

# PSYCHOLOGIA WYCHOWAWCZA

## EDUCATIONAL PSYCHOLOGY

### Special Issue 2018



Ministerstwo Nauki  
i Szkolnictwa Wyższego

Suplement z wyborem tekstów w języku angielskim – zadanie finansowane  
w ramach umowy 648/P-DUN/2018 ze środków Ministra Nauki i Szkolnictwa Wyższego  
przeznaczonych na działalność upowszechniającą naukę



WYDAWNICTWO AKADEMII PEDAGOGIKI SPECJALNEJ  
Warszawa 2018

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ISSN 0033-2860

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## TEMPERAMENTAL BASIS OF A BALANCED TEMPORAL PERSPECTIVE: THE MEDIATING ROLE OF TEMPORAL METACOGNITION

**Abstract:** Scientific studies carried out in the field of temporal psychology provide a growing number of data suggesting a key role of a balanced temporal perspective in social and emotional adaptation. The current study attempted to empirically replicate results suggesting a key role of temperamental characteristics in the development of temporal balance. The novel character of performed analysis took into account a new construct from within the scope of individual differences – dimensions of temporal metacognition. The study employed 115 participants. They filled in the personality questionnaire FCZ-KT, Zimbardo Time Perspective Inventory, which measures individual differences in temporal perspectives and a temporal metacognition scale (TMCS). The analysis point to a significant role of temperamental traits – emotional reactivity and briskness – in the development of temporal balance. Moreover, it was shown

that the relationship between temperament and balanced temporal perspective is fully mediated by the dimensions of temporal metacognition – metacognitive temporal control and goal-oriented temporal interconnectedness. Importantly, the first of these dimensions turned out to be conditioned by the temperament to a far larger degree than the second one (42% vs. 4% of the mediated variability). The result allows a conclusion of a different basis of the two aspects of metacognition: temperamental – in the case of control, and non-temperamental (cognitive or experience-based) – in the case of continuity. Temporal metacognition can, therefore, be a mechanism responsible for relationships between temperament and balanced temporal perspective described in the field literature.

**Keywords:** temperament, temporal perspective, balanced temporal perspective, temporal metacognition.

### INTRODUCTION

Philip G. Zimbardo and John Boyd (1999, 2008) describe *time perspective* (TP) as one of the most important factors that influence evaluative processes, determine the quality and intensity of emotional experience, and as a result, shape the individual's behavior. Previous studies following the paradigm proposed by the American researchers prove that, indeed, TP can be treated as a regulatory feature of considerable importance e.g. for the experience of emotions and mood (Stolarski et al., 2014), health (Daugherty, Brase, 2010), cognitive efficiency (Zajenkowski et al., 2016a) and general

well-being (Zhang, Howell, Stolarski, 2013). At the same time, classical approach to this issue particularly emphasize the motivational role of the future time perspective (e.g. Simons et al., 2004).

The construct of a time perspective (*balanced TP*; BTP; Zimbardo, Boyd, 1999) plays a crucial role for the TP concept. It is defined as an ability to effectively switch between particular time perspectives, which enables effective adaptation to the current situation (see: Stolarski, Wiberg, Osin, 2015). Zimbardo and Boyd (2008) claim that it is the temporal flexibility that allows for effective use of possibilities resulting from the unique human ability to experience *mental time travel* (Suddendorf, Corballis, 2007).

Numerous empirical studies seem to confirm this thesis. For example, it was shown that individuals manifesting the balanced profile of time perspectives are characterised by more adaptive mood profile (Stolarski et al., 2014), lower stress and anxiety (Papastamatelou et al., 2015) as well as lower intensity of post-traumatic stress disorder resulting from the exposure to trauma (Stolarski, Cyniak-Cieciura, 2016). When performing some cognitively demanding tasks, such individuals experience higher task engagement, lower worry and distress, which results in significantly better performance (Zajenkowski et al., 2016a). They are also characterised by a more adaptive perception of time, which makes them experience it as passing slower, they feel less time pressure and get bored less frequently than individuals of lower temporal balance (Wittmann et al., 2015). They are also more satisfied with their romantic relationships (Stolarski, Wojtkowska, Kwiecińska, 2016), they spend their free time in a healthier way (Garcia, Ruiz, 2015) and their business decisions are more ethical (Unger, Yan, Busch, in press).

In the light of the aforementioned results it is of major importance to answer the question on the determinants of the temporal balance. In this study, we analyzed the relationships between balanced temporal perspective and the two groups of individual characteristics: 1) temperamental traits distinguished within the Regulative Theory of Temperament (RTT; Strelau, 2006; Strelau, Zawadzki, 1993) and 2) dimensions of temporal metacognition proposed by Maciej Stolarski and Joanna Witkowska (2017). On the basis of the theoretical analysis it was assumed that both groups of variables might play an important role in the development of the balanced TP profile.

## TIME PERSPECTIVE THEORY

Zimbardo and Boyd (1999) defined TP as a process in which constantly acquired personal and social experiences are attributed to particular categories – time perspectives; these categories give life events coherence and meaning and they arrange them. At the same time, the process, just as its impact on behavior, remains beyond consciousness, which has been described by the American researchers as time paradox (Zimbardo, Boyd, 2008).

The abovementioned definition is slightly elusive and unclear, particularly considering the discrepancy between the postulated processual character of the TP and the measurement method used in the majority of studies, which operationalize the phenomenon in the categories typical for psychology of individual differences – as a set of relatively stable dispositions. Having recognized the discrepancy, Maciej Stolarski, Nicolas Fieulaine and Philip G. Zimbardo (2018) reconceptualized the TP, offering new definitions and describing in detail the relationships between the momentary fo-

cus on a specific time frame and individual habitual dispositions to remain focused on a particular time horizon.

The authors underline that when processing the information about the surrounding reality, people constantly and usually entirely automatically allocate their cognitive resources between memories (the past), plans and possible scenarios (the future) and current events (the present). They describe the momentary focus on one of the time perspectives as *state-TP*. As a result of inborn temperamental mechanisms, and particularly, as a result of life events (the influence of family, education, culture, traumas etc.), an individual might develop a habitual tendency to focus on one or a few time horizons and ignore the others (see: Zimbardo, Boyd, 2008). This process describes the development of *trait-TPs* (Stolarski, Fieulaine, Zimbardo, 2018) – relatively stable differential characteristics, which, additionally, include the attitude component (e.g. *Positive-Past*). Zimbardo and Boyd (1999) distinguished five fundamental TP dimensions, which have been supplemented with some others over the last 20 years. The tool used in this study measures six TP dimensions: Past-Negative, Past-Positive, Present-Hedonistic, Present-Fatalistic, Future-Positive and Future-Negative. Additionally, one of the main concepts in the TP universe is the previously mentioned balanced temporal perspective.

## BALANCED TEMPORAL PERSPECTIVE

As previously mentioned, the crucial importance of BTP lies in the effectiveness of “switching” between different time frames. Nevertheless, the ability to refrain from concentrating on the undesired temporal aspects of the current situation (e.g. pondering on the previous failures when it would be most adaptive to focus on the future goals and plans) seems equally relevant. These were Marcin Zajenkowski et al. (2016b) who evidenced that BTP is significantly related to the effectiveness of the executive functions – in their study represented by *inhibition*. Discussing the results, the authors underlined that it is the effective use of inhibition and switching that enables the development of the temporal balance. Basing on the results of Zajenkowski et al. (2016a, 2016b), Stolarski and Witowska (2017) proposed a new approach, referring BTP to the construct well-known to researchers studying cognitive processes – namely: metacognition.

## TEMPORAL METACOGNITION

Temporal metacognition is a new individual difference feature that derives from the TP theory (Stolarski, Witowska, 2017). This concept is particularly related to the idea of BTP, but also to classical approaches to metacognition (Flavell, 1979; Efklides, 2008) – the phenomenon of “thinking about thinking”. Metacognition is also defined as monitoring and controlling one’s own cognitive processes and also as being aware of one’s own mental states and inner reality (Nelson, 1992), and its main goal is usually to optimize the effectiveness of one’s own cognitive processes. John Flavell (1979) distinguishes three basic aspects of metacognition: metacognitive knowledge, strategies and experiences. Stolarski and Witowska (2017) notice that the essence of BTP – the transition from “usually nonconscious” (Zimbardo, Boyd, 1999) TP to at least

partially conscious and intentional switching between the time frames – is a metacognitive process related to becoming aware, as well as to monitoring, gathering knowledge and experience and conscious self-regulation in terms of concentrating on particular time frames.

Therefore, temporal metacognition refers directly to conscious focusing one's attention on the particular time frame (i.e., *managing temporal focus*). It is the effective allocation of attention between particular temporal perspectives that is the basis for the BTP development, at least considering its definition. Similarly to the construct of TP, also in the case of BTP there occurs a discrepancy between the definition and the empirical operationalization. BTP is defined as a kind of “temporal flexibility” (see: Zimbardo, Boyd, 1999), whereas its empirical operationalizations (see: Boniwell et al., 2010; Stolarski, Bitner, Zimbardo, 2011) focus on matching the individual profile of temporal perspectives to the specific, particularly adaptive set of temporal perspectives (high Positive-Past, increased level of Future and Present-Hedonistic, low Negative-Past and Present-Fatalistic; see: Zimbardo, Boyd, 2008). Although the empirical data confirm the adequacy of studying BTP using profile approach (see: Stolarski, Wiberg, Osin, 2015), the possibility to understand the essence of temporal balance using such methodology is limited.

Stolarski and Witowska (2017) based their conceptual and empirical studies on the aforementioned definition considering BTP as the ability to effectively switch between the perspectives depending on the situation, task demands or personal resources (Boniwell, Zimbardo, 2004). Such a definition implies understanding BTP as a type of skills related to the ability of switching between the temporal frames. Thus, the concept of temporal metacognition assumes that the development of BTP requires the awareness of the currently “active” TP as well as cognitive resources enabling to intentionally control the automatic tendencies to focus on particular temporal perspectives.

Therefore, temporal metacognition is defined as the awareness of “active” TP and intentional regulation of one's own temporal frames. Such a regulation is possible due to metacognitive knowledge, general temporal skills and experiences (Stolarski, Witowska, 2017). Using empirical analyses (including exploratory factor analysis of items generated on the basis of TP and metacognition theories), Stolarski and Witowska (2017) distinguished three basic dimensions of temporal metacognition:

- 1) Metacognitive Temporal Control – the ability to control and inhibit concentration on the temporal frame that is either maladaptive, hinders the possibility to engage in the currently performed activities or “blocks” another temporal frame that would be more desired in this particular situation;
- 2) Cognitive Reconstruction of the Past – the ability to reconstruct and reinterpret the past events in relation to present experiences; the ability to maintain “open past”, being the readiness to change the perspective of perceiving the past and its interpretation;
- 3) Goal-oriented Temporal Interconnectedness – the ability to cognitively combine (synthesize) the temporal frames and integrate information and motivation provided by each of these in order to achieve goals more effectively and enhance the accuracy of decision-making.

Temporal metacognition is a new construct in temporal psychology, thus, the knowledge on the character of the dimensions proposed by Stolarski and Witowska (2017) is limited to their validation research results. The data show that particular as-



pects of temporal metacognition are significant predictors of BTP, which provides the basic proof of the validity of the news scales and seems to confirm that metacognitive processes constitute one of the basic mechanisms underlying the principles of temporal balance. Additionally, positive relationships with satisfaction with life and strategic flexibility described by Cantwell (Stolarski, Witowska, 2017) also prove the adaptive character of the temporal metacognition dimensions. The research described by Stolarski and Witowska was for exploration and/or validation purposes, therefore, this justifies the need to replicate them and expanding the research with new research issues allowing for more detailed description and understanding of the temporal metacognition and balanced TP.

Importantly, although both these phenomena are of cognitive nature, to a large extent they might be determined by particular temperamental traits. Błażej Szymura (2007) as well as Maria Ledzińska, Maciej Zajenkowski and Maciej Stolarski (2013) provided abundant evidence on the importance of temperament in the effectiveness of cognitive processes, including inhibition and attentional switching. Especially the latter results seem crucial considering the perspective adopted in the presented analyses. Ledzińska et al. based their study on the regulative theory of temperament, which, due to the traits that it contains, constitute a particularly valuable point of reference for personality and cognition research.

## REGULATIVE THEORY OF TEMPERAMENT

Jan Strelau (1993, p. 117) defines temperament as a set of “basic, relatively stable personality traits which apply mainly to the formal aspects of reactions and behavior (energetic and temporal characteristics)”. The features related to the energetic level of behavior include:

- emotional reactivity, being the “tendency to react intensively to emotion-generating stimuli, expressed in high emotional sensitivity and in low emotional endurance” (Strelau, Zawadzki, 1993, p. 327);
- sensory sensitivity, i.e. “ability to react to sensory stimuli of low stimulative value” (Strelau, Zawadzki, 1993, p. 327);
- endurance – the “ability to react adequately in situations demanding long-lasting or high stimulative activity and under intensive external stimulation” (Strelau, Zawadzki, 1993, p. 327);
- activity – i.e. “tendency to undertake behaviour of high stimulative value or to supply by means of behaviour strong stimulation from the surroundings” (Strelau, Zawadzki, 1993, p. 327).

Temporal parameters include briskness, being the “tendency to react quickly, to keep a high tempo of performing activities, and to shift easily in response to changes in the surroundings from one behaviour (reaction) to another” (Strelau, Zawadzki, 1993, p. 327) and perseverance – “tendency to continue and to repeat behaviour after cessation of stimuli (situations) evoking this behaviour” (Strelau, Zawadzki, 1993, p. 327). It is worth mentioning that the authors added the dimension of rhythmicity to the recent, revised version of the FCZ-KT(R) questionnaire (see. Cyniak-Cieciura, Zawadzki, Strelau, 2017), yet, considering that the presented empirical study based on the previous version of the questionnaire, this dimension will not be discussed here.



## TEMPERAMENT, COGNITIVE FUNCTIONING AND TEMPORAL PERSPECTIVES

The first assumption of RTT seems particularly important: temperament manifests itself in the formal characteristics of behavior” (e.g. Strelau, 2006). In other words, temperamental traits influence the behavior of an individual irrespective of the content of behavior or life domain in which the activity is undertaken. Ledzińska et al. (2013) emphasize that cognitive processes are one of the most important aspects of human’s behaviors, thus, it might be assumed that the impact of temperament will be observable also in the context of cognitive activities. Their research confirmed the relationship between temperamental traits and the performance in intelligence tests and tasks engaging attention and working memory or various aspects of metacognition. Due to the abundance and complexity of previous results on that issue it is not possible to analyze them in detail here, yet, it is worth mentioning the negative relationships between emotional reactivity and the effectiveness of alternating/dividing attention as well as negative relationships between the number of mistakes made when performing attention-engaging tasks and the intensity of briskness and sensory sensitivity (Ledzińska, Zajenkowski, Stolarski, 2013). Temperament might also influence individual differences as regards TP, which was proved by studies involving general population (Ledzińska, Zajenkowski, Stolarski, 2013) as well as clinical samples (Stolarski, Cyniak-Cieciura, 2016).

Temperamental regulation of arousal is largely an automatic process – consciousness and intentionality of behavior refer mainly to the content of behavior, not to its form. At the same time, the particular level of traits included in the RTT model might be perceived as a “resource” that might enhance intentional activity. The authors of this concept emphasize that some of the proposed dimensions might be considered indices of the ability to process stimulation (see: Zawadzki, Strelau, 1997). Thus, to some extent, temperamental traits determine not only the course of behavior (influencing its tempo, intensity etc., see: Strelau, 2006), but they also affect the effectiveness of these processes (e.g. higher briskness impacts the speed of performing cognitive tasks and indirectly, also their effectiveness; see: Ledzińska, Zajenkowski, Stolarski, 2013). In the presented study, the processes that might be influenced by temperament included plasticity and inhibition related to the focus on particular time frames – the processes that represent the essence of temporal metacognition and thus, constitute a kind of “gate” to temporal balance.

Maciej Stolarski and Maria Cyniak-Cieciura (2016) were the first to analyze the relationships between temperament and BTP empirically. In their study, the temporal balance related significantly to five temperamental traits, three of which (emotional reactivity, briskness and sensory sensitivity) were its significant predictors in a regression model, explaining 22% of variation of BTP. Even though those results shall not be generalised (the study included the sample of motor vehicle accidents survivors), they might serve as a point of reference for the studies involving general populations.

## RESEARCH OBJECTIVE AND HYPOTHESES

The paper presents the results of the replication of the abovementioned studies, including the population of healthy individuals. The study also included the dimensions

of the temporal metacognition that, following the theoretical assumptions (Stolarski, Witowska, 2017), are the basis of the BTP.

First, similarly to Stolarski and Witowska (2017), we assumed (H1) that the temporal metacognitions dimensions will be significant predictors of BTP. Such hypothesis derives from the concept of BTP (Zimbardo, Boyd, 1999) and the theoretical assumptions of the temporal metacognition theory. The confirmation of this hypothesis would also constitute confirm the results achieved by Stolarski and Witowska (2017) who showed that three dimensions of temporal metacognition are significant predictors of BTP and explain over 35% of temporal balance variation in total.

Second, it was expected that temperamental traits proposed within RTT (Strelau, 2006; Zawadzki, Strelau, 1997) will be significant predictors of temporal metacognition dimensions (H2) as well as the balanced temporal perspective itself (H3). In particular, specific assumptions were made about the three dimensions of temperament that occurred significant predictors of BTP in the study by Stolarski and Cyniak-Cieciura (2017). Briskness, in accordance with the previously-mentioned definition, includes the component of plasticity, thus, it should facilitate dynamic switching between particular temporal perspectives in response to the demands of the situation. Emotional reactivity might promote impulsive changes in TP-state, decreasing the possibility to control which temporal frame remains “active” in the particular moment. In other words, high-reactive individuals might be characterised with increased external control over that activation of temporal frames. Moreover, increased negative emotionality might reinforce the tendency to focus on non-adaptive perspectives (i.e., past-negative and present-fatalistic), which indirectly leads to unbalanced TP profile. Sensory sensitivity, in turn, being the temperamental basis for attentional alertness (Ledzińska, Zajenkowski, Stolarski, 2013) and, by its nature, promoting awareness (see: Zawadzki, Strelau, 1997), might enhance the effective direction of attention to particular temporal frames, adequately to the changing situational context. The relationships seem probable, considering the previously reported associations between mindfulness and temporal balance (Stolarski et al., 2016b). The expectation of the occurrence of relationships between temperament and temporal metacognition is also justified by the results achieved by Małgorzata Dragan et al. (2012) who confirmed numerous associations between temperamental traits and the intensity of dysfunctional metacognitive beliefs.

The last hypothesis refers to the triad of relationships including temperament-metacognition-BTP. In the light of the above theoretical reflections, it is reasonable to assume (H4) that temporal metacognition serves as a mediating mechanism (i.e., a mediator) in the relationship between temperament and temporal balance.

## METHODS

### Study procedure and participants

The study included 115 participants (59 males, 56 females) aged 18–35, living in Warsaw and Kielce. The participants were recruited with the use of social media, yet, the paper-and-pencil measurement was conducted in the presence of an interviewer. The participants filled in a survey on their gender and age. Each person was asked to fill in three questionnaires in the following order: 1) Formal Characteristic of Behavior – Tempera-

ment Questionnaire (Zawadzki, Strelau, 1997), 2) Temporal Metacognition Scale (Stolarski, Witowska, 2017) and 3) Time Perspective Inventory (Zimbardo, Boyd, 1999).

### Measurement methods

**Temperament** was measured with the use of the Formal Characteristics of Behavior – Temperament Questionnaire (Zawadzki, Strelau, 1997). The tool reflects the thesis of the Strelau's RTT (2006). It consists of six scales corresponding with the temperament dimensions described earlier. The validity and reliability of the tool are satisfactory.

**Temporal perspectives** were measured using the Polish adaptation (Kozak, Mażewski, 2007) of the Zimbardo Time Perspective Inventory (ZTPI; Zimbardo, Boyd, 1999). The study used a modified version of the tool, supplemented with the additional Future-Negative dimension (Carelli, Wiberg, Wiberg, 2011). It was decided to use the six-factor model because in the Polish population it fit the data better as compared to a five-factor model (Jochemczyk et al., 2017).

**Balanced time perspective** was estimated using the indicator *Deviation from the Balanced Time Perspective* (DBTP; Stolarski et al., 2011). The indicator is calculated based on the results of the ZTPI questionnaire. The research comparing its validity with other measures of temporal balance showed considerable advantage of DBTP (Zhang, Howell, Stolarski, 2013).

**Temporal metacognition** was measured using the Polish version of the Temporal Metacognition Scale (TMCS; Stolarski, Witowska, 2017). The questionnaire includes three scales corresponding to the three previously-mentioned aspects of temporal metacognition. The scales demonstrate high reliability (Cronbach's alpha ranging 0.78–0.88), and their validity was demonstrated both in relation to other aspects of metacognition, as well as to measures of well-being or TP dimensions.

## RESULTS

Table 1 presents descriptive statistics and inter-correlations between the variables.

The results of the correlation analyzes allow to draw preliminary conclusions. First, the relationships showed by Stolarski and Witowska (2017) were confirmed, which indicated, as expected basing on the theoretical assumptions, the associations between the temporal metacognition dimensions and the temporal balance. Yet, in the case of the cognitive reconstruction scale the relationship was at the level of statistical tendency towards significance  $r = -0.18$ ,  $p = 0.06$ . It is worth noting, however, that all the three indicators were lower than in the case of the validation study ( $-0.31$ ,  $-0.18$  and  $-0.37$  in comparison to  $-0.54$ ,  $-0.24$  and  $-0.42$ ). Negative correlations between temporal metacognition scales and the DBTP indicate significant positive relationships between the increase in abilities and adaptive metacognitive beliefs and the level of the temporal balance.

In this sample, the dimensions of the temporal metacognition were significantly correlated. Thus, to identify the dimensions of temporal metacognition that are crucial for prediction of temporal balance a regression analysis was carried out, using DBTP indicator as a dependent variable and TMCS scales as predictors. The backward elim-

TABLE 1. Descriptive statistics and correlation matrix for the study variables

<b>1. BR</b>	14.14	4.14	-																		
<b>2. PE</b>	13.46	4.13	-0.36**																		
<b>3. SS</b>	14.72	3.55	0.14	-																	
<b>4. ER</b>	9.69	4.93	-0.51**	0.69**	-0.05																
<b>5. EN</b>	9.96	5.20	0.61**	-0.48**	-0.05	-0.69**															
<b>6. ACT</b>	10.33	4.69	0.37**	-0.17 +	0.08	-0.37**	0.28**														
<b>7. PN</b>	29.86	6.85	-0.25**	0.41**	0.26**	0.43**	-0.25**	-0.21*													
<b>8. PP</b>	29.52	5.94	-0.01	0.17 +	0.13	0.06	-0.19*	0.02	0.11	-											
<b>9. PF</b>	26.46	10.4	0.09	0.07	0.18 +	0.06	0.04	0.09	<b>0.25</b>	<b>0.45</b>	-										
<b>10. PH</b>	46.38	12.69	0.05	0.07	0.15	0.08	-0.06	0.22*	0.09	<b>0.24**</b>	-0.44**										
<b>11. FN</b>	31.66	5.36	-0.32**	0.47**	0.14	0.48**	-0.28**	-0.22*	0.45**	0.09	0.16 +	-0.09									
<b>12. FP</b>	35.73	7.38	-0.06	0.15	-0.22*	0.09	0.05	-0.02	0.09	0.03	-0.38**	0.04	0.02	-							
<b>13. MetCont</b>	32.06	8.01	0.44**	-0.52**	-0.10	-0.62**	0.53**	0.23*	-0.59**	-0.06	-0.16	-0.03	-0.36*	0.01	-						
<b>14. RecPast</b>	21.71	4.24	-0.01	0.06	0.12	-0.08	0.00	0.04	-0.01	0.23*	0.13	0.09	0.09	0.08	0.15	-					
<b>15. IntCon</b>	35.44	6.04	0.18	-0.08	-0.10	-0.21*	0.18+	0.06	-0.25*	0.08	-0.18	-0.05	-0.02	0.46**	0.43**	<b>0.30*</b>					
<b>16. DBTP</b>	2.54	0.62	-0.18*	0.03	0.04	0.19*	-0.09	-0.15	0.49**	-0.56**	0.28**	-0.17 +	-0.10	-0.26**	-0.31**	-0.18 +	-0.37**				

\*\*  $p < 0.01$ , \*  $p < 0.05$ , +  $p < 0.10$

BR – Briskness, PE – Perseverance, SS – Sensory Sensitivity, ER – Emotional Reactivity, EN – Endurance, ACT – Activity, PN – Past-Negative, PP – Past-Positive, PF – Present-Fatalistic, PH – Present-Hedonistic, FN – Future-Negative, FP – Future Positive, MetCon – Metacognitive Temporal Control, RecPast – Cognitive Reconstruction of the Past, IntCon – Intertemporal Continuity Oriented on the Goal, DBTP – Deviation from the Balanced Temporal Perspective. High scores indicate lack of the temporal balance.

ination method was used, which allowed for the automatic elimination of irrelevant predictors and obtaining a model with the highest possible predictive value. The final model was significant,  $F(2,112) = 10.789, p < 0.001$ , and it contained two predictors: metacognitive control,  $\beta = -0.19, p = 0.05$ , and intertemporal continuity,  $\beta = -0.29, p < 0.001$ , in total explaining 16.2% of the variance of the dependent variable.

Next, it is worth noticing the temperamental correlates of the temporal balance. Two out of six scales of the FCZ-KT, briskness and emotional reactivity, were found to be significantly related to the BTP: highly reactive people were characterized by a greater deviation from the balanced time perspective, whereas individuals with high briskness were characterized by more balanced TP.

Further, temperamental correlates of temporal metacognitive dimensions were analyzed. According to the posed hypotheses, it was expected that these groups of variables are significantly related, whereas the adaptive profile of temperament is characteristic for individuals who obtain high scores in TMCS scales. Metacognitive Control proves to be significantly related to all dimensions of temporal metacognition except sensory sensitivity, and the strongest relationships were observed for the emotional reactivity ( $r = 0.62, p < 0.001$ ). Intertemporal continuity was related with temperament to a lesser extent – reactivity was the only significant correlate,  $r = -0.21, p = 0.03$ , the relationships with briskness and endurance were on the verge of significance (in both cases  $r = 0.18, p = 0.05$ ). Cognitive reconstruction of the past has not turned out to be significantly related to any temperamental trait.

To identify the significant temperamental predictors of metacognitive control and continuity, regression analysis using the backward elimination method was performed again. In the case of metacognitive temporal control, the final model,  $F(3,111) = 28.359, p < 0.001$ , contained three significant predictors: emotional reactivity,  $\beta = -0.53$ ,

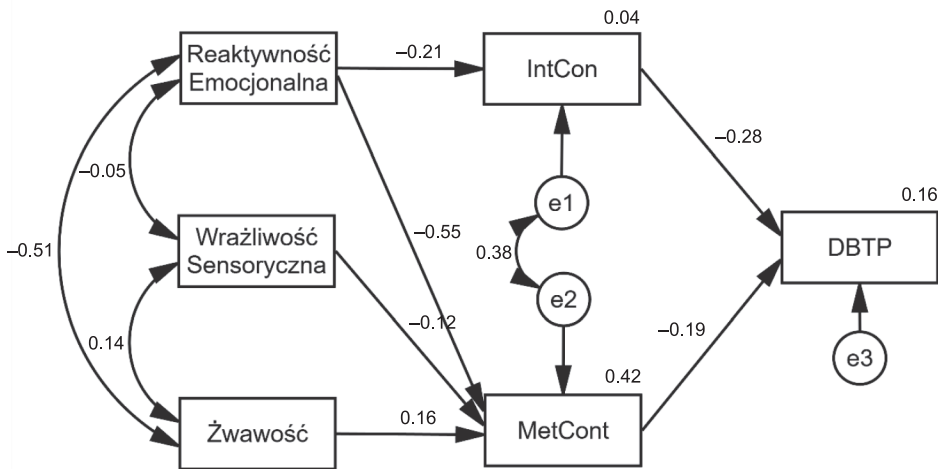


FIGURE 1. Path model depicting the relationships between temperamental traits, temporal metacognition dimensions and the indicator of the deviation from the balanced time perspective  $\chi^2 = 3.095, df = 5, p = 0.685, \chi^2/df = 0.619, GFI = 0.991, CFI = 1.000, RMSEA = 0.000$  (rounded values). The values above the rectangles with the dependent variables indicate the percentage of variance explained by the predictors included in the model. IntCon = Goal-oriented Temporal Interconnectedness; MetCont = Metacognitive Temporal Control

$p < 0.001$ , briskness,  $\beta = 0.19$ ,  $p = 0.02$ , and sensory sensitivity,  $\beta = -0.16$ ,  $p = 0.03$ , explaining in total 43.4% of the variance of the dependent variable. In the case of the intertemporal continuity dimension, the final model,  $F(1,113) = 5.096$ ,  $p = 0.03$ , contained only one significant predictor – emotional reactivity,  $\beta = -0.21$ ,  $p < 0.001$ , and it explained 4.3% of the variance of the dependent variable. Due to the lack of significant correlates, no analogous analysis was carried out for the dimension of the cognitive reconstruction of the past.

Based on the performed analysis, an attempt was made to construct a path model depicting the temperamental base of BTP and including the mediating role of temporal metacognition, which was analyzed using SPSS Amos 24. The model included three temperamental predictors (emotional reactivity, briskness and sensory sensitivity) and two dimensions of temporal metacognition (metacognitive temporal control and intertemporal goal-oriented continuity), as well as the DBTP indicator, which was a dependent variable. The model, shown in Figure 1, was perfectly fit to data  $\chi^2 = 3.095$ ,  $df = 5$ ,  $p = 0.685$ ,  $\chi^2/df = 0.619$ ,  $GFI = 0.991$ ,  $CFI = 1.000$ ,  $RMSEA = 0.000$  (rounded values). The analysis of modification indices did not show potential additional paths that would improve the goodness of fit of the model, which means that the effect of temperament on the balance indicator turned out to be fully mediated by the dimensions of temporal metacognition.

## DISCUSSION

The present paper shows the empirical analysis of the relationships between the temperament dimensions and indices of temporal self-regulation (temporal metacognition) and temporal adaptation (BTP). The obtained results seem to essentially confirm the role of temporal metacognition in the development of the balanced TP (H1), but the strength of the observed associations was significantly lower than in the validation studies (Stolarski, Witowska, 2017) (16% vs. 35% of the explained BTP variance). Nevertheless, it can be stated that the effective control over the adopted time perspectives and high plasticity in switching between particular temporal frames horizons constitute a cognitive basis for the development of the balanced TP profile.

The relationships between the dimensions of temperament – briskness and emotional reactivity and the temporal balance assumed in the third hypothesis (H3) were also confirmed. Such a result is consistent with the associations shown by the study of Stolarski and Cyniak-Cieciura (2016) including the sample of motor vehicle accident survivors, yet, the analogous relationships in their study were significantly higher ( $-0.41$  and  $0.30$  as contrasted with  $-0.18$  and  $0.19$  in this study). Moreover, in the work of Stolarski and Cyniak-Cieciura sensory sensitivity was also a significant predictor, whereas it was not directly related to the balanced temporal perspective in this study.

The second hypothesis (H2) was fully confirmed only in the case of metacognitive temporal control. This dimension turned out to be associated with all dimensions of temperament except perseverance. Three traits – emotional reactivity, briskness and sensory sensitivity occurred significant predictors in the regression model, explaining a total of as much as 42% of the variance. Importantly, these were exactly the same dimensions that were predictors of BTP in the study conducted by Stolarski and Cyniak-Cieciura (2016). Low emotional reactivity occurred the most important factor for the effective temporal control. This dimension was also a predictor of tem-



poral interconnectedness – it was the only significant predictor and it explained only 4% of variance. Cognitive reconstruction of the past was not associated with temperamental traits.

Thus, it appears that one of the aspects differentiating the dimensions of temporal metacognition is the level of their load with the temperamental factor. Whilst metacognitive control seems to have a clear temperamental basis, other dimensions of metacognition seem almost independent from the basic, mainly biologically-determined (Strelau, 2006) personality traits. Therefore, it seems reasonable to assume that this is the ability to perceive the associations between time frames as well as using them to achieve goals can be shaped by experience – perhaps also through intentional developmental or therapeutic actions (Boniwell, Osin, Sircova, 2014, Zimbardo, Sword, Sword, 2012).

The analysis of structural equation modeling showed that two dimensions of temporal metacognition – metacognitive control and continuity – mediate between the temperament traits and the balanced TP profile. This result confirms the assumption formulated in the fourth hypothesis (H4) stating that the adaptive profile of temperamental traits can support the processes of metacognitive temporal regulation, indirectly contributing to the development of the balanced TP profile.

## SUMMARY, LIMITATIONS AND FUTURE RESEARCH DIRECTIONS

According to Ledzińska et al. (2013), temperament may constitute a kind of energetic resources of the mind. In the light of the results presented in this article, this thesis seems justified also in relation to the concept of temporal metacognition, whereas some aspects of this phenomenon (especially the dimension of control) turned out to be considerably more related to temperament than others (e.g. cognitive reconstruction of the past, which turned out to be nearly independent of temperamental traits). This diversity in load with temperamental factors reflects, to some extent, the results achieved by Ledzińska's team – in their research, particular aspects of cognitive functioning were also characterized by a specific pattern of associations with dimensions postulated within RTT by Strelau.

The study has many limitations, the most obvious of which is related to the correlational nature of the performed analysis. Any conclusions regarding the direction of the observed associations are speculative in nature and are based solely on the basic theoretical assumptions. Temperament, as largely innate and biologically-determined (Strelau, 2006; Zawadzki, Strelau, 1997), is treated as a “cause”, whereas TP, as a phenomenon mainly determined by experience (Zimbardo, Boyd, 2008), was perceived as the “effect”. Thus, to verify the postulated causal model empirically, longitudinal and/or experimental research is recommended (e.g., the impact of metacognitive training on the level of temporal balance).

The limited sample size (this increased the chances of obtaining a false positive result and thus, it requires caution when drawing conclusions from the path model showing five predictors in the study sample –  $n = 115$ ), as well as a fairly narrow age range of the participants (only young adults) constituted further limitations of the described study. The generalizability of the obtained results is therefore limited.

