

ORIGINAL PAPER

Aggressiveness, social support and school experiences as dimensions differentiating negative and positive adaptation among adolescents

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BACKGROUND

The study results presented below lie within a field of study which seeks to identify appropriate risk indicators for risky behaviours in the group of adolescents. The study drew on the tenets of developmental psychopathology. Adaptation assessment was performed on the basis of an objective indicator which comprised adolescents' problems with social functioning.

PARTICIPANTS AND PROCEDURE

The main determinants of the observed changes in behaviour and the development of adaptation pathways during the period of adolescence were considered to include bio-psycho-social temperamental factors (Buss & Plomin, 1984), attachment patterns (Armsden & Greenberg, 1987), trait of aggressiveness (Buss & Perry, 1992), conditions created by the environment (support of family members, peers and teachers [Malecki & Demaray, 2002]) as well as previous experiences such as being a victim of violence (Osterman & Bjorqvist, 2008) or the level of school success. The final study group comprised a total of 140

positively and 140 negatively adapted teenagers ($N = 280$) between the ages of 12 and 19. The study was carried out in Poland.

RESULTS

The study confirmed the gender effect, demonstrating a higher frequency of involvement in risky behaviours among boys. The results from searching for differences between positively and negatively adapted teens showed that in the negatively adapted group there were lower grades at school and more frequent aggressive behaviour.

CONCLUSIONS

The main conclusion that can be drawn from the study is that the potential prophylactic and therapeutic interventions require consideration of factors such as age, educational success, aggressiveness and social support.

KEY WORDS

risk factors; adaptation; aggression; adolescents

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BACKGROUND

In the literature reports, both engaging in and being a victim of aggressive behaviours are regarded as behavioural indicators of the process of developmental maladaptation or factors contributing to demoralization (Gierowski, 2005; Pastwa-Wojciechowska, 2015). Leśniak (2015) goes as far as claiming that a problem in the psychological diagnostics of children and adolescents is the application of primarily nosologic (symptomatic) classifications for characterizing manifestations of functional or developmental disorders, and describing them in the categories of frequency, severity or intensity. In the study reported below, in order to demonstrate risk factors specific to adolescents with social adjustment problems, an integrative variable model was developed, taking into account not only the occurrence of specific bio-psycho-socio-situational circumstances but also their mutual interplay.

MOST COMMON INDICATORS OF DISORDERS IN THE FUNCTIONING OF ADOLESCENTS

Models describing the emergence of disorders in the functioning of adolescents in the school environment frequently focus on school success or failure – or on problems identified during that period, which manifest themselves relatively often as externalizations and problems with emotional functioning (anxiety, sadness, etc., Eisenberg, Spinard, & Eggum, 2010). Furthermore, it needs to be noted that the entry of young people into the adolescent stage in itself, coupled with certain internal conditions specific to the individual (including the temperament, emotionality, structure of aspirations and goals, aggressiveness and mechanism of bond formation), has a significant impact on the change or consolidation of specific strategies of functioning in the school environment, and on relationships with parents or peers (Bee, 2004; Obuchowska, 2012; Sroufe, 1989). The strategies may be geared towards effective task execution, task avoidance – or the “defence of self” (Senejko, 2010). In the literature dealing with developmental psychology it is emphasized that adaptation difficulties with the fulfilment of school obligations and the pursuit of tasks presented to adolescents may manifest themselves in aggressive behaviours. They may serve as a way to siphon off emotional tension emerging as a result of adolescents’ inability to rise to the expectations of adults (anger, anxiety, uncertainty, sadness, shame, etc. – see Tyszkowa, 1986). Studies conducted by Polman et al. (2007) among adolescent boys showed that proactive aggression throughout the entire period of puberty might be a predictor of behavioural problems at later stages. Before that study,

Brendgen, Vitaro, Tremblay and Lavoie (2001) found that proactive aggression was a unique predictor of criminal violence, whereas passive aggression was a clear predictor for victims of violence. In addition, both active and passive aggression is a predictive factor in psychopathology, particularly with regard to problems associated with the externalization of emotions (Eisenberg et al., 2005). Studies exploring aggressive behaviours and victimization experiences show that victimization rates in victims of violence are approximately twice as high as aggression rates (Wang et al., 2009). Aggression (in all its forms) and the tendency to be a victim (sometimes referred to as passive interpersonal aggression) have predictive significance for criminal behaviours, abuse of psychoactive substances and development of personality disorders during adulthood (Elliott, 1994). A number of studies and analyses (Williams, Conger, & Blozis, 2007; Zumkley, 1994) have shown that variation in the frequency of manifesting aggressive behaviours and being victimized changed over time (particularly during adolescence). The phenomena were shown to increase in early adolescence and become gradually attenuated towards the end of this phase of life.

MODELS FOR STUDYING CONDITIONS UNDERLYING THE DEVELOPMENT OF RISKY BEHAVIOURS IN ADOLESCENTS

The Polish literature contains a few proposed models for exploring conditions that underpin non-adaptive behaviours and explaining engagement in risky behaviours such as violence, assault and robbery or truancy. Such models were developed by a number of authors including Gierowski (2005); Gierowski, Cyboran, Porańska (2008); Leśniak (2015); Rode (2010) and Stanik (2007). All of them highlight the roles played by motivation- and personality-related processes for the consolidation of a specific manner of functioning. Furthermore, it can be noted that the models expose the importance of coping strategies which are activated in situations recognized as difficult and in response to the accumulation of adverse factors (particularly during adolescence). What they all share is the focus on behaviours as indicators and manifestations of social maladjustment or demoralization.

There are two research models in the literature dealing with the emergence of social adjustment disorders among children. One of them is the six-stage SIP model (Reformulated Social Information Processing Model; Crick & Dodge, 1994, 1996). The other one, proposed by Ostrov and Godleski (Gender-Linked Model of Aggression Subtypes, 2010), is based on the former but focuses on aggression as a manifestation of non-adaptive behaviours. Both proposed models underscore the role and significance of scripts for the

social codes of behaviour applicable to girls and boys, social patterns entrenched in social knowledge, and their interactions with norms, personal traits and activated attributions. In accordance with the model proposed by Ostrov and Godleski, there is a correlation related to the choice of behaviour conditioned by the social and personal gender pattern. Their studies show that girls more commonly engage in gender-consistent aggressive behaviours. Accordingly, girls usually opt for relational rather than physical aggression (Ostrov, 2014; Card et al., 2008; Murray-Close et al., 2016; Putallaz et al., 2007).

