. Studies by Finkel (2014) indicated the importance of anxiety as a risk factor in engaging in aggressive behavior.

## **2. METHODS**

### *2.1. Participants and Procedure*

The sample consisted of 779 Polish adolescents divided into two groups: early and late adolescents. In the group of early adolescents, there were 399 individuals, of whom 195 were girls (49%) and 204 were boys (51%,  $M_{age} = 13$  years and 4 months, SD (Standard deviation) = 0.73). The older group consisted of 308 individuals, of whom 185 were girls (49%) and 195 were boys (51%,  $M_{age} = 16$  years and 3 months, SD = 0.85). The choice of the study group divided by age was connected with the organization of the education system in Poland. The younger group included students who started year one of lower high school. Lower high school is a compulsory comprehensive school attended by students who completed 6-year primary school. The students are typically 13-14 years old. The older group consisted of students who went to year one of the next stage of education. This school is still compulsory and is attended by students who completed lower high school. However, school is not comprehensive and students can attend high schools of different types (academic, vocational or technical). Typically, students are 16 years old.

The respondents attended schools of various types (lower and high secondary schools, vocational schools) in Poland. The schools located in medium-sized cities and in the suburbs of cities were selected. The head teachers were asked for consent to do the research. Having obtained the consent, schools and classes were randomly selected.

The respondents (adolescents) filled in the same set of specially selected questionnaires in their standard Polish versions, collected in a booklet, twice. The studies were conducted by a trained school counsellor or a school psychologist during an additional lesson run twice for the students of each school. The first lesson was in 2015 (September/October) at the beginning of the new school year in year 1. The second lesson was conducted at the end of the school year in May/June 2016. Each school and each class were visited by research assistants. The questionnaires were administered to the students by the researchers and trained research assistants. The study was conducted using the paper-and-pencil method. To ensure anonymity, each respondent was assigned a code. The completion of the questionnaires took about 50 minutes. The assistants knew only instructions and did not know the hypotheses of the research. Parents were asked to permit their children to participate in the study during the parent-teacher meeting. The parental refusal rates were quite low (3,5%). The missing data was below 5%, so the imputation for handling missing data which appeared in this group was used (Enders, 2010; Schumacker & Lomax, 1996).

### *2.2. Instruments*

Temperament. The study was based on the Temperament Questionnaire developed by Buss and Plomin (1984) version D, in its Polish language version prepared by Oniszczenko (1997). The theoretical foundation for the tool is Buss and Plomin's genetic theory of temperament under which temperament provides a basis for the shaping and development of personality and performs a regulatory role. Temperament Questionnaire is a self-report tool



consisting of 20 items which make up five scales of four items each: distress (D), fear (F), anger (A), activity (Ac), sociability (S). *Distress* is viewed as a tendency to develop rapid and strong reactions of anxiety and irritability, an important component of which is the genetically determined level of excitation of the nervous system (sample question: *I am often tense*). *Fear* is associated with the avoidance of aversive stimulation and attempts to escape from danger and from other people (sample question: *I am easily scared*). *Anger* can be expressed by attacking, pushing, kicking objects or loud verbal protests (sample question: *A lot of things make me irritated*). *Activity* is related to energy expenditure and encompasses activity changes and rates, intensity (vigor), and the ability to sustain an action (sample question: *I like being busy all the time*). *Sociability* refers to the degree of preference for contact with other people and avoidance of being alone (sample question: *I like being with other people*). Adolescents rated items on a 5-point Likert scale (1 = *Don't agree at all* to 5 = *Agree completely*). The questionnaire's reliability coefficients (Cronbach's  $\alpha$ ) were between 0.57 and 0.74 (Oniszczenko, 1997).

**Attachment.** The study used the Inventory of Parent and Peer Attachment developed by Armsden and Greenberg (1987). The tool is based on Bowlby's theory of attachment (Bowlby, 1988) and its recent expansions (e.g. Kocayörük (2012)). The scale is used for the assessment of affective-cognitive patterns of attachment as a source of psychological security for young people. Three dimensions of attachment are evaluated, including the level of mutual trust, quality of communication, and alienation in relationships with mother, father and peers. The tool consists of 75 questions which are scored on the Likert scale from 1 to 5 (1 = *never* to 5 = *always*). Some sample questions are listed below: *My mother respects my feelings* (trust); *I talk to my mother about my problems* (communication); *My mother expects too much from me* (alienation). Reliability measured by Cronbach's  $\alpha$  coefficient was, on respective subscales, 0.92–0.87 (attachment to mother) and 0.91–0.89 (attachment to father).

**Aggressiveness.** The study used the Buss-Perry Aggression Questionnaire (Buss & Perry, 1992). The tool is to assess intensity for four dimensions of aggression: physical aggression, verbal aggression, hostility as a tendency to recognize the attribution of other people's behavior, and anger as an evaluative-emotional indicator. The questionnaire consists of 29 items, and participants ranked them on the Likert scale from 1 – *extremely uncharacteristic of me* to 5 – *extremely characteristic of me*. The maximum score characterizing the aggressiveness of a person completing the questionnaire is 145. In addition, BPAQ makes it possible to determine the level of physical aggression (maximum score: 45), verbal aggression (maximum score: 25), hostility (maximum score: 40), and anger (maximum score: 35). Some sample questions are listed below: *If provoked I can hit someone* (physical aggression), *I often disagree with others* (verbal aggression), *I have a problem with self-control* (anger), *I get angry when somebody makes fun of me* (hostility).

**Social support.** The study relied on the Child and Adolescent Social Support Scale (Malecki, Demaray, & Elliott, 2000). CASSS is a 60-item self-report measure that assesses social support in adolescents. The scale helps to assess social support in subscales including Parent, Teacher, Classmate, and Close Friend support, and additionally allows for the evaluation of the importance of each type of support. Each subscale consists of 12 items; each item is evaluated twice. Each item on the scale is accompanied by the question *How often is it?* on the six-point Likert scale where 1 means *never*; 2 – *almost never*, 3 – *sometimes*, 4 – *often*, 5 – *almost always*, and 6 – *always*. This allows one to mark the frequency of support the individual receives. Higher scores indicate higher support. The next item is *How important is it to you?* The answers are on the three-tier scale, where 1 means *not important*, 2 – *important*, and 3 – *very important*. Here are some examples of the respondents' answers: peer support: *my friends – they are nice to me; they work hard and have good grades*; teacher support: *my teachers – they respect my opinion, they tell me how well I'm doing*. Higher scores indicate higher importance of support. Polish coefficients of reliability of  $\alpha$ -Cronbach's are from 0.92–0.97.

**Resilience.** The Connor-Davidson Resistance Scale Connor-Davidson Resilience Scale, CD-RISC (Connor & Davidson, 2003) was used to study resilience. The authors of the tool indicate that it should be assumed that in tests resilience may occur as a latent feature or a regulatory mechanism. The Connor-Davidson Resistance Scale consists

of ten questions, rated on the five-point Likert scale from 0 = *not true at all* to 4 = *nearly always true*. The total achievable score is from zero to 40 (higher scores indicate higher resilience). A sample item on the scale: *Can deal with whatever comes*. The total reliability of the test indicated by the authors is 0.82 and it is measured with Cronbach's  $\alpha$  (Connor & Davidson, 2003). In our own research we obtained the Cronbach's alpha reliability coefficient close to the original ones ( $\alpha$ , overall scale 0.78).

Emotions. The Questionnaire of Subjective Well-being Test, Mikšik (2004) was used to study emotional states. The aim of the tool is to examine the current emotional state and its changes in healthy people over 12 years of age. The questionnaire consists of adjectives selected after factor analysis and they describe specific mental states. According to the author, the questionnaire reveals the way the individual functions in terms of well-being and discomfort, and helps to describe and measure the current emotional state of the respondents: their activity, impulsivity, feelings of sadness and exhaustion, anxiety and anxiety expectations (Mikšik, 2004; Mikšik, 2007). Two scales were used in the study: the sadness and exhaustion scale (*How often do you feel sad / upset?*) and the anxiety and anxiety expectations scale (*How often do you feel that something wrong is happening, but you don't know what?*). Each of them contains eight items. The individual describes his/her feelings and mood on the five-point Likert scale (from *never* = 1 to *almost always* = 5). The reliability rate in the Polish adaptation of the test is Cronbach's  $\alpha$  = 0.79, which is close to the original reliability rate (Cronbach's  $\alpha$  = 0.82).