It is also worth considering the strength of the observed relationships – they were weaker than the analogous associations shown in earlier studies including the same



variables (Stolarski, Cyniak-Cieciura, 2016; Stolarski, Witowska, 2017). Perhaps this was the result of the relative homogeneity of the sample and the resultant limited variance of the studied variables. Regardless of the reason, weaker relationships might have affected the results – for example, if the associations between temperament and BTP had been stronger (e.g. close to those reported by Stolarski and Cyniak-Cieciura, 2016), it would have been much harder to observe the effect of full mediation.

In future studies, it would be worth including other temperament models (e.g., dimensions proposed by Eysenck, Gray, Cloninger or Zuckerman; see. Strelau, 2014). It would also be interesting to supplement the analyzed structural model with a natural “final product” of the effective temporal regulation, i.e. well-being (see Zhang, Howell, Stolarski, 2013). The observed double mediation of the relationship between temperament and well-being (Fogle, Huebner, Laughlin, 2002) – mediated by the dimensions of temporal metacognition and resulting level of temporal balance – allows to depict the “temporal” path of the temperamental regulation of behavior.

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## TEMPORAL PERSPECTIVE AND THE TRANSMISSION OF LIFE EXPERIENCE IN SENILITY

**Abstract:** The article presents the relationship between temporal perspective and wisdom transmission of the people in late adulthood to the younger generation. The participants were asked to write a short "Letter to a grandchild". The letters written by 119 participants aged over 60 years old were analyzed qualitatively in terms of content and form, using categories from previous studies (Dryll, Tokarska, Cierpka, 2016). In order to assess temporal perspective the Zimbardo Time Perspective Inventory (ZTPI) by Philip G. Zimbardo and John Boyd was used (adaptation by Aneta Przepiórka, Małgorzata Sobol-Kwapińska and Tomasz Jankowski, 2016). A number of relationships between

transmission characteristics and temporal perspective scales was observed. The results follow a characteristic pattern where instead of the focus on timing (past, present, and future), an attitude (positive or negative) seems to be more important. The results do not support the concept of a balanced temporal perspective, which can be explained by cultural differences as well as developmental characteristics of the participants.

**Keywords:** transgenerational transmission, generativity, letter to a grandchild, temporal perspective, late adulthood, grandparents and grandchildren.

### INTRODUCTION

Late adulthood, starting after the age of 60, usually associates with withdrawal from one's working life (retirement), considerable decrease in family duties (adult children), often also with deterioration of one's health and general social situation. However, according to Erik Erikson (2012), it is also the time of wisdom, achieved when one reaches an effective solution of the crisis typical of that age. According to Lars Tornstam (2011), in their late adulthood, people head to the last phase of their develop-

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ment – gerotranscendence. This involves rather radical change of the perception and the evaluation of events – from egocentric to “cosmic”, which is related more to universal values, rather than one’s own interest or even well-being. Usually, at the beginning of this period people take stock of their own life (Oleś, 2011). They reflect on the life events and choices made, draw conclusions based on these reflections – they look at many things differently, which enhances their resources of personal wisdom. The paradox of senior age is that this wisdom will not be used in one’s own life anymore, because “nothing happens twice”.

Luckily, people communicate – culture is created by accumulation of experiences gathered by hundreds of generations. One man’s reflections might and should inspire others. Hence the importance of the transgenerational transmission. The transmission occurs spontaneously during the process of interaction and being together of people of different ages and different experiences, and above all, within the process of upbringing. In everyday life, personal wisdom manifests itself in the choices one makes, goals, activities one engages in, but also in the comments to events and stories about what happened in the past, as well as plans and direct indications of the most important issues. It might also appear as a one-off life statement *credo* – written, for instance, in the form of a letter.

Formerly, letters were mainly a tool for communication, used to exchange current information between the dear ones who were temporarily away from each other. Nowadays these functions are realized by calling one another and in younger generations – by Facebook, e-mail or SMS. But letters have always existed also as a short literature form, characterised by the author’s personal attitude towards its content and explicit addressing. Letters could be persuasive, yet, it was not their key feature, because their main role was to express one’s own opinion on some crucial issues – the message resulting from the author’s reflections on his or her life experiences (different types – historical, personal, artistic). There is one particular type of such letters, “a letter to a grandchild”, which constitutes a separate form both in the historical literature, as well as in the modern Internet production. It refers to existential issues (“how and why shall we live?”), focusing on values. Using such form of expression in psychological research allows for reaching the resources of the author’s personal wisdom.

Following the prevailing definitions of wisdom (e.g. Ardel, 2004; Baltes, Staudinger, 2000), it refers to the individual’s experiences, yet, it is not a simple reflection of one’s biography, or loosely related memories. The phenomenon of wisdom shall be defined as a profound and reflexive understanding of life as such (process) and as a deliberate, internally accepted and emotionally saturated knowledge resulting from the experience (the effect of that process). According to Ursula M. Staudinger (2001), the knowledge is acquired throughout the entire adulthood, not only in the last phase, even though, people might differ as regards their preference for reflection on what happens to them. The reflection that leads to wisdom includes two types of processes: recalling life events and their later analysis. Reminiscing is an active process (*re-construction*) involving selection, reorganization or various transformations of memory records (see: Pillemer, 1998). The analysis, in turn, includes *explanation* and *evaluation*. The explanation involves comparing, categorising the events, describing the event details using abstract terms, whereas evaluation involves mainly identifying the emotional and motivational attitude towards the objects of reflection (*emotion/motivation regulation*).

The possibility to share the reflections resulting from the analysis of one’s own life enhances the wellbeing of a senior (Edmondson, 2015; Kotre, 2000; Kuch et al., 2014;

Pratt, Fiese, 2004; Westerhof, 2011; Williams, Nussbaum, 2012). It is also valuable to the recipients, especially adolescents, just entering their adult lives. This gives them the sense of “being rooted” – the relationship with previous generations, which facilitates the formation of so called intergenerational self (Budziszewska, Dryll, 2013; Fivush, Bohanek, Zaman, 2011; McLean, 2015; Tabuchi et al., 2015). Moreover, the intergenerational transmission enhances social integration and the maintenance of universal values (Cierpka, 2013; Dryll, 2013; McAdams, St. Aubin, 1992). Therefore, the research on factors influencing the process of intergenerational transmission of life experience might not only facilitate the theoretical knowledge, but also optimize this process.

## PROBLEM

What influences the content and form of the “letter to a grandchild” written by contemporary seniors? Some of the determinants include age, gender and education of the authors of the letters (see: Dryll, Tokarska, Cierpka, 2016). Considering psychological categories, the quality of life is of considerable importance (Cierpka, Dryll, Tokarska, 2017). Temporal perspective seems to be another factor that plays a role in this process. Reflections about life are based on memories. Therefore, this might become important whether the past remains constantly present in the authors’ thoughts, whether it seems good or bad to them, whether and what they think about the future events, how they perceive their current situation.

Perception of time is determined by individual neuropsychological differences in the valence of stimuli, sensory modality, personality structures (e.g. extraverts underestimate the flow of time whereas introverts overestimate it) or particular disorders (e.g. in autism spectrum disorder, ADHD, schizophrenia, Parkinson’s disease or deafness; Kossewska, 2016a, 2016b). Individual temporal competences are also associated with cultural factors (Hall, 2004), such as strategies of storing memories on the timeline (James, Woodsmall, 2011), educational strategies (Mischel, Ayduk, 2014; Mischel et al., 2011) or individual sense of coherence, self-concept and self-actualization style (Tucholska, 2007).

The authors define the concept of the dominant temporal perspective (Sędek, Bedyńska, 2010; Zimbardo, Boyd, 2008) as “often nonconscious process whereby the continual flows of personal and social experiences are assigned to temporal categories, or time frames, that help to give order, coherence, and meaning to those events” (Zimbardo, Boyd, 1999, p. 1271). Temporal perspective might be also considered a process (also including the type of activity that a person is engaged in) or the effect of a particular habitual focus on one of them (i.e. individual difference).

Previous studies show that habitual focus on one of the perspectives is related to various features of emotional regulation – depressiveness, aggression, conscientiousness, tendency to risk-taking, drugs or addictions (Budnikov, 2016; Stolarski, Ledzińska, Matthews, 2013; Stolarski, Zajenkowski, Zajenkowska, 2016; Temple, 2016), it impacts the efficiency of executive functions, mindfulness and other cognitive competences (Zajenkowski et al., 2016), enhances or debilitates satisfaction with interpersonal relationships (Stolarski, Wojtkowska, Kwiecińska, 2016). Nevertheless, researchers agree that, in many ways, the balanced perspective is the most beneficial. This refers to a precisely defined combination of scores of the questionnaire assessing the temporal focus (Stolarski, 2016). This combination shall involve a dominant past-positive perspec-



tive (the highest scores), the average scores in: *present-hedonistic* and *future* perspectives, whereas the lowest scores shall occur in: *past-negative* and *present-fatalistic*.

Researchers show that this combination of scores in particular scales perceived as the balanced temporal perspective is associated with well-being (Temple, 2013), realistic self-esteem (Ortuno, Echeverria, 2013), it enhances the effectiveness in professional life (Lukacs, Orosz, 2013), promotes health and health behaviors. Considerable disturbance of the balanced temporal perspective, in turn, is perceived as one of the mechanisms responsible for the development and persistence of disorders (e.g. PTSD – Zimbardo, Sword, Sword, 2013). Such results are not surprising, yet, this raises the question – which of the two factors influences these relationships to a greater extent. Is it the focus on time itself or is it the positive or negative attitude towards events, regardless of the time when they occurred?

Temporal competences might be modified in therapy (including so called *time line therapy*, James, Woodsmall, 2011, or in treatment for addiction, for example cocaine addiction Zimbardo, Sword, Sword, 2013). It is also possible to support the development of time perception or the balance between particular perspectives (Popiołek, Chudzicka-Czupała, 2010; Tokarska, 2010) with the use of educational-preventive activities (Ishii, 2016; Tokarska, 2016; Tucholska, Tylikowska, 2016).

Given that so many detailed psychological functions are related to the way an individual experiences and perceives his or her life time, it is impossible to ignore it when investigating the process of developing one's own experiences. Yet, it might be assumed that it is not only the fact of being anchored in one of the perspectives (the past, present or future) that will differentiate the content and the form of the inter-generational transmission of seniors, but also optimistic or pessimistic outlook on the events from the past, as well as those current and future ones.

## METHODS

The presented study was correlational as regards the main research problem, yet, it was preceded by a thorough qualitative analysis of the text material, including elements of frequency analysis. Considering the expected bilateral (mutual) relationship between the variables the correlational model was chosen. The content of the “letters to a grandchild” could depend on the dominant temporal perspective of the authors, their anchoring in a particular period of life. Moreover, the temporal perspective itself could be shaped by the life experiences of the author, including the ones that were seen as the most important in the current life or social situation (the grandchild – the addressee) or persuasive aspect (what should be said to a grandchild, in the grandparent's opinion). The measurement also included selected demographic variables: age, gender, education, occupation performed before retiring, place of residence (village, small town, city), family status (bachelor, husband, widow, divorced or maiden, wife, widow, divorced), children (age and gender), grandchildren (age and gender), great-grandchildren (age and gender). The project was accepted by the Research Ethics Committee of the Department of Psychology, University of Warsaw.

To assess temporal perspective we used the Zimbardo Time Perspective Inventory (ZTPI) by Zimbardo and Boyd, adapted by Przepiórka, Sobol-Kwapińska and Jankowski (2016). The tool is commonly-used to assess five types of perspective – two oriented to the past: *past-negative*, *past-positive*, two oriented to the present: *present-*



*hedonistic, present-fatalistic* and one *future*. Each scale includes from 9 to 15 questions (some of them are reversed). The respondent answers the questions using 5-point scale. The result in each scale is expressed with the use of mean values.

*Past-positive perspective* scale includes questions on good memories and nostalgia for the old times. *Past-negative perspective* refers to bad experiences from the past and the mistakes that the respondent cannot or do not want to forget. *Present-hedonistic perspective* includes questions on the present pleasures and the preference for strong emotions and taking risk. *Present-fatalistic perspective* refers to the belief that it is impossible to influence one's own life situation. On the contrary, *future* perspective includes questions on planning, punctuality, emotional control, caution and conscientiousness.

As can be seen, the questions of the questionnaire refer not only to timeline, but also to psychological features perceived as positive or negative. Thus, in general, they can be perceived as optimistic, for example, sense of control over one's life, being calm and happy about the previous experiences, consent to spontaneous pleasures or reasonable plans for the nearest future and pessimistic – bad memories, current poor well-being, lack of control and influence over one's own situation.

Intergenerational transmission of wisdom resulting from one's life experience was studied with a method previously used in earlier works by the Authors – a method called: “a letter to a grandchild” (Dryll, Tokarska, Cierpka, 2016). It is a narrative technique thanks to which researchers obtain a text that can be further analyzed using various qualitative methods, supported with some elements of quantitative analysis, mainly frequency analysis. The instruction was as follows:

*Psychologists from the University of Warsaw and the Pedagogical University of Cracow are conducting a study on the transmission of experience from older generations to younger. We would like to ask you to take part in it.*

*Your task is to:*

*WRITE A LETTER TO YOUR GRANDCHILD (a real one or an imaginary one). A man, who has lived for several decades might say that “life taught him a lot” – he found himself in different situations, gathered experience, drew conclusions, gained wisdom. And it is the kind of wisdom that cannot be learnt at any school – an individual, personal one. Please, try to communicate it in your letter to your dear ones (grandchildren), for them to be able to reap benefits from the older generation's experiences. Due to the scientific character of the study, we assure you anonymity. You would be only asked to provide some formal data (see below). Please, write your letter at home and bring it back for the assigned meeting. The results will be analysed together. Those willing to view the report after the study or to contact the authors regarding any other issues, feel free to write to the address:.....*

*Yours sincerely,  
Researchers*

Similarly to previous studies (Dryll, Tokarska, Cierpka, 2016), also in this study the “letters to grandchildren” were analysed using categories (tab. 1) derived from the texts and initially prepared in the form of a set later assessed by three independent coders. In the case of lack of full agreement between the judges, two consistent assessments were considered<sup>1)</sup>.

<sup>1)</sup> In previous studies, the incidence of disagreement between all three coders was observed only for one category – text mode. Initially, two types of mixed mode were distinguished

TABLE 1. Coding form – qualitative analysis

*CODING SHEET: one table is dedicated for one person (one letter). Please mark the proper spaces or count the incidences. The definitions of categories can be found below.*

participant number .....	gender F / M	age .....	education lower / secondary / higher		number of words .....	
<b>LETTER TYPE</b>						
current issues	good memories	bad memories	wisdom transmission	lack of transmission*		
<b>TEXT MODE</b>						
narrative mode (story)		mixed mode (story with a moral or advice with examples)		argumentative mode (life advice)		
<b>NARRATIVE MODE: LIFE PERIOD THAT THE TEXT IS FOCUSED ON</b>						
<b>Prezent</b>	<b>past</b>				<b>future</b>	
	grandparent's childhood	grandchild's childhood	period of the author's life	further in the past	common future	grandchild's future „afterlife”
<b>NARRATIVE MODE: TOPIC OF THE DESCRIBED EVENTS</b>						
professional, social, political			family and personal			
<b>NARRATIVE MODE: MAIN CHARACTERS</b>						
family members .....	family members, older than the author.....				non-family .....	
<b>NARRATIVE MODE: PERSUASIVE FUNCTION OF THE STORY</b>						
it was better in my times	it was worse in my times	take me as an example	take X as an example	don't take me as an example		
<b>ARGUMENTATIVE MODE: ADVICE (please count all mentions)</b>						
recommendations .....	warnings .....	indications of values .....	wishes .....	blessings .....		
<b>ARGUMENTATIVE MODE: JUSTIFICATIONS</b>						
None	egocentric justification	exocentric justifications				
	another person	a group of people	common good	God		

\* If the letter does not include the wisdom transmission, the following categories shall not be used.

Participants were recruited from the University of the Third Age and senior clubs in Warsaw, Krakow, several towns near Warsaw and in the villages of the Podkarpackie voivodeship. At the meeting with the group the researcher presented the project and distributed research materials (a manual, demographic questionnaire and sheets of blank paper to write the „letter”) to those who volunteered to participate. After two weeks, at the next meeting, the researcher collected the texts and asked the participants to fill in three questionnaires. These included the previously described ZTPI, Questionnaire of Quality of Life (Straś-Romanowska, Oleszkowicz, Frąckowiak, 2004) and the Portrait Values Questionnaire (Schwartz, 2006).

About 50% of those who had initially declared participation in the study did not fulfill the first task. Since the instructions contained information that withdrawal from further participation (without giving reasons) was possible at every stage, the reasons for such decisions remain unknown. Perhaps the task occurred too difficult for some participants (either cognitively, emotionally, or physically – writing requires the efficiency of the hand, eyes).

Complete sets of materials were obtained from 119 people. These were 72 women and 47 men. Sixty-four participants could be classified as younger – their age ranged between 60–70 years – whereas 55 were classified as older (over 70 years old). Moreover, 36 people had higher education, 48 – secondary education, and 34 people received basic or vocational education. Based on the obtained data, it was found that 73 people were married, 41 were widowed, 3 single and 2 divorced. Nearly all participants had children and grandchildren, and some – great-grandchildren. The average number of children was 1.91, the average number of grandchildren 2.48, and the average number of great-grandchildren 0.17.

## RESULTS

First, the mean results of the questionnaire scales (tab. 2), internal correlations between the scales (tab.3) and the differences as regards the selected demographic variables will be presented (tab. 4, 5, 6 and 7).

Mean scores for all scales are higher than the arithmetic mean, and the score of *present-fatalistic* perspective is the closest to this mean. The highest mean scores were achieved for two scales perceived as “optimistic” – *future*, and *past-positive*. The majority of the respondents reported the focus on the past-positive (t-test for dependent samples  $t = 3.830$ ;  $p < 0.000$ ) and present-hedonistic perspectives ( $t = 4.910$ ;  $p < 0.000$ ). Considering the participants’ age and the resultant existential situation of seniors, it is also worth noting the strong concentration on the future. Probably, this results mainly from the character of the questions in the questionnaire scales – *future* perspective, similarly to the *past-positive* and *hedonistic*, includes questions indicating good general well-being. Such interpretation is also supported by the observed correlations between the scores in particular scales (tab. 2).

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– narrative mode, with a summary in the form of an abstract thesis, and argumentative mode, illustrated with examples of events. Yet, because of the difficulties in classifying mixed texts into one of these two categories, eventually one more general category was created – both “mixed” modes are combined into one type named “Mixed mode”.

TABLE 2. Descriptive statistics – ZTPI scales

Time perspective	N	Minimum	Maximum	Mean	Standard deviation
past-positive	119	1.78	4.56	3.6137	0.55246
past-negative	118	1.10	5	3.2797	0.83465
present-hedonistic	117	1.93	4.40	3.3113	0.50815
present-fatalistic	118	1.33	4.25	2.9958	0.65426
Future	117	1.46	4.77	3.6835	0.55936

TABLE 3. Internal correlation between the ZTPI scales

Time perspective	Present-hedonistic	Present-fatalistic	Future
past-positive	r = 0.212 p = 0.022		<b>r = 0.371</b> <b>p &lt; 0.000</b>
past-negative		<b>r = 0.480</b> <b>p &lt; 0.000</b>	r = 0.255 p = 0.006
present-hedonistic		r = 0.194 p = 0.037	

Internal correlations between the scales (in the studied group) indicate the importance of emotional attitude towards the events arranged on the timeline. The strongest relation occurs between the two „pessimistic” perspectives, referring to the past and to the present. Both concern unpleasant memories and pessimistic views on the current situation, i.e. manifestations of low mood. Also a strong correlation can be observed between the “optimistic” scales – *past-positive* and *future*. As mentioned earlier, the *future* scale refers to behaviors such as diligence, balance, calm planning of upcoming events etc. The relation between such functioning and the preference for good memories, especially childhood memories, can be mediated by good mood and the sense of fulfillment in life – high quality of life. Similarly, a weaker correlation: *past-positive* and *present-hedonistic* – are manifestations of the “optimistic” attitude.

However, the two weaker correlations are puzzling. One of them is the relationship between two present perspectives – *hedonistic* and *fatalistic* and the other – between the *past-negative* and the *future*. In fact, the first one shall come as no surprise – the tool aims at identifying the time perspective, i.e. focus on one of three periods: past, present or future – though, the above relationships seem to indicate that the content of the questions in terms of their optimism-pessimism is more important.

But how shall we understand the relationship between the *future* perspective and the *past-negative* one? This relationship is weaker, yet, significant. Further in the text we interpret this fact using qualitative data. However, the inclusion of the *future* perspective in the “optimistic” rather than “pessimistic” cluster is supported by insignificant, yet, negative correlations between the following scales: *past-negative* and *past-positive*, *fatalistic* and *past-positive* and *fatalistic* and *future*. These three negative correlations indicate opposites (in pairs), and at the same time – similarities. Noticeably, the *past-negative* and *fatalistic* perspectives are on one side of these opposites, whereas the *past-positive* and *future* are on the other.

In the studied group of seniors, we found particular relationships related to the selected demographic variables: gender, age, marital status (married vs. widowed or divorced) and the level of education of the participants.

The results indicate that women are more „pessimistic”, especially when perceiving their current situation (tab. 3). This seems to be confirmed by the common belief that women, especially in late life, show more tendency to “complain”. Similarly, older people (the comparison between those aged 60–70 and. 70+) are more pessimistic (tab. 4), which seems justified considering the objective characteristics of life situation in older and younger seniors (health status, fitness, orientation). The effect of being married (tab. 6) also confirms the relationships reported in previous studies (e.g. Wojciszke, 2000) – people who are not lonely generally feel better. Interestingly, we observed systematic differences due to the level of education (tab. 7). „Pessimism” is more typical of people who are less educated, whereas „optimism” – of people who are better educated. Unexpectedly, the results showed negative correlation between the *hedonistic temporal perspective* and the number of grandchildren ( $r = -0.222$ ;  $p = 0.016$ ). Possibly, this could be explained by the effect of age – the older the grandfather or grandmother, the greater the chance for more numerous offspring. Yet, perhaps *hedonism*, in this technique defined as the pursuit of strong emotions, risks and personal pleasures, competes against raising large number of children and thus, as a consequence, having a lot of grandchildren.

TABLE 4. Differences in ZTPI scores depending on the respondent's gender

Scale	<i>M</i> women	<i>M</i> men	<i>F</i>	<i>p</i>
present–fatalistic	3.1583	2.7415	12.512	0.001
past-negative	3.4001	3.0913	3.939	0.05

TABLE 5. Differences in ZTPI scores depending on the respondent's age

Scale	<i>M</i> older	<i>M</i> younger	<i>F</i>	<i>p</i>
present – fatalistic	3.156	2.856	6.461	0.012

TABLE 6. Differences in ZTPI scores depending on the respondent's marital status

Scale	<i>M</i> married	<i>M</i> single	<i>F</i>	<i>p</i>
present – fatalistic	2.8800	3.1709	5.819	0.017
past-negative	3.1465	3.4811	4.688	0.032

TABLE 7. Differences in ZTPI scores depending on the respondent's education

Scale	<i>M</i> lower education	<i>M</i> secondary education	<i>M</i> higher education	<i>F</i>	<i>p</i>
past-negative	3.6000	3.271	2.9629	5.385	0.006
present-fatalistic	3.1526	3.0529	2.7491	3.813	0.025
past-positive	3.5194	3.5313	3.7958	3.093	0.049

## LETTER TYPE AND TEXT MODE

The term “letter type” describes its basic function and answers whether: the letter contains wisdom transmission, the sender refers to the current situation treating the letter as a tool for communication, or the author reminisces the times when the grandchild was taken care of by the grandparents. One text could have several functions. Comparison of this classification with the questionnaire aimed at answering the following questions: Do people focused on the present write letters referring to the current events linking the grandfather and the grandchild more often? Are people focused on the past more eager to write about memories? What kind of people (in terms of their temporal characteristics) write letters containing wisdom transmission? Are they focused on the future – the common, their own future or the future of the grandchild (tab. 8)?

TABLE 8. Differences in temporal perspectives (ZTPI) depending on the type of the “letter”

Scale	Occurs	Does not occur	<i>F</i>	<i>p</i>
<b>CURRENT ISSUES</b>				
present-hedonistic	3.40	3.20	4.515	0.036
<b>MEMORIES</b>				
present-fatalistic	3.0626	2.9414	2.855	0.040
<b>COMMUNICATION OF WISDOM</b>				
present-fatalistic	2.9492	3.3414	4.567	0.035

The results indicate that there is no direct translation of the focus on the past, the present or the future into the letter type. People writing to a grandchild about what is currently happening (current issues) achieved higher mean scores in the *present hedonistic perspective*, but they did not focus on the *present-fatalistic*. Thus, it is rather not about the property of the scale that is directly related to the temporal perspective, but the aspect related to emotionality (powerful experiences, exciting adventures, preference for pleasure and risk-taking). Totally different types of letters are associated with the *present-fatalistic* perspective. The more people are focused on what is wrong with their lives at the moment, the more they are likely to turn to memories. Writing about what happened in the past (either good or bad) is not associated with being anchored in the past. Unlike such people („fatalists”), those who rarely think fatalistically are more likely to construct the wisdom transmission. Considering what is worth transmitting to the younger generation, they focus on the future. The presented results indicate that „pessimistic” thinking about one’s own current life situation inhibits the wisdom transmission. Yet, also “pure” hedonism does not facilitate it, either.

The term „text mode” refers to the basic dimension of its form – whether it is a story with a plot and characters (usually about the authors themselves) expressed in the narrative mode, or whether these are some abstract notes about life, in which the author formulates a set of tips and presents them in the argumentative mode. As shown in Table 9, the letter mode is associated (at the level showing statistical tendency) with the scores of the *present-hedonistic perspective*. *Hedonists* rather do not use plots. Letters in the mixed mode (a plot with a moral) are less frequent for them, whereas more often they communicate their “good advice” directly – they make recommendations and warnings, indicate what is valuable in life, form wishes and blessings (the moral itself).

TABLE 9. Differences in temporal perspectives (ZTPI) depending on the text mode

Scale	Occurs	Does not occur	F	p
<b>MIXED TYPE</b>				
present-hedonistic	3.5090	3.6949	3.381	0.068 t
<b>ARGUMENTATIVE TYPE</b>				
present-hedonistic	3.7239	3.5442	3.036	0.084 t

### THE ANALYSIS OF LETTERS IN THE NARRATIVE MODE (STORIES)

Letters in the narrative mode were analyzed in the context of the period described in the plot, the period of the narrator’s life that the story is focused on, characters and the topic of the presented events as well as the persuasive function that the story was supposed to perform. The time range was described by four categories of texts: saga, biography, one period in life, one meaningful event. Saga refers to a story of many generations. These were the rarest letters and, similarly to the letters presenting only one event in life, they were not related to the temporal perspectives. Biography, being the complete story of one’s life, was the form preferred by *hedonists* (tab. 10). People focused on the present, experiences and exciting adventures are also concentrated on themselves.

TABLE 10. Differences in temporal perspectives (ZTPI) depending on the time range of the narration

Scale	Occurs	Does not occur	F	p
<b>BIOGRAPHY</b>				
present-hedonistic	3.6645	3.2746	6.127	0.015
<b>ONE PERIOD OF LIFE</b>				
past-positive	3.4500	3.6641	3.277	0.073 t
future	3.5178	2.7332	3.138	0.079 t

The texts depicting one particular period of the narrator’s life prevailed among all the letters to a grandchild formulated in the narrative mode. It was frequently the time of war or difficult post-war years. It might seem that such letters were written by people focused on the negative aspects of the past. However, they were slightly more frequently written by grandparents characterised by the dominant *future* perspective as well as those who hardly focused on the *positive-past* (both relationships at the level of statistical tendency). Quite often the stories depicting one particular, difficult period of the narrator’s life took form of comparisons – perhaps, that is why, for persuasive purposes, a grandfather or a grandmother juxtaposed the times of their own childhood with the current times, persuading the grandchild that life is better nowadays and that he or she shall make use of it. The past, difficult events are recalled with a specific intention – for the sake of the grandchild’s future. Thus, in a way, in this type of letters the future orientation is manifested.

The clearest relationships were assumed as regards the relationships between the temporal perspective and the period of the narrator’s life depicted or referred to in the story described in the letter to a grandchild. Yet, the results of the analysis



did not confirm the importance of being anchored in any temporal period. Again, the dimension of positive versus negative attitude towards the events occurred more important (tab. 11). People who are not focused on bad memories (lower scores in *past-negative*, i.e. grandparents-optimists) write about the events expected in the nearest future, in which they themselves (grandfather or grandmother) and their grandchild will participate. They wrote “come over for coffee”, “we’ll play chess”, “I’m looking forward to our meeting during holidays” etc. This relationship is very clear ( $p = 0.013$ ). Such result is supported by similar, weaker relationships (showing statistical tendency): also grandparents-optimists (not focused on the *negative-past* nor *present-fatalistic*) write about the grandchild’s future – what person he or she will become soon. Those who write about the future they will not participate in (“I will be looking after you from the above”), in turn, achieve lower scores in *hedonism* scale.

TABLE 11. Differences in temporal perspectives (ZTPI) and focus on the future

Scale	Occurs	Does not occur	F	p
<b>THE NEAREST COMMON FUTURE</b>				
past-negative	2.6222	3.334	6.322	0.013
<b>THE GRANDCHILD’S FUTURE</b>				
past-negative	2.9333	3.3302	3.011	0.085 t
present-fatalistic	2.7093	3.0376	3.362	0.069 t
<b>AFTERLIFE</b>				
present-hedonistic	2.7767	3.3254	3.481	0.065 t

Moreover, we observed relationships between “pessimism” (*past-negative* and *present-fatalistic* perspectives) and the characters of the stories described in the letters. The correlations are negative. These are the narrator’s family members that are most commonly present in the stories. The lower the tendency to concentrate on bad memories ( $r = -0.181$ ;  $p = 0.050$ ) and difficulties related to the present ( $r = -0.206$ ;  $p = 0.025$ ), the more family members included in the stories. Also the lower the tendency to perceive the present in a *fatalistic* way ( $r = -0.212$ ;  $p = 0.021$ ), the more frequently the stories include the family members also from older generations. There were no relationships between any other characters occurring in the stories (friends, fellow resistance fighters, teachers, superiors and subordinates at work, well-known figures or literature characters). There were also no relationships with the subject of the described events.

Considering the persuasive function, fulfilled in the letter to a grandchild by the described event or the whole story, the following categories were distinguished: “it was better in my times”, “it was worse in my times”, “take me as an example” (these were the most numerous letters), “take X as an example”, “don’t take me as an example”. The most common type was not related to the dominant temporal perspective, either was the quite common type “it was worse in my times”. Two participants who wrote “it had been better in their times” were characterised by the focus on the *hedonistically* perceived *present* (tab. 12). The same refers to those who wrote about their flaws and failures to warn their grandchild against making the same mistakes. However, peo-

ple who gave others, not themselves, as examples (mainly family members from the generation older than the author’s of the letter), focused on the *positively* characterized *past* less often.

TABLE 12. Differences in temporal perspectives (ZTPI) and the function of the stories

Scale	Occurs	Does not occur	F	p
„IT WAS BETTER IN MY TIMES”				
present-hedonistic	3.7588	3.2784	7.003	0.009
“DON’T TAKE ME AS AN EXAMPLE”				
present-hedonistic	3.5845	3.2829	3.590	0.061 t
“TAKE X AS AN EXAMPLE”				
past-positive	2.9500	3.6489	9.799	0.002

### THE ANALYSIS OF LETTERS IN THE ARGUMENTATIVE MODE (RECOMMENDATIONS AND WARNINGS AND THEIR JUSTIFICATIONS)

The letters written in the argumentative or mixed modes included advice formulated in a variety of ways. These included recommendations – how to behave, cautions – what to avoid, direct indications of value without showing how to achieve them („family is the most important”) and wishes and blessings – indicating the state of affairs that would be desirable, but its occurrence is beyond individual’s control.

We observed two correlations between the number of indications in particular categories of advice and dominant temporal perspectives. Number of recommendations is negatively correlated with the *present-fatalistic* scale ( $r = -0.275; p = 0.003$ ), whereas the number of wishes and blessings is associated with the *future* scale ( $r = 0.214, p = 0.021$ ). Thus, the less pessimistic is the person about the present, the more willingly he or she is to tell the grandchild what to do. And on the contrary – the less people think about the future, the more willingly they formulate wishes, not indicating the subject of activities („I hope this would be that way”) instead of recommendations („do this and this”). The more optimistic attitude seems to be associated with the belief that it is possible to shape one’s future.

The last important characteristic of the letters to a grandchild is the way of justifying the formulated life advice – why it is worth or necessary to follow them. The justifications that occurred in the material were classified into two general groups: egocentric and exocentric, the latter were further divided to specific categories: another person, one’s own group – family or homeland, common good, God. Egocentric justifications turned out to be the most common. They showed the reasonableness of acting on the recommendations and warnings for the addressee’s own good According to such understanding, the beneficiary of individual’s good deeds is the individual himself or herself, however, the rule: “do not hit the girl because you might sweat” is presented here in a more elegant form: “the good you do comes back to you”, “if you respect others, they will also respect you”, “do not steal, because you can go to jail and lose your friends”. Exocentric justifications appeared in longer letters, containing in-depth analysis, written primarily by people with higher education. The categories of

“common good” and “God” prevailed there. The last category was usually used by the authors who focused on good memories – *positive past perspective* (tab. 13). Combining two categories of exocentric justifications – “common good” and “God” also revealed that these are *hedonists* focused on the *present* who use them more often (yet, the association is weaker). The analysis indicate that people who generally feel better about their lives, base their life wisdom on the recognition of the necessity to do good for the very fact of doing good as well as for God, not because of one’s own interest or even a particular interest of another person or one’s own group (one’s own family or the country one lives in).

TABLE 13. Differences in ZTPI scores depending on the justification for the advice given

Scale	Occurs	Does not occur	F	p
GOD				
past-positive	3.7343	3.2844	5.353	0.022
COMMON GOOD AND GOD				
present-hedonistic	3.902	3.5758	2.945	0.057 t

## DISCUSSION

The analysis of a “letter to a grandchild” allows researchers to learn what makes the essence of the narrator’s life experience (the content). It also allows to investigate the form of expression of these thoughts and thus, identify the features that make the message more or less communicative. It is important because a formally adequate letter might encourage the addressee’s reflection and, as a consequence, fulfill its role – the intergenerational integration in terms of values.