The analysis of risky or problem behaviours in categories other than non-adaptation, social behaviours or demoralization is possible within the paradigm of developmental psychopathology which puts into focus the flexibility of behaviours, their sensitivity to the situation, fluidity of connections between different personality structures as a manifestation of adaptive abilities of the individual, the role of individual expectations from a given situation and the existence of individual constellations of patterns for self-organization or cognitive interpretations forming the image of self (Białecka-Pikul, 2011; Cierpiąłkowska & Zalewska, 2008; Pervin, 2015). From the perspective of developmental psychopathology one of the primary criteria for the assessment of mental health comprises, on the one hand, an evaluation of the functioning of a particular individual in relation to developmental standards for their age and, on the other, an assessment to what extent the functioning of that individual interferes with their daily life and the condition of the society as a whole. Consequently, 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 thus understood relies on a set of criteria including the absence of serious mental problems and/or problem behaviours, 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, among others, resilience, self-efficacy or mentalization processes (Grzegorzewska & Cierpiąłkowska, 2015; Ogińska-Bulik, 2011; Masten & Obradović, 2006; Schwarzer, 1998). In other words, it is a result of mutual interactions between a given person's (biological and psychological) traits, their experience, developmental challenges and contextual considerations (comprising both risk factors and protective factors). Luthar (2006) pointed out that three factors, namely a safe bond with the caregiver,

and good grades and appropriate peer relationships during school education, can serve as an objective indicator of positive adaptation during early childhood. Grzegorzewska (2013) developed a multifaceted and multidimensional paradigm of positive adaptation, defining it in objective – clinical – categories (low level of psychopathology), developmental (high level of execution of developmental tasks) and subjective terms (high sense of life satisfaction).

ARE THERE SPECIFIC RISK FACTORS UNDERLYING THE DEVELOPMENT OF POSITIVE OR NEGATIVE ADAPTATION PATHWAYS IN ADOLESCENTS?

The literature on the trajectories for the evolution of pathways underlying positive adaptation in adolescents reveals specific interactions between protective factors and risk factors. In the classical framework, basic bio-psycho-social risk factors during the period of adolescence include temperamental traits (e.g. impulsivity – Neuhaus & Beauchaine, 2013), insecure attachment patterns (Zucker et al., 2003), disordered affect regulation and weakened impulse control (Clarkin & Posner, 2005; Coan & Allen, 2008; Fajkowska-Stanik & Marszał-Wiśniewska, 2004), adverse environmental conditions (war, disease in the family, poverty, social isolation of the family – Williams, Konger, & Blozis, 2007), dysfunction of the family unit or the individual (Borecka-Biernat, 2000, 2003, 2013; Dishon, French, & Patterson 1995; Kucharewicz, 2015) as well as prior experiences such as being affected by violence (Alink & Egeland, 2013; Perry, 2008), problems at school (Valjaranta, Tolvanen, Aunola, & Nurmi, 2014) or negative effects of peer pressure (Elliot, 1994; Österman et al., 1994; Thornberry, Lizotte, Krohn, Farnworth, & Jang, 1994).

Furthermore, key determinants for the development of mental health disorders are recognized to comprise processes arising from interactions of previous factors in interpersonal relationships or in relation to social tasks and challenges such as fear of rejection or instability of family relationships (Eisenberg, Zhou, Spinrad, Valiente, Fabes, & Liew, 2005), hostility understood as a personality trait and/or abnormally increased anger manifested at the behavioural level (McGirr, Paris, Lesage, Renaud, & Turecki, 2007; McGirr et al., 2008), which may find its expression either in externalizing behaviours (frequent dissatisfaction, oppositional behaviours, physical confrontations) or in the form of internalization (intensive dysphoria, irritability, anxiety, emotional lability). A meta-analysis of studies investigating factors which determine adoption of the role of perpetrator of peer violence (Smith, 2011) demonstrated that the role is more commonly assumed by adoles-

cents with a higher-than-average level of anxiety and sadness, and a lower level of self-esteem. It is also characterized by an elevated level of anger and temperamental activity, and the cognitive tendency to attribute other people's behaviours as hostile.

Temperament and attachment are closely related to the functioning of adolescents directly in the dimension of the pathways referred to above, and indirectly via a connection with aggressiveness and regulation mechanisms (resilience and self-efficacy). Studies conducted by Greenberg, Siegel and Leitch (1983), and by Raja, McGee and Stanton (1992), demonstrate the importance of the quality of attachment to parents for the well-being and welfare of teenagers (a stronger attachment based on trust and acceptance was found to be correlated with a higher level of well-being among teenagers).

The existence of two paths linking temperament to involvement in non-adaptive behaviours related to aggressiveness and aggressive behaviours (Neuhaus & Beauchaine, 2013; Nigg, 2013) revealed the difference between antisocial behaviour manifested primarily as aggressive behaviours of an impulsive nature and a low degree of positive adaptation conditioned by negative affect and anger, and asocial behaviour of an instrumental nature conditioned by low activation of temperamental anxiety and a low level of emotional reactivity.

Personality traits may also be conducive to uncontrolled aggressive behaviours and a tendency to externalize problems (Buss, 1961; Eisenberg et al., 2005). Aggressiveness is one of the traits which is relatively stable over time and persists as a special pattern of behaviour from childhood until adolescence (Krahé, 2015; Zumkley, 1994). Webster et al. (2014) distinguish three components of aggressiveness: anger, hostility and behaviour. In the contemporary literature on the subject, the term "aggressiveness" is sometimes used interchangeably with "readiness for aggression". The construct is defined as a "constellation of psychological structures and underlying processes that regulate aggressive behaviour" (Konopka, Frączek, & Dominiak, 2013). It has been shown that aggressiveness may serve as a predictor for a range of problems including, during early childhood, disordered attachment to caregivers, and at later stages also poor school performance, problems with proper school conduct or involvement in risky and criminal behaviours (Brown, Cohen, Johnson, & Salzinger, 1998). Aggressiveness relates to an individual's tendency to make hostile attributions and to experience hostility, anger and/or irritability in various social situations, even where such emotional responses are unjustified. In view of the above, it is recognized that a high level of that trait may be used as a predictor for the occurrence of problem behaviours and a greater inclination to take a non-adaptive pathway of development (Loeber & Hay, 1997). McGirr, Paris,

Lesage, Renaud and Turecki (2007) view aggressiveness as inappropriately intensified anger manifested at the behavioural level. This approach accentuates the contribution of emotional tension and cognitive processes to the activation of anger and induction of aggressive or problem behaviours. Kubacka-Jasiecka (2006), Lahey (2008) and Sroufe (1997) underscored the adaptive and secondary role of aggressive behaviour in relation to the natural pattern of experiencing emotions which becomes consolidated in the process of socialization. The authors noted that in some people a high sense of aggressiveness was linked to a rewarding sense of efficacy, resulting in a secondary reinforcement of this pattern of experiencing emotions.