Aggressor or victim role. The study used the Mini Direct and Indirect Aggression Inventory (MINI-DIA) developed by Österman and Björkvist (2008). Mini-DIA is an abbreviated version of the Direct-Indirect Aggression Scales (DIAS) proposed by Björkvist, Lagerspetz, and Österman (1992). The Mini-DIA has been used to assess functioning in social relationships as the aggressor and victim. The scale consists of six questions which reflect the perception of one's own behavior in interpersonal relationships as being an aggressor or victim of aggression. Some sample questions are listed below; e.g. concerning physical aggression: *How often have you recently (over the past three weeks) been a victim of physical aggression – has someone, for example, hit you, kicked you or shoved you? How often have you recently perpetrated physical aggression – have you, for example, hit, kicked or shoved someone else?* The respondents assess their experiences from previous weeks on a five-point scale from 0 = *never* to 4 = *very often*. The total achievable score is from 0 to 4. The mean of items was used to construct the scale score.

### 2.3. Preliminary Analyses

The preliminary analyses presented below are focused on differences between groups and show correlations. Because in many cases in the studied groups the distribution of results differed from the normal distribution (Kolmogorov-Smirnov test,  $Z_{\text{girls}} = 0.14$ ,  $p < 0.001$ ,  $Z_{\text{boys}} = 0.16$ ,  $p < 0.001$ ), the Lilliefors significance correction was included in order to check whether there were differences between girls and boys. The analysis of differences was carried out with the Mann-Whitney U test.

The analyses revealed that gender differences in both age groups were significant for: temperamental fear (higher among girls), the importance of father and classmate support (higher among boys) and the level of anxiety and sadness (higher among girls). The test results showed no significant differences between genders in the frequency of assuming the role of the aggressor in any group.

The age differences among boys and girls (counted together) were significant for victim role T1; aggressor role in T1 and T2 (lower in the younger group); aggressiveness in T1 (higher in the younger age group); temperamental fear (higher in the younger group); father and peer support (higher in the younger group); father, teacher and peer support (higher in the younger group).

Bivariate Pearson's Correlations between the variables found that victim roles in Time 1 and Time 2 were positively related with each other ( $r = 0.37^*$ ) and with the aggressor role at each time point (victim T1 to aggressor T1  $r = 0.427^{**}$ , victim T2 to aggressor T2  $r = 0.458^{**}$ ). Correlations with victim role in T1 showed significant results for attachment to mother in terms of mother communication ( $r = 0.112^{**}$ ) and mother alienation ( $r =$



0.078\*), as well as for temperamental activity ( $r = 0.075^*$ ), temperamental sociability ( $r = 0.076^*$ ), aggressiveness in T1 ( $r = 0.1^*$ ) and in T2 ( $r = 0.086^*$ ), anxiety in T1 ( $r = 0.069^*$ ) and in T2 ( $r = 0.114^{**}$ ), sadness in T1 ( $r = 0.06^*$ ) and T2 ( $r = 0.068^*$ ). Correlations with victim role in T2 showed significant results for temperamental fear ( $r = 0.095^{**}$ ), temperamental anger ( $r = 0.114^*$ ), aggressiveness in T2 ( $r = 0.183^{**}$ ), anxiety in T2 ( $r = 0.162^{**}$ ), and sadness in T2 ( $r = 0.146^{**}$ ).

Correlations with the aggressor role in T1 showed significant results for attachment to mother in terms of mother trust ( $r = -0.105^{**}$ ); temperamental fear ( $r = 0.087^{**}$ ); temperamental activity ( $r = 0.09^{**}$ ); aggressiveness in T1 ( $r = .114^*$ ); the importance of father support ( $r = -0.106^*$ ) and of peer support ( $r = -0.104^*$ ); anxiety in T1 ( $r = 0.186^{**}$ ) and in T2 ( $r = 0.135^{***}$ ); sadness in T1 ( $r = 0.199^{**}$ ) and T2 ( $r = 0.116^{***}$ ); and resilience T1 ( $r = -0.127^{**}$ ). Correlations with the aggressor role in T2 showed significant results for temperamental fear ( $r = 0.12^{**}$ ), temperamental anger ( $r = 0.095^{**}$ ), aggressiveness in T2 ( $r = 0.111^*$ ), anxiety in T1 ( $r = 0.105^{**}$ ) and T2 ( $r = 0.205^{**}$ ), and sadness in T1 ( $r = 0.091^{**}$ ) and in T2 ( $r = 0.227^{**}$ ). Therefore, gender and age in the following analyses were controlled.

To answer the research question on the strength of relations between selected determinants of functioning as a victim or an aggressor in adolescence, a theoretical model was built and multilevel analyses were used. Based on theoretical assumptions, the following predictors were taken under consideration: aggressiveness, temperament, attachment, social support, resilience and emotional states. To examine whether dependent variables would predict changes in adolescents' victim or aggressor roles, an "expected" mode was examined in boys and girls separately in two age groups.

All theoretical models were evaluated using Confirmatory Factor analysis (CFA). Practical indices of fit for CFA include chi-square ( $\chi^2$ ), Root Mean Square Error of Approximation (RMSEA), (the p-value for rejecting the null hypothesis that the model fits the individual subject's data (pCLOSE) and Hoelter's Critical N (Bentler, 1990). RMSEA values of 0.06 or lower are considered good model fit and values of 0.08 are acceptable model fit (Schumacker & Lomax, 1996). Statistical analyses were carried out using the Statistic Programme for Social Sciences (SPSS) Amos 24 program. The adequacy of the structural models was tested using the chi-square goodness-of-fit test. Standardized parameter estimates representing direct and indirect effects were obtained at baseline. The variables were entered as a continuum in the final models.

### 3. RESULTS

The results are presented in two parts (Early Adolescence, and Late Adolescence).

#### 3.1. Early Adolescence

Two path models were specified with observable variables and indirect dependencies illustrating the determinants of the aggressor behavior among girls and boys. In the first test of the model, the paths for girls and boys were allowed to vary and then the paths were constrained to be equal for boys and girls. The first model shows a better fit to the data than the second one ( $\chi^2 = 63.19$ ,  $p < 0.001$ , RMSEA = 0.103). The models include three emotional predictors (sadness, anxiety and anger as components of aggressiveness) as well as resilience and attachment (mother communication, Table 1 & Table 2).

*Girls: aggressor experience.* When looking for conditions of being the aggressor among girls (aggressor role T1), a model was found that explained nearly 10% of variance ( $R^2 = 0.07$ ; Table 3). On the basis of the conducted analyses it can be pointed out that in the first measurement the strongest predictors activating the role of the aggressor are resilience and sadness. The relation between resilience and the aggressor role in Time 1 is negative (resilience T1 total interaction effect - 0.21,  $p < 0.01$ ), which means that it is a factor that inhibits the aggressor's role. Resilience also has an inhibitory function in relation to sadness and anxiety. Positive relations also include emotional components: sadness (sadness T1  $\beta = 0.18$ ,  $p < 0.001$ ) and, indirectly, anxiety (anxiety T1  $\beta = 0.13$ ) as

well as the emotional component of aggressiveness (anger T1  $\beta = 0.03$ ). The strongest predictor of the role of the aggressor in the second measurement was the earlier manifestation of aggressive behavior (aggressor T1 0.23,  $p < 0.001$ ), aggressiveness (anger T2  $\beta = 0.13$ ,  $p < 0.05$ ), and sadness (sadness T2  $\beta = 0.15$ ,  $p = 0.01$ ). In addition, an important factor related indirectly to the activation of the aggressor's role (at Time 2) was anxiety, which triggered sadness (anxiety T2 in relation to sadness T2  $\beta = 0.24$ ,  $p < 0.001$ ).