Temporal perspectives occurred to be one of the determinants of the content and the form of the letter. Seniors look at their lives coming to an end, and from this perspective, they re-approach many problems and they recognize the opportunities to learn. They might also think ahead wishing to make use of the acquired wisdom – share it with someone, communicate it. Therefore, it could be assumed that the dominant temporal perspective of a senior might somehow influence the content and the form of the “letter to a grandchild”. Yet, despite confirming many detailed relationships, the obtained results did not follow this pattern and thus, did not confirm the presented reasoning.

It is not the focus on one out of the three time frames that is the crucial aspect in perceiving the events composing the story of senior’s life. It cannot be concluded that “balanced” or unbalanced perspective is decisive, either. Our results form some specific clusters, identifying the emotional attitude towards the events (either past, present or future) as the main factor in this context. The “pessimistic” scales measuring the focus on the *negative past* and the *negative (fatalistic) present* are strongly related with each other. They are the opposite to two “optimistic” scales, also strongly interrelated – the perspective focused on the *positive past* and the *future* perspective. Beside this pair of opposites, there is also the fifth dimension – *hedonistic* attitude. Analysing the questions of the questionnaire scales it might be stated that what is defined as the *hedonistic present* differs from the *future* perspective or pleasant memories, even though, it is also filled with positive

emotions. Yet, the hedonism diagnosed by the ZTPI technique is slightly “predatory” – hardly reflective, rather youthful. It is rather the future scale that includes the reflection, emotional balance and some meticulousness – a more mature regulation. The questions of the *past-negative* scale might be, therefore, considered the opposite to *past-positive*, and the questions of the *present-fatalistic* scale – the opposite to the *future* ones.

The relationships between the perspectives and the features of the “letters to a grandchild” revolve around the above mentioned dimensions. The majority of them are observed in the context of the “pessimistic” scales. Pessimistic attitude manifests itself in parallel relationships between the characteristics of the letters and the focus on the *negative past* as well as between the letter characteristics and the focus on the *fatalistic-present*. Both of these types of pessimistic focus are more typical of women, older seniors, singles (widows and widowers), people with lower education. Such people write letters full of nostalgic memories rather than wisdom transmission more often than other participants. Their letters refer to the times when their grandchild was little and was looked after by a grandma or a grandpa. They are often accompanied by slight regret that the good times have passed and the child that they took care of, now being older does not maintain contact with them.

Yet, when, apart from writing memories, “pessimists” write a letter including wisdom transmission in the narrative form, they are not eager to talk about people – companions of their lives (fewer characters, in their stories the author usually is the only figure). They are also not willing to construct a “generation chain”, which would require referring to their own ancestors and, at the same time, focusing more on the past. Forming such a “chain” indicates the developing gerotranscendence (Tornstam, 2011), which such people do not have, since they cannot change the attitude from the egotistic to the “cosmic” one, characteristic for the gerotranscendence. Seniors-pessimists focused on their sorrow are also reluctant to look into the future: they do not plan the nearest events (e.g. to invite the grandchild to chat or to have a plum pie together), they do not create visions of the grandchild’s future. Thus, perhaps, when they write a letter of wisdom in the argumentative form, they do not formulate many recommendations. They are convinced that it was bad, it is still bad and there is nothing that can be done about it. Brooding over bad experiences and noticing only bad things around them, thinking fatalistically (“I cannot control it”), pessimists do not devote much attention to their offspring’s future. Or maybe, they do not feel they know “how to live one’s life” and feeling lost in their own troubles they believe they have nothing valuable to communicate.

Also people focused on the *present hedonistic* perspective demonstrate a clear characteristics. The group includes younger as well as older seniors, women and men, and as a group, they have no particular education level nor typical family situation. There is, though, one thing typical of this group: *hedonists* have few grandchildren. Is it because they did not want to have several kids or is it because too many grandchildren suppress the joy of life? *Hedonists* are eager to write letters about the current issues. When forming recommendations they prefer argumentative mode, yet, when they write stories, they depict their complete biography. They do not avoid writing about their failures – they persuade their grandchildren not to make the same mistakes. They also indicate that they had good, fulfilling life. They do not think about the future. They are particularly reluctant to think about the time when they will no longer live (“afterlife” category). There were not any dominant categories in the letters with recommendations – all of these letters included a lot of categories. Yet, people who are focused on the *present-hedonistic* perspective refer to the idea of common good and

God when justifying their advice. With all their love for experiencing the moment and wild joy they are not egocentric. They know and they want to tell their grandchild that it is not the ultimate goal – you do not live for your own pleasure or for benefits.

“Optimists” prevailed in the studied group. Their scores in the *future* and *past-positive* scales were the highest, and standard deviations the lowest. Yet, it is worth underlining that the achieved mean scores in ZTPI scales might have been distorted in reference to the general population of the modern Polish seniors (even though the sample was quite numerous and heterogenous as regards demographic features). The study involving this tool was preceded with the task to write the “letter to a grandchild” and many people, initially willing to participate, did not perform the task. The instruction said that during one’s life one acquires wisdom. Perhaps, those who wrote nothing were pessimists (they did not believe they accumulated any wisdom) or hedonists (they did not have time to do that). Besides, writing itself – “putting thoughts on paper” could have been troublesome for many seniors. People having higher education undoubtedly did it with more ease, and these were the ones who were characterised by optimism (correlation between education and the score in the *past-positive* scale).

There were not many relationships between the scales describing optimists (*past-positive* and *future*) and the studied features of the texts, yet, it might be stated that factors not associated with the scales typical of pessimists and hedonists formed the characteristics typical of the optimistic majority. Due to the fact that pessimists wrote memories, whereas hedonists wrote about current issues, it might be concluded that optimists formulated their wisdom transmission without any additional threads. They wrote both, narrative texts (stories) as well as sets of advice (argumentative mode). *Past-positive* scale is associated with avoiding stories describing only one period of life. Thematic analysis indicates that if a narrator writes about one period of life, it refers to particularly difficult times. Therefore, it is no surprise that people who want to perceive their past as positive, do not focus on it. However, writing stories depicting only one period of one’s life is associated positively with the *future* scale. Grandparents who write about war, frequently make comparisons. They express their concern about the grandchild’s future: “you have good possibilities to develop, learn and you will achieve what you desire”. In the case of optimists, recalling bad moments is determined by their orientation towards the future. Thus, this also explains, surprising in the context of this reasoning, significant, yet weak, correlation between the *future* and *past-negative* scales.

While people with fatalistic attitude towards the present do not make plans for the nearest future, nor do they think ahead about their grandchild’s future, and hedonistic people are reluctant to think about the time when they are gone, optimists do not avoid that. In their letters, they plan and offer various joint activities to their grandchildren. It can be observed that these meetings are not unusual and their relationship is intimate. They also consider what their grandchild’s life will look like when he or she grows up or in the future in general. Moreover, they frequently add that also “in the afterlife” they will remain their grandchildren’s allies. For “optimists”, the future is still present, if not in the answers to the questions of the scales (even though the “optimists” scales are strongly correlated), it is still observable in the letters. People who are *positive* about their *past* do not stand out from the whole sample as regards the tendency to make an example of themselves, they are even reluctant (more than others) to make an example of other people as well.

Writing letters in the argumentative mode, pessimists formulate less recommendations concerning their grandchildren’s behavior. Hedonists and optimists formu-

late much more of those. Moreover, optimists (*the future* scale) formulate less wishes and blessings, which indicated their belief that the desired state of things can be and should be achieved by one’s own effort. The qualitative analysis indicates that the most common content category of recommendations is the one advising to love – love, respect and help others. Many authors of letters justifies this with their own interest – the world will give you the love back. Yet, people with positive attitude – *past-positive*, *future* and *hedonists* – also explain these recommendations referring to the idea of the common good, especially (*past-positive*) as regards God. In their opinion, God is the ultimate justification and validation of decent behavior and life.

The presented results showing that it is important whether the author of the letter perceives his or her life as successful or not (optimists vs. pessimists) correspond with the relationships related to the quality of life, found in the same project but described elsewhere (Cierpka, Dryll, Tokarska, 2017). The quality of life was measured with the use of the scale authored by Maria Straś-Romanowska, Anna Oleszkowicz and Tomasz Frąckowiak (2004) and it was based on the four-factor model. The global quality of life in that model comprises beliefs concerning psychophysical, psychosocial, subjective and metaphysical spheres (with four corresponding scales of the questionnaire).

The results of that study showed that people with higher global quality of life are married, report higher education, formulate wisdom transmission and prefer argumentative mode – similarly to “optimists” (ZTPI scales: *past-positive* and *future*). Moreover, people expressing higher quality of life formulate more recommendations and less wishes and blessings in their letters (similarly to “optimists”). Importantly, such people justify their advice on life given to their grandchildren providing argumentation of exocentric character. They recognize the good of the group (family, homeland), but they are also eager to indicate God as the ultimate justification. Unlike these people, those experiencing higher quality of life only within the psychophysical sphere (they feel healthy), but not in other spheres, prefer egocentric justifications (“act decently for your own good”).

The analysis of the relationships between the measures of the perspectives and the quality of life constitutes the final argument for the reasonableness to interpret the revealed relationships between the scores of the questionnaire on temporal perspectives and the features of the letter to a grandchild as the derivatives of the emotional attitude towards life events (and not the anchoring in one of the three time frames). The correlations are considerable (tab. 14):

TABLE 14. Relationships between the ZTPI scales and the global quality of life

Temporal perspective (scales)	Relationship with the global quality of life	
	<i>r</i>	<i>P</i>
past-positive	<b>+0.301</b>	<b>0.001</b>
past-negative	<b>-0.202</b>	<b>0.031</b>
present-hedonistic	<b>+0.157</b>	<b>0.096 t</b>
present-fatalistic	<b>-0.227</b>	<b>0.015</b>
Future	<b>+0.404</b>	<b>0.000</b>



The two strongest correlations indicate the relationship between the two scales typical of “optimists” and the global quality of life, positive, yet insignificant correlation (showing tendency) links the quality of life with the hedonistic perspective, whereas the scales of “pessimists” correlate significantly and negatively with the quality of life.

The previously cited findings (Lukacs, Orosz, 2013; Ortuno, Echeverria, 2013; Temple, 2013; Zimbardo, Sword, Sword, 2013) indicating the relationships between wellbeing and the specific combination of the ZTPI results called the balanced perspective were not confirmed in this study. On the contrary, this study seems to question the previous results. In the balanced perspective, it is assumed that these are the mean scores in the *past-positive* scale that are to be the highest, which was confirmed in both studies. The mean scores in the two “pessimist” perspectives: *past-negative* and *present-fatalistic* are supposed to be the lowest – which was also true for our results. Yet, the mean values for the *present-hedonistic* and *future* perspectives shall be moderate. However, in our study, hedonism is actually irrelevant, whereas the *future* perspective plays the crucial role, because it forms a combination with the *past-positive* perspective – together they form an “optimistic” cluster, which is the most strongly correlated with the global quality of life. Besides, the relationship between these perspectives is confirmed not only by the correlation, but mainly by the fact that the scores of particular scales (also including the measure of the quality of life) are associated parallelly with the quality of the products made by the participants (with the features of the “letters to a grandchild”), and these, in turn, reflect the author’s considerations on their own life as well as everything they learned in life.

The fact that in the Polish study including modern seniors the results did not reflect the “balanced perspective” might be explained in two ways. The first refers to the participants’ age. Comparing the *present-hedonistic* and the *future* scales it shall be stated that it would be more adequate to associate a typical older man or older lady with balance, punctuality, conscientiousness, planning, consideration, dutifulness rather than tendency to take risks or exciting adventures. At the same time, the older the seniors, the shorter their future, thus, it might be expected that in this age people are not willing to look into the future. The second explanation refers to the cultural differences. The cited studies were conducted in the other society, in which it is perhaps not correct to be cautious, whereas it is necessary to express enthusiasm, openness to new experience (similar to preference for risk-taking) and lasting happiness. To verify which of these interpretations is closer to the truth, it is recommended to conduct an intercultural study including seniors from other countries who would write letters to their grandchildren. Such study has already been planned, including the presented results from the Polish sample.

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## A DIFFICULT DIAGNOSIS. CONTROVERSIES AROUND PTSD AND ADHD

**Abstract:** The article touches on the diagnostic problems faced by psychologists, pedagogues, and psychiatrists who try to determine the psychopathology of the difficulties in the behaviours of children. The current study focuses on the analysis of the clinical picture and the genesis of the disorders occurring as a result of an extremely stressful event (PTSD) and also attention-deficit hyperactivity disorder (ADHD). These disorders are full of diagnostic uncertainties when occurring in

children. The analysis of the two disorders is based on the diagnostic criteria of DSM-5. The analysis of their etiology is based on the data concerning the functional characteristics of central nervous system. The article is summed up by an attempt to name the elements necessary for the differential diagnosis of the two disorders.

**Keywords:** PTSD, ADHD, diagnosis of child, trauma.

### INTRODUCTION

The article is a response to requests of psychologists, psychotraumatologists and parents, who struggle with their own helplessness when dealing with children presenting symptoms so untypical that they can match at least several behavioral disorders. Quite often, in therapeutic work, there are cases of children incorrectly diagnosed, which leads to inadequate therapeutic treatment and, not uncommonly, also pharmacotherapy. This state of affairs results not only from the diagnostician's lack of competence, but also from the fact that some groups of disorders, especially in the case of children, do not make a clear picture and are masked and modified by current developmental tasks or their performance is sometimes hindered. This situation leads to over-diagnosing or under-diagnosing of symptoms of some disorders. Quite often mistakes of this sort occur in the case of posttraumatic stress disorders and attention deficit hyperactivity disorders. The article offers an overview and it does not deal with the issue comprehensively; it points, however, to real problems of differential diagnosis of disorders, especially those among children, and it also should inspire a more in-depth consideration of the problem.

## NOTION OF TRAUMATIC STRESS

An experience of trauma in an early developmental stage is more and more commonly listed by clinicians among the etiologies of psychological disorders. Trauma, according to DSM-5 (APA, 2013), is determined as a special type of stressful event in the form of danger to life, serious injury, sexual harassment, which occur in a given context. According to DSM-5, such a context, in order to match the traumatic experience criteria, should fulfill at least one of the following four conditions: (1) direct experience of traumatic event, (2) being a direct witness to a traumatic event, (3) an indirect experience of hearing the news about a close family member or a friend being exposed to a trauma, (4) repeatable or extreme exposure to aversive details of traumatic events (e.g. during professional activities). It should be noted that in the criterion defined in such way, indirect exposure in non-professional context is excluded (electric media, television, films, photos, APA, 2013). In this understanding, trauma is seen as a type of heavy stressor which causes a risk of life loss or serious body injury; most often, its character is sudden and; it can also refer to a situation in which a person is a witness to a similar event (Folkman, 2011; Skinner, Zimmer-Gembeck, 2011; Solomon, Heide, 1999; Terr, 1995).

According to some, this definition is too narrow and its content is inadequate in the context of traumatic situations such as emotional violence, humiliation, forcing or sexual harassment (Briere, Scott, 2010). Researchers propose another definition, referring to a broader notion of trauma, assuming that it is a phenomenon of serious danger to psychological integrity due to the experience of an extremely upsetting event during which a person cannot cope despite using their resources (Briere, Scott, 2010). In a broad view, a trauma can be defined as all psychological injuries occurring during various stages of human life (crises, conflicts, life-endangering chronic somatic and mental diseases) which are connected with a risk of emotional, cognitive and social disorders. The definition-related controversies around trauma refer mainly to the categorization of events as potentially traumatic and, consequently, diagnosing traumas occurring in childhood.

Lenore C. Terr (1991) points to two basic types of trauma experienced at this stage of life: Type I and Type II. Type I is a result of a single and short event, usually a very intensive one, while Type II refers to long-lasting and repetitive situations, resulting from an exposure to traumatic external factors. In the literature on the subject, the notion of a 'potentially traumatic stressor' is sometimes used, which underlines the difference between an objective event and an individual reaction to it. According to this view, an event is traumatic when, even though it has a different literal meaning, it evokes posttraumatic symptoms (Lis-Turlejska, 2000).

Apart from the narrow and broader understandings of trauma and the types (I and II), there is also a categorizing criterion which considers whether the elements depend on the human or whether they remain outside their influence (Dudek, 2003). Depending on the interpersonal engagement, trauma can be placed on a continuum starting from impersonal natural disasters or accidents, through interpersonal – rape, sexual harassment, terrorism – and finishing with attachment traumas (Allen, 2005). One basic difference between the interpersonal and the attachment trauma is that the former evokes fear of another person and the latter can result in a fear of emotional closeness and dependence, or both.

## CONSEQUENCES OF TRAUMATIC EXPERIENCES FOR CHILD AND FAMILY

A childhood trauma – as an emotional injury – influences particular areas of psychological development of a child and its integrity, which can disable further correct functioning by exceeding adaptive resources of the child (Margolis, 1999). An injury, being a traumatic event, triggers activation of a number of defense mechanisms, which by means of manifestation in symptoms influence an individual's functioning. This state is generated in a child especially as a result of not receiving support and help from the adults in a situation of danger. A child does not have fully developed, mature strategies of dealing with stress; moreover, he or she is fully dependent on the guardian. As a result of a traumatic event, the accompanying feeling of omnipotence of his or her own and the protecting parent is taken down. These conditions result in the fact that one natural consequence of a traumatic experience is fear of losing one's own or a close person's life and helplessness in the situation where a child is a victim or a witness.

One consequence of an experienced trauma are traumatic contents, which demand diagnostic verification and an appropriate treatment in the therapeutic process. The most common ones are lack of trust towards adults, lack of feeling of security, lack of control over situation. The effects of the injury depend on several factors. These are, among others: parental support, health condition of the child and its guardian, developmental phase, quality of early relations between the child and its guardian. An early trauma has an influence on the emotional, social and cognitive development of a child. Analyses reveal that this has long-lasting consequences, also in adulthood, demonstrating itself not only in physiological disorders, but also in depressive and dissociative disorders and personality disorders or anxiety disorders (Levitan et al., 2003; Matza et al., 2003). All these can be defined as chronic disorders resulting from an experienced trauma. Such experiences significantly influence particular areas of development. A trauma experienced at such an early stage changes the process of organization of a developing brain (Perry et al., 1995). Particularly big changes take place in the brain structures of the youngest children (0–3 years old), who at the time of the event were not yet able to speak fluently and competently. The younger a child is, the less matured the mechanisms of handling an injury (Briere, 1992; Briere, Scott, 2010; Perry, Pollard, 1998). These factors contribute to the changes to a child's behavior, which in their manifestation are not always clear; this causes diagnostic difficulties and, therefore, worsens the problems with matching an appropriate treatment. It is not uncommon, then, that the symptoms, instead of going away, keep manifesting more and more visibly.

## SYMPTOMS OF POST-TRAUMATIC STRESS DISORDER IN CHILDREN

Symptoms of post-traumatic stress disorder (PTSD) vary depending on the child's age. Among postinjury consequences one can name symptoms occurring in various areas of functioning, characterized by different intensity and seriousness, depending on the developmental stage at which a child currently is and on external factors connected with the situation and the type of support. Among newborns below 6 months old, basic symptoms are: awakens, over-responding to stimuli, irritability, physiological disorders, significant withdrawal. Up to 1 year of age, one can observe intensification of anxiety responses in new situations, anger, avoidance of some situations through in-



creased mobility, sleep disorders. Between 1 and 1.5 years of age, children's reactions to words connected with an injury start to be noticeable, and during the next developmental stage, reactions to symbols connected with the trauma can be seen together with sudden responses and sleep anxiety (Gil, 2006; Scheeringa et al., 1995; Taylor, 2010; van der Kolk, Fislér, 1994). Verbal capability for expression of a traumatic experience depends on whether at the time of the event the speech ability was present or not (whether the child was capable of speaking). All of the above factors make the diagnosis of a child at such an early stage of life more difficult and less clear.

Based on the analysis of symptoms of post-traumatic stress among the youngest children (Scheeringa et al., 1995), it is reasonable to diagnose PTSD in infants (up to 48 months of age), if at least one criterion of the following four is fulfilled: repeated experiencing, lowered activity (observable social withdrawal, rigid affect, loss of previously obtained skills), hyperactivity (reacting with fear to stimuli, irritability or arousal of a child, sudden anger attacks, problems with concentration or attention focusing), fear and aggression (aggressive behavior, close contact with guardians), fear of toilet or objects. Further characteristic features, especially among the youngest children, are also symptoms of regression and increase of separation anxiety (Dąbkowska, 2014; Taylor, 2010). The experience which causes the most profound injury in this age group does not need to be violence directed towards the child; it is often rather a situation in which a child was a witness to violence directed towards his or her closest person. These children are most likely to develop PTSD symptoms. Additionally, it should be noted that among infants older than 18 months more symptoms of recurring stress were observed than among younger babies (Scheeringa et al., 1995).

In the case of children older than 2 years, one can observe symptoms characteristic of older children classified in DSM-5 (diagnostic criteria for six-year-olds and younger children). Among these children, additional symptoms include: reacting with difficulties in interpersonal relations, lowered self-esteem and self-value. One should notice that the existence of a variety of children reactions also contributes to diagnostic problems. Children may not show some symptoms at all or may not show them all at once, symptoms may be postponed or have a somatic form.

To conclude, the criteria for the diagnosis of PTSD among children up to 6 years old rely on several important elements. First of all, they concern children who experienced an event which could inflict injury on anyone (they were a witness to such an event or they were informed about it, especially when it concerned a guardian) and, as a consequence, they re-live it multiple times in various ways, reacting with withdrawal and increased tension (Pynos, 1990). According to DSM-5 (APA, 2013), in order to diagnose PTSD, of essential character is the presence of concrete symptoms of re-living, withdrawal, arousal and changes to the functioning resulting from a traumatic experience and occurring after the event, such as:

- recurring unwanted and intrusive stressful memories of a traumatic event, which in the case of children can be spontaneously expressed when playing and do not need to seem stressful;
- repetitive nightmares whose content and/or affect can be related to a traumatic event, although sometimes the terrifying content of dreams does not need to be clearly related to the experienced event;
- dissociative reactions (flashbacks), in which a child can feel or behave as if the traumatic event was repeating (sometimes with complete loss of the awareness of



the surroundings); like in the case of intrusion, re-playing of the situation connected with trauma can also occur during play;

- intensive or prolonged stress reaction to exposition to signals (external and internal) symbolizing or reminding of an aspect of a traumatic event;
- physiologically significant reaction to these signals (APA, 2013).

Another criterion refers to sustained avoidance of stimuli associated with a traumatic event or/and negative changes in cognitive or emotional processes. These symptoms must occur after the event or intensify after its occurrence. Sustained avoidance of stimuli refers to activities, places or physical symbols associated with a traumatic event as well as to making an effort to avoid conversations and interpersonal contacts which induce memories of the trauma. Negative changes in cognitive processes refer to a significant increase in the frequency of experiencing of negative affective states (for example, fear, guilt, sadness, shyness, shame) with a simultaneous lowered capability of experiencing positive affects. As a result of the aforementioned factors, a child presents a significantly lowered interest or partaking in important activities, including limited participation in play. For instance, a play which was particularly attractive does not bring joy and restrictions on the expression of positive emotions remain. Moreover, behavioral changes in terms of social withdrawal, are also observable, influencing the overall picture of a child's functioning.

The next criterion refers to significant changes to arousal and reactivity connected with a traumatic event which have occurred or intensified after the event and are manifested in irritability, outbursts of anger (even when slightly provoked or not provoked at all), usually expressed verbally or through physical aggression directed at people and objects (including outbursts of anger, often extreme ones). In addition, in children who were victims of traumatic events, the guardians observe intensified alertness, exaggerated reaction of fright, significant problems with concentration and sleep disorders (e.g. difficulties with falling asleep, continuity of sleep, restless sleeping).

If the aforementioned symptoms sustain for over a month, causing a clinically significant distress or problems in relations with parents, siblings and other guardians or in functioning at school, PTSD can be diagnosed. The excluding criterion is experiencing such states as a physiological effect of substance abuse (for example, alcohol, drugs) or other medical factors.

It should be noted that specific diagnostic criteria can point to a different diagnostic unit depending on the duration of symptoms and the onset moment. For instance, when the symptoms are occurring up to 30 days, the criteria point to acute stress disorder (ASD). Furthermore, the DSM-5 classification distinguishes also two specific disorders occurring in childhood in connection with experiencing a specific type of traumatic events during this developmental stage. These are reactive disorders of attachment and uninhibited engagement in social relations (APA, 2013). The former is characterized by persistent deviations from the norm in terms of attachment creation patterns in the child; these are linked to emotional disorders (lack of social and emotional reactivity to others, limitation of positive affect, episodes of unjustified irritability, sadness, anxiety). The latter manifests itself in a decrease or lack of appropriate inhibition in initiating relationships with adult strangers.

Considering post-stress symptoms in children, one can observe some differences depending on the age and sex. There are two main responses to stress: awakens and dissociation. Younger children and girls tend to react with dissociative disorders in the forms of avoidance, freezing, escape in daydreaming, fugues, depersonalization

and even catatonia. Such reactions are caused by reactions at the neurobiological level; their exact etiology remains unknown, but it is likely that a significant role here is played by opioids, dopamine systems and HPA axis. Among older children, hyperactivity of the sympathetic system is more likely to be observed (Ornitz, Pynoos, 1989; Perry et al., 1995; Scheeringa et al., 1995). These factors result in older children and boys being more likely to react in the model of hyperactivity and aggression. Children can have aforementioned nightmares or wake up with fear, unable to remember their dreams. They can complain about headaches, stomachaches or other physiological distresses. Co-occurrence of anxiety disorders, depression, attention deficit and behavioral problems is common. Children who have experienced a psychological injury are prone to addictions and risky behaviors.

In the later stages, apart from the previously described most typical disorders connected with traumatic stress, the literature on the subject distinguishes also the complex post-traumatic stress disorder, which is connected with a prolonged or repetitive trauma, starting in childhood. The basic characteristics of this disorder are: sense of guilt, stigmatizing, disorders of personal identity (the continuity of *I* – problems with the integration of the past and the present) and disorders of social identity (Herman, 1998; Solomon, Heide, 1999). These disorders result from childhood traumas and can be observed in victims of such experiences. It should be noted that disorders following traumatic stress are not developed by all children who have been exposed to crisis experiences. An analysis conducted to address this aspect has shown that the prevalence of events potentially capable of producing post-traumatic stress disorders among children and adolescents is at the level of 59–70% (Dąbkowska, 2002). One in every four children experiences symptoms of PTSD (Cohen et al., 2010).

## ELEMENTS INFLUENCING PROBLEMS WITH DIAGNOSIS

If the definition of a trauma alone is problematic and depends on the broader or narrower understanding, similar controversies apply to the diagnostic process. In the case of younger victims of traumatic events and their consequences in adulthood, trauma often requires adopting a broader perspective. This broader perspective makes it also possible to turn attention to the context of traumatic experiences, which is particularly important in a situation of child abuse. In the case of trauma diagnosis, both overestimation and underestimation happen. There are various reasons for such a state of affairs and they refer both to the ways of analyzing trauma, analysis and assessment of relationships between people's resources and the traumatic event and to the individual perception and assessment of the situation as well as support availability. At the same time, overestimation and underestimation of trauma significantly impact an individual's functioning, his or her quality of life, health condition and social functioning.

Diagnosis of emotional disorders as post-traumatic stress disorder in children can be difficult because of masking of delayed symptoms, timing of their onset and concealment of problematic symptoms due to the sense of guilt and shame, unrecognized relationship between the traumatic event and emotional emptiness, anger, anxiety and physiological symptoms, which, in the case of children, can be revealed several months after the event. Some parents, unaware of the existence of this disease, believe that the symptoms will go away on their own and that there is no need to seek help. Moreover, diagnosis of a post-stress disorder is not popular among psychiatrists, also because of the fact

that it is a disease which coexists with many other disorders, such as; depression, specific phobias, addictions – which all stand out. One deficit which is quite often mistaken for PTSD is the attention deficit hyperactivity disorder (ADHD). In therapeutic practice, there are many cases of children diagnosed with this disorder, who, after a more thorough, differential examination turn out to match criteria for PTSD. What is more, a remission of symptoms is observed after therapeutic activity. Therefore, the issue at hand requires us to have a closer look at the clinical picture of this other disorder (ADHD).

## ATTENTION DEFICIT HYPERACTIVITY DISORDER

Attention deficit hyperactivity disorder, often referred to as ADHD, is a neurodevelopmental disorder, whose prevalence is estimated to be around 3–6% of the population of early school age children (Pisula, 2003). One characteristic trait of children with ADHS is the presence of some permanent patterns in their behavior, which form a triad considered characteristic of this disorder: attention focusing disorders, impulsivity and hyperactivity (Barkley, 2006; Wolańczyk, Komender, 2007).

Attention deficits are manifested in too short periods of attention focusing in relation to the developmental capabilities or in problems with sustaining prolonged attention on a given activity even in favorable external conditions (Borkowska, 2006; Świącicka, 2005; Wolańczyk et al., 1999). Among these children, the mechanism of attentional selection also does not work effectively, which makes it hard for them to pick up the most relevant stimulus and causes them to get distracted under the influence of irrelevant stimuli. Impulsivity means that a child with ADHD acts under the influence of an impulse occurring at a given moment, without foreseeing the consequences of a given action for the child and for other people (Borkowska, 2006). The actions undertaken by a child are, therefore, not well thought out but rather an immediate response to the situation. Hyperactivity can be seen in intensified mobility of a child, which is not connected to a targeted action. It can take on the form of physical expansion or restlessness. The intensity of particular symptoms can change depending on the situation in which the child currently finds him- or herself. Nevertheless, it remains disproportionate to their age, developmental level and it influences negatively the child's functioning in many areas.

Apart from attention deficit, another characteristic trait of cognitive functioning of children with ADHD is the lack of thought inhibition, which can be seen in racing thoughts, jumping to conclusions, or over-fantasizing. There are also observable problems with learning from previous experiences, which are connected with disorders of operational memory and can be observed in thinking rigidity and perseverance of behaviors, i.e. repeating a given way of thinking or given behaviors despite the information that they are wrong. The ability to plan is also affected, both in respect of complex actions with a complicated sequence and simple activities. In terms of emotional functioning of children with ADHD, problems with emotional regulation are observed, which result in big liability of emotions and an increased emotional reactivity. What is more, children with this disorder face many problems with social functioning, which means that they are not liked and accepted by their peers and can rarely form satisfactory social relations.

Formal diagnosis of ADHD is symptomatic and relies on criteria described in medical classifications of diseases and health problems, such as ICD-10 (2000) or

DSM-5 (2013). These classifications, however, differ quite significantly from each other. In DSM-5 (2013), the neurodevelopmental character of this disorder is recognized as well as its heterogeneity, reflected in the possibility of diagnosing three subtypes of ADHD. According to ICD-10 (2000), one can only diagnose hyperkinetic disorders, which can correspond to the mixed type of ADHD. Such a definition leads to underestimation of symptoms and leaving out children with the remaining subtypes, who do not receive the correct diagnosis and, as a result, will not be able to obtain adequate help, although their functioning will be significantly disordered (Lahey et al., 2006). Furthermore, there is no single mode of procedure which should be used in the situation when ADHD is suspected (Pelham, Fabiano, Massetti, 2005). Many estimators scales which are considered useful tools to assess the intensity of inattention and impulsiveness symptoms or secondary effects of their existence are not available in Poland (Pelham, Fabiano, Massetti, 2005; Świącicka, 2011).

One can also encounter opinions negating the merit of diagnosing disorders with attention deficit and hyperactivity due to the small specificity of the symptoms and a high frequency of such problems among children diagnosed with different disorders (Faraone, 2005). Their correctness is undermined by the data pointing to the neurobiological conditioning of ADHD. According to the current state of knowledge, the reason for the existence of the symptoms triad is a problem on the biochemical and structural level of some structures of the nervous system – prefrontal cortex, base nuclei, cerebellum and corpus callosum (Pisula, 2003). These are determined by the genetic material, whose expression is modified by environmental factors (Borkowska, 2006; Dickstein et al., 2006; Wolańczyk, Komender, 2007).

The list of environmental factors which can be connected with the onset of ADHD symptoms is long and it includes, among others, traumatic events. There are also theories which refer to the etiology of attention deficit and hyperactivity disorders and which combine knowledge about the impact of traumatic events with information on neurobiology mechanisms (Kenny, Lane, 1997; Orford, 1998; Perry et al., 1995). The starting point for this line of reasoning was the interest in the similarities between symptoms of ADHD and symptoms occurring as a result of trauma – the need for fast reactions and acting, the need to remain in a state of constant readiness, awaiting danger, or the inability to concentrate on matters other than one's own security. Observations combined with information on the creation and development of the neuronal network and the brain led researchers to put forward a hypothesis. According to this hypothesis, some children experience trauma in the critical period for the formation of emotional regulation and control capabilities in infancy, which results in the shaping of an automatic, habituation-driven reaction to the environment which is constantly perceived as potentially dangerous.

At an older age, childhood experiences in this group of children are manifested in increased sensitiveness to danger as well as constant readiness and alertness (Orford, 1998). This causes children to react very quickly, impulsively and with no reflection. Moreover, this is a reaction to an anticipated danger on which they concentrate rather than to what is happening in reality in their life. Infants can, therefore, very quickly get used to a sense of fear and anger stemming from upsetting experiences, which in the subjective perspective of parents do not have to be perceived as negative, and which can later be manifested in problems and behaviors typical of ADHD (Perry et al., 1995). This direction of thinking, however, did not gain many followers, although it stays in accordance with the contemporary understanding of the pathomechanism of

ADHD (Nigg, 2015; Nigg et al., 2005), according to which there are two paths leading to the onset of the symptoms. One is connected with deficits in cognitive control and attention. In the other, an important role is played by disorders of emotional-motivational regulation. These two ways can coexist, creating a child-specific mechanism of the symptoms onset.