Studies show that regulation mechanisms such as self-efficacy perform inhibitory functions in the process of affect management (Baumaister et al., 2006; Bogg & Finn, 2010). Consequently, self-efficacy may be a protective factor in the process of adaptation. Research demonstrated problems classified as internalization disorders, including increased levels of anxiety and sadness (depressiveness) to be predictors or indicators for the occurrence of aggressive and criminal behaviours. Studies exploring the construct of self-efficacy revealed a positive correlation between the efficacy indicator and the sense of self-esteem (.52), the locus of internal control (.40) and optimism (.49). A negative correlation was found between general anxiety (.54), shyness (.58) and pessimism (.28). Prognostic accuracy was verified on the basis of a follow-up study conducted two years later. In males, the correlation coefficients turned out to be weak (.20-.34) and much lower than in the female sub-group (.40 for the sense of self-esteem and .56 for optimism; Juczyński, 2009; Bandura, 1994; Schwarzer, 1998).

PRESENT STUDY

The main goal of the present study was to analyse the effect of psychological conditions and relations existing between them on the positive and negative adaptation of adolescents. In order to determine risk factors and protective factors affecting adolescents, correlations and links between the same set of psychological variables were analysed in two groups of adolescents differing in their developmental adaptation indicators. Adaptation was assessed on the basis of an objective indicator in the form of problems with social functioning confirmed by court orders appointing probation officers to teenagers in cases involving demoralization or committing them to youth rehabilitation centres. The study's analysis was conducted in two groups of teenagers. One group consisted of teenagers whose development thus far had not suggested a high risk (positively adapted group). The other group comprised teenagers who, due to

their previous behaviour, were classified in a high risk group (negatively adapted group).

The main determinants of the observed changes in behaviour and the development of adaptation pathways during adolescence were considered to include bio-psycho-social temperamental factors, attachment patterns, conditions created by the environment (support of family, peers and teachers) as well as previous experiences such as the experience of violence and the level of school success. Moreover, key determinants of the functioning of individuals were recognized to include processes and states arising from interactions between previous factors in interpersonal relationships or in confrontation with social tasks and challenges such as the sense of self-efficacy and aggressiveness. The model adopted for the study is rooted in the classical social learning paradigms in their cognitive-integrative and ecological expansions.

The study sought to identify characteristic individual resources which describe and condition the two (adaptive and maladaptive) development pathways in the concrete context of adolescent development. The research question related to the role of subjective conditions, personal and social resources (sense of support) and own experience for taking adaptive and maladaptive developmental pathways, and identification of specific models that govern the functioning of subjects in the negatively adapted group differing in the frequency of engagement in behaviours in the role of perpetrator and/or victim of aggression.

status, cultural patterns applicable to the functioning of adolescents of different genders); 2) subjective conditions underpinning the functioning of individuals (attachment, temperament, age, gender, aggressiveness) and their resources (social support, sense of self-efficacy); and 3) experiences (frequency of engaging in behaviours as a perpetrator or victim, school success). Figure 1 below shows the model of variables and their mutual interactions at time t1 (assuming that the episodes recur at t2 and t3) adopted for the study.

Figure 1 shows a contextual model of interactions taking place between groups of factors and their flexibility. Each of the groups exhibits a different level of stability and flexibility when confronted with a change in the internal or external environment. A given sociocultural context (relatively stable, with slowly progressing changes) gives a possibility to identify specific behaviours and indicators of developmental adaptation (a subject's experiences and own activity) which is determined by subjective conditions pertaining to the individual (relatively stable, with slowly progressing 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 are capable of directly influencing the individual's inner state and the activated regulation mechanisms as well as methods of situation assessment. The model also marks the current emotional states indicating the specific nature of current experiences (strength, content, direction). Also, it needs to be stressed that episodes of the individual's functioning repeat 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 about 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

RESEARCH MODEL AND OPERATIONALIZATION OF VARIABLES

The model of variable interactions adopted for the study assumes that the variables with a potential significant impact on the functioning and adaptation can be combined into three groups of factors. They include factors embedded in: 1) the sociocultural context (country, educational system, financial

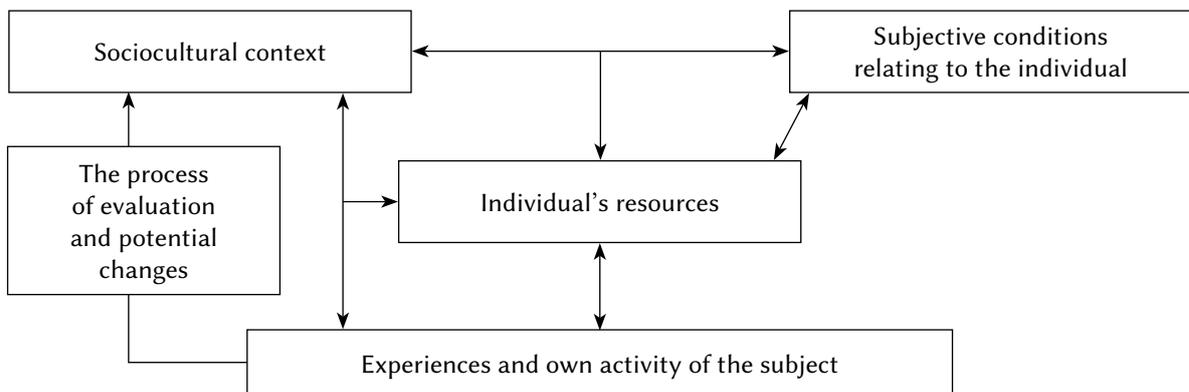


Figure 1. Research model in an episodic framework (at time t_n).

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.

Even though the study was conducted for exploratory purposes, three hypotheses described below were adopted.

- H.1. – There are differences between the girls and boys (in both groups) in the manner in which they express their aggression.
- H.2. – There are differences between the negatively and positively adapted group in psychological (e.g. level of aggressiveness, level of self-efficacy, level of engagement in developmental tasks) and social variables (e.g. perceived financial status of parents, number of siblings and a weaker sense of support).
- H.3. – There are specific relations between psychological variables (e.g. self-efficacy, level of aggressiveness and the frequency of involvement in behaviours in the role of perpetrator) in both groups.