*Girls: victim experience.* Equations that form the model of conditioning the victim's status explain 16% of its variability ( $R^2 = 0.16$ ). The variable is affected mainly by: past experience in this role (victim 1 = 0.27), current anger (aggressiveness component, anger 2  $\beta = 0.19$ ), anxiety (anxiety 2  $\beta = 0.17$ ), and resilience (resilience 2  $\beta = 0.12$ ). The analysis of indirect effects and their relationships with the explained variable indicates that the past experience in this role (victim 1,  $\beta = 0.27$ ) and anger (at Time 2) are conducive to the victim's status, triggered directly and indirectly with anxiety at Time 2 (the total effect of anger significance is 0.23). During the first measurement one can notice that the status of the victim is explained by the relationship with the mother (mother communication  $\beta = 0.16$ ) and resilience (resilience 1  $\beta = -0.17$ ).

**Table 1.** Coefficients of the determinants for the role of the aggressor or victim among girls in early adolescence.

Explained variable	Explanatory variable	Standardized path coefficients (direct effects) $\beta$	Total standardized coefficients (indirect effects)	$p$	$R^2$
Aggressor T1	Resilience T1	-0.17	-0.21	**	0.07
	Sadness T1	0.18	0.18	***	
Aggressor T2	Sadness 1	0.00	0.42	***	0.1
	Aggressor T1	0.23	0.23	***	
	Aggressiveness (anger) T2	0.13	0.16	*	
	Sadness T2	0.145	0.15	**	
Victim T1	Attachment Mother (communication)	0.16	0.16	**	0.05
	Resilience T1	-0.116	-0.12	*	
Victim T2	Victim T1	0.266	0.27	***	0.16
	Aggressiveness (Anger) T2	0.185	0.23	***	
	Anxiety T2	0.167	0.17	**	
	Resilience T1	0.00	0.09	*	

Note: \*\*\* significance  $p \leq 0.001$ , \*\* significance  $p < 0.01$ , \* significance  $p \leq .05$  T1 & T2–time of measurement.

*Boys: aggressor experience.* The model, which explains over 15% of variabilities ( $R^2 = 0.16$ ), shows that the strongest predictor of the role of the aggressor was sadness (sadness T1  $\beta = 0.26$ ,  $p < 0.001$ , sadness T2  $\beta = 0.17$ ,  $p < 0.001$ ) and aggressiveness (anger T1  $\beta = 0.15$ ,  $p < 0.01$ , anger T2  $\beta = 0.19$ ,  $p < 0.001$ ). There is a positive relation between the emotional component of aggressiveness (anger T1,  $\beta = 0.13$ ,  $p = 0.02$ ) and anxiety, which in turn are in a strong positive relation to sadness (anxiety T1,  $\beta = 0.79$ ,  $p < 0.001$ ).

Among boys in the presented model, attachment (mother communication 0.11  $p = 0.03$ ) is a predictor of increased anxiety ( $\beta = 0.11$ ,  $p < 0.03$ ). Attachment and anger arouse anxiety, whose combined standardized prediction effect, together with indirect effects for activating the role of the aggressor at Time 1, is 0.21 (Table 2). However, in the second measurement, similarly to the group of girls, the strongest predictor is the role of the aggressor assumed in earlier periods (aggressor T1  $\beta = 0.28$ ,  $p < 0.001$ ), induced aggressiveness (anger T2  $\beta = 0.19$ ,  $p < 0.001$ ) and sadness (sadness T2  $\beta = 0.17$ ,  $p < 0.001$ ). In addition, an important factor related indirectly to the activation of the role of the aggressor (T2) is anxiety which triggers sadness.

*Boys: victim experience.* The analysis of the model of determinants for the creation and development of the victim status indicates the direct impact of the previous experience (victim T1  $\beta = 0.29$ ) and aggressiveness (the overall anger effect is 0.05, while the direct effect on the victim status at T1  $\beta = 0.18$ ). It is worth noting that the model for younger adolescents is a model that explains about 10% ( $R^2 = 0.08$ ) of the variabilities of maintaining the victim

status. The results indicate experiencing violence as the main indicator of maintaining the victim status. Attention should be paid to the impact of aggressiveness in the form of anger, which may indicate that being a victim is associated with strong emotions of anger that can be a manifestation of helplessness or frustration due to the ineffectiveness of one's actions.

**Table 2.** Coefficients of the determinants for the role of the aggressor or the victim among boys.

Explained variable	Explanatory variable	Standardized path coefficients (direct effects)	Total standardized (direct + indirect effects)	<i>p</i>	<i>R</i> <sup>2</sup>
Aggressor T1	Sadness T1	0.26	0.26	***	0.097
	Anger 1	0.15	0.17	**	
Aggressor T2	Aggressor T1	0.28	0.28	***	0.16
	Anger T2	0.19	0.2	***	
	Sadness T2	0.17	0.17	***	
Victim T1	Anger T1	0.18	0.18	***	0.03
Victim T2	Victim T1	0.288	0.29	***	0.08

Note: \*\*\* significance  $p \leq 0.001$ , \*\* significance  $p < 0.01$ .

### 3.2. Late Adolescence

Two path models were specified with observable variables and indirect dependencies illustrating the determinants of the aggressor behavior among girls and boys in late adolescence. The first tested a model in which girls' and boys' paths were allowed to vary and then a model in which the paths were constrained to be equal for boys and girls. The second model showed the better fit to the data than the second, so in this age group only one model was examined:  $R^2 = 0.29$ ,  $\chi^2 = 50.45$ ,  $df = 53$ ,  $p = 0.57$ , RMSEA = 0.0001, RMSEA HI = 0.035, RMSEA LO = 0.0001, PCLOSE = 0.997, Hoelter (0.01) = 426 (28).

*The aggressor experience.* The model of the determinants of the aggressor at the initial time explains 13% of the variability ( $R^2 = 0.13$ ) and indicates the direct impact of hostility (hostility T1,  $\beta = 0.26$ ) and induced sadness at Time 1 (sadness T1,  $\beta = 0.22$ ). The analysis shows that the aggressor status at Time 2 is strongly and directly dependent on previous experience of being the aggressor (aggressor T1,  $\beta = 0.32$ ), induced sadness (sadness T1  $\beta = 0.28$ ) and the feeling of being a victim during the first measurement (victim T1,  $\beta = 0.16$ ). Also, the aggressor status depends indirectly on induced anxiety (indirect anxiety effect T2 is 0.2), the sense of the importance of peer support ( $\beta = -0.11$ ), on the components of aggressiveness (hostility T1,  $\beta = 0.07$ , anger 1  $\beta = .05$ , verbal aggression  $\beta = 0.03$ ) on a high level of sadness occurring earlier (sadness T1  $\beta = 0.07$ ), and on the level of resilience (resilience T1  $\beta = -0.01$ ; Table 3).

On the other hand, aggressive behavior is indirectly induced by anger ( $\beta = 0.27$ ), which stimulates this construct through hostility, anxiety (anxiety T1  $\beta = 0.17$ ) and sadness. In the process of forming the status of the aggressor in the first measurement, the protective factors include resilience ( $\beta = -0.03$ ) and the importance of peer support ( $\beta = -0.04$ ).

*The victim experience.* In terms of the victim role in the first measurement ( $R^2 = 0.07$ ), the model explains only 7% of variabilities and indicates that this status is dependent on the strength of verbal aggression (verbal aggression  $\beta = 0.17$ ) and the importance of perceived peer support ( $\beta = -0.21$ ).