ADHD is a heterogenetic disorder in terms of both the pathomechanism, symptoms and the clinical picture, which results in many diagnostic difficulties. In addition, in around 50–80% of children, ADHD coexists with other disorders, most often with other externalizing disorders, i.e. behavioral and rebellious-defiant disorders (Biederman, Newcorn, Sprich, 1991). Around 40% of children with ADHD also suffer from depressive and anxiety disorders (Drabick, Gadow, Sprafkin, 2006; Tannock, 1998). Problems with focusing attention, lack of the skill to predict consequences or react adequately – all these mean that children diagnosed with ADHD are more prone to various types of injuries or accidents than their healthy peers and these are often more serious and involve head injuries or injuries to multiple body parts (Wolańczyk, Komender, 2007). This group is more likely to experience various kinds of traffic accidents, for example during a show-off bike ride (Barkley, 2000). Persons with ADHD also more often engage in various types of risky behaviors, such as daredevil car driving, risky sexual contacts or gambling (Groen et al., 2013). Diagnosis of ADHD in childhood is a risk factor for developing addiction to alcohol, marijuana or cocaine (Molina, Pelham, 2014).

Study result also suggest that among children with ADHD, there is an increased level of family adversity, which is a source of powerful stress and negative experiences (Breux, Brown, Harvey, 2017). The presence of ADHD symptoms among children also seems to be connected with their parents using inconsistent discipline (Ellis, Nigg, 2009; Martel et al., 2012) as well as other negative parental practices, such as physical punishment or weak control (Johnston, Jassy, 2007; Johnston, Mash, 2001). Family environment can, therefore, be a source of numerous negative and stressful situations for a child with ADHD. In the light of the presented data, it seems quite obvious that people with ADHD experience traumatic events and are more prone to develop disorders occurring after traumatic stress (Cuffe, McCullough, Pumariega, 1994; Ford et al., 2000; Martinez et al., 2016; Weinstein, Staffelbach, Biaggio, 2000).

## DIFFERENTIATING PTSD AND ADHD

The relationship between these two disorders can have different forms, which results in numerous diagnostic problems. On the one hand, ADHD and PTSD can co-exist, which influences negatively the functioning and makes ADHD symptoms more intense. On the other hand, PTSD can be seen as a consequence of an onset of ADHD (Ford et al., 2000; Weinstein, Staffelbach, Biaggio, 2000). Some symptoms, such as the attentional deficit, can be common for the both disorders, although the mechanism of their etiology, and, consequently, their therapy, can be completely different. What is more, symptoms of either disorder can mask symptoms of the other and lead to incorrect diagnosis. A majority of PTSD symptoms can be observed in people with ADHD as a result of inhibition deficits on the behavioral and cognitive level. Problems with concentration and impulse control will occur in children with disorders after traumatic stress who will have to face recurring traumatic experiences and tension

in every situation reminding of the traumatic event. Some researchers even point out that overlapping of these symptoms can be connected with deficits in executive functioning capability (Martinez et al., 2016).

Table 1 presents a preliminary description of the comparison of the two disorders prepared by the authors. It can be used as a diagnostic aid to help differentiate between the two disorders. Incorrect diagnosis or omission of the fact of the disorders co-existence can result in a mismatch of therapeutic actions and increase of the symptoms (Weinstein, Staffelbach, Biaggio, 2000).

When analyzing factors differentiating between and common for PTSD and ADHD, one should also refer to biological indices of the disorders. For instance, lack of secure attachment and confrontation with traumatic stressors can have an inhibitory influence on the brain development (Ahnert, 2010; Braun, Helmke, Bock, 2009). This mechanism is presented in Figure 1.

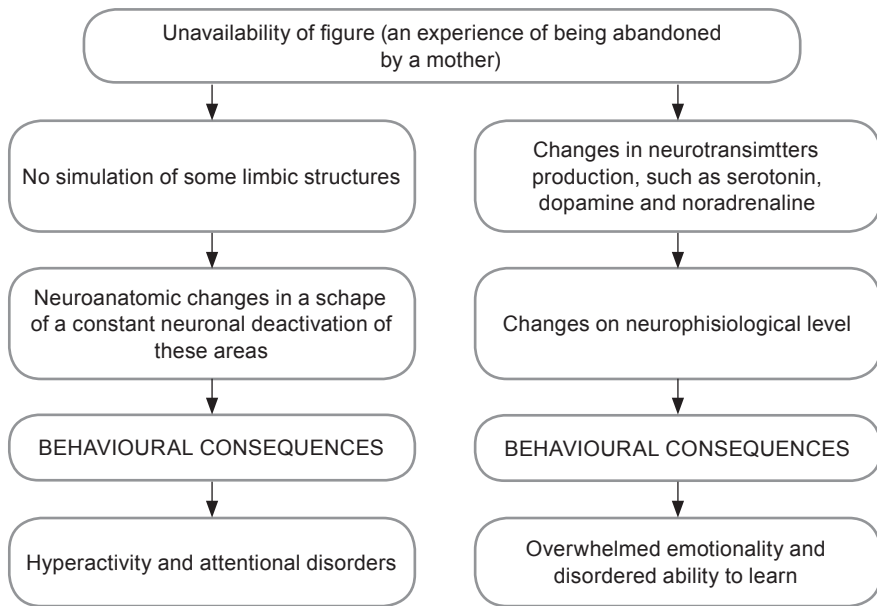


FIGURE 1. Influence of stressful experience resulting from separation from mother on a child's brain development on the basis of research according to the attachment theory. Based on Braun, Heimke, Bock, 2009

The biological basis of the negative influence of trauma on the human brain is the effect of a considerable amount of adrenal hormones (glucocorticoids) secreted during a traumatic experience which actively influence the central nervous system, triggering neurodegenerative processes and changing the brain's metabolism. Activation of the hypothalamic-pituitary-adrenal hormonal system takes place, which results in the secretion of a considerable amount of toxic cortisol and catecholamines, especially adrenaline and noradrenaline (Perry, Pollard, 1998; Perry et al., 1995). These observations are especially interesting for the analysis presented here, because the role of serotonin and catecholamines is well documented in the etiology of disorders such as depression, schizophrenia, and ADHD (Miura et al., 2008).



TABLE 1. Common and differentiating factors of PTSD and ADHD

Symptom of functional disorder	Causes	
	PTSD	ADHD
Hyperactivity	Fear of event repetition; Alertness – state of readiness; Increase in tension and irritability; Responding with fear to stimuli associated with trauma; Lowered activity of anterior part of cingulate cortex – area of the brain inhibiting amygdala and other regions responsible for response to experienced fear;	Neurobiological conditions;
Attentional disorders	Result of concentration on searching for and identifying dangers;	Neurobiological conditions (low resilience to distractors, problems with inhibition of automatic reactions);
Impulsiveness	Result of increased readiness; Defense reactions; Overreacting to stimuli associated with trauma;	Neurobiological conditions, deficits in respect of inhibition of reactions;
Anxiety	Need for security; Fear of losing a parent; Increased separation anxiety; Lowered activity of anterior part of cingulate cortex – area of the brain inhibiting amygdala and other regions responsible for response to experienced fear;	Attentional disorders – poor attention shifting, resulting in concentration on stimuli eliciting unrest, inadequate attentional strategies based on the need for protection from potential danger; Thinking rigidity and tendency to persevere connected with operational memory deficits; Increased emotional reactivity observed in quick occurrence of emotional response and its high intensity;
Aggressive behaviors	Fear of torturer; Lack of trust towards the world and people; Attempt at defending oneself; Attitude to avoid harm and ensuring one's security; Open hostility, anger, which result from lack of control over one's life;	Secondary to problems with inhibition of reactions; being result of irregularities in respect of functioning of social relations (need to dominate and control), lack of cooperation skills, reaction to rejection by social group;
Sleep disorders	Nightmares (not only about event content) as symptom of reliving; Difficulties falling asleep and restless sleep as alertness symptom;	Possible difficulties with falling asleep connected with intensified level of motor and emotional system arousal;
Problems with learning	Brain partially limits cognitive-developmental functions and focuses on survival function; Intrusive imaginations of negative event result in increased activation of neural	They are divided into two groups: (1) Problems connected with mastering taught material and using gained knowledge resulting from attentional deficits,



Symptom of functional disorder	Causes	
	PTSD	ADHD
	networks guaranteeing survival in a difficult situation or when facing fear of its repetition, which can be seen in restricted capability of information processing and/or lack of absorption of data not related to current task;	operational memory deficits, sluggish cognitive tempo and difficulties with planning; (2) problems connected with functioning as a student resulting from difficulties in abiding by the rules at school and problems with social functioning;
Lowered affect	Dominant; Caused by intrusive imagining of negative event; Result of anxiety of repeated trauma, loss of security; Modified metabolism in brain structures engaged in perception of danger (limbic system);	Secondary problem with respect to ADHD, caused by success need frustration, inability to find oneself in peer group, concentration on failures, difficulties with developing a coherent picture of oneself; Result of coexisting depressive disorders;
Isolating oneself	Struggle to avoid situations associated with negative experience; Fear of trauma repetition; Sense of stigmatizing; Sense of loneliness;	Observed in children with the ADHD subtype with prevalent attentional deficits, who seem absent-minded, daydreaming, having difficulties understanding social situations and, therefore, adopting role of child omitted/ ignored by others;
Withdrawal from relationships	Avoiding persons, objects, places associated with the event; Constant lack of trust; Ineffective attempts at self-defense;	Results from difficulties in initiating and sustaining stable and deep social relations, despite will and need to be in touch with other people;
Regress	Loss of previous capacities (nocturnal enuresis, separation fears) following from high stress	Can be mistaken for problems with reaching subsequent developmental 'milestones';
Somatic symptoms	Headaches; Stomachaches; Gynecological pains; Sometimes lack of control over physiological reactions can be observed, e.g., wetting oneself; Conversion symptoms;	Increased susceptibility to health issues, which is also observed in children with psychiatric disorders, more frequent experience of injuries (burns, accidental poisonings, cuts, head injuries, bruises, road accidents during cycling);
Low self-esteem	Sense of low self-esteem through experiencing one's own or guardian's helplessness; Loss of omnipotence; Sense of helplessness in a given situation; Shame, sense of guilt; Low opinion about one's own capabilities;	Effect of: lack of achievements, external locus of control and lack of sense of one's own effectiveness, problems with planning and incapability to finish tasks;

Symptom of functional disorder	Causes	
	PTSD	ADHD
Changes in awareness	Amnesia or hypermnesia; Temporary states of dissociation up to multiple personality disorder and psychotic states (in extreme cases, hallucinations and delusions can occur); Depersonalization/derealization; Traumatic experience reminiscences;	Do not occur;

Based on: APA, 2013; Barkley, 2000, 2006; Borkowska, 2006; Braun, Heimke, Bock, 2009; Cuffe et al., 1994; Martinez et al., 2016; Perry et al., 1995; Pynoos, Nader, 1989; Terr, 1983; Weinstein, Staffebach, Biaggio, 2000; Wolańczyk, Komender, 2007.

The nervous system changes and develops in response to repetitive patterns of neuronal activation. According to the principle of utility, states of panic and fright in a traumatic situation result in the modification of brain structures, followed by mobilization and activation of systems in the whole brain (cortex, limbic system, midbrain, areas of the pons and medulla) (Perry, Pollard, 1998; Pynoos, Nader, 1989; Schwartz, Kowalski, 1991; Schwarz, Perry, 1994; Terr, 1983). Elements of traumatic experiences are, therefore, maintained in the systems: cognitive, motor, emotional as well as in the regulation of the 'state', creating together the memory of the chronic injury.

Some structures undergo a complete change under the influence of extreme stress. This is the case for hippocampus, a very important structure responsible not only for memory and learning, but also for affect and emotions. Under the influence of traumatic events, its capacity can be reduced. Traumatic events also contribute to disorders of the integration of the two hemispheres. On the other hand, ADHD is a neurodevelopmental disorder which results from an incorrect pattern of the brain development (conditioned both constitutionally and environmentally). As mentioned before, the disorders are both structural and metabolic and affect the areas of frontal lobes, base nuclei, cerebellum and corpus callosum. The data on the neurobiological conditioning of each disorder are not taken into consideration due to the symptomatic character of the diagnosis; yet, it appears that they could be used as a clue for differentiation. Table 1 presents an example of differentiation between ADHD, considering symptoms of functional disorders of a child, depending on whether we are talking about disorders after a traumatic stress or disorders of psycho-motor hyperactivity.

## SUMMARY AND CONCLUSIONS

There are many common factors for both disorders, however the basic difference lies in the etiology. In the case of PTSD, let us use a quotation: "All childhood injuries come from the outside, none of them is created solely inside child's mind (...) a trauma starts with an event outside a child, but with the moment of this event there are many changes happening inside a child" (Terr, 1995, p. 303). In the case of ADHD, we can talk about a change of particular areas of the nervous system on the structural and biochemical level as the basic cause. A problem stems from the fact that parents, teachers and even psychologists and pedagogues observe effects and not the causes, which results in such a high number of mistaken diagnoses, overinterpretations, over-

estimations or underestimations of symptoms of one or the other disorder. We should remember that underestimation of trauma can be a risk factor for many forms of disorders of the functioning of the person experiencing the trauma: sense of loneliness and social isolation, sense of guilt, auto-destructive behaviors, sense of harm, reinforcement of degenerated cognitive belief schemas, initiating dangerous relationships, development and persistence of mental health disorders and somatic disorders, as well as PTSD. It is especially important in the case of childhood trauma.

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## CHILD IN THE FACE OF DEATH HOW DO CHILDREN DESCRIBE THEIR EXPERIENCE OF LOSS OF A CLOSE PERSON?

**Abstract:** The aim of the current study was to examine how children describe an experience of losing their close ones. We analysed how children structure and make sense of their experiences of losing somebody. We also wondered, if, basing on the analysis of the experiences' descriptions, it is possible to determine factors which make it easier or harder to handle the death of somebody close. The experiment was exploratory and descriptive, so the questions asked were as follows: (1) How do children describe their experience of losing somebody close? (2) Are there any significant qualitative differences in the way of describing the trauma connected with the loss of somebody close? The study was based on the psychological assumptions of the theory of experiencing a loss, on the division of the mourning into stages, and also on shaping and giving a meaning to the frame of mind by a nar-

rative. Forming own needs can be a healing factor, and experiencing emotions, both positive and negative ones, helps to get through the process of mourning. In accordance with the stages of mourning it was assumed that a possibility of a farewell with the departed ones, even symbolic, influences the adaptation process after the loss and therefore the psychological well-being. It was also assumed that an important factor helpful in building a coherent history of the loss is a support of adults from the child's surrounding. The study showed a number of correlations and relationships between analysed variables. The obtained results can be an implication for further analysis and they can set direction for following research.

**Keywords:** trauma, mourning, death, children's narratives.



## INTRODUCTION

Death is one of the border situations, which evokes very intense negative emotions. This is why, it is very difficult to convey this experience into understandable cognitive representations for the person who is experiencing the loss. It is even harder, when these representations are not fully developed (Jagodzińska, 2003). Studies on the perception of death among children suggest that it varies significantly depending on the age (Bilińska-Suchenek, Sałapata, 2012). Children's attitudes towards death can be divided into three stages: 0–5 years old, 5–9 years old, and above 9 years old. Up to 5 years of age children see death as a temporary state of sleeping or going away, whereas 6 years olds and 9 years olds understand its finality, which makes them feel anxious. Only children above 10 years of age see death as a common and irreversible phenomenon (Leist, 2004). Older children understand inevitable and irreversible dimension of death, but they do not comprehend its spiritual and psychological aspects (Ostrowska, 1991). In the process of shaping the cognitive representation of death among children the key role is played by the parents – their knowledge, attitude, and emotional approach (Mesjasz, 2010). When asked about death and how should it be understood, parents often feel helpless and their conversations on this topic with kids are based on incomplete information or even avoidance of the topic all together. Few of the guardians are convinced, that the way of conveying the information to their children is appropriate. Paradoxically, when avoiding conversations about death, the adults think they protect the children and their wellbeing (Czyńska, 2012). Whereas, the consequence of this strategy is leaving children on their own to face the emotions connected with the loss, denial of the problem, and in effect a shaping of helplessness' attitude in the face of such difficult situations. It should be noted, that the attitude of children depends hugely on the context, whose basis is created by the closest surrounding of the child (Perry, 2011). The environment, the way of upbringing, and family relationships have an enormous influence on the way a child perceives death and how they will cope in the difficult situation resulting from the experience of the loss. Despite the fact, that these issues are a very important topic in psychology, many inconsistencies remain, especially when it comes to children. The analysis presented here tries to explore a wider context of dealing with the loss among the youngest.

### THE ROLE OF CONTEXT IN UNDERSTANDING A THE LOSS BY A CHILD

As suggested above, the issues connected with death, farewell, and funeral are a taboo topic in many families, especially when it comes to children (Ostoja-Zawadzka, 1997). Family is of key importance for the process of mourning among children. The reaction of close adults influences the understanding of the situation among the children. It also affects how they cope with the experience of mourning after an irreversible loss. Their observation of adults' reaction is mirrored in the behaviour. While trying to help the child to cope with the death of a beloved one, the family system should be taken into account. The child's understanding of death and the reactions to it are influenced by the patterns of coping with the loss observed in the family system and in the closest surroundings (Herbert, 2005).

The influence of family on the attitude towards death was also analysed in the adolescents (Bartons OFMConv., 2005). The studies of relationships between the feeling of security among adolescents and their attitude towards death showed, that family yields

the greatest responsibility of lowering the level of fear of death by meeting the needs for safety and by an appropriate preparation of the young person to face the problems of dying (Bartons OFMConv., 2005). These analyses underlined the value of conversation and support, which give the feeling of safety and closeness. Numerous authors suggest that parents should not hide the fact of death from their children (Jaworski, Świercz, 2005). Instead, they claim that a conversation after the death of somebody of importance, provided that it is conducted in an appropriate way, has a therapeutic value.

A child cannot create a coherent history of loss as something irreversible, especially that in the early stage of development they do not understand the very notion of death. Talking about death in a way that seems appropriate for an adult does not necessary have to be adequate for a given developmental stage. A child who hears that somebody went way, or fell asleep, will often ask why can't they come back or wake up again? Such examples show how differently children and adults think about death. The fact that a piece of reality remains incomprehensible leads to a feeling of chaos, which is often accompanied by anxiety. One of the ways to deal with it is an escape into a phantasy world, where a child has an illusion of control and influence. Interestingly, the children's world of phantasy is often much more frightening than the reality. When an adult avoids explaining a difficult situation, a child tries to find an explanation on their own, which often can lead to serious emotional problems. Something which helped at first, after some time ceases to function this way and becomes an inner source of stress or anxiety (e.g. a fear of darkness, a fear of talking about death, etc.)

## CHILD'S NARRATIVE AS AN EXPERIENCE STRUCTURING

Our surroundings, the world, and the people create cause-and-effect sequences, histories, and tales. Many scientist claim, that there is no other way of understanding own life than in a form of a narrative (Bruner, 1992). It is a basic form of understanding the world for humans and it allows to organise the experiences and information about oneself. According to Stein (1996), even three years olds related their memories in a causative way when they were reminded of their experiences connected with a particular emotion. The author claims, that a fully developed representation of an emotional event includes the aims important for the person, as well as factors influencing their occurrence, actions leading to their accomplishment, and also the effects which determine if the aims were achieved or not (Stein, 1996). From the formal perspective, a child is capable of creating a narrative of an event connected with mostly negative emotions, such as fear or anger (Stein, 1996). However, when there is no understanding of the phenomenon of death, a child is unable to create a full narrative. Building a story demands some framing – an adequate material, determining who the heroes are, time and place of an action, and connecting the events into a coherent entity, which creates a logical plot. The narrator has to understand and interpret what they are talking about. That is how the narrative is created. As a form of the understanding of the reality it has a universal, basic structure: a hero with some particular intentions meets obstacles, which as a consequence of the events revolving around the hero's aims, can be overcome or not (Trzebiński, 2002). The creation of a narrative has therefore a regulating character. It allows a structuring of an experience and makes sense of the past events. For years, the specialists have emphasised, that creating a narrative of own past experiences is a key ele-

ment of the process of coping with the effects of the trauma (Williams, 2009). The formation of a narrative during the psychotherapy of trauma is often considered as a necessary element in order to create a basis for further work, including a cognitive processing of the past experiences (Briere, Scott, 2012). Many studies and therapeutic practice suggest, that a cognitive framing of the difficult experience in the form of history results in positive psychological and somatic effects (Pennebaker, 2004). However, little is known, when it comes to child's narrative, its structure and functions. The question is significant, because the child's form of narration is quite specific and differs from adults' one. For instance, it differs in form – child's narrative can also be in a form of a picture. Another thing which remains unknown is whether a child can be guided through the process of mourning by accompanying them and helping in creating a narrative of the experiences, and also what effect will it have. In case of children, the creation of a narrative is more difficult, because they lack a sufficient repertoire enabling the understanding of the world and the ever-changing dynamic reality. The building of the child's narrative is based on the context in which the child functions. A coherent self-narrative which gives meaning to the events and which allows the psychological wellbeing, demands a secure, supporting environment. A help during narrating of the experiences, which is based on the rules of coherent experience content, would make it easier for the child to understand the difficult situation and therefore would allow a feeling of wellness and following application of coping strategies when it comes to losing somebody close. In the current study, it was hard to employ the full notion of narrative as cited above (Trzebiński's definition). However, in accordance with the author's definition it can be assumed that although the narratives created by a person's mind can express the basic structure more or less fully, they always remain its transformation (Trzebiński, 2002). Basing on the above premises, the following research questions were formed:

- (1) How do children describe (narrate) their experience of losing somebody close?
- (2) Are there any significant qualitative differences in the way of describing the trauma connected with the loss of somebody close?

## PROCEDURE

The experiments' participants were fourteen children aged 9–11 years old (eight girls and four boys). The participation in the study was voluntary, the parents gave a written consent. The criteria for participation focused on the age and on the experience of the loss of a core family member in a period from one year up to three years ago. The sample was quite small, however, it should be noted that the current experiment is psychologically sensitive and requires a specialised preparation in order to be conducted. What is more, a death in a family is not a common event. Therefore, taking into account the above restrictions, it can be concluded that we managed to form not such a small sample to participate in our study. Considering that explorative nature of the current study, no directional hypothesis were formed. Basing on the previous research in this field a two-part experiment was designed. In the first part, the children were asked to fill in the authors' questionnaire *"Irreversible loss in my eyes"*. In the second part, the guardians took part and filled in the C-TRF questionnaire by Achenbach & Rescorla (2000), which served to assess the behavioural disorders among children and which takes into account the child's gender.

The questionnaire for the children was designed specifically for the current study. It consisted of twenty nine open questions, one yes/no question, one task which was to colour a “heart of feelings”, and also a short metrics with information about the gender and the age of the participant.

The underlying assumption of the questionnaire was to guide the child through the different aspects of the mourning period and coming to terms with the loss of somebody close. The following factors were taken into account:

1. The circumstances of how the child found out about the death of somebody close.
2. The feelings accompanying the child in different situations (in the moment of finding out about the death, in everyday functioning, during recalling the departed one).
3. Fears, needs, and physiological symptoms before and after the loss.
4. Social support, relationships with the surrounding people.
5. Changes in everyday life.

The child task was to answer specifically the experimenter’s question or to express their answer in a form of a drawing. The children could give an answer by drawing something or they could choose one of the options (the answer, the drawing). An additional element was designed in order to enable the child to express their emotions stemming from the loss. In the task “heart of feelings” the children had to choose an emotion from the following: happiness, joy, hope, sadness, anger, helplessness, emptiness, discouragement, hopelessness, regret, jealousy, surprise, and to colour two contours in accordance with own feelings: a heart before the death of a close person and the heart after the death. The child could use a full range of colours. The questionnaire filled in by the children structured and ordered their experiences. It also allowed to determine to current problems, difficulties, and needs of the child. As a result – outside of the experiment – it allowed to choose specific healing factors during an individual therapeutic work with the child, which was continued after the experiment commenced.

The experiment took from 45 to 60 minutes. During filling in the questionnaire an adult could explain the questions to the child in case they were not clear. The second part of the experiment was designed for the adults – a parent, a guardian or a teacher. The tool employed to examine the adults consisted of a hundred statements regarding children’s behaviour. It focused on the current behaviours, or those which occurred up to two months before. The adults gave their answers on a three-staged scale, where: 0 referred to False, 1 – referred to Sometimes/A little bit, and 2 referred to Truth or Often. This tool was chosen mainly due to the fact that it allowed an analysis of the child in two categories – internalising and externalising one. Internalising disorders refer to emotional reactivity (e.g. mood changes, anxiety due to the changes), anxiety and depression (e.g. fear of separation with the parents, nervousness, tension, shyness, unrest), somatic problems (e.g. pain and somatic symptoms without any medical justification), and withdrawal (e.g. avoidance of contact and playing with mates, being lost, and low interest in the surrounding). Externalising disorders refer to the problems with attention and aggressive behaviours. These are for example difficulties with maintaining attention, not performing given tasks, weak concentration, clumsiness, awkwardness, hyperactivity, absentmindedness, rebellious behaviours, destroying things, attitude towards other people and animals, impulsiveness and anger). Additionally, the questionnaire enabled the diagnosis of possible problems which were not included in the previous scales. These were for example aversion towards new

things, tearfulness, irritability, problems with appetite, problems with speech, problems in relationships with the peers, tiredness, and health issues.

## ANALYSIS OF THE RESULTS

In the first stage we performed a quantitative analysis of the questionnaires filled in by the children. Below we described the ways in which the children answered the questions:

### 1. The circumstances of being informed about the loss

In our sample, the children tended to find out about their loss from their closed ones (usually mothers and grandmothers). When asked how and where did they find out about somebody's death and also what was happening inside them in this moment, the majority of the participants (n = 9) answered with plain facts following the structure of the question: who told me, and then what did I feel. These answers were almost identical among the participants. Only three children gave more complex answers. These children associated the sad information with a situation of an interrupted play.

### 2. Thoughts and feelings

When answering questions about thoughts and feelings ("What kind of thoughts come to your mind when you think that a close person died?" "What kind of feelings do you feel when you think that a close person died?"), the children gave coherent answers, describing emotions they were experiencing. Only two participants described thoughts connected with a loss (a feeling of misunderstanding or injustice). No difficulties with naming of the emotions among the children were observed. Prevalent emotions described by the participants were these of sadness, longing, regret, depression, despair or worrying.

### 3. Coping strategies for difficult moments

The death of a close person is particularly difficult for a child, because they lack schemas of coping with such situations. In order for them to be created, data is necessary, which means finding oneself in a specific chain of events (Trzebiński, 2002; Young, Klosko, & Weishaar, 2013). A question about the ways of experiencing difficult moments in this context seemed very significant. Most common answers were: *I'm hugging my mum and I talk to her./ I'm hugging my mum and dad./ I'm hugging my mascot.* The above answers suggest that the children developed their own strategies to deal with the difficult moments. They know how to find a relief, even for a moment. In these situations they need touch (hugging) and auditory (music, sound of a music box) sensory stimulation, which have a cooling and relaxing effect on the organism. A sense of touch plays an incredibly important role in the process of developing relationships with other people (Maas, 2007). Physical closeness gives a feeling of security and care from the adults. Therefore it has a healing value after the painful loss.

### 4. Remembering the departed ones

Another aspect we asked about were the ways of remembering the departed. Creating a history of own life includes collecting memories, an ability to remember the events and recalling them. Thanks to that our identity is shaped. A ritual of describing and

sharing the everyday life experiences (stories, narratives) by a child and by their guardians, shapes and enriches an autobiographical memory of the child concerning important events from their life (Nelson, 1996). This assumption was a basis of our questions concerning the way children remembered the departed person. The participants answered this very generally, rarely did children mention a specific event, instead they focused on describing the overall characteristics of the departed (*e.g. She was a very good person, wise, and warm.*). The memory of the trauma can have a very fragmentary character (van der Kolk & Fisler, 1995) or a very general one (Jagodzińska, 2003).

### 5. Emotions and body

Another aspect which was considered important in the context of coping with the loss, also present in the questions, included emotions and somatic symptoms connected with them. Naming and describing signals coming from the body turned out to be very difficult for the children. In their answers the children focused on the feelings instead. As an example we can cite the following statements: *My body is embraced by regret, sadness, and depression. Above all I feel very sad. I feel nothing. I feel black inside.*

### 6. What do children wonder about?

When we asked the children about the things they think about before falling asleep, most of them described things not connected with the topic of death or loss. The children focused on their hobbies, school life and everyday life.

### 7. Looking towards the future

In this aspect, the participants were asked to formulate any questions they wanted to somebody they trusted. Thanks to that, it was possible to determine what issues bothered the children experiencing the mourning. The questions asked by the children gave an insight into the very core of their inner world and shed a light on the process of mourning they were experiencing (Goldman, 2009). On the other hand, receiving an answer from the adult for an important question has a big influence on the process of coming to terms with the loss. It gives hope for the future wellbeing. The children's questions for the adults referred mainly to the future (*Is everything going to be alright? Will I and mum be happy again? Who will I be when I'm old? How will it be when there is no grandpa anymore?*), although there also were some questions resulting from the lack of understanding of what happened, *e.g. Why did it happen? How did you feel during the funeral?* In the next task, the children could share what they wanted to with the departed person, imagining they can hear them. In this task, the children concentrated mainly on the feelings they had for the departed.

### 8. Life goes on

In the questionnaire, it was also analysed what has changed and what hasn't in the life of the child. These are examples of the children's statements:

- *Nothing is as it used to be. It is sad at home. Grandpa cries. Uncle is stressed. Everyone keeps recalling that. We talk about that.*
- *Grandma changed for worse. She doesn't play with me, she doesn't pay attention. She is not nice, she is angry with me and dad, she screams at H. (a younger sister).*
- *Recently I was playing with a jigsaw puzzle and I lost one element. Grandma was angry and she was shouting at me.*



- *I'm more sensitive, caring and careful towards mum.*
- *I'm sad that grandma is gone.*
- *It is different now on holidays and in the countryside.*
- *I'm sad more often.*

The children were able to see mainly emotional changes in themselves and behavioural changes in other people. They felt that they were sad more often and they cried more often than they used to. 50% of the children claimed that nothing in their life changed. More than 80% claimed that they were treated the same way as they used to be. Two children felt a bigger compassion and could see that people worried about them more. When it comes to what remained unchanged, ten children (83%) named specific items (books, jewellery, personal things, photos) which were also souvenirs and which created memories about the departed ones. Thanks to the places and specific items, the children were able to cultivate the memories about the departed, which they did eagerly.

### 9. Farewell

Attending a funeral is often a difficult decision, which can also depend on the regional tradition (Keirse, 2005). It is an individual matter influenced by numerous factors, e.g. the situation. What seems important here are the age of the child and the process of the ceremony (e.g. if the body is displayed to the public in the church.). It significantly influences a following coping with the situation. Ten children declared that they did not have a possibility to say goodbye to the departed person. Three managed to tell the departed about their feelings of liking. Two considered their presence at the funeral as a farewell. Only one answer to this aspect was more complex. After conduction of the qualitative analysis, some conclusions were drawn regarding the research question.

## THE ABILITY TO IDENTIFY ONE'S NEEDS BY A CHILD AND COPING WITH THE LOSS OF SOMEBODY CLOSE

In accordance with the theoretical assumptions of the current study, we expected that an ability to identify own needs influences the quality of children's functioning after their loss. Three children (25%) identified their needs, nine children (75%) did not. The difference in the number of these two groups was statistically significant:  $\chi^2(1) = 3.00$ ;  $p = 0.083$ . The children who identified their needs and those who did not were compared regarding different aspects of physio-psychological functioning. Statistically significant results suggested that identifying own needs was connected with the understanding of oneself and own behaviours. The children who described their needs felt lonely more often than those who did not:  $\chi^2(1) = 3.27$ ;  $p = 0.070$ ; Fisher's exact test:  $p = 0.250$ . Another difference between the groups emerged regarding a tendency to cry. Children who formulated their needs were more likely to cry than those who did not:  $\chi^2(1) = 3.27$ ;  $p = 0.070$  (Fisher's exact test:  $p = 0.250$ ). The two groups did not differ in terms of the intensity of behavioural disorders; however, they differed in the tendency to be happy about previously liked things and activities. The children who identified their needs were more likely to declare a lack of joy than the children who did not identify their needs:  $\chi^2(1) = 3.70$ ;  $p = 0.054$

(Fisher's exact test:  $p = 0.127$ ). Also, there was a significant relationship between formulating own needs and a feeling of fear of another close person's death. Children who identified their needs were more likely to be afraid that another close person will die compared to the children who did not formulate their needs:  $\chi^2(1) = 3.70$ ;  $p < 0.05$  (Fisher's exact test:  $p < 0.05$ ).

## TYPE OF THE EMOTIONS THE CHILD EXPERIENCES AND THE PROCESS OF MOURNING

In the presented analyses we also looked at the type of the affection and its relationship with the coping processes during the mourning period. In our sample, merely four children (33.3%) declared experiencing only negative emotions, the rest of them (eight children – 66.7%) also felt positive ones. The difference in the numbers of these groups was not statistically significant:  $\chi^2(1) = 1.33$ ;  $p > 0.05$ . The children in both groups differed in how they coped with the situation. The children who experienced only negative emotions were less likely to employ the adaptive coping strategies compared to the children who experienced also positive emotions  $\chi^2(1) = 4.69$ ;  $p < 0.05$  (Fisher's exact test:  $p = 0.067$ ). There was a relationship between the type of emotions experienced and the understanding of oneself and own behaviours. The children who experienced only negative emotions were less likely to declare a lack of understanding of own behaviours and oneself compared to the children who also experienced positive emotions:  $\chi^2(1) = 6.00$ ;  $p < 0.05$  (Fisher's exact test  $p < 0.05$ ). Children in the two groups differed in their tendency to become irritated. The children who experienced only negative emotions more rarely declared that they were irritated than the children who experienced both types of emotions:  $\chi^2(1) = 2.74$ ;  $p = 0.098$  (Fisher's exact test  $p > 0.05$ ).

It was also observed, that the children who experienced only negative emotions, were slightly less likely to recall the memories connected with the departed, compared to the children who experienced both types of emotions:  $\chi^2(1) = 2.74$ ;  $p = 0.098$  (Fisher's exact test  $p > 0.05$ ). We discovered a relationship between the experienced emotions and an ability to identify emotional reactions. The children who experienced only negative emotions were less likely to identify their emotional reactions compared to the children who experienced both types of emotions:  $\chi^2(1) = 6.00$ ;  $p = 0.050$ . The children in the two groups differed in emotional expression. The children who experienced only negative emotions were less likely to express their emotions compared to the children who experienced both types of emotions:  $\chi^2(2) = 9.75$ ;  $p < 0.01$ . We also compared the level of behavioural disorders in the children depending on the prevailing affect (positive versus negative). What is important, is that the type of the experienced emotions did not affect the level of behavioural disorders in our research sample.