METHOD

PARTICIPANTS SELECTION PROCEDURE

Selection for the study group was intentional and had three steps. The first step was the big group gathering, the second was the study group selection, and the third was the control group (positively adapted group) selection. The study was performed according to rules of the quasi-experimental research scheme and selection procedure of the control group in order to “meet the canon of one difference” on randomisation (the 2nd grades of randomisation). This way is recommended by: consort standards (consort .org – there are standards for psychotherapy effectiveness study) and in Poland: Bedyńska, Brzezicka, & Cypryńska, 2013).

FIRST STEP: SEARCHING FOR THE STUDY GROUP

The entire study group comprised 1,099 adolescents including 504 (46%) girls and 595 (44%) boys. The subjects attended schools of eight different types (two primary schools and two middle schools located at the peripheries of cities – one big city¹ and the other medium-sized², a middle school in a small town³, a secondary technical school, a secondary school of general education and a basic vocational school in a medium-sized city, and students attending a university based in a medium-sized city in Poland (*Wielkopolskie and Lubuskie Regions*) and the individuals from sociotherapeutic and curatorial care centres for maladjusted youth.

SECOND STEP: SEARCHING FOR THE NEGATIVELY ADAPTED GROUP

In order to distinguish the negatively adapted group, the criterion of a declared problem with law was used (court judgment on demoralization and supervision of the curator for that reason or stay in the MOW⁴). It is a criterion consistent with the classification (Bloomquist, 2006; Gierowski, 2005) and in line with the meta-analyses carried out by Ostaszewski (2008). The individuals from sociotherapeutic and curatorial care centres for maladjusted youth who declared having problems with the law (court sentence because of demoralization) were assigned to the negatively adapted group. Somebody who was in this group and did not declare this kind of problem was excluded⁵ because of identification problems with credibility.

THIRD STEP: SELECTION OF THE CONTROL GROUP

The selection procedure for the control group in order to “meet the canon of one difference” and finding the most equivalent group was based on randomisation (the 2nd grades of randomisation). This way is recommended by: consort standards (consort .org – there are standards for psychotherapy effectiveness study) and in Poland: Bedyńska, Brzezicka, & Cypryńska, 2013). The positively adapted group comprised randomly selected individuals from the big study group ($N = 959$). This action (the search for equivalence) was taken to ensure maximum similarity and equivalence between groups. In this case the RANDOM tool was used. The rest of the original group was omitted in the further proceedings.

PARTICIPANTS

The final study group consisted of 240 individuals divided into 2 groups: negatively and positively adapted youth. In the negatively adapted group finally there were 140 adolescents including 78 teenagers (56%) between the ages of 12 and 15, and 62 (44%) older teenagers (aged 16-19), 46 girls and 94 boys. The positively adapted group comprised randomly selected individuals from the rest of the whole group ($N = 140$, 78 teenagers (56%) between the ages of 12 and 15, and 62 (44%) older teenagers (aged 16-19), 46 girls and 94 boys. In this case the RANDOM tool was used. This action (the search for equivalence) was taken to ensure maximum similarity and equivalence between groups. The rest of the original group was omitted in the further proceedings.

PROCEDURE

The study was conducted by a trained school counsellor or a school psychologist during an additional

lesson offered to the students. Each school and each class was visited by research assistants. The questionnaires were administered by the researchers and trained research assistants at the schools. Control of the research process also consisted in the fact that the assistants knew the same instructions (training meeting) and did not know the hypotheses of the research.

Parents were asked to contact the school or investigators if they did not want their children to participate. The study was conducted using the paper-and-pencil method. To ensure anonymity, each of the subjects was assigned a code. The study involved the completion of questionnaires, and took about 50-70 minutes.

In order to reduce the level of anxiety in the teenagers during the research process, they were supervised by psychologists or pedagogues working in the institutions concerned.

RESEARCH TOOLS AND OPERATIONALIZATION OF VARIABLES

The study was based on a range of questionnaires investigating selected psychological traits and structures. In addition to methods determining psychological functioning, demographic data were used (age, gender, school form, educational level as well as socialization data including the number of siblings, parents' level of education, assessment of their financial status and education, learning difficulties, criminal record, and grades in three subjects as specified in the previous year's school report).

Temperament. The study was based on the EAS Temperament Questionnaire developed by Buss and Plomin (1984), version D (EAS-D), in its Polish language variant 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. In their concept of temperament, Buss and Plomin distinguished five traits defining the structure of temperament in the categories of emotionality, activity, sociability and impulsivity. The traits were included in the EAS Questionnaire as the dimensions of Distress, Fear, Anger, Activity and Sociability. The dimension of *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. The dimension of Fear is associated with the avoidance of aversive stimulation and attempts to escape from danger and from other people⁶. Anger can be expressed by attacking, pushing, kicking objects or loud verbal protests. Activity is a dimension relat-

ed to energy expenditure and encompasses activity changes and rates, intensity (vigour), and the ability to sustain an action. The dimension of Sociability refers to the degree of preference for contact with other people and avoidance of being alone. It is recognized that the dimensions of distress, anger and fear are associated with a tendency for neuroticism, and the dimensions of activity and sociability are associated with a tendency for extraversion (Oniszczenko, 1997; Oniszczenko, Stanisławiak, & Dąbrowska, 2014). The version is used for the assessment of different traits that make up the structure of temperament in individuals over the age of 13. EAS-D is a self-report tool consisting of 20 items which make up five scales: distress (D), fear (F), anger (A), activity (Ac), sociability (S). The questionnaire's reliability coefficients (Cronbach's α) are in the range of 0.57-0.74 (compare Oniszczenko, 1997). Despite low internal consistency of the adult version, the questionnaire has satisfactory stability (Oniszczenko, 1997).

Attachment. The study made use of the Inventory of Parent and Peer Attachment (IPPA) developed by Armsden and Greenberg (1987). The tool is based on Bowlby's theory of attachment (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. Four dimensions of attachment are evaluated, including the level of mutual trust, quality of communication, and anger and alienation in relationships. The tool consists of 75 questions which are scored on the Likert scale from 1 to 5. Reliability measured by Cronbach's α coefficient was, in respective subscales, 0.92-0.87 (attachment mother) and 0.91-0.89 (attachment father).