In terms of the fixed victim role (in the second measurement), the model explains more, nearly 33% of variabilities ( $R^2 = 0.33$ ) of this construct. It can be pointed out that being the victim most strongly and directly depends on the previous experience of being the victim (victim T1,  $\beta = 0.5$ ), and induced sadness 2 (sadness T2  $\beta = 0.28$ ). The strengthening of the victim status is inhibited by the positively evaluated peer support ( $\beta = -0.16$ ), and resilience obtained at the beginning of adolescence (resilience T1  $\beta = -0.01$ ). This status is indirectly fixed by the level of anxiety ( $\beta = 0.17$ ) and components of aggressiveness (verbal aggression  $\beta = 0.08$  and anger  $\beta = 0.03$ ).

**Table 3.** Coefficients of the determinants for the role of the aggressor or the victim in late adolescence.

Explained variable	Estimate	$\beta$	Standardized path coefficients (direct effects)	p	R <sup>2</sup>
Aggressor 1	Hostility T1	0.265	0.27	***	0.13
	Sadness T1	0.22	0.22	**	
Aggressor 2	Aggressor T1	0.32	0.32	***	0.29
	Sadness T2	0.28	0.28	***	
	Victim T1	0.16	0.16	*	
Victim 1	Significance of peer support	-0.21	-0.21	***	0.07
	Verbal aggression T1	0.17	0.17	**	
Victim 2	Victim T1	0.51	0.51	***	0.33
	Sadness T2	0.24	0.24	***	
	Anxiety T2	0.00	0.17	*	

Note: \*\*\* significance  $p \leq 0.001$ , \*\* significance  $p < 0.01$ , \* significance  $p \leq 0.05$ ; CR - Partition coefficient.

#### 4. DISCUSSION

On the basis of the results, it can be pointed out that the factors that prove the most important for the preservation of the victim role among girls are past experience of being in this role, and the currently triggered level of aggressiveness, manifested in the form of anger accompanied by anxiety. Anger affects the status of the victim, both directly and indirectly, by raising the current level of anxiety (the combined effect of the significance of anger as a characteristic is 0.23). The formation of the victim status (the first measurement) is promoted by a high level of satisfaction in the communication relationship with the mother, and it is hindered by the level of resilience. Therefore, girls who at the age of thirteen have a close, communication-based relationship of attachment with their mothers combined with a low level of resilience may be particularly vulnerable to being a victim.

It should be noted that the role of resilience in the formation of the victim status is ambiguous. On the one hand (in the first measurement) it acts as a protective factor (it has a negative impact on the victim status at Time 1  $\beta = -0.12$ , it reduces the level of anxiety and sadness). However, when the victim status is fixed, resilience reduces anxiety and indirectly inhibits the level of this status but directly affects its activation. In the case of the aggregation of indirect and direct influences, the impact of resilience on the persistence of the victim status is negligible. This ambiguity in the direction of the influence of resilience on the persistence of the victim status indicates, on the one hand, its regulatory role in relation to emotions (it reduces anxiety). On the other hand, resilience can affect the preservation of one's self-image and self-cohesion, and enables the organization of one's activities.

The model of determinants found in boys is different from the girls' model as it contains a different type of a predictor. There is no resilience. In the group of boys, the analysis reveals that next to aggressiveness (anger) and emotional states, the relational component plays a significant regulatory role in being the aggressor. The obtained picture of determinants indicates that in the initial phase of adolescence, at the beginning of a new educational period, a positive attachment relationship (in this case manifested in the communication with the mother), which increases the level of anxiety, may be a factor that indirectly determines taking the role of the aggressor.

In the case of the aggressor role in the second phase of adolescence, it turns out that earlier experiences of this type moderately determine the increase in the status in the next measurement. It can be noticed that there is another kind of experience among the important direct determinants, i.e. the experience of being a victim, which indicates that victims may become aggressors (this is consistent with the literature, and it is called the dramatic triangle). The formation of the aggressor role is therefore directly connected with hostility and induced sadness.

The development of the aggressor role is a complex process. The presented model illustrates the impact of protective factors, such as the importance of peer support and resilience. The risk factors include earlier experience of being the victim, emotions such as sadness and anxiety, and the components of aggressiveness. The obtained

mechanism of interactions indicates the importance of aggressiveness in establishing and maintaining the aggressor role. Indirect influences of anger on raising the level of anxiety may mean that young people cannot cope with this component of aggressiveness and express it in the form mediated by fear and sadness. It can be concluded that perceived anger raises the level of anxiety, which is masked by sadness, and in this form, it activates aggressive behavior.

It can be pointed out that irrespective of the time of measurement, the importance of resilience and the positive evaluation of peer support are factors that protect positive adaptation, which means inhibiting the formation and perpetuation of the aggressor status. It should also be pointed out that in the process of resilience formation (Time 1), peer support has a similar importance. However, during stabilization (Time 2), the protective importance of peer support increases.

As far as the victim role is concerned, it should be added that resilience is an indirect protective factor as it directly reduces the level of anxiety and to some extent inhibits the stimulating influence of anger on anxiety. The factors that directly affect the emergence of the victim status include the components of aggressiveness in the form of verbal aggression. This relation may mean treating one's aggressiveness as a form of defense against the destructive behavior of the aggressor. The strongest direct risk factors for the preservation of the victim status are: the previous experience of being a victim, sadness, the components of aggressiveness, and lack of peer support. The relations between risk factors indicate the importance of the relation between anger and anxiety, and between sadness and induced sadness, which fixes the status of the victim. The recognized model can illustrate the path of the victimization process, which, consistently with the literature, is based on sadness and isolation.

The two analysis models on conditions for being an aggressor or a victim in early and late adolescence have confirmed developmental differences between genders; specific relations between the aggressor and the victim role; and the importance of emotional regulation, aggressiveness, attachment (specially to mother), peer support, and resilience. In addition, it is worth noting that no temperamental factors have been found in any of the models. This may mean that, as it is described in the literature, temperament is associated with aggressiveness, and aggressiveness is available to both adolescent consciousness and adolescent control processes. It means that the theoretical and expected model and hypothesis were not completely confirmed. The research, however, highlighted some dimensions of the expected relationships. Gender differences were found in relation to regulatory mechanisms of being an aggressor or a victim only in the group of younger adolescents. The results are consistent with gender differences described in the literature in relation to the biological conditioning of adolescence (Archer, 2004; Björkqvist et al., 1992; Bussey & Bandura, 1999; Olweus, 1979) socially conditioned paths of socialization (Ostrov & Godleski, 2010) and different strategies for coping with stress (Kelly, Tyrka, Price, & Carpenter, 2008).

The role of previous experience What is common to both genders is the importance of the previous experience of functioning as an aggressor or a victim. The obtained result is consistent with the development of the spiral of violence described in the literature (Aronson, 1997) and supports the evidence-based thesis that exposure to violence may be a risk factor in future development (Franzese, Menard, Weiss, & Covey, 2017; Zeanah & Sonuga-Barke, 2016). Reports indicate the importance of previous experiences of being the aggressor in criminal lifestyle. The results of the presented studies could be directly discussed within the social-cognitive theory of learning (Bandura, 1977; Bandura, 1983; Buss, 1961). According to the theory, being the aggressor or the victim may influence the structure recognition of the situation and the cognitive distortions which occur according to the cognitive schemata (Crick & Dodge, 1996; Ostrov & Godleski, 2010).

These thinking patterns involve assuming something without grounds, focusing on negative events, seeing occasional events as a pattern, magnifying or diminishing isolated aspects of social knowledge, events, or one's behavior. Therefore, according to this paradigm, individual experience creates thinking patterns which are assumed to influence the way how the individual views himself/herself and his/her own existence and reacts in different situations. In the literature there is evidence that even exposure to television or game violence could not only



change feelings and increase hostility (Yao, Zhou, Li, & Gao, 2019) but also directly increase violent behavior in the future (Anderson & Bushman, 2001).