## TAKING PART IN THE FUNERAL AND WELLBEING OF THE CHILD

Seven children in our research sample (58.3%) had an opportunity to say goodbye to the departed person, five children (41.7%) did not have such an opportunity. A difference in the groups' numbers was not statistically significant:  $\chi^2(1) = 0.33$ ;  $p > 0.05$ . The two groups were compared on the level of behavioral disorders (Table 1)

TABLE 1. The level of behavioural disorder among children who had or did not have an opportunity to say goodbye to the departed one before their death. Source: own research

	Farewell		No farewell		<i>U</i>	<i>p</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>		
Emotional reactiveness	3.71	2.215	5.60	0.89	8.50	0.149
Anxiety/Depression	2.86	2.27	5.60	2.61	8.00	0.149
Somatic problems	1.43	1.39	3.60	2.88	8.00	0.149
Withdrawal	4.43	3.36	6.20	3.11	12.00	0.432
Internalising disorders	12.43	7.98	21.00	4.30	<b>6.00</b>	<b>0.073</b>
Attention problems	4.57	4.16	7.20	3.779	11.00	0.343
Aggressive behaviours	11.29	6.18	17.40	12.52	13.00	0.530
Externalising disorders	15.86	9.86	24.60	15.32	12.00	0.432
Other problems	7.43	5.71	14.80	4.55	<b>4.00</b>	<b>0.030</b>
Problematic behaviours	35.71	21.78	60.40	20.74	9.00	0.202

The children who did not say goodbye to the departed one, compared to the children who did, had more intense problems and also they had a higher level of the internalising disorders (a significance on the level of statistical tendency). The children who did not say goodbye to the departed one, compared to the children who did, were less likely to experience difficulties with falling asleep:  $\chi^2(1) = 5.18$ ;  $p < 0.05$  (Fisher's exact test:  $p < 0.05$ ). The children who said goodbye to the departed one, compared to the children who did not, were more likely to declare experiencing anger:  $\chi^2(1) = 3.09$ ;  $p = 0.079$  (Fisher's exact test:  $p > 0.05$ ).

### SUPPORT FROM THE CLOSE ONES AND AN ABILITY TO CREATE A COHERENT NARRATIVE ABOUT THE EXPERIENCE OF LOSS

Ten children (83.3%) declared that they received support from their family, and two children (16.7%) declared a lack of such support. A difference in the numbers of these groups was statistically significant:  $\chi^2(1) = 5.33$ ;  $p < 0.05$ . We analysed how the children created their answers during the experiment. Children who received support were slightly more likely to give more structured answers in a form of a story, when compared to the children who did not receive the support:  $\chi^2(1) = 5.70$ ;  $p = 0.058$ . However, there was no relationship between receiving support and the coherency of the answers:  $\chi^2(1) = 0.80$ ;  $p > 0.05$  (Fisher's exact test:  $p > 0.05$ ).

We also analysed if the girls and boys differed in the intensity of behavioural disorders. The results are shown in the Table 2.

Girls compared to boys showed a significantly higher level of anxiety/depression, internalising disorders, and other problems with behaviour. We analysed all the answers given by boys and girls. We presented the significant results or those which suggested a statistical tendency. Boys were slightly more likely to recall memories than girls:  $\chi^2(1) = 5.81$ ;  $p = 0.055$ .

In order to check if the received support played a key role in coping with the situation, additional statistical analyses were conducted. The children who declared a lack

TABLE 2. The level of behavioral disorders among girls and boys. Source: own research

	Girls		Boys		<i>U</i>	<i>p</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>		
Emotional reactiveness	5.25	1.165	3.00	2.58	7.00	0.154
Anxiety/Depression	5.38	2.07	1.25	1.26	<b>0.50</b>	<b>0.004</b>
Somatic problems	2.88	2.64	1.25	.96	10.50	0.368
Withdrawal	5.88	3.48	3.76	2.50	9.50	0.283
Internalising disorders	19.38	6.26	9.25	6.39	<b>4.00</b>	<b>0.048</b>
Attention problems	6.50	3.93	4.00	4.32	11.50	0.461
Aggressive behaviours	15.13	10.27	11.25	7.89	14.00	0.808
Externalising disorders	21.63	13.26	15.25	11.64	12.00	0.570
Other problems	13.50	5.07	4.50	3.69	1.00	<b>0.008</b>
Problematic behaviours	54.50	21.57	29.00	21.24	7.00	0.154

of support were also deprived of the opportunity to say goodbye to the departed person. On the other hand, the majority of the children who received support, could say goodbye. The difference between the groups was significant on the level of statistical tendency:  $\chi^2(1) = 3.36$ ;  $p = 0.067$  (Fisher's exact test:  $p > 0.05$ ). Children who did not receive support had hard time falling asleep, whereas the majority of the children who received the support did not present such difficulties. The difference between the groups was significant on the level of statistical tendency:  $\chi^2(1) = 3.36$ ;  $p = 0.067$  (Fisher's exact test:  $p > 0.05$ ). Almost all the children who received support were willing to share their experiences, whereas the children who did not receive any support did not show such need. The difference between the two groups was statistically significant:  $\chi^2(1) = 7.20$ ;  $p < 0.01$ ; Fisher's exact test:  $p < 0.05$ ). The received support turned out to be an important factor influencing the intensity of behavioral disorders, which is shown in Table 3.

TABLE 3. The level of the behavioral disorders among children who received and did not receive support. Source: Own research.

	Support received		No support		<i>U</i>	<i>p</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>		
Emotional reactiveness	4.30	2.11	5.50	0.71	6.50	0.485
Anxiety/Depression	3.80	2.94	5.00	.00	6.00	0.485
Somatic problems	2.10	2.38	3.50	2.12	4.50	0.273
Withdrawal	4.50	3.14	8.50	0.71	<b>1.50</b>	<b>0.061</b>
Internalising disorders	14.70	7.92	22.50	2.12	4.00	0.273
Attention problems	4.90	3.96	9.50	2.12	3.00	0.182
Aggressive behaviours	11.00	5.19	28.00	15.56	<b>1.00</b>	<b>0.061</b>
Externalising disorders	15.90	8.53	37.50	17.68	<b>1.00</b>	<b>0.061</b>
Other problems	8.70	5.14	19.50	2.12	<b>0.50</b>	<b>0.030</b>
Problematic behaviours	39.30	8.78	79.50	21.92	<b>0.50</b>	<b>0.030</b>

The data shown in Table 3 suggest that the children who received support presented a lower level of behavioural disorders and other problems compared to the children who did not receive any support. Also, on the level of statistical tendency, it can be deduced that receiving support can be connected with a lower level of withdrawal, aggressive behaviours, and externalising disorders.

## DISCUSSION

The current study tried to examine how the children described their experienced an irreversible loss and mourning. It is interesting to ask, whether the way of talking about the loss influences the coping processes and, as a consequence – regaining the psychological balance. A thorough analysis of the obtained results allowed to see how the narrative structures and gives meaning to the experience and also what specific factors help the child to cope with a traumatic event of someone's death. The research question we asked, was based on the assumptions of the psychological theory of coping with the loss, the division of the mourning into following stages, and on the narrative as a way to give meaning and to shape personal wellbeing. Basing on the current results, it can be stated that expressing the needs by the children can be a healing factor. An ability to identify own needs is also connected with self and own actions' understanding. There was a significant relationship between expressing personal needs by the children and a feeling of fear of another person's death. Also, experiencing both positive and negative emotions helped the children to get through the process of mourning. Those who experienced mainly negative emotions, were more likely to employ non-adaptive coping strategies to deal with stress and anxiety. An opportunity to say goodbye to the departed ones influenced the adapting process. Children who did not have an opportunity to say goodbye experienced more intense emotional problems and also showed a higher level of internalising disorders. The children who received support from their close ones and also said goodbye to the departed were capable of building a coherent narrative about their experience of loss.

As suggested before, our research sample was not very big and therefore a part of the results are on the level of statistical tendency only. However, the analysis allowed to ask further research questions. The mourning, more than any other life experience, signals a breakthrough in the development of every person. The mourning as a result of somebody's death means that the history of life is divided into two periods: "before" and "after". That is because nothing remains the same after the moment of somebody's passing away. Everyone's world, especially child's, is shaken by an event which requires us to face ourselves and to adapt to the new situation. In the light of the current results, it can be stated with certainty that talking with children about difficult events and letting them process them has an ordering effect on life, so that a "scar", which joins what was "before" and "after" can be created. Connecting fragmentary memories into a full and coherent narrative allows structuring of the experiences and transforming them into a difficult, yet not that painful memory.

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## WISE FUNCTIONING AND COPING STRATEGIES IN ADOLESCENTS: AGE AS AN INTERVENING VARIABLE

**Abstract:** As we know relatively little about the development of wisdom in youth, the following study was designed to examine whether and how wise functioning would predict coping strategies in adolescents. As layperson's implicit theories of wisdom suggest that wisdom varies by age, we wanted to see if and how age might correlate with wisdom, and examine the role of age as a mediator between wisdom and coping. Consequently, this article provides some initial evidence indicating that wise thinking, behaving, and age are related to coping strategies. It seems that wise individuals act when confronted with adversity

and obstacles, focusing on the benefits that follow from stressful events. At the same time, they try to avoid using responses that are commonly considered less adaptive or immature: denial or substance use. These choices may be related to the equilibrium between knowledge and doubt that is believed to be the core of wisdom. Therefore, being wise lies not in what is known, but rather in the way in which the knowledge is used in everyday life and experienced as time passes by.

**Keywords:** wisdom, coping strategies, adolescents.

Wisdom is one of the most prized and highly desirable traits (Ardelt, 2005). Theoretical perspectives and empirical evidence seem to support the view that wisdom has a positive influence on life satisfaction (Ardelt, 2016; Bluck, Glück, 2005; Glück et al., 2013; Krause, Hayward, 2015b; Shi, Ardel, Orwoll, 2016), personality adjustment and generativity (Wink, Staudinger, 2015), hedonic happiness (Bergsma, Ardel, 2012), forgiveness (Taylor, Bates, Webster, 2011), purpose in life (Ardelt, Landes, Gerlach, Fox, 2013), coping strategies (Etezadi, Pushkar, 2012), mental health (Webster, Westerhof, Bohlmeijer, 2012), self-esteem and hope (Krause, Hayward, 2015a), humility (Krause, 2016), and positive relations with others (Grossmann, Na, Varnum, Kitayama, Nisbett, 2013; Helson, Srivastava, 2002). It is also positively associated with personal growth (Helson, Srivastava, 2002; Staudinger, Kunzmann, 2005; Wink, Staudinger, 2015) and negatively related to negative affect (Kunzmann, Baltes, 2005).

In the context of the above mentioned studies it seems plausible to think that wise thinking and acting might be related to coping strategies as well (Etezadi, Pushkar,

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2012; Kanwar, 2013; Ardel, 2005). In fact, Ardel (1998; 2005) states that successful coping with difficult situations or events might be not only one of the ways to wisdom, but also a quality characterizing wise people. Furthermore, Aldwin and Yancura (2011) perceive wisdom as a coping resource that facilitates dealing with stress.

Due to the fact that not much research has been devoted to an empirical analysis of how wise individuals act when confronted with adversity and obstacles (Ardel, 2005), and in accordance with Ardel's remark about possible relationship between wisdom and coping, the following study was designed to examine whether and how wise functioning would predict coping strategies in adolescents as we know relatively little about the development of wisdom in this period (Pasupathi, Staudinger, Baltes, 2001). Moreover, as layperson's implicit theories of wisdom suggest that wisdom varies by age (Glück, Strasser, Bluck, 2009), we wanted to see if and how age might correlate with wisdom, and examine the role of age as a mediator between wisdom and coping.

## WISDOM

Across cultures, wisdom has been viewed as the ideal of knowledge and character (Staudinger, 2008), the integration of mind and virtue (Kunzman, Baltes, 2005), the endpoint and pinnacle of human development (Baltes, Staudinger, 2000; Staudinger, Werner, 2003). Historically, it has been the subject of research carried out mainly in philosophy and religion (Kunzman, Baltes, 2005; Walsh, 2015; Tucholska, 2016), allowing to label it "an ancient topic" (Clayton, Birren, 1980, p. 103).

Although, the last thirty years have been considered in the field of psychology of wisdom as a "period of rejuvenation" (Baltes, Staudinger, 2000, p. 122), it is not easy to conceptualize and operationalize this term as a scientific construct (Glück, Strasser, Bluck, 2009). The majority of definitions of wisdom denote its profundity and variety (Walsh, 2015), and even among psychologists there is no unequivocal description of this concept (Glück, Strasser, Bluck, 2009). Clayton (1980, 1982) was one of the first psychologists who undertook systematic analysis of the wisdom construct according to implicit perspective. On the basis of a multidimensional scaling inquiry of twelve wisdom attributes, she identified three dimensions typical of wise people: (1) affective (empathic, understanding, peaceful, gentle, and compassionate), (2) reflective (intuitive and introspective), and (3) cognitive (experienced, knowledgeable, pragmatic, observant, and intelligent). Her research has had a significant impact on later studies of wisdom, especially conducted by Holliday and Chandler (1986), Sternberg (1990), and Ardel (1998).

For the purpose of this study, we pay heed to Ardel's understanding of wisdom which is based both on Clayton's intuitions and Baltes' research. According to Ardel's (2004) alternative and parsimonious model, as she describes it, wisdom is defined and operationalized as an integration of cognitive, reflective, and affective personality characteristics that are related to each other, but are not theoretically identical. It is suitable to remark that the above-mentioned definition was originally elaborated by Clayton and Birren in 1980 (Ardel, Edwards, 2016). In other words, wisdom cannot be reduced to the intellectual or cognitive sphere, but embraces the whole person. Nevertheless, the *cognitive* component of wisdom concerns efforts related to a deeper understanding of positive and negative events of life, both in in-

trapersonal and interpersonal aspects. It also includes the acceptance of existence in its unpredictability and uncertainty. The *reflective* facet of wisdom requires the ability to perceive phenomena from different viewpoints and requires self-observation, self-examination and self-awareness. Self-knowledge enables a person to progressively overcome one's own subjectivity and projections, and gradually become less self-centered. As stated by Ardel (2003), this dimension is crucial because it fosters the development of the two other components. Finally, the *affective* element, often neglected in most definitions of wisdom (Ardelt, 2003), consists in compassionate demeanor towards other people. Cognitive, reflective, and affective factors measured by a wisdom questionnaire should include items that assess all the characteristics described in each wisdom dimension.

## COPING STRATEGIES

How people manage in difficult life circumstances has been the subject of a substantial amount of studies over the years. Most investigators working in this area have used, as their theoretical starting point, the stress paradigm developed by Lazarus and collaborators (Carver, Scheier, 1994). According to this model, coping is a dynamic process and coping strategies are the “constantly changing cognitive and behavioral efforts to manage specific external and/or internal demands appraised as taxing or exceeding the resources of the person” (Lazarus, Folkman, 1984, p. 141). A number of psychologists have attempted to identify coping techniques. Among different catalogues, Scheier, Carver, and Bridges (1994) presented a widely-known system of 15 categories of coping tactics (Figure 1). Their dimensionality was further classified by Litman (2006) into self-sufficient problem-focused, avoidant-coping, socially-supported coping, and self-sufficient emotion-focused, as presented in Figure 1 (The Circumplex of Coping Styles).

According to Carver, Scheier, and Weintraub (1989), planning consists in thinking about dealing with a problem in the best way. This strategy is problem-focused and occurs during secondary appraisal. Active coping is the process consisting in increasing one's attempts to eliminate the problem. It includes introducing direct action that finds its expression in trying to execute efforts. Suppression of competing activities regards the intentional focusing only on the problem and trying to avoid distraction by other projects, in order to concentrate more completely on coping with the stressor. As it can be observed, the above-mentioned strategies require engagement in effortful approach to task performance and help to restore a sense of self-efficacy in the individual (Mikulincer, 1994).

Behavioral disengagement opens avoidant-coping strategies and consists in abandoning attempts to deal with the problem and reducing the amount of effort taken to solve it. This strategy has been variously called passivity or effort withdrawal. Carver, Scheier, and Weintraub (1989) claim that trying to attain goals is a rather dysfunctional tendency, since it is reflected in experiences that are related to helplessness, or when people expect modest coping outcomes. Denial consists in refusing to believe that the problem is real, and acting as though it has not even happened. It implies isolating oneself from the stressful situation and involves self-deception. Findings point out that denial is commonly used by pessimists. Substance consumption is using drugs or alcohol to reduce distress. As Mikulincer (1994) reports, this strategy produces an im-

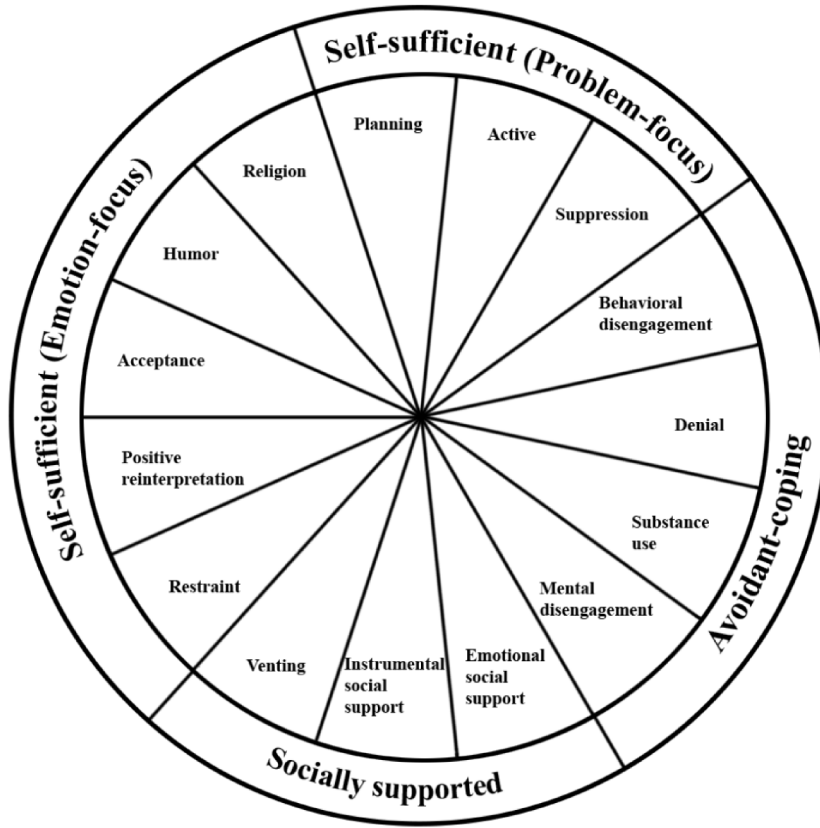


FIGURE 1. The Circumplex of Coping Styles. (own elaboration based on Litman’s assessment)

pediment to adequate functioning and enables people to ascribe their lack of success to a substance rather than to their own lower abilities. Mental disengagement is considered a variation of behavioral disengagement and regards distracting oneself from thinking about the problem through the use of alternative activities, such as: day-dreaming, escaping through sleep, or immersion in TV and the Internet. Given the shortage of time, this strategy can impair performance as a person assumes irrelevant behaviors. Skinner et al. (2003) claim that the aforesaid styles of coping can be labeled as escape and embrace attempts to stay away from a stressful condition. Zeidner and Saklofske (1996) suggest that avoidance coping usually works against the people who are using it rather than to their benefit.

Seeking social support for emotional reasons relates to socially supported strategies and expresses itself through listening, talking, seeking sympathy, moral support, and understanding from others (Carver, Scheier, Weintraub, 1989). This form is an aspect of emotion-focused coping. Instead, seeking social support for instrumental reasons is problem-focused coping and consists in seeking advice, assistance, or information from others. Focusing on and venting of emotions implicates being aware of one’s distress and having the need to express negative feelings through journaling or talking about them to one’s friends. Moritsugu and collaborators (2014) mention that while

venting may be considered good in the short time, it is not necessarily a beneficial strategy to use since it often makes people feel worse over time. According to Skinner et al. (2003), these three above-mentioned categories appear to be focused more on other people instead of the problem or emotion.

Finally, restraint-coping opens the list of self-sufficient strategies, focused on emotions. It consists in waiting for the right moment to act, holding oneself back, not taking steps prematurely (Carver, Scheier, 1994). In turn, positive reinterpretation and growth is not limited to reduction of distress, but regards reframing the stressor in positive terms. It is connected to adaptive outcomes and includes cognitively reprocessing distressing emotions due to a stressful event into a new outline that involves positive aspects. Acceptance is considered a functional coping response that in primary appraisal manifests itself in learning to accept the problem and in secondary appraisal refers to acknowledging a current absence of active coping strategies. It is believed to be the opposite of denial and, as a positive reinterpretation, it may be crucial in situations where a stressor is basically unchangeable, requiring adaptation. The use of humor makes the problem seem less severe. In a series of studies (Lefcourt, 2002), humor has been found to be related to more active coping styles and negatively associated with avoidance and denial. Turning to religion consists in using faith for support in times of stress and may be quite essential as a coping strategy to many people, especially with major life stressors. A handful of studies show (Floody, 2014), that all these strategies are strongly associated with lesser negative psychological symptoms.

## WISDOM, COPING, AND AGE

It is commonly believed that wisdom develops with age (Baltes, Staudinger, 2000) and that age may lead to wisdom which, in turn, allows to make the best choices in life, including dealing with difficult situations (Aldwin, Yancura, 2011). As Skinner et al. (2003) observe, coping with stress and personal growth seem naturally interrelated, and age-graded factors play the central role in shaping an individual's adaptation to complex life circumstances.

Majority of studies regarding wisdom and age or coping and age relate to older adults. On the basis of the results obtained thus far we can assume that people are likely to develop a wider range of coping skills as time goes by (Aldwin, Yancura, 2011). Despite the progressive decline in intellectual abilities that comes with advanced age, growing old also is related to higher levels of wisdom, understood as expert judgment about important issues in life (Franzoi, 2011). Wise individuals seem to distinguish how best to deal with adversity by applying active rather than passive coping strategies and learning from the past (Ardelt, Oh, 2016).

However, as Birren and Fisher (1990, p. 326) point out, wisdom "tends to increase with experience and therefore age but is not exclusively found in old age." Some lifespan studies indicate that wisdom develops in the age between 15 and 25, and age and wisdom-related performance are positively associated in adolescence (Pasupathi, Staudinger, Baltes, 2001). Moreover, Takahashi and Overton (2005) reveal that older adults usually perform better in wisdom measures than their younger counterparts, regardless of gender or cultural background. Although the authors consider that development of wisdom may be more affected by the quality of life events than the chrono-



logical age itself, they are frequently closely connected. It is due to the fact that longer life in general involves experiencing more opportunities for psychosocial maturity through a diversity of experience.

Because of the gap in studies examining wisdom as a predictor of coping strategies in the context of adolescence, our hypotheses were as follows:

1. An increase in the general wisdom index and its components may increase theoretically adaptive strategies (planning, active coping, suppression of competing activities, restraint coping, emotional and instrumental social support, positive reinterpretation, turning to religion, humor).

A theoretical rationale for why wisdom may be positively related to adaptive coping strategies rather than avoidant is based on the “broaden-and-build” theory, developed by Fredrickson (1998). In this model, the “broadening” function of positive emotions empowers the person to see further than the immediate stressor, and allows to extend behavioral repertoire. The “building” function helps an individual to reconstruct social, intellectual, and physical resources. Even though Fredrickson’s theory was not created explicitly to address positive emotions or wisdom in the context of stress, it seems that the model is important under stressful conditions. In fact, wisdom considered “a repository of well-practiced strategies, heuristic methods, and behaviors” (Efklides, Moraitou, 2013, p. 213) may prevent a person from feeling overcome by coping efforts.

2. An increase in the general wisdom index and its components will decrease the levels of avoidant-coping strategies (behavioral disengagement, denial, substance use, mental disengagement, venting).

A theoretical justification for why wise behavior may be negatively related to avoidant-coping strategies is grounded in developmental psychology. Aldwin and Yancura (2011) indicate that stress, appraisal, and coping are not static and change constantly over the lifespan. Moreover, wisdom encompasses maturity, discernment, interpersonal abilities, and a deeper understanding of life. It expresses the ability and willingness to understand a situation carefully, to look at phenomena from different perspectives, and communicate positive emotions and behaviors toward others. As individuals age, they may also acquire alternative strategies to improve their competence in coping with stressful situations (Ardelt, 2005).

3. Cognitive, affective, and reflective dimensions of wisdom will be positive predictors of some theoretically adaptive strategies and negative predictors of avoidant-coping strategies.

Gustems-Carnicer and Calderón (2016) provide a theoretical rationale for the predictive capacity of wisdom as they underline that wisdom could be related to cognitive approach coping in terms of the subject’s attempts to comprehend and reorganize a difficult situation. Moreover, Ardel (2005) emphasizes that wise people tend to develop an integrated personality, remarkable maturity, higher judgment skills in difficult events, and the ability to cope with challenging life changes.

4. Age will mediate the relationship between wisdom and specific coping strategies.

A theoretical rationale for why age may be a mediator between wisdom and coping strategies is based on laypeople’s implicit theories that portray wise individuals as able to reflect on and regulate their behavior, thoughts, and emotions in the face of stressful events (Bluck, Glück, 2005). Although cross-sectional studies are unable to address whether being wise is likely to increase with age, longitudinal research shows that practical wisdom tends to grow from young to middle age in both women and men (Wink, Helson, 1997).

## Participants

The sample consisted of 262 Polish respondents. Their ages ranged from 16 to 25 ( $M = 18.77$ ,  $SD = 2.54$ ). The group of participants was predominantly female (67%). Asymmetrical ratio of female to male respondents was related to the fact that the research was performed mainly in humanistic classes of high schools and among university students specializing in Pedagogy as well as in Psychology, where a vast majority of students are women. In gathering data we used non-probability sampling, selecting respondents who were available to participate in a study. The choice of convenience sampling does not allow us to generalize the results obtained in the research.

## Procedure

All the participants below 18 years old were asked to deliver and return the parental consent forms in which they were broadly informed about: the goal of the study, without any specific reference to assessed variables; expected duration, and confidentiality of the study. Other adult respondents, after clarification and directions were given, freely expressed a participation agreement. All the participants were reassured that the content of the questionnaires used during the measurement would pose no risk to them and they were allowed to decline if they were not interested in the research. The project was approved by the Ethics committee.

## Instruments

In order to calculate coping strategies and wisdom, data was collected through a following series of questionnaires: The COPE Inventory, developed by Carver, Scheier, and Weintraub (1989) and Three-Dimensional Wisdom Scale (3D-WS; Ardel, 2003). All the respondents were given the same set of scales.

The COPE Inventory is a 60-item multidimensional self-report questionnaire that is used to measure the various ways in which people react to stressful situations. The fifteen strategies (4 items each) can be rationally grouped into four major categories: 1) problem-focused (planning, active-coping, suppression of competing activities); 2) avoidant-coping (behavioral disengagement, denial, substance use, mental disengagement); 3) socially supported (emotional social support, instrumental social support, focus on and venting emotions); 4) emotion-focused (restraint, positive reinterpretation, acceptance, humor, religion). Each of the items refers to a 4-point frequency scale (1 – *I usually don't do this at all*, 4 – *I usually do this a lot*). The Cronbach's Alpha for the entire Inventory was high ( $\alpha = 0.85$ ).

Three-Dimensional Wisdom Scale (3D-WS; Ardel, 2003) is a 39-item self-report questionnaire (consists of 15 statements in the first and 24 items in the second part of the scale) which measures three dimensions of wisdom: cognitive, reflective, and affective. Although, in the Polish version, adapted by Steuden, Brudka, and Izdebski (2016), reflective dimension was split into two independent factors (self-awareness and empathic), in the current study the original reflective factor was assumed, with the consent of the authors of adaptation. Answers were given on a 5-point response scale, ranging from 1 – *yes* to 5 – *no*. The Cronbach's alpha for the whole scale was 0.77. Correspondingly, the internal consistency for the three factors were: cognitive ( $\alpha = 0.71$ ), affective ( $\alpha = 0.54$ ), and reflective ( $\alpha = 0.60$ ).

All the data collected from the questionnaires were analysed using the SPSS Statistical Package for the Social Sciences (Version IBM SPSS Statistics 20).

## RESULTS

Firstly, descriptive statistics were performed and a Shapiro-Wilk's test was carried out to verify whether the variables under consideration were normally distributed. Normal distribution (Table 1) was confirmed for the following variables: wisdom, affective wisdom, and reflective wisdom. In all other factors the value  $p$  was significant, meaning that the distribution was not perfectly symmetrical. However, due to the fact that the values of skewness did not exceed the contractual absolute value of  $-1.5$  and  $+1.5$  (Tabachnick, Fidell, 2013), it was assumed that these distributions could be considered acceptable and, consequently, parametric tests and analyzes were used.

TABLE 1. Descriptive statistics of wisdom and the coping strategies ( $N = 262$ )

	<i>M</i>	<i>Mdn</i>	<i>SD</i>	<i>SK</i>	<i>CK</i>	Min.	Max.	S-W	<i>p</i>
Wisdom	123.19	123	17.47	.08	-.12	79	176	.99	.642
Cognitive wisdom	44.78	45	7.81	-.30	.18	18	62	.99	.017
Affective wisdom	39.58	40	7.56	-.14	-.09	21	61	.99	.110
Reflective wisdom	38.82	39	7.15	-.17	-.26	21	57	.99	.124
Planning	10.38	10	3.03	-.03	-.77	4	16	.97	< .000
Active coping	10.65	11	1.96	-.16	.13	5	16	.97	< .000
Suppression	9.66	10	2.58	-.05	-.24	4	16	.98	.001
B. disengagement	7.54	7	2.63	.70	.59	4	16	.93	< .000
Denial	7.62	7	2.88	.84	.28	4	17	.92	< .000
Substance use	6.46	4.5	3.24	1.27	.83	4	17	.77	< .000
M. disengagement	9.39	9	2.52	.12	-.53	4	16	.97	< .000
E. social support	10.66	11	3.44	-.09	-1.04	4	16	.95	< .000
I. social support	10.73	11	3.04	-.14	-.69	4	16	.96	< .000
Venting	10.78	10.5	3.02	.08	-.78	4	16	.96	< .000
Restraint	10.23	10	2.34	.33	.34	4	16	.96	< .000
P. reinterpretation	11.01	11	2.51	-.28	-.33	5	16	.97	< .000
Acceptance	10.16	10	2.46	.04	-.24	4	16	.98	.003
Humor	7.83	8	3.22	.47	-.82	4	16	.92	< .000
Religion	7.94	7	4.07	.64	-.93	4	18	.85	< .000

In order to measure the degree of linear relationship between wisdom together with its dimensions and coping strategies (Hypothesis 1 and 2), the standard Pearson correlation formula was applied. The results presented in Table 2 demonstrate positive correlations between the global wisdom index and positive reinterpretation, planning, instrumental social support, emotional social support, and active coping. The inverse kind of relationship emerges in the case of wisdom that decreased denial, behavioral disengage-

ment, substance use, and mental disengagement. The analyses of the three components of wisdom remain consistent with the baseline assumptions. The growth of the cognitive factor of wisdom was related to the growth of positive reinterpretation, planning, and instrumental social support. Conversely, its growth was accompanied by behavioral disengagement, denial, substance use, mental disengagement, and acceptance. Affective component of wisdom correlated positively with positive reinterpretation, emotional social support, instrumental social support, planning, turning to religion, and active coping. Negative correlation was found regarding humor, substance use, and denial. Finally, reflective dimension showed positive correlations with positive reinterpretation, planning, active coping, instrumental social support, restraint, and suppression. However, negative correlations were found with the following coping strategies: denial, behavioural disengagement, substance use, mental disengagement, and venting. Age correlated positively with wisdom ( $r = .22^{**}$ ), affective wisdom ( $r = .21^{**}$ ), and reflective ( $r = .21^{**}$ ). The tendency was noticed for cognitive wisdom ( $r = .11, p = .07$ ).

TABLE 2. Value of correlation coefficients between wisdom and dimensions of coping ( $N = 262$ )

	Wisdom	Cognitive	Affective	Reflective	Age
Planning	.32**	.20**	.21**	.35**	.16**
Active coping	.17**	.07	.17**	.18**	.24**
Suppression	.07	-.03	.08	.13*	.15*
Behavioral disengagement	-.37**	-.42**	-.11	-.34**	-.12*
Denial	-.39**	-.38**	-.16*	-.38**	-.16**
Substance use	-.25**	-.22**	-.12*	-.27**	-.07
Mental disengagement	-.17**	-.18**	-.01	-.20**	-.09
Emotional social support	.20**	.09	.29**	.08	.04
Instrumental social support	.27**	.18**	.25**	.18**	.08
Venting	-.04	-.01	.06	-.17**	.09
Restraint	.04	-.09	.06	.15*	.02
Positive reinterpretation	.43**	.25**	.31**	.45**	.12*
Acceptance	-.05	-.13*	-.03	.05	.10
Humor	-.07	-.09	-.11	.04	-.12*
Religion	.07	-.03	.19**	.01	.07

In the next stage of the research, stepwise regression analyses were conducted to establish the wisdom factors that predict coping strategies (Hypothesis 3). We chose planning, denial, substance use, instrumental support, and positive reinterpretation as they correlate with all three dimensions of wisdom (cognitive, affective, and reflective). The  $\beta$ -indices of regression analysis demonstrate that one of the three factors proved to be a determinant of planning: reflective wisdom (.372;  $p < .000$ ). The value of the adjusted coefficient of determination  $R^2_{adj} = .136$  indicates that the aforementioned variable can account for almost 14% of the variance in planning [ $R = .372$ ,  $F(301,1) = 48.25$ ,  $p < .001$ ]. The results of the regression analysis suggest that participants who perceive phenomena from different viewpoints are inclined to think about dealing with a problem in the best way.