Aggressiveness. The study made use of the Buss-Perry Aggression Questionnaire (BPAQ) (1992). The tool enables the assessment of intensity for four dimensions of aggression: physical aggression, verbal aggression, hostility as a tendency to recognize the attribution of other people's behaviours and anger as an evaluative-emotional indicator. The questionnaire consists of 29 items, and participants rank 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, the 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). The theoretical limitations of the scale are related to the retrospective nature of evaluating one's own behaviour and agitation levels (Buss & Perry, 1992). Multiple studies, however, have shown that the method demonstrates a high degree of reliability in the assessment of individuals with a very high level of aggressiveness, and has a high level of internal con-

sistency (Webster et al., 2014). Furthermore, studies by other researchers have highlighted the usefulness of the BPAQ and the consistency between results obtained with the tool and other scales as well as the assessment (nomination) of behaviour by peers (compare Krahé et al., 2011, Siekierka). The value of the reliability of this questionnaire measured in different studies around the world is hostility .88-.93, anger .88-.94, verbal aggression .87-.94, physical aggression .88-.92, total .89-.93 (measured by Cronbach's α , Krahé, Möller, Huesmann, & Kirwil et al., 2011; Rytel, 2017).

Sense of self-efficacy. The Generalized Self-Efficacy Scale (GSES) was developed within the paradigm of psychology of social learning on the basis of Bandura's (1980, 1997) proposed concept of the importance of expectations and the notion of self-efficacy for the functioning of the individual in the dimensions of control of achievements and consistency of actions. The tool measures the strength of the individual's beliefs about their capacity to cope with life's demands and difficult situations (Schwarzer, 1998). The scale consists of 10 statements which are scored from 1 to 4. The strength of the sense of self-efficacy is measured by summing up the scores from each scale (10-40). The higher the score, the higher the perceived level of self-efficacy. The average (mean) result on the scale obtained by authors in comparative studies in 14 countries was 28.6 ($SD = 6.2$) (Schwarzer, 1998). The reliability of the tool assessed by Cronbach's α coefficient ranged from 0.78 (Greek version) to 0.93 (Japanese version). In the adaptation of the test for the Polish cultural reality, which was made by Juczyński (2009), the mean was 27.3 ($SD = 5.3$).

Social support. The study relied on the *Child and Adolescent Social Support Scale* (CASSS) by Malecki and Demaray (2002). The CASSS is a 60-item self-report measure that assesses social support in youth. The scale gives an opportunity to assess social support in subscales including Parent, Teacher, Classmate, and Close Friend, and additionally allows for the evaluation of the importance of support. Each subscale consists of 12 items, each item being evaluated twice. The first item on the scale, "How often is it?", is answered on a six-point Likert scale, where 1 means "never", 2 means "almost never", 3 means "sometimes", 4 means "often", 5 means "almost always", and 6 means "always". This allows one to mark the frequency of support one receives. The next question, "How is this important to you?", is answered on a three-tier scale, where 1 means "not important", 2 "important" and 3 "very important". An example of items is given below: Peer support: My colleagues ... – they treat me nice; – they notice that they work hard and have good grades, Teacher support: My teachers ... they count in my opinion, they tell me how well I'm doing. In Poland this questionnaire was used by Grzegorzewska (2013) and Sikora (2012, 2015). Polish coefficients of reliability of Cronbach's α are from 0.92 to 0.97.

Involvement in aggression as a perpetrator or victim. The study made use of the Mini Direct and Indirect Aggression Inventory (Mini-DIA) developed by Österman and Björkqvist (1998), and Österman (2010). The Mini-DIA is an abbreviated version of the Direct-Indirect Aggression Scales (DIAS) proposed by Björkqvist, Lagerspetz and Österman (1992). It is a less time-consuming version of the original research instrument which can be easily incorporated into other studies. The Mini-DIA is a tool based on the original developmental concept formulated by Björkqvist, providing insights into the role of social conditions for development (with a special focus on aggressive behaviours). The scale consists of six questions which reflect the perception of one's own behaviour in interpersonal relationships in the dimensions of perpetrator or victim of aggression in its various manifestations. Some sample questions are listed below:

1.) physical aggression: "How often have you recently (over the past three weeks) been victimized by physical aggression – has someone, for example, hit you, kicked you or shoved you? How often have you recently perpetrated physical aggression – have you yourself, for example, hit, kicked or shoved someone else?"

2.) verbal aggression: "How often have you recently been victimized by verbal aggression? Has someone, for example, yelled at you, called you bad names or said hurtful things to you [or your family – added in Iran]? How often have you recently perpetrated verbal aggression? Have you for example yelled at someone, called someone bad names or said hurtful things to someone [or someone's family – added in Iran]?" and

3.) indirect aggression – "How often have you recently perpetrated indirect aggression? Have you gossiped maliciously about someone, spread harmful rumours about someone or tried to socially exclude someone? How often have you recently been victimized by indirect aggression? Has someone gossiped maliciously about you, spread harmful rumours about you or tried to socially exclude you from others?" The respondents assess their experiences from previous weeks on a five-point scale from 0 = "never" to 4 = "very often". The Mini-DIA and DIAS have been used for the assessment of functioning in social relationships in the dimensions of perpetrator and victim in a number of countries and ethnic groups (Finnish and Swedish-speaking Finns, religious and non-religious Israelis, Poles, Italians and Americans (Österman, Björkqvist, Lagerspetz, Kaukianinen, Huesmann, & Frączek, 1994; Pratt, 2006). A new application of the tool was proposed in 2015, for determining people's functioning in interpersonal relationships as a perpetrator, victim and assertive or non-specific person (Farnicka & Grzegorzewska, 2015⁷). The proposed new application of the Mini-DIA questionnaire was consulted with and approved by the authors (Björkqvist & Österman, 2016).

The respondents' particulars included in the questionnaire are: age, gender, perceived financial status

of one's family, parents' level of education, number of siblings and average grades achieved in five major subjects during the previous school year.

RESULTS

The analyses of results were divided into two parts. The first was focused on searching for the differences between the negatively and positively adapted group and the second on searching for specific relations between variables in both groups. Due to development-specific factors analyses were conducted in two groups: early and late adolescence.

DIFFERENCES BETWEEN NEGATIVELY AND POSITIVELY ADAPTED GROUPS

To test the study hypotheses, descriptive characteristics of both groups are presented below. The boy-to-girl ratio in the negatively adapted group is significantly higher than in the positively adapted group (pos. adapted girls/boys and neg. adapted girls/boys 458/501; 46/94, expressed as percentages: 48%/52% and 33%/67%, $\chi^2 = 10.93$, $df = 1$, $p < 0.010$).