The study shows that some action in everyday practice of school life needs to be taken. The problems of adolescents related to assuming aggressor or victim roles should not be taken for granted, and adolescents with these problems cannot be left without help or attempts to improve their situation. If it is not done, the probability of maintaining aggressor's or victim's strategies of functioning in interpersonal relations increases.

#### *4.1. The Role of Psycho- Social Environment in Coping with Adaptation*

The role of attachment It seems that the relationship with the mother is of special importance for girls and boys in the first period of adolescence and, contrary to expectations, it is positively related to the status of the victim. The revealed unexpected relation may indicate the significance of the relation with the mother in the first period of adolescence. From the developmental point of view, the revealed relations can illustrate the existing conflict in a teenager in the area of closeness and dependence in relation to the mother, and the teenager's need for autonomy and the exploration of a new environment. Thus, the manifested aggression and the role of the aggressor would be the result of arousal associated with the experienced intrapersonal conflict (Branje, Laursen, & Collins, 2012; Finkel & Campbell, 2001; Hadiwijaya et al., 2017; Kobak & Madsen, 2008). This approach is also reflected in the concept of youth crisis (Erikson, 1968; Oleszkowicz, 2006) and the noticed problem of adapting parent-adolescent relationship to the changing needs of youth.

The role of anger and aggressiveness. Moreover, on the basis of the research, specific relations can be recognized which, according to the literature, describe positive relations between anger (aggressiveness component) and emotional states (anxiety and sadness, Buss (1961)). Anger, which is a component of aggressiveness, is a direct and indirect predictor that activates the role of the aggressor. This emotional component of aggressiveness is not only associated with taking on the role of the aggressor, but also stimulates anxiety, which in turn induces sadness. It can be concluded that aggressiveness stimulates functioning as an aggressor, which is consistent with the literature (Buss, 1961; Mischel & Ayduk, 2004).

The analysis of the models of determinants highlights the involvement of emotional tension and cognitive processes in the induction of aggressive behavior. The effects of interactions show the importance of aggressiveness as a factor responsible for the readiness to undertake and maintain the role of the aggressor in interpersonal relations. The revealed sequence of relations between emotional components is also worth noticing. Experienced sadness is a predictor of the persistence of the roles of the aggressor and the victim, both directly and indirectly in the first and in the second measurement. The significance of sadness can be considered particularly essential, because the relation of this emotion with the role of the aggressor is quite strong and positive in each measurement. In addition, the buffering significance of sadness for anxiety and indirectly for anger should be noted. Relations between the components of emotional reactions in evaluating one's own experience as the aggressor or the victim may indicate the masking role of sadness in relation to experienced anxiety and anger behind it.

The role of resilience. As far as resilience is concerned, its activation and functioning may depend on the activated level of anger. The higher it is, the more it can affect the efficiency of the regulation process. Therefore, it can be concluded that resilience inhibits functioning in the role of the aggressor (at Time 1), and, indirectly (at Time 1 and 2), it also inhibits anxiety and sadness. The direction of impacts and the strength of variables suggest that resilience in the first measurement may be the strongest factor protecting against taking and maintaining the role of the aggressor among girls. (The stronger it is, the stronger protecting factor it becomes.) The results are consistent with the studies conducted by Connor and Davidson (2003) who indicate that resilience can be treated as a specific control mechanism over arousal and remedial actions taken in difficult situations. The role of resilience in the development of the status of the victim and the aggressor, and its relations with other variables, such as coping

strategies, self-esteem, social support have been discussed by e.g. Campbell-Sills, Cohan, and Stein (2006); Masten and Obradović (2006).

The role of social support. In relation to the assumptions about the importance of social support, it can be pointed out that there is a special role of peer support in late adolescence, which can be a factor protecting against defining oneself as a victim. Other types of support relationships (support from parents or teachers) have not appeared in the models.

The ability to function in interpersonal relations in terms of alienation and symbiosis, which is one of the challenges of adolescence, requires the skills of alienation, separation, but also commitment and establishing relationships. This problem refers to changes in relations with peers, teachers and parents (Eisenberg et al., 2005; Zimmerman et al., 2002). The analyses show that the positive evaluation of the support received (i.e. the recognition of its validity) was a more *explicit protective factor* than just the perception of such support. The model analysis indicates that the perception of social relations related to peer support is a protective factor in late adolescence. It is congruent with Hartup (1989) and Demaray, Malecki, Davidson, Hodgson, and Rebus (2005). It is worth mentioning that the evaluation of this support is more important in the first measurement. This skill is of universal protective importance: it is essential in the formation, maintenance and preservation of the statuses of both the aggressor and the victim. Satisfaction with the obtained support directly inhibits the inducement of anxiety. In the study anger induces anxiety, and support inhibits it. Thus, it can be concluded that the relations discovered in the research reveal the importance of peer support in dealing with difficult situations (experiencing anxiety) and uncomfortable social situations (being a victim or aggressor). Thus, the findings support the stance that social and emotional learning programs for secondary schools should perform a prevention function; this stance is known in the literature (e.g. van de Sande et al. (2019)).

#### 4.2. Emotional Regulatory Mechanism as a Predictor of Youth Behavior?

The research has shown that a higher level of experienced emotions of sadness and anxiety is in a positive relation to the role of the aggressor and the victim. The findings are in line with Card et al. (2008) and Nigg (2017) as well as the analyses that noticed the links between gender differences, emotional disturbances and their relations to maladjustment.

Other studies related to the significance of the observed determinants shaping the persistence of aggressor and victim roles in interpersonal relations focus on the sequence that initiates it (anger–anxiety–sadness). This sequence may suggest that functioning in the examined role does not give a sense of satisfaction; on the contrary, it is associated with emotional discomfort (Allen & Manning, 2007; Eisenberg et al., 2010). The described sequence may indicate a negative moral evaluation of the functioning as the aggressor. It may also mean the aggressors' and the victims' sense of lack of competence to cope with a given situation in a different way (Aronson, 1997; Finkel, 2014; Kohlberg, 1984).

Questions about the role of anger, anxiety and sadness for the induced and maintained status of the victim or the aggressor lead to the formulation of two possible interpretations. One interpretation points out that in the case of individuals with greater experience of being a victim, the anger felt in interpersonal relations can cause aggressive behavior. As a result, the person feels a secondary victim, which may cause anxiety. This, in turn, arouses anxiety related to the future situation of becoming a victim. Therefore, sadness is activated, which affects the preservation of the victim status. The other hypothesis is quite different, and may indicate that depending on the circumstances and peer experience, the way of reacting and interpreting one's behavior as the most adaptive one (for example, taking the victim status on a constant basis in social relations) is preserved. In this approach, the mechanisms affecting the inducement may be similar: these are regulators, such as emotions, aggressiveness, and resilience (the last one acting as a protective factor), which indirectly influence the development of the basic model of the relations between anger–anxiety–sadness and other components of aggressiveness (hostility). These findings

support the conclusion that experiences of being an aggressor or a victim could be treated as an indicator to start the supporting or diagnostic procedures at schools (Sheeber, Davis, Leve, Hops, & Tildesley, 2007).

#### 4.3. Research Limitations and Future Directions of the Study

In the presented research, two potential sources of limitations should be indicated. The former refers to the accepted research method and research design – correlational, not experimental. The risk of errors resulting from the fact that respondents taking part in longitudinal, multi-phase measurements usually strive to make their answers in later phases coherent with those given in the previous phases of the measurement was limited by using a significant time interval between the phases and reducing the number of questionnaires to be completed in the second phase. The latter source of limitations stems from the specificity of the education system in Poland. The system consists of primary school (6 grades; pupils aged 7–12), lower secondary school (3 grades, students aged 13–15), and secondary school, which can be of academic type, a technical secondary school, or vocational school (3 or 4 grades, students aged 16–18). Changes that accompany moving to further stages of education overlap with developmental changes in students. Consequently, some aspects of student development may accelerate, inhibit, or trigger adaptation processes (Pulakos, Arad, Donovan, & Plamondon, 2000; Zhang, Cui, Zhou, Cai, & Liu, 2018).