In the case of denial, two wisdom dimensions were its predictors: reflective wisdom ( $\beta = -.276$ ;  $p < .000$ ) and cognitive wisdom ( $\beta = -.241$ ;  $p < .000$ ). The value of adjusted  $R^2_{adj} = .192$  indicates that the abovementioned variables can account for 19% of the variance in denial [ $R = .444$ ,  $F(301,2) = 36.76$ ,  $p < .001$ ]. Those respondents who do not accept existence in its unpredictability and uncertainty, and who have lower capacity for self-observation, self-examination, and self-awareness tend to refuse to believe that the problem is real and act as though it has not even happened.

When substance use is the dependent variable, reflective wisdom is the only predictor: ( $\beta = -.212$ ;  $p < .000$ ). The value of adjusted  $R^2_{adj} = .042$  indicates that the aforesaid variable can account for 4% of the variance in substance use [ $R = .212$ ,  $F(301,2) = 14.07$ ,  $p < .001$ ]. Individuals who are more self-centered may be more disposed to use stimulants to reduce distress.

Analyzing instrumental support as the dependent variable, affective wisdom ( $\beta = .220$ ;  $p < .000$ ) and cognitive wisdom ( $\beta = .133$ ;  $p < .000$ ) were found to be the predictors. The value of adjusted  $R^2_{adj} = .080$  indicates that those variables can account for 8% of the variance in instrumental support [ $R = .294$ ,  $F(301,2) = 14.14$ ,  $p < .001$ ]. Individuals who are more compassionate toward others and have a deeper understanding of positive and negative events of life seek advice, assistance, or information from others.

Finally, when positive reinterpretation is the dependent variable, reflective wisdom ( $\beta = .375$ ;  $p < .000$ ) and affective wisdom ( $\beta = .149$ ;  $p < .000$ ) are its predictors. The value of adjusted  $R^2_{adj} = .207$  indicates that the aforementioned factors can account for almost 21% of the variance in positive reinterpretation [ $R = .461$ ,  $F(301,2) = 40.25$ ,  $p < .001$ ]. Respondents who progressively overcome own subjectivity and projections, and are benevolent towards others are likely to reframe the stressors in positive terms.

In order to verify the last hypothesis, we investigated the mediating role of age in the relationship between wisdom general index and the coping strategies that correlate with wisdom and age: planning, active coping, behavioral disengagement, denial, and positive reinterpretation. The choice was motivated by the conditions that are the basis for establishing mediation according to the Baron and Kenny approach (MacKinnon, Fairchild, Fritz, 2007): 1) a significant relation of the independent variable to the dependent variable is required (*c*) (Figure 2); 2) a significant relation of the independent variable to the mediator is required (*a*); 3) the mediator must be significantly related to the dependent variable (*b*); 4) the coefficient connecting the independent variable with the dependent variable (*c*) must be larger than the coefficient relating these variables after including the mediator (*c'*).

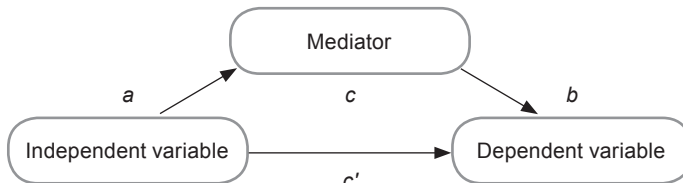


FIGURE 2. Mediation model

Investigation of the mediating role of correlating dimensions of age in the relationship between wisdom and planning revealed that total effect of wisdom on plan-

ning ( $\beta = 0.349 \rightarrow \beta = .312$ ;  $z = 6.786$ ;  $p = .00$ ) was significantly reduced upon the inclusion of age. Therefore, testing mediation confirmed that age acts as a mediator.

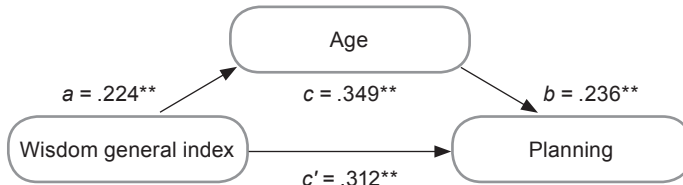


FIGURE 3. Relationships between wisdom, age, and planning

\*  $p < .05$ ; \*\*  $p < .01$

We obtained similar mediating effect in the case of: acting coping ( $\beta = 0.218 \rightarrow \beta = .195$ ;  $z = 6.918$ ;  $p = .00$ ), behavioral disengagement ( $\beta = -0.382 \rightarrow \beta = -.374$ ;  $z = 5.116$ ;  $p = .00$ ), denial ( $\beta = -0.398 \rightarrow \beta = -.380$ ;  $z = 5.928$ ;  $p = .00$ ), and positive reinterpretation ( $\beta = 0.430 \rightarrow \beta = .425$ ;  $z = 5.502$ ;  $p = .00$ ).

## DISCUSSION

The overall aim of this study was to examine if and how wise functioning correlates with and predicts coping strategies. The hypothetical assumptions found its partial support as in the majority of cases the hypothesized relationships were confirmed. The general wisdom index and its components correlated positively with some theoretically adaptive strategies and negatively with some avoidant-coping strategies. Moreover, wisdom dimensions predicted positively planning, instrumental support, and positive reinterpretation, and negatively – denial and substance use. Such results, although they cannot be generalized to the adolescents population, give an insight to understand the potential dynamics existing between wisdom and coping strategies in this particular stage of life.

Firstly, we consider reflective wisdom as it correlates with eleven coping strategies and predicts planning, denial, substance use, and positive reinterpretation. Reflective wisdom includes intuitive thinking and is expressed in a the capacity to perceive phenomena and events from multiple perspectives (Ardelt, Edwards, 2016). Therefore, it may help an individual in dealing with a problem in the best way (planning), thinking about how to confront the stressor, and addressing the problem through making a plan of action or focusing on the next step (Chronister, Chang, 2007).

Reflective wisdom is also an important capacity to positively reinterpret difficult situations that one is experiencing. It may result from the fact that personal resources and individual potentials are considered optimal to facilitate adaptive responses to stressful and challenging situations (Feiser et al., 2016). Because wisdom is a human strength (Peterson, Seligman, 2004), consequently wise choices may consist in adopting positive coping strategies such as reframing the stressor in positive terms in times of stress. Moreover, positive reframing belongs to a group of action-oriented strategies and, according to Whitehead, Dorstone, and Ward (2015), characterizes the process of perseverance when faced with adversity and life difficulties. Joseph and Linley (Linley, 2003) consider an individual's ability to alternate their personal view on a stressful



event and negative emotions as a sign of growth, wisdom, and strength. Wise individuals self-reflectively process different life challenges (meaning-making or positive reframing) and believe that they are able to cope with them, being aware of events' uncontrollability (Glück, Bluck, 2013; Westrate, Glück, 2017). Thus, reflective dimension of wisdom helps to consider unpleasant circumstances not from one avoiding perspective, but from many different angles (Ardelt, 2003).

Lower levels of reflective wisdom also predict refusing to believe that the problem is real (denial). On the contrary, being wise includes acceptance of life in its unpredictability and ambiguity. Erikson (1959/1980, p. 104) suggests that integrity and wisdom mean the acceptance of "one's own and only life cycle and of the people who have become significant to it" and Staudinger, Smith, and Baltes (1992, p. 272) consider wisdom as "good judgment and advice on important but uncertain matters of life." While accepting things as they are implies recognition of the problem as a part of human existence, denial consists in acting as though it has not even happened.

People perceived as reflective and wise are also less likely to be involved in substance use. It may be related to having inner strength that means being open to life events, dealing with its challenges and adversities, engaging in meaningful decisions and worthy actions (Viglund, Jonsén, Lundman, Strandberg, Nygren, 2013), without using strategies that are proven less effective and lead only to temporarily forgetting about the problems or alleviation of anxiety. Indeed, American studies completed with the participation of high school seniors show that Adolescent Wisdom Scale and Subscales were significantly connected to lower alcohol and cigarette consumption (Perry, Komro, Jones, Munson, Williams, Jason, 2002).

Secondly, an affective dimension of wisdom that consists in being empathetic, peaceful, and gentle (Bluck, Glück, 2005), correlates with eight coping strategies and predicts instrumental support and positive reinterpretation. Affectively wise people are inclined to display a greater compassionate understanding of the self and others (Clayton, Birren, 1980) and this capacity may lead them to seek advice, assistance, or information from others (looking for instrumental support). In fact, Strachan and collaborators (2001) underline that self-awareness plays a central role in the constant self-regulation and allows for consideration of innumerable alternatives to make a life more worthwhile and fulfilling. Self-understanding allows people to recognize that they need assistance and ask those around them for help. Moreover, being affectively wise may be expressed in a positive reinterpretation of the stressor. In fact, Gohm and Clore (2002) report that the ability to deal with one's emotions was associated with adaptive coping styles, specifically with positive reinterpretation and seeking instrumental social support.

Thirdly, cognitive wisdom that consists in the desire to comprehend the deeper meaning of events, correlates negatively with denial and positively with seeking social support. There is some theoretical and empirical evidence to support such results. Halama (2014) reports a negative association between the dimension of meaningfulness of Antonovsky's sense of coherence and denial among Slovak adolescents. When individuals feel that life has meaning to them, they do not reject the notion that a difficult event is real and instead they act to face a problematic situation. Other studies reveal a positive relationship between individual dimensions of meaning in life (cognitive, motivational, and affective) and coping strategies in older age. Individuals with a strong feeling of self-realization declared less frequent use of maladaptive coping strategies. Cognitive wisdom also includes acceptance of the inherent limits of knowl-

edge, unpredictability and uncertainty (Ardelt, Oh, 2010), and is a predictor of instrumental support seeking. According to Skinner and Zimmer-Gembeck (2016), support-seeking is a particularly popular strategy used by adolescents to cope with stress. Therefore, asking the close ones for assistance may indicate wise approach to life as an individual desires to comprehend the deeper meaning of events with the help of people who have more life experience.

The last hypothesis regarded the possible mediating role of age between wisdom and specific coping strategies. The results confirmed our assumptions in the case of wisdom and planning, acting coping, behavioral disengagement, denial, and positive reinterpretation, showing that the process through which wisdom affects chosen coping strategies includes an important variable of age. On the one hand, our results may mean that not all adolescents who are considered wise will use more adaptive strategies or less maladaptive tactics of coping. For example, young people who appear to be wise indeed act wisely in some situations, and in others they do not. In the same circumstances wise adolescents may behave differently because of their age. On the other hand, our outcomes may also indicate that we would expect adolescents who are older to employ more constructive ways of dealing with problems, regardless of the level of wisdom they display. Such a conclusion finds its support in studies by Pasupathi, Staudinger, and Baltes (2001). Their outcomes point to adolescence and very early adulthood (in the early 20s) as the time period in which individuals' wisdom-related knowledge and judgment develops to adult levels.

## CONCLUSIONS

Our research provides some initial evidence indicating that wise thinking, behaving, and age are related to coping strategies. It seems that wise individuals act when confronted with adversity and obstacles, focusing on the benefits that follow from stressful events (Pargament, 1997). Inversely, they try to avoid using responses that are commonly considered less adaptive or immature: denial or substance use. These choices may be related to the equilibrium between knowledge and doubt that is believed to be the core of wisdom. Therefore, being wise lies not in what is known, but rather in the way in which the knowledge is used in everyday life and experienced as time passes by (Meacham, 1990).

## LIMITATION AND FUTURE DIRECTION

A major limitation of this analysis is its cross-sectional character that does not allow to determine cause and effect relationship. Therefore, next studies could have longitudinal design in order to follow respondents over a course of time and explain hypothesized changes that may have arose over the period of data collection. Moreover, because our study is of purely quantitative nature, we think that qualitative research should follow to complement received outcomes. Additionally, the results obtained should be interpreted with caution given the lower than desirable value of alpha for affective and reflective wisdom.

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## BULLYING AS A SUBJECT OF ADOLESCENTS' ANALYSIS. THE PERSPECTIVE OF STUDENTS IDENTIFIED BY THEIR PEERS AS BULLIES, VICTIMS AND PROSOCIAL STUDENTS

**Abstract:** The paper reports on a portion of the empirical data collected as part of the research project, whose purpose was to gain a deeper understanding of the perception of bullying from the perspective of students. In addition, the project assumed the exploration of the social context of the classroom, with special emphasis on the diversity of students' roles in the classroom and their position (status) in the peer group. The research was carried out using various methods and techniques of quantitative and qualitative strategies. The paper presents part of the findings from two classes of middle school. The characteristics of the social structure of the analysed classes were presented and focus group interviews carried out in three groups of students who were identified, on the basis of

peer nomination, as bullies, victims and prosocial students were analysed. Due consideration was given to the way youths understand different types of behaviour that make up peer bullying, to witness behaviour and its determinants, identification with various participant roles the bullying process, as well as to possible strategies for solving the problems in question. The findings presented in the paper document the specificity, but also – despite many similarities – different perspectives of students who vary in the roles they take in their peer group and in their sociometric status.

**Keywords:** peer bullying, adolescence, peer group, social status, group roles, focus group interviews.

### THE PROBLEM OF VIOLENCE AND BULLYING AND ITS SOCIAL NATURE

School violence is a configuration of various aggressive types of behaviour. Bullying is a distinctive form of violence observed when intentional, repeated aggression is directed against an individual on a long-term basis. Another characteristic of bullying is an imbalance of power between the bully and his/her victim. The power differential is often due to physical, psychological or social factors, which makes it difficult for the student-victim to defend himself/herself against aggressive actions (Olweus, 1993; Salmivalli et al., 1996; Salmivalli, 2010; Tłuściak-Deliowska, 2017).

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The paper was prepared as part of the BSTP 9/17- I WNP project implemented at the Maria Grzegorzewska University of Special Education in Warsaw. Project coordinator: Aleksandra Tłuściak-Deliowska. E-mail address: adeliowska@aps.edu.pl, ORCID: 0000-0002-0952-8931.

Focusing on the intentionality of behaviour allows referring to the bully's motivation and distinguishing between intentional harm and unintentional behaviour resulting in possible damage to another person. The power differential assumes an abuse of power by a strong (though not necessarily physically strong) bully towards a victim who is helpless and unable to defend himself/herself. Repetitiveness, in turn, allows distinguishing bullying from a single aggressive act and is significant in terms of the psychological state of the victim experiencing aggressive behaviours and interventions.<sup>1)</sup>

The depiction of violence and bullying at school usually comes down to the analysis of various expressions of aggression and emerging forms of bullying, which can be divided into two categories: traditional bullying and cyberbullying. Whereas traditional bullying is usually identified with physical aggression (hitting, kicking), verbal abuse (name-calling, degrading comments) and indirect acts (exclusion from the group, spreading rumours), cyberbullying is usually associated with verbal and indirect acts of aggression by means of Internet and ICT (Tokunaga, 2010).

An attempt to understand the complex nature of bullying leads to the recognition of the social character of this phenomenon and the identification of all its participants. These are not only pupils who are bullies and victims (alternatively bully-victims), but also witnesses. Within the student-witness group (bystanders), there are assistants of the bully, reinforcers of the bully, outsiders and defenders of the victim (Coloroso, 2002; Salmivalli et al., 1996; Tłuściak-Deliowska, 2017a, pp. 93–97).

Assistants of the bully are students who join the leader who is bullying another student and actively help him/her.

Supporters of the bully are students who, through their behaviour, confirm the bully's belief that his/her actions are right and reinforce them, for example by verbally encouraging aggressive behaviours, cheering on the bully or laughing at the victim. Even subtle positive feedback by verbal or non-verbal cues is probably rewarding for the bully.

Outsiders do nothing in a bullying situation, they try to remain disengaged onlookers or show their independence and lack of commitment (see Komendant-Brodowska, 2014b, p. 19).

Defenders of the victim, in turn, take sides with the victim. Their actions may be indirect, for example when they turn to a third party for help or comfort the victim after the bullying incident and try to provide support in various ways. They may also become involved in a direct intervention in the bullying situation and try to stop the bully and/or stand up for the victim (van der Ploeg et al., 2017). Defending may be seen as a kind of prosocial behaviour. Students through an active support and consolation of the victim show that his/her fate is not indifferent to them (Veenstra et al., 2013).

This type of behaviour is related to the sense of self-efficacy and affective empathy towards the victim (Poyhonen, Juvonen, Salmivalli, 2010). Moreover, students who take the role of the active defender make an impact on other students by taking a strong stance against bullying. However, interventions are effective only by those students who are popular in the peer group, and therefore enjoy a high social status in it (Salmivalli et al., 2011).

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<sup>1)</sup> These attributes, the way they are identified, and their practical implications are discussed in detail in Tłuściak-Deliowska, 2017a, pp. 17–31.

A high status in the peer group – associated with popularity and power – is also enjoyed by bullies, contrary to popular belief that they are low-status and socially mal-adjusted individuals (see Tłuściak-Deliowska, 2017a, pp. 72–75).

The least popular are students who fall victim to bullying<sup>2)</sup>, which is explained by Rozemarijn van der Ploeg and her colleagues (2017) in two ways. Firstly, the bully deliberately chooses a victim who is his/her opposite and therefore has a low status in the peer group corresponding to the lack of prestige and support from friends, which means that none of his/her colleagues will defend him/her. This has been confirmed, among others in the studies of Veenstra and colleagues (2013) (see also Tłuściak-Deliowska, 2017b). Secondly, the victim's status in the peer group tends to deteriorate over a longer-period of time. With time, the victim is simply perceived as unworthy of getting into a relationship with. Both explanations are not mutually exclusive. In addition, victims of bullying may defend one another, which is due to their empathic understanding of the difficult experience of victimisation. However, this is probably not interpreted as opposing a strong and popular bully, but rather as supporting a fellow sufferer, which is why they neither become more popular nor gain a higher status in the group (van der Ploeg et al., 2017, p. 4).

On the basis of the information provided, it should be stated that the social context is important for the phenomenon of peer bullying. It occurs more often in school environments in which the bully's aggressive behaviours are reinforced by his/her peers, that is, the phenomenon is sustained by them and victims are rarely defended. What is more, it turns out that the bully is more responsive to the lack of positive reinforcements from his/her peers than to support provided for the victim, which – as already mentioned – does not have to take place in the presence of the bully (Salmivalli, Voeten, Poskiparta, 2011; Saarento, Boulton, Salmivalli, 2015).

## THE PROBLEM OF PEER BULLYING FROM THE PERSPECTIVE OF STUDENTS – THE STATE OF RESEARCH

Peer bullying is considered a significant problem in schools around the world (see e.g. Craig et al., 2009), including Poland (Komendant-Brodowska, 2014a). For this reason, the subject has been intensively researched by representatives of various scientific disciplines (although with a clear dominance of developmental and educational psychologists) for over four decades. The empirical studies undertaken in this field are primarily focused on the diagnosis of the phenomenon (see Hymel and Swearer, 2015, Komendant-Brodowska, 2014a). These studies are most often conducted in the quantitative research paradigm using self-report and peer-report methods, with the participation of large (often representative) groups of students of different ages. The data obtained in this way is then subjected to more or less advanced statistical analyses, which enable to make generalisations, verify and systematise the knowledge of this phenomenon. A dominant perspective used in the analyses is the personological (individual)

<sup>2)</sup> An unfavourable, from the point of view of psychosocial functioning in the group, is also the situation of bully-victims, also known as provocative victims. Because of their behaviours (typical both of the victim and the bully Menesini, Salmivalli, 2017), which are destructive not only for themselves, but also for the peer group, they face a high risk of being rejected by the group (see Tłuściak-Deliowska, 2017a, pp. 84–85).

perspective, which focuses on the individual differences in the experience of bullying as well as the determinants of these differences (see Tłuściak-Deliowska, 2017a).

On the basis of previous studies in this area, it can be concluded that there is a consensus on the incidence of specific forms of violence at school and the relationship between aggressive behaviours and the type of school, different attributes of school and family environments, students' age and sex and their different personality traits<sup>3)</sup> (see Surzykiewicz, 2000; Commander-Brodowska, 2014, pp. 42–45; Hymel, Swearer, 2015; Tłuściak-Deliowska, 2017a; Menesini, Salmivalli, 2017).

Researchers use qualitative strategies in this problem area less often. This may be surprising given the above-mentioned social nature of the phenomenon and the need to learn and understand its complex context. Sandra L. Bosacki, Zopito A. Marini and Andrew V. Dane (2006) emphasise that although quantitative research provides a lot of relevant and proven information on school bullying, it doesn't allow discussing one's own understanding of the problem and listening to the voice of children and youths. And although it's mainly students who participate in quantitative studies using the aforementioned self-report method, their answers and interpretations of behaviours are limited by assumptions and interpretations made by adults. Important discourses and nuances may be overlooked in this way.

For this reason, Timo Terasahjo and Christina Salmivalli (2003) express a clear need to conduct research using the qualitative methodology, with special emphasis on the meaning and understanding of students' individual behaviours and their way of understanding and interpreting the social world.

In the authors' opinion, this different perspective of students and adults may make the implemented preventive and educational programmes ineffective because they are developed by adults and are based on their understanding of bullying. Individual behaviours, however, may be perceived, sensed and justified differently by adults and students.

Based on the overview of existing qualitative studies conducted with the participation of students and dedicated to school bullying, two distinct research directions of these empirical studies were noted (Tłuściak-Deliowska, 2016). The first one focuses on the participants of the research who are treated as experts, and the subject of research is their interpretations and meanings of behaviours in bullying situations. The second one focuses on the analysis of the context of aggressive behaviours and the knowledge of peer culture through, for example, ethnographic research.

This type of research fills in the gaps in knowledge about bullying and reveals new aspects that can be explored in subsequent studies. The results of qualitative research become the basis and inspiration for making new hypotheses and paving the way for further research, be it quantitative or qualitative. The need to conduct qualitative research in this area also results from the need to design effective educational interventions, which becomes possible only after explaining and understanding individual elements that make up bullying and studying the „private theories” of students involved in it. Although they cannot be generalised to the entire population, they extend the repertoire of explanations, which may contribute to a better and more comprehensive understanding of the „social world” of children and youths.

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<sup>3)</sup> The review of these findings goes beyond the scope of this paper.

## GENERAL ASSUMPTIONS OF THE RESEARCH PROJECT

The research project whose part of data was presented and analysed in this paper was implemented in 2017. The scientific goal of the project was to gain a better insight into the perception of bullying and many of its aspects from the perspective of students. In addition, the social context of the classroom was explored with special emphasis on various participant roles in the classroom (in relation to peer bullying) and their status in the peer group. The research was carried out using various methods and techniques of quantitative and qualitative strategies. The paper presents part of empirical material collected in middle school.<sup>4)</sup>

## THE PARTICIPANTS OF THE STUDY

The research was carried out in one primary school and one middle school. One class from each year group was invited to participate in the research, from Year 4 of primary school to Year 3 of middle school. In total, 90 students aged 9–16 participated in the study (with the average age of 12.53 years old), including 41 girls (46%) and 49 boys (54%). The paper presents the analysis of the findings obtained in middle school, from which a group of 41 students of class 2 (n = 25) and class 3<sup>5)</sup> (n = 16) participated in the study (which constitutes 46% of the sample), including 18 girls (44 %) and 23 boys (56%). The students were aged 13–16 (with the average age of 14.32 years old).

## THE DESCRIPTION OF THE TEST PROCEDURE AND THE TOOLS USED

Stage one – quantitative research. During the first stage of the research, the following techniques were used: (1) „Plebiscite of kindness and reluctance” of J. Korczak, (2) an adopted version of the „guess-who” technique and (3) „Students’ General School Experience” survey prepared for the needs of the research.<sup>6)</sup>

„Plebiscite of kindness and reluctance” provides insight into the overall social relations of a given group. The respondents received a list of students from their class and were asked to express their attitude towards them using a scale of 1–5: like a lot (++), like a little (+), neither like nor dislike (0), dislike a little (–), dislike a lot (—). On this basis, it was possible to determine the position (status) of each student in the group (from acceptance through isolation to rejection) and his/her emotional attitude towards his/her classmates (from strong liking to strong disliking).

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<sup>4)</sup> The presentation and analysis of the entire research findings will be the subject of a separate monograph.

<sup>5)</sup> Due to the education reform in Poland introduced on 1 September 2017, whose one of the objectives was to close middle schools, Year 1 of middle school does not function. The research was carried out in the corresponding Year 7 of primary school, but it will not be the subject of the analysis in this paper.

<sup>6)</sup> The paper doesn't present the findings obtained by means of the survey, therefore its construction and content will not be discussed.

An adopted version of the „guess-who” technique was prepared to identify various student roles related to peer bullying based on peer nomination technique. The subjects were presented with a description of a behaviour and were asked to indicate classmates whose behaviour matched the description. On the basis of an overview of the source literature, 13 descriptions were developed to identify the following roles of students: (1) the bully, (2) the assistant of the bully, (3) the reinforcer of the bully, (4) the victim of bullying, (5) the outsider, (6) the defender of the victim, (7) prosocial. The descriptions were arranged alternately. Most of the roles were related to bullying, but there were other ones, such as the prosocial role or the role of the outsider, which students may take in a group where bullying doesn't occur. The roles were distinguished on the basis of the roles most often identified in the analysed phenomenon (see Salmivalli et al., 1996; Komendant-Brodowska, 2014b; Tłuściak-Deliowska, 2017a). It was assumed that not every role must occur in each class because it depends on the individual characteristics of students, as well as on the conditions and situations in a given peer group (context). Moreover, some roles may be combined and played by the same students, e.g. the role of the defender with the prosocial role, the role of the bully with the role of the assistant and reinforcer, the role of the victim with the role of the outsider, and the role of the bully-victim. On the basis of the data obtained through the peer nomination, the students were divided into groups for the second stage of the research.

Second stage – qualitative research. After analysing the empirical data collected during the first stage, the second stage was organised a month later. The second stage of the research was based on focus group interviews (FGI) conducted in small groups of students identified on the basis of the data from the first stage. 18 interviews were conducted (including 8 in middle school), which were usually held in 4–8-person groups of students.

The starting point for focus group interviews were hypothetical bullying situations presented in the form of pictorial vignettes prepared for the project by its author. The students were presented with pictorial vignettes illustrating in the right order a bullying situation, and given sufficient time to study them. After that, a facilitator led a discussion according to the previously prepared scenario.

In order to avoid suggesting or imposing any interpretations of the presented situations, the facilitator did not use the terms „offender”, „victim”, „bullying”, „persecution”, „aggression”, „violence” and other related terms unless the students had already used them. While analysing the behaviours and situations of the characters of the story, the names of the characters were used and indicated in the vignettes.

In each group, two stories were analysed – two by primary school students in Years 4 to 6 and the other two by primary school students in Year 7 and middle school students in Years 2 to 3. When describing the stories, various types of peer bullying were taken into account. In total, four hypothetical stories were prepared. In middle school, the subject of analysis during the interviews was Dawid's and Monika's stories. The first story referred to homophobic bullying which involved mainly recurring physical and verbal aggression towards the boy. The second story was about cyberbullying whose victim was Monika. As a result, the girl experienced verbal aggression and peer exclusion.



## THE PRESENTATION AND ANALYSIS OF FINDINGS

### Group roles and social status in the classroom

With the help of the „guess-who” technique, students taking on specific roles in the peer group related to aggressive behaviours were identified in both classes.<sup>7)</sup> On the basis of the data, it was found that student number 20 in class 2 was identified as the bully (5 nominations), whereas student number 23 was identified as the reinforcer of the bully.

These nominations, however, do not represent the majority and the roles are not clearly identified. The students were more unanimous in their opinion about the victim and the outsider. Student number 25 was most often identified as the victim. The same student was identified by the majority of the group as the outsider. It is difficult, however, to decide whether this student isolated himself from the group because he experienced violence or whether he was humiliated in various ways for being the outsider. Student number 1 was identified as matching the description of the victim and the outsider, although the nominations were not as numerous as in the case of student number 25. Nominations related to positive behaviours were much more varied. Girls number 10 and 24, as well as boys number 13, 2 and 4 were identified as defenders. The same students were identified as prosocial students, although girls number 10, 9, 24, 22 and 3 received most nominations.

The data was supplemented with information obtained using the „Plebiscite of kindness and reluctance”, thanks to which it was possible to determine the group’s attitude towards each student. It was found, on the basis of the data, that the student identified as the victim and the outsider was strongly isolated by the group (he scored below average on a popularity scale). Girl number 1 and boy number 20 who were indicated by five students as bullies were in the same situation. Other students nominated for the discussed roles were accepted by their peers.

According to peer nomination concerning various participant roles in the classroom, student number 13 might have been identified as the bully as well as student number 4 who was his assistant. Students number 7 and 8 were also associated with aggressive behaviours. Student number 14 was identified as a frequently humiliated and ridiculed person (7 nominations). Three people indicated that this student kept himself to himself and avoided other people. The defenders’ roles weren’t clearly defined. Girl number 9 was identified as a clearly prosocial person (6 nominations), as well as boy number 15 and girl number 5 (2 nominations).

In this class, the social status of students identified as bullies was different than in class 2 class. Bullies and their assistants were accepted in the group. Students number 13 and 4 scored above average, just like student number 7. Student number 8 scored very high on a popularity scale. The student identified as the victim was isolated (a low rank on a popularity scale).

On the basis of this information, the students were divided into groups. A further part of the paper presents discussions with three groups of students who were clear-

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<sup>7)</sup> Due to the editorial limitations of the paper, the detailed tabular presentation of data on within-group status and the graphic presentation of the nominations regarding group roles were omitted. The data is available from the author of the paper.

ly identified as bullies (students number 13, 4, 7 and 8 in class 3<sup>8)</sup>), victims/rejected students (students number 14 in class 3 as well as students number 25 in class 2) and a group of prosocial girls (number 10, 9, 24, 22 and 3 in class 2). The following terms are used to describe these groups: bullies, victims and prosocial girls.<sup>9)</sup>

### Student analysis of hypothetical bullying situations

The subject of the analysis during group interviews was Dawid's and Monika's stories (story 1 and 2 respectively), which were presented in the form of pictorial vignettes. The plot of the first story is as follows: Dawid is a secondary school student. He is interested in fashion and cosmetology and wishes to pursue them in the future. He gets along with girls who often ask his advice about clothes. He also has a close friend, Tomasz, with whom he likes to spend his free time. Dawid's classmates call him „poof” and „pansy”, humiliate him in various ways, and engage in physical aggression towards him. These episodes often occur in the presence of other students who react in different ways. Some of them laugh, some watch idly the bullying happen, some pretend not to see it, some film the bullying with their phones and publish it on the internet. Sometimes the girls stand up for him.

The second story concerned Monika's experiences. She was in a relationship with Darek, whom many girls in middle school had a crush on, including Gosia. One day, Gosia edited Monika's photo and placed it on a dating site along with Monika's personal details. Later, she shared Monika's profile, which she allegedly came across on the internet, on Facebook. Soon, Monika started receiving messages and phone calls from men who wanted to date her, and her photo was quickly spread among students. As a result, Darek broke up with Monika, the students pointed the finger at her during break time, called her names and ridiculed her on the Internet, and her colleagues froze her out.

At the very beginning of the focus group interviews, after the students retold the stories in their own words, they were asked if these situations could actually happen at school. There was no such case that someone denied any of the analysed stories.

### The analysis of the characters' behaviour in story 1

The subject of the analysis was the situation of characters presented in the story with special emphasis on their current internal state, i.e. on affects and cognitive content.

The students who took part in the interviews, irrespective of their roles defined earlier by peer nomination, acknowledged Dawid's difficult situation, negative thoughts and emotions, such as sadness, feelings of humiliation, dejection and distress caused by not being accepted the way he was. Even though the bullies correctly recognised the victim's emotions, they started laughing when shown a vignette in which the boy was called „poof” and „pansy”.

The interviewed students similarly perceived and interpreted the bullies' behaviour. The victims said that by harassing another student the bullies were pleased with themselves, „they think they are cool because they insult the weaker one.” A similar expression was used by the bullies who said that the bullies „have fun and think they

<sup>8)</sup> The two boys were absent and did not take part in the discussion.

<sup>9)</sup> These terms were not meant to stigmatise the students, but only to facilitate the reception of the paper.

are cool.” However, in the opinion of the prosocial girls, the bullies thought that their „social rank was higher.”

Next, the behaviour of bystanders was analysed. Different interpretations were offered to account for a boy’s walking away from the scene of bullying. Most of the girls said that the boy didn’t want to get involved either because he didn’t care or because he wanted no part of it for fear of becoming the next victim. The victims said that he probably „knows it may hurt”, whereas the bullies thought that it was none of his business. Recording bullying incidents with the mobile phone was generally seen as an activity that could bring more popularity to the person recording them if the videos were published on the Internet, but also a greater humiliation to the victim. Cheering was seen as an attempt to please the bullies. The victims didn’t really have an opinion on this. The behaviour of the girl who tried to stop the bullies was interpreted as a positive action providing support for the bullied student.

### Proposed solution for story 1

The victims set their hopes for solving the problem on the main character’s friends. Their intervention, in their opinion, could provide emotional support, „they could somehow convince the other students to just leave him alone.” The prosocial students came up with a similar solution. They emphasised that „friends are a kind of wall, a protective shield.” They also suggested providing an opportunity for other people to get to know the student better so that he could be accepted, „maybe you need to show what he is like, that he is after all a nice mate.”

The students didn’t really believe that a teacher could change the situation. A victim justified it this way, „The teacher may give you some points or say something. Things will stay quiet for a week and then they will start again.” The bullies totally ignored the role of friends, defenders and other peers. There was, however, an interesting exchange of views about the teacher’s help in solving the situation.

(Facilitator): Could he be helped? Is there a solution to this situation?

(4): Yeah.

(Facilitator): What? Give me an example.

(4): To report it to a teacher or something.

(13) do (4): What can the teacher do? What can he do after school?

Silence

(Facilitator): So, the teacher can’t really help and the student has to accept that that’s the way it is? Nothing can be done?

(13): To change school.

(Facilitator): Who should change the school?

(13): Well, Dawid since he is laughed at.

The bullies thought that the best solution was to change the school environment. In their opinion, it was easier for the victim to change school than for a few students to change their inappropriate behaviour.

### Suggested ending to story 1

In the final task, each student participating in the interview was asked to suggest an ending to the story. The prosocial girls thought that Dawid stopped being bullied be-

cause the boys got to know him better or because they noticed that he no longer cared and had some friends. The girls also thought that „those guys who laughed at Dawid grew a conscience and they just apologised to him and stopped making fun of others.”

The victims couldn't think of an ending or they didn't want to reveal their ideas (they said they had no opinion). The bullies came up with some dramatic endings, e.g. one student said, „I would draw a picture of Dawid in hospital in a bad state because he wanted to poison himself, because he wanted to be left alone.”