Furthermore, the studied group of positively adapted individuals reveals a gender effect which differentiates the manner in which aggression is expressed by girls and boys. In the younger group, girls are more frequently victims of aggression (especially of the indirect type) and perpetrators of aggression (particularly of the indirect and verbal types). In the older group, girls are more commonly victims of aggression (of the indirect type) – see Table 1. No such relationships were found in the negatively adapted group, as the differences in the frequency of engag-

ing in such behaviours between female and male were lower. So hypothesis 1 was partly confirmed.

The characteristics of the study subjects in terms of sociocultural context reveal no statistically significant differences⁸ between the educational level of the parents, the perceived financial status and the number of siblings in the adolescents' families (Kruskal-Wallis test, educational level of the mothers $\chi^2 = .02$, $df = 1$, $p > .050$, educational level of the fathers $\chi^2 = .46$, $df = 1$, $p > .050$; financial status $\chi^2 = 3.3$, $df = 1$, $p > .050$, number of siblings $t = -1.94$, $df = 275$, $p > .050$). But differences were noted for the following variables: own experiences in terms of school success (grades), which had a higher rating in the positively adapted group, and the frequency of manifesting physical aggression, level of anger, level of aggressiveness, level of temperamental anger and level of insecure attachment to the father, all of which were more pronounced in the individuals from the negatively adapted group regardless of gender in the early adolescence group (compare Table 2). In the older group, differences were noted for the experience of school success, which had a higher rating in the positively adapted group, and the frequency of manifesting physical aggression, which demonstrated a higher intensity among negatively adapted students. Thus hypothesis 2 was confirmed in the section on psychological factors.

SPECIFIC RELATIONS BETWEEN VARIABLES IN BOTH GROUPS

To determine specific differences between the configuration of variables in the study and control groups, k-means cluster analysis was done. This analysis was performed according to age group (early and late ad-

Table 1

Effect of gender and age in the group of positively adapted adolescents and modes of manifesting aggression

	Sex	Early adolescence					Late adolescence				
		Mean	SD	t	df	p	Mean	SD	t	df	p
Victim behaviour indirect	Female	1.58	1.17	2.41	680	.020	2.04	1.33	2.35	241.52	.020
	Male	1.36	1.13				1.65	1.29			
Verbal perpetrator	Female	1.30	1.1	2.13	678	.030					
	Male	1.13	1.03								
Indirect aggressive behaviour	Female	1.07	1.10	2.45	674	.010					
	Male	.87	1.07								
General victim behaviour	Female	3.55	2.53	2.11	680	.040					
	Male	3.15	2.39								

Note. Student's *t*-test comparing two means.

Table 2
Characteristic differences between the groups in developmental stages

Area of differences	Early adolescence				Late adolescence			
	Negatively adapted group	Positively adapted group	Student's <i>t</i> -test of difference		Negatively adapted group	Positively adapted group	Student's <i>t</i> -test of difference	
	<i>M</i> and <i>SD</i>	<i>M</i> and <i>SD</i>	<i>t</i> , <i>df</i>	α	<i>M</i> and <i>SD</i>	<i>M</i> and <i>SD</i>	<i>t</i> , <i>df</i>	α
School grades	3.43 (1.2)	3.77 (0.9)	-2.02, 153	0.045	2.89 (0.98)	3.43 (0.73)	-3.39, 120	0.001
Physical aggression	21.52 (8.3)	15.41 (5.8)	5.02, 135	0.0001	23.33 (7.88)	19.53 (7.46)	2.68, 115	0.01
Anger	14.97 (6.94)	12.26 (5.17)	2.61, 136	0.01				
Aggressiveness	25.4 (4.8)	24.4 (4.8)	3.02, 49	0.004				
Anger (temp)	8.84 (3.0)	7.57 (2.57)	2.69, 141	0.01				
Attachment to father alienation	1.6 (1.99)	1.21 (1.82)	2.24, 133	0.03				

olescence). During the grouping within younger adolescents in the study group, two clusters based on the dimensions of aggressiveness and social support were found and three clusters in the control group. In the negatively adapted group there were: 1. a group with a high degree of social support (from teachers, parents and the mother) composed of individuals with a high level of aggressiveness and anger and 2.

(at the opposite pole) students with a lower perceived sense of support and lower level of aggressiveness. In the positively adapted group, there were three clusters which differed significantly in the dimensions of support and aggressiveness: 1. the group with the highest level of aggressiveness and anger – individuals with the lowest total sense of parental support and a sense of moderate support from their teachers;

Table 3
Analysis of clusters in the group of younger adolescents

Cluster (cluster centres)	Negatively adapted				Positively adapted				
	1	2	<i>F</i> (<i>df</i> = 1)	Sig.	1	2	3	<i>F</i> (<i>df</i> = 2)	Sig.
Aggressiveness	54.33	92.42	18.88	.0001	88	46.6	62.6	5.08	.02
Anger (b-p)	11.11	21.92	21.95	.0001					
Parental support	38.33	48.58	4.69	.04	21.25	41.1	45.5	9.94	.002
Father's support					17.0	34.0	30.9	4.81	.03
Mother's support	43.0	60.25	10.54	.004	25.5	48.2	60.1	10.81	.001
Teachers' support	37.33	56.33	13.95	.001	34.00	31.8	60.7	13.111	.001
Total support	36.72	47.79	12.05	.003	28.63	36.98	47.30	14.20	.0001

Note. The *F* tests should be used only for descriptive purposes because the clusters have been chosen to maximize the differences among cases in different clusters. The observed significance levels are not corrected for this and thus cannot be interpreted as tests of the hypothesis that the cluster means are equal.

2. the second cluster – persons with a moderate level of aggressiveness and anger, and a high level of support from teachers and the mother, and a lower (moderate) level of support from the father; 3. the third cluster – individuals with the lowest level of aggressiveness and anger, the highest level of father’s support, a moderate level of mother’s support and a low level of teachers’ support (see Table 3).

Among the older adolescents in the negatively adapted group, there were two identified clusters differing in the level of aggressiveness support, temperamental anger and temperamental distress. The first group contained individuals with high levels of all variables listed above, and the second contained individuals with significantly lower variable levels. The group of positively adapted individuals revealed three clusters characterized by a varying sense of aggressiveness: 1. the group with the highest level of aggressiveness, anger and hostility contained individuals with an average (moderate) level of support (both from teachers and parents, and schoolmates); 2. the group with the lowest level of aggressiveness comprised adolescents with the lowest level of support, and 3. the group demonstrating a moderate level of aggressiveness contained individuals with the highest level of support in all studied dimensions (Table 4).