The conceptualization of school type and age as indicators of developmental changes of an individual is problematic. Obviously, there are several potential developmental components that do not align well with age (e.g. pubertal timing or cognitive changes). In spite of these limitations, the study of changes taking place in a given cohort that has similar developmental conditions created by the educational system, in some way enables observation (*ex-post facto*), description and comparison of the distinguished variables. This approach seems to be particularly useful from the point of view of teachers and educators.

The obtained picture of the relations between the examined determinants may constitute an initial model for further exploration. Further research would be necessary to study and explore the following aspects:

- (In intercultural studies e.g. in the analysis of the situation in Poland after the education reform of 2017) the significance of a state-specific education system and of the moments of transition between education levels.
- The conditions of children and adolescents' functioning in interpersonal relations in the context of resilience and emotional regulation; this topic could be analyzed in the experimental way.
- The importance of the teacher's gender when giving support to adolescents.
- The relation between the structures of self-knowledge as regards the status of the aggressor and the victim in the light of the theory of youth rebellion and crisis (Erikson, 1968; Oleszkowicz, 2006).

## 5. CONCLUSION

Based on the analysis of the relations and influences affecting the mechanisms of activating the roles of the aggressor and the victim, one can point to the protective role of resilience and the evaluation of social peer support. As for risk factors, they include previous experience in the role of the aggressor and the victim. In addition, in various measurements anger and other components of aggressiveness induce, on a permanent basis, anxiety and sadness, and as a consequence mainly contribute to the status of the aggressor. Sadness plays a mediating role both for fear, which in turn modulates the importance of the evaluation of peer support, and anger (as the characteristics of aggressiveness). Resilience always occurs in the same role of a protective factor. Its effect was noticed in the process of lowering (inhibiting) emotional arousal (anxiety, sadness), and also as a behavior regulator (a direct negative effect on the statuses of both the aggressor and the victim).

To sum up, it may be pointed out that the research results correspond to results obtained by other researchers (the role of gender, the importance of previous experiences), but on the other hand, they exemplify the mechanism of adaptation to a new school situation affecting all the students (the first measurement was conducted in the students' second month in a new school, and the second measurement – one year later) at two different stages of

their adolescence. An important fact is that adolescents are a diversified group in which not only developmental age-related processes (early and late adolescence, differences in cognitive development and bio-psychological processes, focus on perception and acceptance of developmental changes versus attempts at the effective capture of developmental opportunities; (Erikson, 1994; Havighurst, 1981; Oleszkowicz, 2006)) must be taken into account but also individual psychosocial conditionings are to be considered (attachment, social support, individual emotional regulation, resilience; Eisenberg. (2017)). The presented mechanism of emotion regulation and the importance of resilience in the development of aggressive behavior have been described earlier, however, in the current research their developmental specificity is visible Table 4.

**Table 4.** Factors determining the role of the aggressor or victim.

Protective factors	Risk factors
Resilience	High level of anxiety High level of sadness
Significance of peer support	Previous experience of being the victim and aggressor Components of aggressiveness: anger, hostility, verbal aggression

It is also significant that despite the fact that the adolescents were tested in specific conditions, i.e. the emergence of a new developmental environment (cyberspace), specific cultural and educational values (Poland, Central Europe) and situational factors (a specific education system), the obtained results largely confirm the relations between social support, attachment, and the social behavior of adolescents (Foody, McGuire, Kuldass, & O'Higgins Norman, 2019; Malti, McDonald, Rubin, Rose-Krasnor, & Booth-LaForce, 2015).

The conclusions from the research may suggest that girls with low resilience, excessive concentration on the communicative relationship with the mother, and increased aggressiveness (anger) are susceptible to being a victim. Therefore, a high level of resilience, a low level of aggressiveness and decreased satisfaction in the relationship with one's mother may act as protective factors, indicating positive adaptation in the new environment. It could be mentioned that it is a very difficult aspect for the mothers of adolescent children. However, research suggests that the relationship with parents is competitive to the relationship with peers and a temporary reduction in its quality and well-being is necessary for developmental reasons (Branje, 2018). In the light of the research results, it is worth considering what prevention and assistance programs can be offered to adolescents with tendencies (based on previous experiences) to function as aggressors or victims in interpersonal relations. Such individuals should also be offered activities aimed at rebuilding their current patterns of knowledge about themselves, at developing their mechanisms to control emotional processes, and at improving their skills to deal with anxiety and sadness. Therefore, intervention and prevention programs should be targeted at intrapsychic structures, such as patterns of knowledge about oneself and emotional processes.

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## REFERENCES

- Achenbach, T. (1993). New developments in empirically based assessment and taxonomy of child/adolescent behavioral and emotional problems. Invited address presented upon receipt of distinguished contribution award of the APA section on clinical child psychology Toronto, Ontario, August 21. Retrieved from <http://files.eric.ed.gov/fulltext/ED377249.pdf>.
- Allen, J. P., & Manning, N. (2007). From safety to affect regulation: Attachment from the vantage point of adolescence. In M. Scharf & O. Mayseless (Eds.), *Attachment in adolescence: Reflections and new angles. New directions for child and adolescent development* (pp. 23- 39). San Francisco, CA: Jossey-Bass.

- Anderson, C. A., & Bushman, B. J. (2001). Effects of violent video games on aggressive behavior, aggressive cognition, aggressive affect, physiological arousal, and prosocial behavior: A meta-analytic review of the scientific literature. *Psychological Science*, 12(5), 353-359. Available at: <https://doi.org/10.1111/1467-9280.00366>.
- Archer, J. (2004). Sex differences in aggression in real-world settings: A meta-analytic review. *Review of General Psychology*, 8(4), 291-322. Available at: <https://doi.org/10.1037/1089-2680.8.4.291>.
- Armsden, G. C., & Greenberg, M. T. (1987). The inventory of parent and peer attachment: Individual differences and their relationship to psychological well-being in adolescence. *Journal of Youth and Adolescence*, 16(5), 427-454.
- Aronson, E. (1997). The theory of cognitive dissonance: The evolution and vicissitudes of an idea. In S. Craig McGarty & A. Haslam (Eds.), *The message of social psychology: Perspective on mind in society* (pp. 20-35). Oxford: Blackwell.
- Bandura, A. (1977). *Social learning theory*. Englewood Cliffs, NJ: Prentice-Hall.
- Bandura, A. (1983). Psychological mechanism of aggression. In R. G. Geen & E. I. Donnerstein (Eds.), *Aggression: Theoretical and empirical reviews* (Vol. 1, pp. 1-40). New York: Academic Press.
- Bentler, P. M. (1990). Comparative fit indexes in structural models. *Psychological Bulletin*, 107(2), 238-246. Available at: <https://doi.org/10.1037/0033-2909.107.2.238>.
- Björkqvist, K., Lagerspetz, K. M., & Kaukiainen, A. (1992). Do girls manipulate and boys fight? Developmental trends in regard to direct and indirect aggression. *Aggressive Behavior*, 18(2), 117-127.
- Björkqvist, K., Lagerspetz, K. M. J., & Österman, K. (1992). *The direct and indirect aggression scales*. Vasa, Finland: Abo Akademi University, Department of Social Sciences.
- Bogg, T., & Finn, P. R. (2010). A self-regulatory model of behavioral disinhibition in late adolescence: Integrating personality traits, externalizing psychopathology, and cognitive capacity. *Journal of Personality*, 78(2), 441-470.
- Bowlby, J. (1988). *A secure base. Clinical applications of attachment theory*. London: Routledge.
- Branje, S. (2018). Development of parent-adolescent relationships: Conflict interactions as a mechanism of change. *Child Development Perspectives*, 12(3), 171-176. Available at: <https://doi.org/10.1111/cdep.12278>.
- Branje, S., Laursen, B., & Collins, W. A. (2012). Parent-child communication during adolescence. In A. Vangelisti (Ed.), *Routledge handbook of family communication* (2nd ed., pp. 271-286). New York: Routledge.
- Buss, A. (1961). *The psychology of aggression*. New York: Wiley.
- Buss, A., & Perry, M. (1992). The aggression questionnaire. *Journal of Personality and Social Psychology*, 63(3), 452-459.
- Buss, A. H., & Plomin, R. (1984). *Temperament: Early developing personality traits*. Hillsdale, NJ: Erlbaum.
- Bussey, K., & Bandura, A. (1999). Social cognitive theory of gender development and differentiation. *Psychological Review*, 106(4), 676-713.
- Campbell-Sills, L., Cohan, S. L., & Stein, M. B. (2006). Relationship of resilience to personality, coping, and psychiatric symptoms in young adults. *Behaviour Research and Therapy*, 44(4), 585-599.
- Card, N. A., Stucky, B. D., Sawalani, G. M., & Little, T. D. (2008). Direct and indirect aggression during childhood and adolescence: A meta-analytic review of gender differences, intercorrelations, and relations to maladjustment. *Child Development*, 79(5), 1185-1229.
- Connor, K. M., & Davidson, J. R. (2003). Development of a new resilience scale: The Connor-Davidson resilience scale (CD-RISC). *Depression and Anxiety*, 18(2), 76-82.
- Crick, N. R., & Dodge, K. A. (1996). Social information-processing mechanisms on reactive and proactive aggression. *Child Development*, 67(3), 993-1002.
- Daniels, D. N., Gibula, M. F., & Ochberg, J. M. (1970). *Violence and the struggle for existence*. New York: Little Brown.
- Davidson, L. M., & Demaray, M. K. (2007). Social support as a moderator between victimization and internalizing-externalizing distress from bullying. *School Psychology Review*, 36(3), 383-405.
- Demaray, M. K., Malecki, C. K., Davidson, L. M., Hodgson, K. K., & Rebus, P. J. (2005). The relationship between social support and student adjustment: A longitudinal analysis. *Psychology in the Schools*, 42(7), 691-706.