### The analysis of the characters' behaviour in story 2

The second story was analysed in the same way. It provided an example of cyberbullying and its negative consequences in the form of relational aggression towards Monika. The bullies said that her story was „true to life” and could have happened „because there are so many jealous girls.” Also the prosocial girls said that the story was likely to happen because „today's girls are jealous and capable of everything.”

In this case, the group discussion participants, irrespective of the group, correctly defined the victim's emotional state, describing it as „bad”. They also attributed sorrow and distraught to her. The prosocial girls stated that she must have felt „horrible, because everyone has left her”, whereas the victims considered her helpless.

The students claimed that the girl responsible for the whole situation was at first jealous of the boy, but then she was pleased, happy and proud of herself. Darek's situation was also analysed. In the opinion of the respondents, he might have felt deceived and betrayed „because he believes that she (Monika) has really done it”, „he takes her for someone else.”

The bullying situation involved also the bystanders, but the discussion focused on the witnesses to cyberbullying, who reacted in various ways to gossips about Monika. In the opinion of the prosocial girls they were shocked, laughed, „held her in contempt” but they wouldn't put themselves in the role of these witnesses: (9), „they feel that something is wrong, but instead of helping, they share the photo and laugh, and don't want to figure out what has really happened.” The girls also said that it would be better „if they simply ignored the situation.”

Most of the students from the group of victims would rather be online witnesses because it was safer and better and the situation had nothing to do with them. They wouldn't, however, „give likes” to it, they would prefer to sit back. One of the prosocial girls expressed a different view and empathised with the victim:

(Facilitator): [name], and what do you think?

(1): Honestly, I'd rather be someone who could help her.

(Moderator): Why?

(1): Well, sometimes I can understand how Monika feels and I would rather help her than watch what is happening to her.

An interesting situation occurred within the group of the boy bullies when they analysed witness behaviour:

(Facilitator): What about the students who see it on Facebook? How do they feel?

(13): They laugh, share the photo and laugh.

(Facilitator): Do they like it?

(13): Yeah.

(Facilitator): Why?

(4): „Cos at least we have some fun ...

(13): There's someone to laugh at.

The statement in the first person may indicate that the student identified himself with the reinforcer of the online bully. Perhaps he once behaved (or behaves) in this way. The boy bullies found Darek's situation most appealing. They argued that he was the centre of attention (they were the only group who drew attention to it during the interviews) and was liked by all the girls.

### Suggested solution to story 2

Suggested solutions to the story were similar in all groups, as far as the final effect was concerned, because they required clarification of the matter, but the ways of arriving at them were slightly different. The prosocial girls suggested that the best solution, in their opinion, in this situation was „a bit of straight talk between Monika and Darek”, and with Gosia as well to find out why she treated Monika the way she did. But it would be reasonable to make sure first that it was Gosia who was responsible for the whole situation.

As in the first analysed story, the teachers weren't considered capable of solving the situation. More attention was focused on the parents. The teachers appeared to be providers of information, and, according to the students, the problem could be ultimately solved by the parents. The students from the group of bullies argued that the parents could also report the case to the police, who „can track the IP address and find out who did it and from which computer.” They also said with great certainty that they would be able to identify the computer's IP address themselves, it was only a matter of time.

The students from the group of victims suggested „finding the edited photo, proving that it wasn't true”, and they blamed either Monika or Darek for the abuse.

### Suggested ending to story 2

The prosocial girls were again in favour of ending the story with a little straight talk between Monika and Darek, during which they would explain everything and patch things up. Eventually Gosia would admit to everything. A happy ending was also proposed by the victims – Darek is in a relationship with Monika and „everything is back to normal.” The boy bullies came up with something else. One student would draw a picture of „Monika at a police station, talking”, and the other one a picture of „Monika and Darek, and his laughing at Gosia for doing such things.”

## DISCUSSION AND CONCLUSIONS

The subject of the analysis was the social context of the school classroom and the analysis of hypothetical bullying incidents made by students divided into a group of bullies, victims and prosocial students.

It turned out that the analysed two classes in middle school are different in terms of the participant roles defined on the basis of peer nomination, as well as in terms

of sociometric status in the classroom. This can be seen as a completely natural situation, because each class is different and there are not the same roles in each group. At the same time, however, this differentiation may result from different numbers of students. Class 3 was smaller, which means that students could interact more with each other and therefore could get to know each other better than in a class where there are more students and, by extension, a large number of choices and the lack of ambiguity as opposed to class 3 where the peers' nominations were clear and the students' roles evident.

The findings obtained are confirmed in other works concerning the cohesion of the group and the functionality of bullying from the point of view of the peer group. Contrary to popular opinion, bullying occurs and is sustained in small classes, as opposed to bigger classes (see e.g. Saarento et al., 2013; Klein, Cornell, 2010). In smaller classes the cohesion of the group is greater (though it is dysfunctional due to sustained bullying) and bullies have more control over other students (which is more difficult to gain in bigger groups), so they can easily influence them (see Tłuściak-Deliowska, 2017a, pp. 130–139). Therefore, in class 3, the problem of bullying (clear roles of bullies, assistants and victims) was identified, whereas in class 2 students displayed a variety of behaviours, including aggressive and prosocial ones. The role of the bully was not very clear in class 2. One boy was identified (by almost every fifth student) as the one displaying aggressive behaviours towards others. This student was rated below average on a popularity scale with below average unpopularity, and he was generally isolated by his peer group. In the case of class 3, the roles of the student bullies were more pronounced (more nominations).

Interestingly, the students who were identified as bullies and assistants of bullies enjoyed high and above-average popularity with low average unpopularity, and were accepted by their peer group. In classes 2 and 3, the students who were identified as victims and/or outsiders scored low on a popularity scale and were isolated by their peer group. It should be emphasised that their psychosocial functioning was the most difficult. By contrast, the students who defended others and displayed other helping behaviours were liked and accepted.

These findings correspond with the findings of other researchers relating to the popularity of bullies, victims and defenders in the peer group (see van der Ploeg et al., 2017, Veenstra et al., 2013). According to them, victims enjoyed the lowest popularity in the group, in contrast to popular and liked bullies. The exception was the situation of a student in class 2, who may not have been a systematic bully, but sometimes behaved aggressively towards others (though not very effectively), and as a result he was not accepted by the group.

On the basis of data analysis from the first stage of research, focus group interviews using the episode technique (vignettes) were conducted. The paper presents part of data from interviews conducted in three distinct groups of students defined as a group of bullies, a group of victims and a group of prosocial students. By summarising the findings and considering the similarities and differences in the analyses carried out by individual groups, several observations can be made.

Firstly, regardless of the group role and sociometric status, the students analogically described the psychological situation of the student experiencing bullying, stressing his problems and negative emotions. Secondly, the bullies talked about issues that weren't mentioned in discussions with the other two groups. For example, although they accurately described the difficult psychological situation of the victim, aggressive



behaviours made them laugh. Proposed solutions or endings to the analysed stories were „unusual”, e.g. the victim's suicide or a change of school. It can be assumed that the best solution to bullying is escape, social withdrawal, and not, for example, changing bullying behaviour. These suggestions may result from a hidden belief that there is „something wrong” with the victim, which is how bullied students are usually perceived (see Pyżalski, 2015; see also Tłuściak-Deliowska, 2017a, p. 152–158).

It can mean that the students who were identified by their colleagues as bullies did not really see a good way of solving the problem of bullying or realised that bullying behaviours were difficult to change. What is more, the bullies liked the situation of the boy who was the centre of attention of many girls. It was with his situation that they identified most strongly with, so again the issue of the significance of popularity of these students was raised again. Those students also appeared very self confident during focus group interviews.

In opposition to the above there are the prosocial students' considerations. They understood the victims' predicament and empathised with them, and in the analysis of both stories they focused on the role of other students, (potential) friends who could defend the victims or support them in various ways. Also, with these roles they identified themselves most. In the case of the first story, the suggested solution was to provide an opportunity to get to know the victim better, which could make the bullies realise that the boy had many fine qualities and was a valuable person. They hoped, perhaps somewhat naively, that the solution to the situation lay in appealing to the conscience of the bullies and their feelings of guilt over their aggressive behaviour. In the case of the second story, the proposed solution was constructive, because it was straight talk explaining the situation and the way to fix it. A need for „a happy ending” to both stories was typical of the student-victims, but they found it difficult (perhaps they did not know or did not want to) to give a detailed description of the possible ways of reaching it. It can mean that they were not willing to talk about the issue or that they were aware of their feelings of helplessness, or convinced that it was difficult to take action to change the victim's situation. In the case of the first story they identified themselves with the victim's potential friends who were able to help or – as in the second case – with the students who were neutral to the bullying situation.

What was interesting was how the students interpreted the motivations of the characters reinforcing the bullies in both stories. In their opinion, these students behaved this way because they wanted to please the bullies. It may mean that they wanted to be part of this group because they knew that such membership came with certain privileges, such as popularity or prestige in the group. This may confirm that the action taken by students in bullying situations is strategic and instrumental (see Tłuściak-Deliowska, 2017b).

This applies not only to the bullies' actions, but also to the bystanders who reinforce the bully, which suggests that the interviewed students were well aware of the rules governing social life and the functioning of the peer group. Their interpretations of bystanders behaviours were similar to those reported in source literature. For example, the act of leaving the scene of the incident by the student was interpreted primarily as his lack of commitment for fear of becoming the next victim or simply as the lack of care for the victim. The teacher's presumed low suitability for solving the problem of bullying was also reported in other studies (see Giza-Poleszczuk, Komendant-Brodowska, Baczek-Dombi, 2011).

Agnieszka Nowakowska and Jadwiga Przewłocka (2015) stated, on the basis of interviews with students, that victims of bullying often choose not to seek a teacher's help fearing that they will be perceived by the peer group as traitors, „snitches” or informers, which will result in their unpleasant and aggressive behaviours. The price of asking a teacher's help is so high that the student may well be wondering whether it is worth it.

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## THE BYSTANDER – A KEY PARTICIPANT IN BULLYING. THE ROLE OF FACTORS THAT DETERMINE INTERVENTION

**Abstract:** The paper discusses the subject of bullying, including bystander experiences. The phenomenon of peer bullying is a significant problem in terms of planning school-based prevention programmes in this area. In most theoretical and empirical studies, researchers describe bullying, focusing on the behaviour of bullies and victims, overlooking the key role of the bystander. The author of this article emphasises the important role of bystanders who, through their intervention, can contribute to the defence of victims, and thus to the reduction of bullying incidents. The article presents selected typologies of bystand-

ers to bullying, emphasising the important role of bystanders who support the victim. In the paper reference was made to the author's own research, the purpose of which was to gain a better insight into the determinants of taking intervention measures in bullying situations. The research was conducted using in-depth interviews conducted with 23 students aged 20–41. The determinants of intervening or abstaining from intervening are described.

**Keywords:** peer bullying, bystander to bullying, typologies of bystanders to bullying, bystander intervention.

### INTRODUCTION

The issue of bullying has been repeatedly undertaken by researchers who in their work have focused largely on the scale of this phenomenon, incidence of its occurrence, characteristics of bullies' and victims' profiles, origins and consequences of the phenomenon (e.g. Olweus, 2004, Pyżalski, 2012, 2015). However, despite numerous empirical studies, bullying, due to its complex character, is not yet fully recognised. A small percentage of them are still domestic research on bullying, the subject of which is related to the role of bystanders in the process of bullying. The apparent deficiency is also observed while studying the research conducted with the use of the procedures of quality methodology. Qualitative research could, after all, show the wider context of the bullying process and determine the importance of the behaviours and attitudes of individual participants to reinforce or inhibit bullying. We owe the origins of research into bystanders to bullying to Christina Salmivalli's team (1996), who in the second half of the 1990s focused their research interests on studying the role of bystanders as key participants in peer bullying. It turns out that bystanders, although they constitute a large group and are present in over 80% of cases of bullying, and declare their

readiness to take action, actually intervene in about 19% of cases (Salmivalli et al., 1996; Hawkins, Pepler, Craig, 2001).

Bystanders are therefore a group of people who do not use their huge intervention potential. This is largely due to their belief that the lack of intervention is the norm. If others do not react when they observe a bullying incident, then most likely there is nothing wrong with this behaviour, and passivity may be interpreted as a sign of approval of the bully's actions. Even if the bystander himself/herself is convinced that the bully's behaviour is inappropriate and falls outside the normal range, the lack of support from others may inhibit him/her from openly opposing bullying (Meter, Card, 2015, Thornberg et al., 2017).

The conclusions from the research inspired me to address the determinants of bystander intervention in bullying situations. As a research goal, I intended to study the determinants of intervention in bullying situations. In this study, therefore, I focused on factors and mechanisms that encourage or inhibit intervention.

## TERMINOLOGICAL FINDINGS

The term bullying has been repeatedly operationalised by Polish and international researchers. The pioneer and one of the experts in research on school bullying is Dan Olweus, who claims that a student is subjected to bullying when he/she is repeatedly and over a period of time harassed and exposed to negative actions from one or several other students, which is characterised by an imbalance of power between the bully and the victim (Olweus, 1993, p. 9). In spite of many imprecise criteria included in Olweus's definition (such as negative actions or imbalance of power – difficult to measure), researchers still cite it in their studies (Tłuściak-Deliowska, 2013; Gumpel, Zioni-Koren, Bekerman, 2014; Pyżalski, 2015).

Another definition was presented by Ken Rigby (2010, p. 28) which described bullying as “the systematic abuse of power or in interpersonal relations.” Rigby proposed criteria on the basis of which he tried to assess whether a behaviour can be considered bullying. Among them he lists: the bully's desire to hurt, the advantage of the bully over the victim, deliberate, unprovoked harm or discomfort, repetition, feelings of hurt and inability to defend against bullying, and a sense of power over the victim.

The cited definitions, however, concentrate on the bully-victim dyad, taking into account only these two participants of bullying, overlooking the role of bystanders, as well as a number of other factors, such as interactions between the participants and group dynamics. Considering these variables, Stuart W. Twemlow and Frank C. Sacco (2013, p. 291) proposed a triadic definition of bullying, describing it as “the repeated harmful exposure of an individual or group (the victims) to multiple episodes of harm by many different individuals and groups (the bullies), perceived as stronger than the victim, and facilitated mainly by the active or passive role of bystanders linked with the bully and victim in complex social interactions and group dynamics.” The authors of this definition emphasise the important role of bystanders to bullying who may inhibit or reinforce bullying. No less attention is focused on the processes occurring in the group, including social status of the participants in bullying, group norms and normative pressure.

A serious problem among both international and native researchers is the lack of coherence in the terminology used. Polish researchers face a difficult task of find-

ing the right term to describe the specificity of bullying. The most commonly used terms (alternatives to the term “bullying”) are: dręczenie szkolne, nękanie, tyranizowanie, szykanowanie, prześladowanie. Agata Komendant-Brodowska (2012, p. 38) defines school bullying as “systematic use of violence by an aggressor or a group of them against a relatively defenceless student, which takes place in a group context and other students are aware of what is happening.”

The author, for the purposes of this article, adopted the term “peer bullying” (Polish: „dręczenie rówieśnicze”), but she did not restrict it to bullying between peers (as the term “peer” would suggest) and to bullying taking place only in the school environment. Peer bullying is thus understood as deliberate (intending to harm others and/or gain power/recognition from peers), repetitive, negative aggressive behaviours characterised by an imbalance of power between the bully and the victim, occurring in the school environment or outside and usually taking place with passive or active participation of bystanders.

As already mentioned, studies from previous decades (Komendant-Brodowska, 2009, Padgett, Notar, 2013, Jenkins, Nickerson, 2016) indicate that apart from the bully and the victim other people in the school community are involved in peer bullying, and it is bystanders who are responsible for reinforcing or inhibiting bullying. It is their intervention or lack of it that determines the repetitiveness and intensity of bullying.

Bystander behaviour is significant both from an individual and social perspectives. The former one emphasises that victims of peer bullying who have classmates supporting and defending them are less depressed, less anxious than victims who do not. The support of friends certainly leads directly to a lower incidence of bullying, yet the lack of a sense of loneliness and a sense of group bond is particularly important for victims (Sainio et al., 2011). The former perspective stresses the group nature of bullying. The tendency of bystanders to inhibit or reinforce peer bullying is extremely important in a social context. In some classes the scale of bullying is much lower than in others, which is the result of better intervention strategies designated for students bullied by their peers. The teachers who condone bullying also play a significant role in the reduction of bullying (Saarento et al., 2013). Several studies suggest that positive and supportive relations in the school environment (the teachers and students) also increase students’ willingness to report bullying (Eliot et al., 2010).

## THE DETERMINANTS OF TAKING OR ABANDONING INTERVENTION MEASURES

Studies show that the majority of students witnessing violent behaviours do not take any intervention measures to defend victims. Bystanders are usually a large group of people, which isn’t conducive to making a decision to defend victims. In a situation where none of the participants reacts, it may be a signal to bystanders that the bully’s actions are just a joke and there is nothing wrong with them. Moreover, the bystander, not knowing what to do, behaves according to “a social proof” and acknowledges the lack of intervention as appropriate (since most people behave this way) (Tłuściak-Deliowska, 2013, 2014; Salmivalli, 2014). Even if the moral evaluation of the bully’s behaviour is negative, it is difficult for the bystander to stand up to him/her (Salmivalli, 2010). I believe that the level of moral development of a participant in bullying is not without significance here. According to Lawrence Kohlberg’s theory of moral de-



velopment in the period of adolescence (when bullying usually occurs), it is the group's norms that are important for taking or abandoning intervention measures. Thus, the pressure of conformist behaviour increases in order to avoid criticism and to gain approval from significant people in their lives – their peers (Chańko, Wołyniec, 2016). Depending on the existing standards in the reference group (encouraging or discouraging aggressive behaviours), an individual's behaviour will be either favourable or unfavourable for bullying.

Aleksandra Tłuściak-Deliowska (2014, p. 309), writing about the determinants of helping, underlines the importance of the stimulation-balance model (by Jane Allyn Piliavin et al.). She emphasises the importance of three statements:

“(1) witnessing other people's problems makes the bystander emotionally stimulated, which increases with their intensity, unambiguity and duration, and decreases as the distance between the bystander and the victim increases;

“(2) stimulation is unpleasant for the bystander and the stronger the stimulation is, the more he/she tries to reduce it;

“(3) the bystander in a crisis situation chooses such a way to reduce his/her stimulation which works the fastest with the relatively most favourable profit and loss account.”

According to the above-mentioned model, the result of the observed bullying episode is the emotional stimulation of the bystander who seeks to reduce it at the lowest possible cost. Therefore, he/she analyses which behaviour (intervening or abstaining from intervening) will be the most beneficial for him/her in a given situation. By taking intervention measures, he/she either risks becoming the victim of bullying and thus losing his/her current status in the group structure (costs) or neutralises the feeling of guilt (profit) related to failing to help the victim.

Witnessing harm done to others is also associated with other unpleasant feelings that bystanders want to get rid of. Bystanders often take the perspective of victims and feel their emotional states. This is related to the empathetic experiencing of the victim's states and situation. It turns out that both boys and girls with high levels of empathy are more likely to take the defender role in a bullying incident than the participants with lower levels (Gini i in., 2007). Perhaps defending the victim is just a way to neutralise the perceived discomfort caused by the empathetic experiencing of this situation.

The social status of the bully and the victim as well as the psychological ties to the bystander to peer bullying also contributes to the failure to act. Research by Robert Thornberg et al. (2012) indicates that the bystander's close and friendly relationship with the bully and a negative attitude towards the victim contribute to the lack of defensive reaction. Also, the positive moral evaluation of the bully's actions and the belief that the victim is responsible for the whole situation in which he/she finds himself/herself (“she is the one to blame for what is happening to her”) is of great importance here. Such rationalisation of the lack of intervention removes the responsibility for bullying from the perpetrator and co-responsibility from the bystander, and attributes all the blame to the victim, which further “pushes” him/her into the role. At the same time, the author states that the bystander's friendly relationship with the victim is a motivating factor for defence.

In a broader context, not only the relationships between the students, but also between students and their teachers, and the nature of the educational process (i.e.

specific features of the school environment) referred to as the social school climate (Kulesza, Kulesza, 2015) can be an important contextual factor of bullying. Tłuściak-Deliowska (2014), mentioning the Xin Ma's studies (2002), states that schools characterised by a small number of bullying actions have high educational standards, involve parents in cooperation and demonstrate positive educational activities.

Gender is an important variable in determining intervention, although there is no ambiguity in research. Some researchers (Salmivalli, 1996; Monks, Ortega-Ruiz, Torrado-Val, 2002; Nickerson, Mele, Princiotta, 2008) state that girls show a greater tendency to intervene in bullying situations than boys. It turns out that they have higher levels of moral sensitivity to harm done and close relationships with victims. They also have lower levels of "moral detachment" when participating in bullying. However, studies do not prove the dependence of defensive measures on gender (Nickerson, Mele-Taylor, 2014).

The last determinant of the lack of bystander reaction is ignorance and inability to respond to bullying, as well as the belief that intervention may prove ineffective and will not bring the intended results. It turns out that people with a high sense of self-efficacy are more willing to take defensive measures than disengaged participants in bullying (Thornberg, Jungert, 2013).

## SELECTED TYPOLOGIES OF BYSTANDERS TO BULLYING

Bystander behaviour in bullying situations has been repeatedly described and now we can find several typologies of bystanders in foreign literature. According to Salmivalli (2014), bystanders are a group without which this procedure would not take place. Bullies need an audience that support and reinforce their actions in an overt or even covert manner. "Often the bully will only do what the bystander social group allows (Twemlow, Sacco, 2013, p. 291).

Olweus was the first one to describe bystander behaviour in bullying situations, explaining the bullying cycle. Presenting a triad of the bullying participants (bully, victim, bystander), he attached particular importance to bystanders who, through their attitude towards violent behaviours, take on specific roles: the supporter/henchman who takes an active part but doesn't start the bullying; the supporter/passive bully who supports the bullying but does not take an active part in it; the passive supporter/possible bully who does not display open support. Another group of players are bystanders who are on the victim's side and here the author mentions the possible defender who dislikes the bullying and thinks that he/she should help, but doesn't do it; the defender who openly stands up for the bully or at least tries to help the victim. Apart from the mentioned types of bystanders, Olweus also mentioned the disengaged onlooker/observer who watches the bullying and is aware of what is happening, but he/she thinks that it is none of his/her business and does not intervene. (see Tłuściak-Deliowska, 2017).

When analysing bystander behaviour, a team of researchers led by Salmivalli (1996) distinguished specific behaviours characterising certain groups of bystanders who are involved in bullying. They established four participant roles: assistants, reinforcers, defenders, and outsiders. The assistants join and help the bully. They do it in an open manner and take an active part in the bullying. The reinforcers supporting the bully watch the bully's and show their approval by cheering on the bully and mocking victims. Those

in the third group are the defenders who openly support the victim. Their actions are most often based on conversation, support and consolation. And those in the last group are individuals who do not directly approve or disapprove of the bullying. They are also referred to as the outsiders and even though they stand up neither for the bully nor the victim, they contribute to peer bullying. Through their inaction and idleness, they may display support for negative and hurtful behaviours in a nonverbal manner.

Marie-Louise Obermann (2011) offered an interesting typology of bystanders to bullying. She investigated the relation between moral disengagement of bystanders in bullying situations and their intervention. “Moral disengagement” was explained by the author with reference to eight mechanisms which facilitate to justify one’s own negative behaviour. She mentions moral justification, advantageous comparison, diffusion of responsibility, displacement of responsibility, euphemistic labelling, dehumanisation, attribution of blame and distortion of consequences. Obermann identified four bystander roles: disengaged (passive) bystanders – unconcerned bystanders; bystanders who do not intervene, do not stand up for victims and feel guilty about it – guilty bystanders; bystanders who have not experienced peer bullying – outsiders; and bystanders who actively try to help the victim – defenders. Her research indicates that there is a relation between the bystander role and “moral disengagement”. Unconcerned bystanders have higher moral disengagement than defenders and guilty bystanders who feel guilty for not doing anything. After comparing outsiders and defenders, it turned out that the former have moral disengagement too (Obermann, 2011). Also Robert Thornberg and Tomas Jungert (2014) in their research on bystander reactions to school bullying addressed the dissociative techniques mentioned in the concept of “moral disengagement”.

Another typology of bystanders to peer bullying was proposed by Twemlow and Sacco (2013). It was developed with regard to both the teachers and the students – possible bystanders to peer bullying. The researchers distinguished the bully-bystander, the victim-bystander, the ambivalent bystander and the avoidant bystander.

The bully-bystander is referred to as the silent partner of the bully who watches and allows using violence against others. He approves violence, although he/she does not take an active part in the bullying. The bully-bystander identifies with the bully to overcompensate for being afraid of him/her or for previous traumatic situations. The bully-bystander has leadership skills, but he/she lacks the courage to become a leader and, therefore, strives to raise his/her position in the class hierarchy at all costs. The victim-bystander identifies with the victim, projects onto himself/herself the feelings of a harmed person – he/she experiences shame, anxiety and fear. In addition, he/she is afraid that the situation will change and he/she will become a target for the bully. The victim-bystander rarely intervenes and opposes the bully. Another type of bystander is the ambivalent bystander who is confused and who does not identify either with the bully or the victim. Even though he/she would like to stand up for the victim, he/she does not know what he/she could do and how to act effectively. In addition, he/she does not feel strong enough to defend others. The last type of bystander is the avoidant bystander who wants to absolve himself/herself of responsibility and blames others for the bullying. He/She does not intervene because he/she expects someone else to do it and to solve the problem.

When analysing the above-mentioned typologies of bystanders to bullying, it may be worthwhile to consider the motives that contribute to specific bystander behaviours (intervening or abstaining from intervening), whether they are constant or change depending on the situational context or other variables.

## METHOD

### Subjects

I interviewed 23 full-time and part-time students (18 women and 5 men) of different fields of study: education, architecture, mathematics, sociology. During the interview period, the subjects were aged 20–41.

### Tools

This study uses semi-structured interviews. In order to obtain the research material, a list of issues of interest to the researcher was made. They referred to taking or abandoning intervention measures studied in bullying situations, to the description of specific intervention measures, motives for action and experienced emotions. In addition, the consequences of the intervention measures were an important area of interest.

## PROCEDURE

The subjects were recruited on the basis of voluntary participation. They were informed about the full anonymisation of the interview and agreed to participate in the study. Individual interviews lasted from 30 minutes to 1.5 hours.

When data was collected, transcripts and team problem analysis of the individual interviews were made. The collected empirical material in the form of a description of the students' experiences as bystanders to bullying was compared with Thornberg's model (2012) (*Conceptual framework of bystander motivation to intervene in the bullying situation*), taking into account the nature of the research group and the categories selected during the interviews.

The analyses were presented according to the qualitative model and were used to reflect a deep and contextual view of the determinants of bystander intervention in bullying situations.

## FINDINGS

When describing factors that may motivate the bystander to intervene in bullying situations, one cannot overlook the issue that the subjects paid attention to during the interviews, namely – habituation to bullying. How is it possible that bullying takes place in the presence of other people and no one reacts or does anything to stop bullying? As described, the authors of the studies (including Thornberg et al., 2012; Lindstrom Johnson et al., 2013) emphasise that the reason for abstaining from intervening is anxiety, lack of empathy, a fear of losing one's status, group norms or a negative social climate of institutions.

In the author's own research, the bystanders mentioned two issues: neutralisation of bullying and diffusion of responsibility and, as a result, passivity, to justify abstaining from intervening. When describing bullying incidents, the subjects treat them as a natural element of functioning in the student community, as a normal behaviour. Certain behaviours due to their repetitiveness no longer arouse surprise and opposition, and are even treated as fun.

The situation when the student was locked in the storeroom took place in the presence of the whole class and no one reacted. The other students had fun at his expense (...) I also enjoyed “getting into it”. We were having a good time. (K., Year 2 of university studies).

These are human weaknesses, backbiting or something like that (B., Year 3)

It was fun when J picked on him. W and G either cheered J on or they themselves took part in it. We had a good laugh, something was happening, there was a victim. It was going on for so long that at some point everyone got used to it, to it happening in this class (P., Year 3 of studies).

We laughed at someone, but it was just immature jokes. Generally, everyone who went to school was a victim of malice, teasing, because that’s how it is at school (K., Year 2 of graduate studies).

When describing bullying incidents, the subjects underlined that bullies’ activities violated the social norms. Bystanders, when addressing bullies’ behaviours, noted the signs of victims’ sufferings and believed that harming other people went beyond the limits of accepted behaviour.

No one wanted to play with her during PE classes and she was laughed at (...) when she had her hair cut. She had a very poor vocabulary, so when she talked, she made mistakes and was ridiculed. Then she cried but didn’t defend herself (B. Year 2 of studies)

I knew that the victim was almost over the edge with it (...) he sighed heavily, had a red face, moved his lower lip, I knew that he would burst into tears at any time (Ł., Year 1 of studies).

I didn’t want to watch her suffer, I knew that the kids wanted to tease her, (...) kids are like that now (...) she cried, didn’t want to go to class, didn’t want to spend her break time with her classmates ... I knew she was sad (...) I knew she was hurt (K., Year 2 of graduate studies).

An important factor which contributes to bystander intervention is a good relationship between bystanders and both the victim and the bully. It is worth emphasising that bystanders’ high social position allowing them to take action to defend victims and to object to the bully’s actions is also of importance in this regard.

I took her side, I said a few words to these girls (the bullies) (...) said a few words of consolation, I supported her, didn’t leave her (...) we were close (...) we hanged around, she was a better student, so she helped me a little. It was a specific situation because she was my best friend in class. But another person, like the person I had no relationship with, what was the point of getting involved (K, Year 3 of graduate studies)?

I was friendly with some people, and it was often the case that for instance a bully talked to me about it and he actually drew some conclusions from it when I tried to explain that his behaviour was bad, and then his aggression decreased (W., Year 2 of graduate studies).

An important issue mentioned in the interviews was looking at the situation from the perspective of the victim. The subjects emphasised the role of empathy, referring e.g. to empathising with the victim and taking his/her perspective.

I was sorry that they had a down on her. (J., Year 2 of graduate studies)

I tried to put myself in the position of this bullied boy, he was sad. I wouldn't want anyone to behave like this towards me (A., Year 1 of studies).

There were people who tried to do something, but they never did (...) perhaps they were afraid, perhaps they didn't have enough empathy (Ł., Year 1 of studies).

Although the research was focused on bystanders to bullying, it confirmed my supposition that there are no "pure" and unambiguous participant roles in bullying situations. As it turns out, they vary according to the situational context. The subjects described their previous experiences also from the perspective of the victim. However, I am not convinced that experiencing the victim role in the past may contribute to bystander intervention. The analysis of interviews shows that experiencing the victim role in the past instills a fear of being "pushed" into this role again, which inhibits intervention.

However, among the subjects there were also bystanders who when recalling their previous experiences as victims stressed the role of empathy, which encouraged them to stand up for other people.

I knew how these people felt, what it was like to go back home and to be alone with your problems, no to want to go to school because of them (...) I have been there myself (...) I knew they couldn't defend themselves, theoretically they could, but they weren't strong enough (...) I used to have these problems, and now I'm fighting these situations myself (Ł., Year 1 of studies).

Another important issue that emerged during the analysis of the interviews was a profit and loss account made by bystanders (especially those who were victims of bullying before). The support they provided for victims was their way of going through their negative experiences and dealing with the victim's stigma.

It's a big motivator. I know they can't defend themselves. (...) A person suffers and something must be done about it. (...) Dealing with all of this was probably my therapy to overcome bad memories (Ł., Year 1 of studies).

It can be assumed that the benefits of intervention measures were direct (an attempt to overcome one's negative experiences in the role of the victim), but they also indirectly increased self-efficacy and recognition from other people, and this, in turn, increased one's social status.

Someone once told me that what I'm doing (standing up for others) is heroic (...) If there was even a slight chance of getting something done, I tried to do it (Ł., Year 1 of studies).

Belief in the effectiveness of intervention is one of the motivators to stand up for victims (Thornberg et al., 2012).

The subjects were glad and relieved that they were not victims any longer. They stated that they abstained from intervening in bullying situations for fear of losing



their position. Even though they observed the bully's actions and they disapproved of them, they were less inclined to intervene for fear of losing their status.

Generally, I thought I should stand up (for the victim), but then I was afraid that I might become a new target (Kr., Year 2 of studies).

Watching it is risky, there's a risk that I will become a new victim, that my safe, neutral position will change, that I will join the people who are bullied (Ł, Year 1 of studies).

When I rebuked my colleagues, they often took it out on me, became aggressive towards me (W., Year 2 of graduate studies).

## CONCLUSIONS FROM RESEARCH

The factors encouraging bystanders to intervene or abstain from intervening presented in the paper are only part of the author's research. Firstly, I presented categories which, in the opinion of bystanders, can mobilise. Secondly, I described these variables which encourage to support the bully or abstain from taking action and take the outsider role or the disengaged bystander. It is worth noting that these last groups are the most numerous. Based on the stories of the subjects, it can be concluded that bystanders are not aware of being able to reinforce bullying.

The fact of the matter, however, is that bystanders, although they constitute a large group and are present in most bullying situations (Pepler, Craig, 1995; Hawkings et al., 2001) and declare readiness to intervene, actually do so only in a small percentage of cases (Craig, Pepler, 1997; Hawkins et al., 2001). Bystanders are therefore a group of people who do not use their huge intervention potential. This is largely due to their belief that, because the situation does not directly concern them, it seems unreasonable to intervene. In addition, it turns out that peer bullying is treated as a natural element of functioning in the student community.

The aim of the paper was to describe the determinants of bystander intervention in bullying situations. It focuses on analysing bystander behaviours supporting victims. Therefore, when planning preventive measures it is worth using their potential, and when introducing the principles of universal precautions, increasing awareness among all students of being responsible for bullying and victimisation.

The factors encouraging intervention described in the paper correspond to the ones in the research conducted by Gianluca Gini et al. (2007) and Thornberg et al. (2012). The subjects who were taking defensive actions characterised first of all by implicit interventions in the form of consolation and support, proved that empathy plays a significant role here.