DISCUSSION

The aim of the study focused on gender and age effect in manifestation of the risk behaviour and on searching for differences between positively and negatively adapted groups and specific relations between variables in both groups.

The study confirmed a gender effect for the frequency of engagement in risky behaviours, as the boy-to-girl ratio in the negatively adapted group was found to be significantly higher than in the positively adapted group. The results are consistent with the current knowledge on the role of gender (understood as a social pattern of aggressive behaviours) as a risk factor (Krahé, 2015). On the other hand, the study did not fully confirm a gender effect as a factor differentiating the manner of engaging in aggressive behaviours or being a victim. It was found only in the group of positively adapted teenagers (girls are more commonly victims of aggression (especially of the indirect type) and perpetrators of aggression (especially of the indirect and verbal types) only in the younger group). The results of the study conform to the classical study by Björkqvist, Lagerspetz, and Kaukiainen (1992) and Archer (2004) and point to the importance of scripts for social codes of behaviour applicable to girls and boys, which are entrenched in the social knowledge of a given culture. The finding is consistent with the model proposed by Ostrov and Godleski (2014).

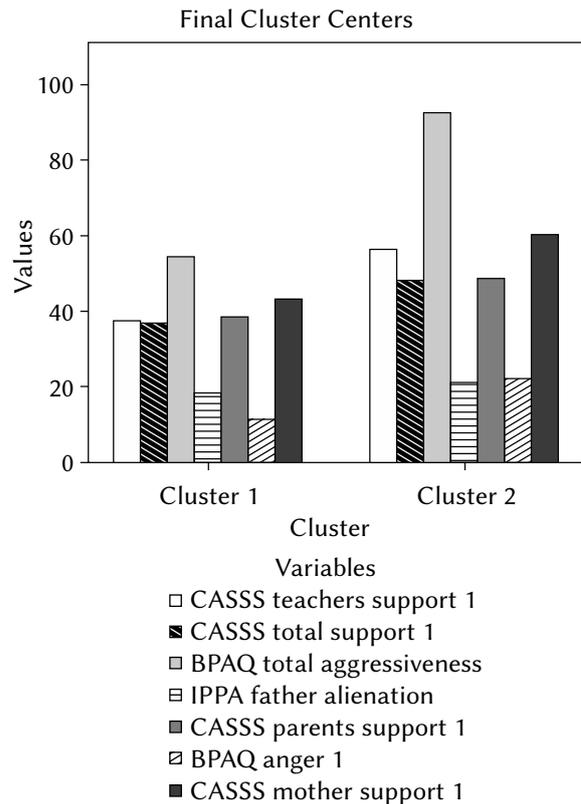


Figure 2. Clusters in the negatively adapted (younger) group.

Their studies demonstrate that girls more commonly engage in gender-consistent aggressive behaviours, which is why they usually opt for relational rather than physical aggression (Ostrov, 2014; Putallaz et al., 2007; Murray-Close, Ostrov, Nelson, & Casas, 2014).

The only insight gained by investigating characteristic differences between positively and negatively adapted individuals was that the characteristic features in both age groups include a lower level of school success measured by average school grades and a higher frequency of aggressive behaviours. This result is significant in that it conforms to the thesis put forward by Luthar (2006), claiming that good grades and appropriate peer relationships during the period of school education can be an indicator of positive adaptation. The rest of the results may indicate certain developmental differences between the older and the younger groups. The adolescents from the younger negatively adopted group were found to have a higher level of temperamental anger as a dimension of aggressiveness, and a higher level of insecure attachment to the father than their peers from the control group. The number and type of mental structures which differentiate the adolescents seem to suggest that a dynamic process is at play and that there are multifaceted conditions underlying the behaviours in which the adolescents engage, whereas differences identified in adolescents from the older group (only between grades and level of physical

Table 4
Analysis of clusters in the late adolescent group

Cluster (cluster centres)	Negatively adapted				Positively adapted				
	1	2	<i>F</i> (<i>df</i> = 1)	Sig.	1	2	3	<i>F</i> (<i>df</i> = 2)	Sig.
Aggressiveness	63.25	87.50	6.34	.025	54.53	84.31	61.63	17.57	.000
Anger (b-p)					10.93	19.00	12.38	17.13	.000
Hostility					17.00	26.44	20.13	12.36	.000
Physical aggression	17.13	26.38	7.57	.02					
Verbal aggression	11.88	18.25	8.74	.010	10.20	17.38	12.00	16.01	.000
Temperament distress	7.63	11.75	5.63	.03					
Temperament anger	6.63	10.38	5.72	.03					
Parental support	34.25	55.38	27.21	.000	34.03	41.41	56.00	20.39	.000
Father's support	25.75	51.13	27.86	.000	28.33	33.44	57.38	22.24	.000
Mother's support	42.75	59.63	12.45	.003					
Teachers' support					36.33	50.44	50.38	6.69	.003
Classmates' support	36.00	55.75	7.05	.02	36.53	44.44	60.75	11.41	.000
School support	48.42	57.42	5.20	.04	39.47	50.06	59.08	19.96	.000
Total support	41.33	56.40	19.35	.001	36.75	45.73	57.54	37.53	.000

Note. The *F* tests should be used only for descriptive purposes because the clusters have been chosen to maximize the differences among cases in different clusters. The observed significance levels are not corrected for this and thus cannot be interpreted as tests of the hypothesis that the cluster means are equal.

aggression) may suggest that their behaviours have already been solidified and no longer engage other mental functions, meaning that they may be habitual cognitive or personal immanent in nature.

In order to identify specific differences between the configuration of variables across the groups, both age groups were found to have clusters based on the dimensions of aggressiveness and social support. These two dimensions were characteristic for both groups. The study's analysis shows differences in the function of social support provided to the subjects. In the group of negatively adapted teenagers with a high level of aggressiveness and anger, a notable finding is social support they receive from their teachers and parents (particularly from the mother). What this may mean is that support was given to them too late, when their excessive aggressiveness

came to the focus of attention. Evidence for that claim can be found in the positively adapted group. In the younger group, adolescents with the highest level of aggressiveness and anger reported the lowest level of parental support and moderate teachers' support. The students with a moderate level of aggressiveness and anger reported a high level of support from teachers and the mother, and a lower (moderate) level of support from the father. The third cluster comprised individuals with the lowest level of aggressiveness and anger, the highest level of father's support, moderate level of mother's support and low level of teachers' support. The results of the study may suggest that social (especially parental) support could be a protective factor in the positively adapted early adolescent group. This role of social support was stressed by Davidson and Demaray (2007).