- Dixon, R., & Smith, P. (2011). Bullying in schools: The research background. In *Rethinking School Bullying: Towards an Integrated Model* (pp. 22–37). Cambridge: Cambridge University Press.
- Eisenberg, N., Smith, C. L., Sadovsky, A., & Spinrad, T. L. (2004). Effortful control: Relations with emotion regulation, adjustment and socialization in childhood. In R.F. Baumeister & K.D. Vohs (Eds.), *Handbook of Self-regulation* (pp. 259–282). New York: The Guilford Press.
- Eisenberg, N., Spinrad, T. L., & Eggum, N. D. (2010). Emotion-related self-regulation and its relation to children's maladjustment. *Annual Review of Clinical Psychology*, 6, 495-525.
- Eisenberg, N., Zhou, Q., Spinrad, T. L., Valiente, C., Fabes, R. A., & Liew, J. (2005). Relations among positive parenting, children's effortful control, and externalizing problems: A three-wave longitudinal study. *Child Development*, 76(5), 1055-1071.
- Eisenberg, N. (2017). Commentary: What's in a word (or words)—on the relations among self-regulation, self-control, executive functioning, effortful control, cognitive control, impulsivity, risk-taking, and inhibition for developmental psychopathology—reflections on Nigg (2017). *Journal of Child Psychology and Psychiatry*, 58(4), 384-386.
- Enders, C. (2010). *Applied missing data analysis*. New York, London: Guilford Press.
- Erikson, E. (1968). *Identity youth and crisis*. London, New York: Norton & Company.
- Erikson, E. (1994). *Identity and life cycle*. London, New York: Norton & Company.
- Finkel, E. J. (2007). Impelling and inhibiting forces in the perpetration of intimate partner violence. *Review of General Psychology*, 11(2), 193-207.
- Finkel, E. J., & Campbell, W. K. (2001). Self-control and accommodation in close relationships: An interdependence analysis. *Journal of Personality and Social Psychology*, 81(2), 263-277.
- Finkel, E. J., Campbell, W. K., & Brunell, A. B. (2006). High-maintenance interaction and self-regulation. In K.D. Vohs & E.J. Finkel (Eds.), *Self and relationships: Connecting intrapersonal and interpersonal processes* (pp. 297–316). New York: Guilford.
- Finkel, E. J. (2014). The I3 model: Metatheory, theory, and evidence. In J.M. Olson & M.P. Zanna (Eds.), *Advances in experimental social psychology* (Vol. 49, pp. 3–104). San Diego: Academic Press.
- Foody, M., McGuire, L., Kuldass, S., & O'Higgins Norman, J. (2019). Friendship quality and gender differences in association with cyberbullying involvement and psychological well-being. *Frontiers in Psychology*, 10, 17–23. Available at: <https://doi.org/10.3389/fpsyg.2019.01723>.
- Franzese, R. J., Menard, S., Weiss, A. J., & Covey, H. C. (2017). Adolescent exposure to violence and adult violent victimization and offending. *Criminal Justice Review*, 42(1), 42-57. Available at: <https://doi.org/10.1177/0734016816679228>.
- Greenberg, M. T., Siegel, J. M., & Leitch, C. J. (1983). The nature and importance of attachment relationships to parents and peers during adolescence. *Journal of Youth and Adolescence*, 12(5), 373-386.
- Hadiwijaya, H., Klimstra, T. A., Vermunt, J. K., Branje, S. J., & Meeus, W. H. (2017). On the development of harmony, turbulence, and independence in parent–adolescent relationships: A five-wave longitudinal study. *Journal of Youth and Adolescence*, 46(8), 1772-1788.
- Hartup, W. W. (1989). Social relationships and their developmental significance. *American Psychologist*, 44(2), 120–126. Available at: <https://doi.org/10.1037/0003-066X.44.2.120>.
- Havighurst, R. (1981). *Developmental tasks and education*. New York: Longman.
- Jacobson, N. C. (2016). Current evolutionary adaptiveness of psychiatric disorders: Fertility rates, parent-child relationship quality, and psychiatric disorders across the lifespan. *Journal of Abnormal Psychology*, 125(6), 824-839.
- Kelly, M. M., Tyrka, A. R., Price, L. H., & Carpenter, L. L. (2008). Sex differences in the use of coping strategies: predictors of anxiety and depressive symptoms. *Depression and Anxiety*, 25(10), 839-846. Available at: <https://doi.org/10.1002/da.20341>.
- Kirby, D. (2002). The impact of schools and school programs upon adolescent sexual behavior. *Journal of Sex Research*, 39, 27-33. Available at: <http://dx.doi.org/10.1080/00224490209552116>.