The authors indicate that social support may play a protective role in buffering stress in victimisation and internalization. In negatively adapted individuals, however, support does not serve the function of a protective factor. Instead, it may have the role of a secondary effect, which is consistent with the concept of social learning pointing to the role of aggression as an attention-focusing factor among otherwise ignored students (Gibula & Ochberg, 1970).

Among the late adolescents in the negatively adapted group, there were two clusters differing in the level of aggressiveness and support and additionally in the level of temperamental anger and distress. In contrast, in the positively adapted group, among individuals with the highest level of aggressiveness the trait was found to coexist with anger and hostility, and a moderate level of support (from teachers, parents and schoolmates). The specific differences in the coexistence of a high level of aggressiveness between the groups in late adolescence may indicate that its emergence is attributable to other processes. One may refer to studies by Konopka and Frączek (2013) investigating readiness for aggression manifested as aggressive behaviours in interpersonal contacts. The authors define readiness for interpersonal aggressiveness as a constellation of psychological structures and underlying processes that regulate aggressive behaviour, and break it down into three components: emotogenic impulsive, habitual cognitive and personal immanent. In their characterization, the authors refer to a number of psychological categories including the tendency to respond with anger, lack of adequate emotional control, intensity of emotional agitation depending on relatively constant parameters of temperament, capacity for emotional self-control developing in the process of socialization, and behavioural scripts and habits.

LIMITATION OF THE STUDY

The study process took about 50-70 min. It could be too long for some adolescents. The tiredness due to the long duration may lead to a central tendency in answers in the questionnaires. It was controlled during the process of data analysis, but in future studies the time of the research process can be divided into two sessions.

SUMMARY

The study reported above is a contribution towards the body of scientific knowledge on problems related to positive and negative adaptation of the adolescent population. The results demonstrate the importance of own experiences in terms of involvement in aggressive behaviours and school success (grades), ag-

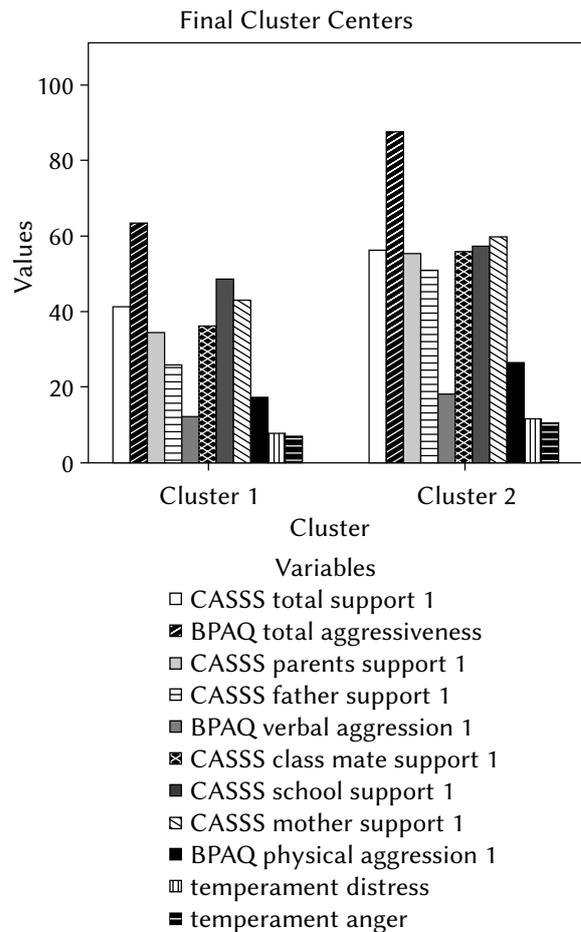


Figure 3. Clusters in the negatively adapted (older) group.

gressiveness and social support for the functioning of teenagers both in the positively and negatively adapted groups. In positively adapted individuals, social (especially parental) support can be considered as a protective factor, and its absence can be considered a risk factor. However, in negatively adapted individuals, as the study shows, it performs a different function.

In addition, the analyses warrant the conclusion that there are significant differences associated with age and the mechanism of triggering aggressiveness understood as a tendency to engage in interpersonal aggression. Differences identified in adolescents from the older group suggest that their behaviours have already been solidified. Consequently, they no longer engage other mental functions, which means that they may be habitual cognitive or personal immanent in nature. In the younger group, however, the number and type of mental structures which differentiate the adolescents seem to suggest that a dynamic process takes place and there are multifaceted conditions underpinning the emotogenic impulsive (reactive) behaviours in which the adolescents engage.

Also, the results of the study show indisputably that it is necessary to differentiate both prophylactic and

therapeutic actions depending on the gender, age and personal experiences of adolescents, and expand the categories of potential indicators of non-adaptation or negative adaptation by adding indicators of aggressiveness, social support and educational experiences.

ENDNOTES

- 1 Population over 500,000.
- 2 Population between 100,000 and 500,000.
- 3 Population under 100,000.
- 4 MOW (Młodzieżowy Ośrodek Wychowawczy – Educational Center for Maladjusted Youth).
- 5 The declaration of having problems with the law (court sentence because of demoralization) was assigned to the negatively adapted group. Taking into consideration the Polish law and the process of procedure of being in MOW or having a court sentence – this is not only a declaration and not only facts. It is part of own experience: having problems, having a trial, having special treatment. Of course, a better recruitment procedure would be to search for negatively adapted youth only in MOW, but the aim of the study is compare the youth from “between” in the natural environment (not restricted). And in all situations somebody can use fake (auto)presentation. In order to reduce the level of anxiety in the teenagers during the research process, they were supervised by psychologists or pedagogues working in the institutions concerned.
- 6 High levels of Fear, Distress and Anger make up a triad which is referred to as difficult temperament. This applies in particular to young children, since reactions at their mental level are often accompanied by crying, shouting or excessive agitation and inability to calm the child down.
- 7 The specific profiles of functioning were distinguished in the following manner: “assertive/non-specific” applies to individuals who score low both on the aggressor and victim scales; “victimization/victim profile” applies to individuals who have a significantly higher score on the victim scale than on the perpetrator scale; and “perpetrator/aggressor profile” applies to individuals who more frequently engage in perpetrator than victim behaviours.
- 8 There were no differences between groups in any age group.

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