- Kobak, R., & Madsen, S. (2008). Disruptions in attachment bonds: Implications for theory, research, and clinical intervention. In J. Cassidy & P.R. Shaver (Eds.), *Handbook of attachment: Theory, research, and clinical applications* (pp. 23–47). New York: Guilford Press.
- Kocayörük, E. (2012). The adaptation of perception of parent scale (POPS) into the Turkish culture. *International Journal of Educational Researchers*, 3(2), 1-9.
- Kohlberg, L. (1984). *The psychology of moral development*. New York: Harper and Row.
- Krahé, B. (2013). *The social psychology of aggression*. London & NJ: Taylor & Francis Group.
- Labouvie-Vief, G., Diehl, M., Jain, E., & Zhang, F. (2007). Six-year change in affect optimization and affect complexity across the adult life span: A further examination. *Psychology and Aging*, 22(4), 738–751. Available at: <https://doi.org/10.1037/0882-7974.22.4.738>.
- Lahey, B. (2008). Oppositional defiant disorder, conduct disorder and juvenile delinquency. In T.P. Beauchaine & S.P. Hinshaw (Eds.), *Child and Adolescence Psychopathology* (pp. 335-369). New Jersey: Wiley & Sons.
- Malecki, C. K., Demaray, M. K., & Elliott, S. N. (2000). *The child and adolescent social support scale*. DeKalb, IL: Northern Illinois University.
- Malti, T., McDonald, K., Rubin, K. H., Rose-Krasnor, L., & Booth-LaForce, C. (2015). Developmental trajectories of peer-reported aggressive behavior: The role of friendship understanding, friendship quality, and friends' aggressive behavior. *Psychology of Violence*, 5(4), 402–410. Available at: <https://doi.org/10.1037/a0039685>.
- Masten, A. S., & Obradović, J. (2006). Competence and resilience in development. *Annals of the New York Academy of Sciences*, 1094(1), 13-27.
- McGirr, A., Renaud, J., Bureau, A., Seguin, M., Lesage, A., & Turecki, G. (2008). Impulsive-aggressive behaviours and completed suicide across the life cycle: A predisposition for younger age of suicide. *Psychological Medicine*, 38(3), 407-417.
- Meldrum, R. C., Young, J. T., & Weerman, F. M. (2012). Changes in self-control during adolescence: Investigating the influence of the adolescent peer network. *Journal of Criminal Justice*, 40(6), 452-462. Available at: <https://doi.org/10.1016/j.jcrimjus.2012.07.002>.
- Mikšík, O. (2004). *SUPSO Questionnaire: Manual*. Brno: Psychodiagnostika.
- Mikšík, O. (2007). *Psychological characteristic of individual*. Prague: Karolinum.
- Mischel, W., & Ayduk, O. (2004). Willpower in a cognitive-affective processing system: The dynamics of delay of gratification. In R.F. Baumeister & K.D. Vohs (Eds.), *Handbook of self-regulation: Research, Theory, and Applications* (pp. 99–129). New York: Guilford.
- Nigg, J. T. (2017). Annual research review: On the relations among self-regulation, self-control, executive functioning, effortful control, cognitive control, impulsivity, risk-taking, and inhibition for developmental psychopathology. *Child Psychology and Psychiatry*, 58(4), 361-383.
- Nikolas, M. A., & Nigg, J. T. (2013). Neuropsychological performance and attention-deficit hyperactivity disorder subtypes and symptom dimensions. *Neuropsychology*, 27(1), 107-120. Available at: <https://doi.org/10.1037/a0030685>.
- Nowak, A., Vallacher, R. R., Tesser, A., & Borkowski, W. (2000). Society of self: The emergence of collective properties in self-structure. *Psychological Review*, 107(1), 39-61. Available at: <https://doi.org/10.1037/0033-295x.107.1.39>.
- Oleszkowicz, A. (2006). *Youth rebellion conditions forms effects* Warsaw: Scholar.
- Olweus, D. (1979). Stability of aggressive reaction patterns in males: A review. *Psychological Bulletin*, 86(4), 852–875.
- Oniszczenko, W. (1997). *The temperament questionnaire EAS by Arnold Buss and Robert Plomin. Adult and children's versions. Polish adaptation. Coursebook*. Warsaw: Psychological Test Laboratory of the Polish Psychological Association.
- Osterman, K., Björkqvist, K., Lagerspetz, K. M., Kaukiainen, A., Huesmann, L. R., & Frączek, A. (1994). Peer and self-estimated aggression and victimization in 8-year-old children from five ethnic groups. *Aggressive Behavior*, 20(6), 411-428.
- Osterman, K., & Björkqvist, K. (2008). *The mini direct indirect aggression inventory*. Vasa: Abo Akademi University.
- Ostrov, J. M., & Godleski, S. A. (2010). Toward an integrated gender-linked model of aggression subtypes in early and middle childhood. *Psychological Review*, 117(1), 233.

- Ostrov, J. M., Kamper, K. E., Hart, E. J., Godleski, S. A., & Blakely-McClure, S. J. (2014). A gender-balanced approach to the study of peer victimization and aggression subtypes in early childhood. *Development and Psychopathology*, 26(3), 575-587. Available at: <https://doi.org/10.1017/S0954579414000248>.
- Pascual-Leone, J., & Sparkman, E. (1980). The dialectics of empiricism and rationalism: A last methodological reply to trabasso. *Journal of Experimental Child Psychology*, 29(1), 88-101. Available at: [https://doi.org/10.1016/0022-0965\(80\)90093-4](https://doi.org/10.1016/0022-0965(80)90093-4).
- Pratt, A. M. (2006). Developing a self-reported measure to assess conflict behaviors using Björkqvist's developmental theory. In K. Österman & K. Björkqvist (Eds.), *Contemporary Research on Aggression* (pp. 50-56). Abo: Abo Akademi University Press.
- Pulakos, E. D., Arad, S., Donovan, M. A., & Plamondon, K. E. (2000). Adaptability in the workplace: Development of a taxonomy of adaptive performance. *Journal of Applied Psychology*, 85(4), 612-618.
- Schumacker, R. E., & Lomax, R. G. (1996). *A beginner's guide to structural equation modeling*. Hillsdale, NJ, US: Lawrence Erlbaum Associates, Inc.
- Schwarzer, R. (1998). Stress and coping from a social-cognitive perspective. *Annals of the New York Academy of Sciences*, 851(1), 531-537. Available at: <https://doi.org/10.1111/j.1749-6632.1998.tb09032.x>.
- Sheeber, L. B., Davis, B., Leve, C., Hops, H., & Tildesley, E. (2007). Adolescents' relationships with their mothers and fathers: Associations with depressive disorder and subdiagnostic symptomatology. *Journal of Abnormal Psychology*, 116(1), 144-154. Available at: <https://doi.org/10.1037/0021-843X.116.1.144>.
- Slotter, E. B., & Finkel, E. J. (2009). The strange case of sustained dedication to an unfulfilling relationship: Predicting commitment and breakup from attachment anxiety and need fulfillment within relationships. *Personality and Social Psychology Bulletin*, 35(1), 85-100.
- Smith, P. (2011). Bullying in schools. W: R. Dixon, *Rethinking School Bullying* (pp. 22-37). Cambridge: Cambridge Press.
- Trempała, J. (2000). *Time and change*. Bydgoszcz: Bydgoszcz Academy Publishing House.
- van de Sande, M. C., Fekkes, M., Kocken, P. L., Diekstra, R. F., Reis, R., & Gravesteyn, C. (2019). Do universal social and emotional learning programs for secondary school students enhance the competencies they address? A systematic review. *Psychology in the Schools*, 56(10), 1545-1567.
- Werner, E. E. (1989). High-risk children in young adulthood: A longitudinal study from birth to 32 years. *American Journal of Orthopsychiatry*, 59(1), 72-81.
- Yao, M., Zhou, Y., Li, J., & Gao, X. (2019). Violent video games exposure and aggression: The role of moral disengagement, anger, hostility, and disinhibition. *Aggressive Behavior*, 45(6), 662-670. Available at: <https://doi.org/10.1002/ab.21860>.
- Ybrant, H. (2008). The relation between self-concept and social functioning in adolescence. *Journal of Adolescence*, 31(1), 1-16.
- Zeanah, C. H., & Sonuga-Barke, E. (2016). The effects of early trauma and deprivation on human development – from measuring cumulative risk to characterizing specific mechanisms. *The Journal of Child Psychology and Psychiatry*, 1099-1102. Available at: <https://10.1111/jcpp.12642>.
- Zhang, D., Cui, Y., Zhou, Y., Cai, M., & Liu, H. (2018). The role of school adaptation and self-concept in influencing Chinese high school students' growth in math achievement. *Frontiers in Psychology*, 9, 2356.
- Zimmerman, M. A., Bingenheimer, J. B., & Notaro, P. C. (2002). Natural mentors and adolescent resiliency: A study with urban youth. *American Journal of Community Psychology*, 30(2), 221-243.
- Zucker, R. A., Wong, M. M., Puttler, L. I., & Fitzgerald, H. E. (2003). The effects of resilience on developmental outcomes of sons of alcohol. W: S.S. Luthar (Eds.), *Resilience and Vulnerability* (pp. 76-104). New York: Cambridge University Press.

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