They emphasised the importance of empathic concern understood as the capacity to feel compassion and empathy for the victim and personal distress, i.e. the capacity to experience fear, anxiety and discomfort when hurting others (Kaźmierczak, Płopa, Retkowski, 2007). Empathic suffering could also be enhanced by their previous experiences as victims. The subjects who were victims in the past emphasised the importance of previous experiences and identification with the bullied person.

These findings are corroborated by Lyndsay N. Jenkins and Amanda B. Nickenson (2016) who describe that victims and supporting bystanders are more sensitive and

recognise a bullying situation more quickly, which results in greater awareness of bullying and help-seeking.

An important factor mobilising bystanders to take action is their emotional relationship with the victim or the bully. It turns out that bystanders who have friendly ties to victims feel an overwhelming compulsion to stand up for them. However, there is no ambiguity in the research about the relation between friendly ties with the bully and inhibition of bullying. The author's own research shows that a close relationship between the bystander and the bully can be a significant factor when defending the victim. It would be worth exploring this topic, taking into account also the bystander's social status, which may not be without significance for the bully's further actions.

## SUMMARY

Summerising the information presented in the paper, it is necessary to stress the important role of factors that should be taken into account in preventive actions directed towards bystanders. When developing guidelines for preventing bullying, however, we should begin with a thorough diagnosis of both positive and negative bystander behaviours in bullying situations, and the differences between these behaviours, i.e. what bystander intervention strategies are directed towards bullies and victims. It is also important to study other variables, such as the victim's social status and the social climate of the school.

Preventive and intervention activities of the school environment should therefore be directed, among others, towards raising awareness of students' responsibility for bullying others, the sense of effectiveness of intervention, building empathy, and – in a broader perspective – creating a positive social climate in the school environment, where prosocial norms are of utmost importance. It's also important to shape and reinforce students' prosocial behaviours through the intervention of parents and teachers in bullying situations.

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## DETERMINANTS OF AGGRESSIVE COPING STRATEGIES IN ADOLESCENT YOUTH IN SITUATIONS OF SOCIAL CONFLICT

**Abstract:** The purpose of the study was to find personality and family predictors of aggressive coping strategies in adolescent youth in situations of social conflict. The Questionnaire for Analysis of Coping Strategies in Adolescents in Situations of Social Conflict (Kwestionariusz do badania strategii radzenia sobie młodzieży w sytuacji konfliktu społecznego, KSMK; designed by D. Borecka-Biernat), the Questionnaire for Analysis of the Sense of Control (Kwestionariusz do Badania Poczucia Kontroli, KBPK; designed by G. Krasowicz and A. Kurzyp-Wojnarska, the Stress Assessment Questionnaire (Kwestionariusz Oceny Stresu, KOS; designed by D. Włodarczyk and K. Wrześniewski), as well as M. Plopa's Parental Attitude Scale (Skala Postaw Rodzicielskich, SPR) were used in the study. The empirical research was conducted in

secondary schools on a sample of 893 adolescents (including 468 girls and 425 boys) in the age range of 13 to 15. In the light of the conducted studies it was determined that a strong conviction of the influence of other people on positive or negative outcomes of events, as well as the assessment of a situation of conflict as threat coincides with aggressive coping strategies in youth in situations of social conflict. The analysis of the results has revealed that the tendency to react aggressively to emotional tension generated in social conflict is shaped by an inappropriate parental attitude, characterized by an emotional distance of a parent to their adolescent child.

**Keywords:** secondary school youth, locus of control, cognitive appraisal, parental attitudes, aggressive coping strategy, situation of social conflict.

### INTRODUCTION

Difficult situations are not exceptional occurrences in life; on the contrary, they happen regularly since early childhood; challenges cannot be eliminated from life. They create a threat to the values followed by an individual, to satisfaction of their needs, and to realization of social goals. Difficult situations do not constitute a uniform class, but are a varied category. Multiple types of obstacles can arise, overlap, and become dependent on each other. An important group of difficult situations are social conflicts, in which an individual's aspirations are incompatible with aspirations of other people, and the realization of the individual's aspirations is threatened (Borecka-Biernat).

nat, 2006). The word “conflict” is derived from Latin *confligere*, or *conflictatio*, which means clash, argument, discussion, fight, or collision of two or more processes or forces particular to living creatures. A collision might be the beginning of a fight. Many people wrongly associate conflict with direct physical and/or verbal aggression and accompanying hostility that increases the existing contradictions. This type of conflict is saturated with negative emotions. The majority of phenomena which may be described as conflicts take relatively mild forms of a short altercation, discussion, or debate (Olubiński, 1992).

Adolescence is a period during which young people have various, frequently conflicting goals and have to cope with inconsistent social expectations. Difficult social situations containing an element of threat to realization of aspirations or reaching goals (satisfactions of needs) are particularly frequent in adolescents’ lives. Each day, young people face the necessity of solving various problems connected with school, peers, or family life. The results of studies conducted so far indicate that adolescent youth considers interpersonal conflicts (including conflicts with teachers, arguments with schoolmates, romantic partners, and one or both parents and other family members) a source of intense, negative emotional experiences (Jaworski, 2000; Guskowska et al., 2001; Różańska-Kowal, 2004; Woźniak-Krakowian and Wieczorek, 2009; Polak, 2010; Miłkowska, 2012).

Difficult situations encourage young people to take action oriented towards regaining the balance between expectations and abilities and/or improvement of their emotional state. Activity undertaken in a difficult situation is considered, in a specific situational context, as a coping strategy in a current difficult situation (Wrześniewski, 1996; Heszen-Niejodek, 2000). Empirical material in literature indicates that youth applies many different strategies of coping in difficult social interactions, including social conflicts (Jaworski, 2000; Frączek, 2003; Trylińska-Tekielska, 2005; Borecka-Biernat, 2006). These strategies are usually behaviours whose goal is to regulate emotional response; fewer are oriented towards working through the problem, analyzing it, and attempting to change the situation. One of those strategies is aggression in the form of initiated physical or verbal attack directed towards specific persons, causing damage to the physical, mental, and social wellbeing of those persons (it results in pain, suffering, and destruction leading to the loss of important values), and aimed towards avoiding or minimizing tensions, losses, and unfavourable consequences.

This means that aggression is a way of solving conflict and eliminating tensions and frustrations. Why does youth in situations of social conflict choose aggressive coping strategies? The concept of psychological mechanism of human behaviour in difficult situations, designed by M. Tyszkowa (1986) may be helpful in finding an answer to this question. According to this author, an important role is played by the processes connected with perception of the external situation, and the cognitive schemas that form them, as well as coping mechanisms acquired in specific conditions and the emotional tension that they evoke.

Functioning of an individual in difficult situations is determined by their subjective conviction of their ability to control the situation (Tyszkowa, 1978). We treat our successes and failures as a consequence of powers beyond our control or as a result of our own actions and abilities – these two attitudes are referred to, respectively, as *an external locus of control* or *an internal locus of control* (Drwal, 1978). Generally speaking, people tend to perceive most situations as ones in which the factors beyond their



control heavily influence the results of their activities, and thus perceive themselves as unable to control the situation in which they are. Some people, however, tend to consider their situation a consequence of their actions, thus perceiving themselves as “in control”. The sense of control determines the strategies of human behaviour, as both in selection of the situations of interdependence, as during the conflict itself, an individual pursues realization of their preferred type of control (Dowhań, Sadowska, 1986). The locus of control has a function of regulating and modifying the individual's activity in difficult situations. It means that the individual's subjective perception of their control over their environment are an important variable regulating the process of coping with difficult situations and predicting the remedial measures that the individual might undertake (Krause, Stryker, 1984; Kurtek, 2005).

The studies conducted by K. Zajączkowski (1992), I. Pufal-Struzik (1997), H. Kulas (1998), M. Gacek (2000), P. Kurtek (2005), D. Borecka-Biernat (2006) indicate that persons who believe that their actions have little influence on their achievements, and who perceive the outcomes of their activities as beyond their control, apply an aggressive coping strategy during stressful confrontations that they assess as ones they are not able to personally control. T. Rostowska (2001) has also determined that conflicts between young people and others (including mutual dislike and blaming) are forms of behaviour that coincide with a cognitive assessment of a situation as one that cannot be controlled, which causes an increased tendency to engage in conflicts. As can be seen, assessing a situation as one that is beyond one's control is connected with aggressive coping strategies.

Human activity in a difficult situation depends largely on one's assessment of their circumstances. In order to predict an individual's behaviour, it is important to learn how they perceive their situation and what significance they assign to it. A difficult situation which disturbs one's routine activities, forms an obstacle to realization of one's needs – or makes it impossible – may be assessed as harm/loss (it refers to the losses and damage experienced in connection with significant objects and items), threat (it refers to damage of a similar type, but one that has not yet occurred and is still anticipated), or challenge (referring to the possibility of controlling the situation and gaining something) (Włodarczyk, 1999; Włodarczyk, Wrześniewski, 2005). Individual assessment of a specific event has impact on the decisions made by the person who experiences it, connected with their ability to undertake action aimed towards removing the causes of the difficult situation or at least alleviating its consequences; this action is referred to as a coping strategy (Scherer et al., 1994; Włodarczyk, 1999; Heszen-Niejodek, 2000). Thus, the fact that determines the choice of coping strategy in difficult social situations is interpretation of one's current situation, that is, the cognitive appraisal performed by the individual. The data obtained by L. Chandler (1986), and D. Domińska-Werbel (2014) indicates that young people who apply aggressive coping strategies in difficult social situations are characterized by an increased tendency to situational and dispositional appraisal of difficult situations as harm/loss. M. Guskowa (2003), K. Kowalski, P. Crocker, and S. Hoar (2005) have determined, however, that the participants of the study who assessed a difficult situation as threat, tended to apply emotional coping mechanisms when they faced a problem. Their entire effort was directed towards lowering the unpleasant tension by means of a violent discharge and/or activating defensive mechanisms, instead of seeking a real solution to the problem. Generally speaking, individuals who assess their situation as harm/loss or threat, tend to be aggressive if conflict occurs.

An aggressive coping strategy in difficult social situations is a behaviour acquired via general learning mechanisms. An individual's interpretation of an encountered obstacle and their behaviour in social conflict depend largely on the acquired reflexes shaped in specific circumstances, on the basis of which the individual shapes their manner of reacting to difficulties. Parental attitudes and the dynamic between the parents and the child plays a critical role in their social development and becomes, for the child, a prototype of social coexistence and a model for solutions to difficult social situations (Tyszkowa, 1986). Raised by parents whose attitudes differ, children function in different conditions and they have access to different ways of forming specific coping mechanisms. It is worth noting that coping mechanisms in adolescents are shaped not as much by their parents' influence as by the young people's perception of their parents' attitudes. Thus, studying adolescents' relationship with their parents on the basis of their subjective perspective is a more valuable source of knowledge on the determinants of their social development than basing research on an objective assessment of the situation (Wolińska, 2000). It is for this reason that, in research, the parental attitude is understood as a construct expressed by young people's perception of their parents' activity. Literature (Wolińska, 2000; Januszewska, 2001; Łukaszewicz, 2002; Poraj, 2002; Guszowska, 2004; Liberska et al., 2013; Batool, 2013) presents data confirming that aggressive forms of reacting to social difficult situations (especially to conflicts) in a child are a result of inappropriate parental attitudes, which can be divided into the following categories: 1. *excessive distance*, 2. *excessive demands*, 3. *excessive protectiveness*, and 4. *inconsistency*. Negative behaviour in parents causes a deprivation in the child's needs, in particular its sense of security, contact with the closest relatives, love, acceptance, and appreciation. It is believed that a person lacking the sense of social security who experiences anxiety, helplessness, and a sense of threat connected with the area of interpersonal contacts, activates an aggressive reaction oriented towards lowering the unpleasant emotional tension.

To summarize, the psychological concept of the mechanism of human behaviour in difficult situations, designed by M. Tyszkowa (1986), assigns a particularly significant role, in incidence of negative reactions to social conflicts in youth, to the general system of regulation that is constituted by personality and the specific environment in which the child functions within their family.

## RESEARCH PROBLEM AND HYPOTHESIS

The empirical studies were focused on the personality and family determinants of the aggressive coping strategy in young people in situations of social conflict. Attention was paid particularly to the role of the locus of control, the type of the cognitive appraisal of the situation of social conflict, and the parental attitudes towards the child. The aim of the study was to find an answer to the following questions:

1. Is there a correlation between the personality and family variables and an increased tendency to apply aggressive coping strategy in adolescents in situations of social conflict? If it exists, what is its character?

H.1. The sense of an external locus of control, an assessment of a situation of social conflict as threat or harm/loss, and perception of parental attitudes as inappropriate predict an increased likelihood of application of aggressive coping strategies in situations of social conflict.

## METHOD

**Participants and the conduct of the study.** *Participants and the conduct of the study.* The studied sample consisted of 468 girls and 425 boys in the age range of 13 to 15. Overall, 893 individuals participated in the studies. The participants were students of the first, second, and third years of the secondary school. Voluntary and anonymous participation were ensured for all participants; the study was conducted in compliance with standards for psychological research. The basic criterion for selection of the participants was age. The influence of age on the choice of aggressive coping strategy in a situation of social conflict was studied on a sample of participants aged 13 to 15 (early adolescence). As a time of transition from childhood to adulthood – also described as the period of rebellion and resistance – adolescence is an important stage in an individual's life. It is during adolescence that many biological, psychological, mental, motivational, and social changes occur, which causes numerous difficulties connected with adjusting a young person's behaviour to accommodate new situations that they encounter, as well as new tasks and social roles (Czerwińska-Jasiewicz, 2003).

**Research tools.** The following tools were used in the study:

*The Questionnaire for Studies on the Sense of Control* (Kwestionariusz do Badania Poczucia Kontroli, KBPK), designed by G. Krasowicz, A. Kurzyp-Wojnarska (1990), the Stress Assessment Questionnaire (Kwestionariusz Oceny Stresu, KOS) designed by D. Włodarczyk and K. Wrześniewski (2010), the Parental Attitude Scale (Skala Postaw Rodzicielskich, SPR) by M. Plopa (2007), and the Scale "Aggressive Coping in Situations of Social Conflict" from the Questionnaire for Analysis of Coping Strategies in Adolescents in Situations of Social Conflict (Kwestionariusz do badania strategii radzenia sobie młodzieży w sytuacji konfliktu społecznego, KSMK) by D. Borecka-Biernat (2012).

*The Questionnaire for Studies on the Sense of Control (KBPK)* by G. Krasowicz and A. Kurzyp-Wojnarska (1990) consists of 46 forced response questions; 36 are diagnostic questions and the remaining 10 are buffer questions. The diagnostic questions refer to simple situations connected with school life; they form two scales: the Scale of Success (S) and the Scale of Failure (F). The questions which describe favourable circumstances are included in the Scale of Success (S), while the questions which refer to unfavourable events are included in the Scale of Failure (F). The sum of results obtained from both scales creates the ratio of the generalized sense of control (S + F). Low results obtained in KBPK indicate a sense of external control of the consequences of events, and a high result suggests a sense of internal control of the consequences of events. The Questionnaire is characterized by a sufficient reliability (the internal consistency coefficient KR-20 for the S Scale is .54, and .69 for the F Scale) and criterion validity.

*The Stress Assessment Questionnaire* (Kwestionariusz Oceny Stresu, KOS) designed by D. Włodarczyk and K. Wrześniewski (2010), is comprised of 35 adjective phrases (including 23 diagnostic questions) describing stressful situations. The questionnaire consists of two versions containing the same sets of the adjective phrases but different instructions for the participants. In version A (measurement of the situational assessment of stress) the participants are asked to indicate a specific difficult situation that occurred during the previous week (the present study used a situation of social conflict). Version B (measurement of dispositional assessment of stress) contains an in-

struction in which the participants are asked to mark the degree to which the provided adjectives are consistent with what they most frequently experience in difficult situations (the present study used a situation of social conflict). KOS consists of 6 subscales which indicate specific types of stress assessment, including state-anxiety, trait-anxiety, trait-harm/loss, state-challenge, and trait-challenge. The “anxiety”, “challenge”, and “harm/loss” subscales consist of 10, 6, and 4 items respectively. The questionnaire is sufficiently accurate and reliable (Cronbach’s  $\alpha$  for version A was .76-.90, and for version B .79-.90).

*The Parental Attitudes Scale* (Skala Postaw Rodzicielskich, SPR) by M. Plopa (2007) is used to study parental attitudes as perceived by children. It is comprised of 75 statements in two versions: for the mother and for the father. The questionnaire consists of 5 scales each of which contains 15 statements corresponding to Acceptance-Rejection Attitude, Autonomy, Excessively Protective Attitude, Excessively Demanding Attitude, and Inconsistent Attitude. The Questionnaire is sufficiently reliable (Cronbach’s  $\alpha$  for the version “My Mother” was .81-.92, and .79-.91 for “My Father”) and characterized by construct validity and criterion validity.

*The KSMK Questionnaire* designed by D. Borecka-Biernat (2012) examines coping strategies in situations of social conflict applied by adolescent youth. It is comprised of descriptions of 33 situations of social conflict. Each description is accompanied by four types of coping behaviour in a situation of social conflict: aggressive coping (“A”), coping by avoidance (“U”), coping by submission (“UI”), and task-oriented coping (“Z”). The results are obtained separately for each scale, by summing up the behaviours marked by the participant in the 33 situations. The aggressive coping scale (“A”) for youth in situations of social conflict was used for the purpose of this study. The Questionnaire is characterized by sufficient accuracy (Cronbach’s  $\alpha$  was around or above .07) and convergent validity.

## RESULTS

In order to determine which personality and family variables predict the level of the aggressive coping strategy in situations of social conflict in adolescents, hierarchical regression was used and backward elimination was applied (criterion: probability-of-f-to-remove  $\geq 0.100$ ). In this method, all potential predictors are introduced into the model and the irrelevant variables are subsequently removed, after which the model is recalculated until the final version is obtained (Bedyńska, Książek, 2012). The category “A” results in the KSMK questionnaire were assumed as the dependent variable; the results obtained in the two scales (Success and Failure) from the KBPK questionnaire, in the six scales (trait-anxiety and state-anxiety, trait-harm/loss and state-harm/loss, trait-challenge and state-challenge) from the KOS questionnaire, and in the five scales (Acceptance-Rejection Attitude, Autonomy, Excessively Protective Attitude, Excessively Demanding Attitude, and Inconsistent Attitude) from the SPR questionnaire (in the “my mother” and “my father” version) were treated as a set of independent variables. A regression analysis was performed on the results obtained from the entire studied group of adolescents; separate regression analyses were also performed, after dividing the participants by gender. The results are presented in Table 1.

TABLE 1. Multiple stepwise regression for the results of the Aggression scale (A) in the KSMK Questionnaire, in relation to the KBPK scales, the KOS scales, and the SPR scales: results for the entire group (N = 893) as well as for girls (N = 468) and boys (N = 425)

Studied Individuals	Variable	Beta	B	Standard error B	t	Level p<
<b>Overall</b>	State-harm/loss	-.08	-.11	.05	-2.06	
	State- anxiety	.10	.07	.03	2.76	.040
	Success	-.19	-.29	.05	-5.40	.006
	Failure	-.11	-.16	.05	-3.04	<.001
	A-R Mother	-.16	-.07	.01	-4.70	.002
	Incon. Mother	.14	0.05	.01	4.19	<.001
	Free ind.		11.98	1.27	9.43	<.0001
Multiple correlation coefficient: R = .43 Coefficient of multiple determination: R <sup>2</sup> = .18 Significance of the equation: F(6,886) = 33.31; p < .00001 Standard estimation error: 4.21						
<b>Girls</b>	Success	-0.18	-0.26	0.07	-3.60	<0.001
	Failure	-0.19	-0.28	0.07	-3.77	<0.001
	A-R Mother	-0.15	-0.06	0.02	-3.09	0.002
	Dem. Mother	0.11	0.04	0.02	2.38	0.020
	Free ind.		12.58	1.72	7.31	<0.001
Multiple correlation coefficient: R = 0.43 Coefficient of multiple determination: R <sup>2</sup> = 0.16 Significance of the equation: F(4,463) = 26.30; p < 0.00001 Standard estimation error: 4.21						
<b>Boys</b>	Success	-0.23	-0.34	0.07	-5.07	<0.001
	A-R Mother	-0.20	-0.08	0.02	-4.10	<0.001
	Incon. Mother	0.18	0.06	0.002	3.85	<0.001
	Free ind.		11.82	1.70	6.96	<0.001
Multiple correlation coefficient: R = 0.43 Coefficient of multiple determination: R <sup>2</sup> = 0.18 Significance of the equation: F(3,421) = 31.40; p < 0.00001 Standard estimation error: 4.19						

Note: A-R Acceptance-Rejection attitude, Incon. - Inconsistent attitude, Dem. - Demanding attitude

The first regression analysis was performed on the results obtained from the entire studied sample, regardless of gender. As can be seen in Table 1, the following six variables had significant influence on the aggressive coping strategy in youth in situations of social conflict: state-loss/harm, state-anxiety, locus of control in success, locus of control in failure, the acceptance-rejection attitude in the mother, and the inconsistent attitude in the mother. They explain 18% of variance in application of the discussed strategy, and the described model is well adjusted [ $F(6,886) = 33.31$ ;  $p < 0.00001$ ]. The remaining variables were not significant determinants of the frequency of application by adolescents of the aggressive strategy in situations of social conflict.

The beta slope indicated that a lower level of situational assessment of the conflict as harm/loss, a higher level of situational assessment of the conflict as a threat, a stronger sense of the external locus of control for success and failure, as well as a higher level of emotional coldness, disapproval, hostility, rejection of the child by the mother, and a higher level of the attitude in which the mother's behaviour towards the

child is variable have influence on the increase of the frequency of application by adolescents of the aggressive coping strategy in situations of social conflict.

Separate regression analyses were conducted after dividing the participants by gender (compare: Table 1). Stepwise regression analysis has shown that out of thirteen independent variables introduced in the regression model, four were of high significance for explaining the use of aggressive coping strategy by girls in a situation of social conflict. The remaining monitored indicators did not show statistically significant correlations with aggressive coping strategy in girls. The calculations indicate that the sense of the locus of control in success and in failure, the Acceptance-Rejection attitude in the mother, and the Excessively Demanding attitude in the mother play an important determining role for application of the aggressive coping strategy by girls. The enumerated predictors explain 16% of variance in application of the discussed strategy by girls, and the described model is well adjusted [ $F(4,463) = 26.30$ ;  $p < 0.00001$ ].

It is evident that in situations of social conflict, girls more often apply the aggressive coping strategy if their sense of external locus of control is higher (separately for success and failure), if the level of emotional coldness, disapproval, hostility, and rejection of the daughter by the mother is higher, and if the mother raises the daughter according to a strict model of parenting.

Another examined problem was which group of personality and family variables has influence on the level of aggressive coping strategy in boys in situation of social conflict. The following three independent variable proved significant in the regression equation: the sense of the locus of control in success, the Acceptance-Rejection attitude in the mother, and the Inconsistent attitude in the mother. The discussed model proved to be well adjusted to the data [ $F(3,421) = 31.40$ ;  $p < 0.00001$ ] and explained 18% of the variance of the dependent variable. The standardized *beta* coefficients revealed that the increase in the use of the aggressive strategy in boys in the context of social conflict is influenced by a higher sense of external locus of control in success, a higher level of emotional coldness, disapproval, hostility in the mother and of her rejection of the son, and a higher level of the attitude in which the mother's behaviour towards the son is variable and dependent on mood changes.

To summarize the conducted regression analysis, the assumed personality and family variables have confirmed the validity of the formulated hypothesis H.1.

## DISCUSSION

A significant factor that determines the choice of action in conflict is its perception (Reykowski, 2002). The conducted analysis of the results has revealed that a situational assessment placing the conflict in the category of threat is connected with the aggressive coping strategy in young people in situations of social conflict. It should be concluded that a situational assessment of a conflict as threat intensifies the aggressive coping strategy in adolescents in a situation of social conflict. It can be suspected that young people who find themselves in a situation of social conflict and who assess it as a threat will apply an aggressive strategy in order to cope with this situation (Ratajczak, 1996). This tendency appears to be consistent with the statement by L. Berkowitz (1992) according to which aggression is generated as a result of perceived threat, a conviction that one is an object of intentional, wrongful treatment, and a violation of an individual's sense of self-worth.



The factor responsible for perception of a situation of conflict – and, in consequence, for its interpretation – is the sense of the locus of control. The performed analysis indicates that conflicts in relationships with others which appear in a socially organized system of an adolescent's activity are forms of behaviour that usually coincide with the sense of an external locus of control. A stronger conviction of others' influence on the positive and/or negative consequences of one's actions (external locus of control) increases the likelihood of application of the aggressive coping strategy in adolescents in social conflict. It should be concluded that lack of faith in one's ability to obtain the desired outcomes of one's actions increases the likelihood of using negative coping strategies by adolescents in social conflict situations. Moreover, lack of the ability to accept responsibility for one's failures – on the contrary, a tendency to blame one's environment for the consequence of one's unfavourable experiences – may have an intensifying effect on conflicts. This suggests that young people who apply aggressive coping strategies in social conflict situations do not believe that their actions could result in outcomes that they desire, instead attributing the positive outcomes to favourable circumstances or the kindness of other people; they are also unable to accept responsibility for their failures, whose causes they also see in external factors which they cannot influence (such as misfortune or other people's malice). Since they are usually convinced that they are unable to change the situation of social conflict, they do not concentrate on the source of the problem, but on themselves, focusing on defending the threatened "self". As a result, a defense strategy is applied, in the form of aggressive coping in social conflict; the mechanism is reinforced by frequent application in other similar circumstances (Rostowska, 2001; Borecka-Biernat, 2006; Deming, Lochman, 2008; Breet, Mayburgh, Poggenpoel, 2010).

The aggressive coping strategy in adolescents in social conflict has its roots in the family environment. The experiences from the household in which an individual was raised are among the most significant causes for the development of the aggressive coping strategy in adolescents in situations of social conflict. These experiences include, among others, the parental attitudes towards the adolescent child. An analysis of the obtained results has revealed the significance of rejection by the mother in forming the aggressive coping strategy in social conflict in adolescent girls and boys. The reports about the daughters' and sons' relationships with their mothers suggest that they see their mothers as emotionally cold, hostile, depriving them of their emotional needs, avoiding interaction with them, unaware of their problems, and uninterested in what they do. The adolescent child's attempts to lessen the emotional distance between them and the mother are received negatively. Interaction with the mother is not a source of pleasure, warmth, and satisfaction for the child. It is difficult to ignore the fact that an increase in application of the aggressive coping strategy in an adolescent in social conflict is directly connected with the degree of their emotional frustration (in particular when the needs for love and acceptance, cooperation and connection with the close relatives, and security are not satisfied) (Brzozowski, 1988; Pufal-Struzik, 1997; Bishop, 2000; Wolińska, 2000; Plopa, 1983, 2007; Poraj, 2002; Bares et al., 2011; Batool, 2013; Wałęcka-Matyja, 2013, Liberska et al., 2013). This indicates that emotional rejection by the mother causes in an adolescent child a state of anxiety and hostility, reduced by aggression. It may therefore appear that young people who do not experience, during their ontogenetic development, open and warm relationship with their mother, are unable to function rationally in interpersonal relationships, in particular in social conflict. These adolescent tend to have a negative image of the social

environment, which they perceive as threatening and hostile. The methods of coping with the hostility that they apply manifest themselves as an ease to enter conflicts and aggressive behaviour tendency.

Studies have shown that mothers of girls who apply aggressive coping strategies perceive themselves as an authority in all matters connected with their adolescent daughter. Dominating behaviour can be observed, as well as a tendency to control the daughter's life and shape it according to the mother's own standards and demands, without taking into consideration the daughter's opinion. The mother does not try to understand the daughter's thoughts and feelings; she introduces strict rules and demands absolute obedience. Thus, she is characterized by domination, despotism, and disregard of the daughter's opinions. The rigid model of upbringing means she strictly enforces obedience in the daughter and does not tolerate criticism or disobedience. She has a perfectionist attitude towards assessment of the way the daughter performs her tasks and duties, without consideration for her limitations. She accepts only those activities which are in accordance with her opinions and expectations. This attitude collides with the adolescent daughter's needs, in particular with the need for autonomy, independence, and co-decision. It also generates conflict between the need for independence (achieved, or soon to be achieved sexual maturity and an increase in intellectual capacity) in the teenager and the limitations imposed by the mother. Constant criticism drives the adolescent girl to rebellion and contesting the mother's authority. Moreover, all punishments applied by the mother are treated as a form of aggression against the daughter; in this way, aggression becomes a model of behaviour which becomes reinforced as a habit of reacting aggressively to other people's behaviour, objects, or conflict situations (Ranchburg, 1993; Pufal-Struzik, 1997; Ratzke et al., 1997; Wolińska, 2000; Łukaszewicz, 2002; Poraj, 2002; Guskowska, 2004; Liberska et al., 2013).

The conducted analysis has shown that the mother's attitude towards the son, as perceived by boys using the aggressive coping strategy in conflict, is variable. It depends on the momentary mood and personal problems, not necessarily connected with family life (*inconsistent attitude*). As can be seen, lack of consistency can be observed in mothers whose demands do not have an objective character, but are based on subjective causes, such as good or bad mood. The "internal" emotional state of the mother is transferred to the relationship with the son. Excessive emotional distance, hostility, ignoring the son's problems, frequent shouting, imposing limitations and punishments is combined with behaviour where the mother initiates emotional contact, accepts the son, and expresses interest in his problems. It is worth to observe the polarity, with emotional distance on one side, and emotional involvement on the other. It suggests an imbalanced attitude of the mother towards the adolescent child, which can have a harmful effect on the development of mechanisms of emotional control in the teenage boy, as a result of which he may have a tendency to spontaneously express his emotions and needs. An experience of lack of emotional stability (involvement and emotional distance) in the relationship with mother forms a strong frustrating factor which may cause the adolescent boy, in a situation of social conflict, to display an increased level of hostility and aggression (cf. Plopa, 1983; Kobak, Sceery, 1988; Obuchowska, 2001; Liberska et al., 2013).

It can generally be stated that a young person's cognitive reaction to social conflict may have impact on their choice of the coping strategy. The adolescent's conviction of the influence of others on the positive and negative outcomes of events in a situation of conflict increases the likelihood of application of the aggressive coping strat-

egy. The teenager who chooses the aggressive coping strategy in a situation of social conflict does not believe that they may achieve the desired outcomes of their own actions and instead, attributes them to favourable circumstances or other people's goodwill; they are also unable to accept responsibility for their own failures and sees them as caused by external factors (such as misfortune or other people's malice) which are beyond their control. Moreover, if a situation of social conflict is perceived in terms of threat, the young person is more likely to choose the aggressive strategy. Thus, it can be suspected that an adolescent who assesses a situation of social conflict as threat and who believes they cannot control the situation will apply aggressive coping mechanisms which may free him – if only for a short period of time – from the unpleasant emotional tension, but are not oriented towards solving the problem and overcoming the difficulties. It is difficult not to notice that the teenager's tendency to react aggressively to the negative emotions caused by social conflict shape inappropriate parental attitudes towards their adolescent child. An emotional distance, lack of balanced emotional bond, a raised bar of demands, and severe punishments are determinants which seem to form an individual who copes with situations of social conflict in an aggressive manner. This indicates that an adolescent child who does not experience in their family environment acceptance and openness to their problems does not cope rationally with conflict situations.

To conclude, it is difficult not to notice that the selected personality and family variables are not strong predictors of the aggressive coping strategy in youth in situations of social conflict; this means that there may exist relatively numerous other variables which co-determine the level of aggressive coping strategy in adolescents in situations of social conflict.

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## AGGRESSION BETWEEN SIBLINGS – THE DARK SIDE OF SOCIALIZATION IN THE FAMILY

**Abstract:** Aggression between siblings is one of the most common – and the most downplayed – forms of aggression in the family. It is seen as natural and harmless. In fact, research has shown that such aggression leaves lasting scars in the child's mind and affects functioning in adult life.

**Objective:** investigate correlations between the perceived quality of the family environment, the experience of aggression in the family, including aggression between siblings, and the level of aggression in adult life.

**Method:** 201 respondents – 167 women and 34 men, aged 19-36 years – took part in the study. To measure the variables under analysis, the respondents were asked to complete a questionnaire designed for this study, which included questions about aggression and violence between parents, parental aggression towards children, and the use of punishment in parenting; the Family Assessment Scale (FACES-IV) by David H. Olson, adapted by Andrzej Margasiński (2009, 2015); and the Aggression Questionnaire by Buss and Perry (1992), adapted by Aranowska, Rytel and Szmar (2005).

**Results:** experience of domestic violence was shown to be related to the assessment of family functioning along four dimensions: cohesion, flexibility, communication and satisfaction. The data also showed that aggression was engendered by models of aggression, that is, by observing aggression between parents and by experiencing parental (especially paternal) violence. Unexpectedly, punishment turned out to be significantly correlated with all dimensions of family assessment – it was positively correlated with each of the manifestations of aggression under analysis. It was also demonstrated that while certain types of punishment were associated with specific manifestations of aggression (eg physical punishment with physical aggression, reprimands with verbal aggression, etc.), one type of punishment – screaming/threats/insults – was significantly correlated with each of the analysed dimensions of aggression and was the only one associated with the tendency to react with aggression in relations with siblings.

**Keywords:** aggression, sibling, retrospective family assessment, use of punishment in parenting.

## INTRODUCTION

Siblings play an important role in the child's mental development and socialization process. Relations with sisters and brothers begin in childhood and last throughout life (Cicirelli, 1995). The child is raised and acquires various traits and capacities in the family; these capacities include empathy, active listening, the ability to adopt another person's perspective, cooperation, engaging in an activity with another person, partnership, negotiation, but also engaging in rivalry and competition for the love and attention of parents, for primacy, privileges and recognition (Brody, 1998, 2004; Ginsburg, 1986; Morgan, Shaw, Olino, 2012; Poraj, 2014; Sang, Nelson, 2017).

There is growing interest among researchers in siblings, their role, influence and mutual relations (Ulu-Yalçinkaya, Demir, 2018; Soysal, 2016; Rostowska, 2009, 2010; Szymańska, 2018; Wałęcka-Matyja, 2018). So far, the results of this research have been very encouraging, even when they have quite disparate theoretical background. In the late 1960s, as John Bowlby (1969) worked on the theory of attachment, he noticed that although brothers and sisters are not the most important individuals in this process, still, they contribute a great deal to the development of personality and, above all, self-esteem in children. Victor G. Cicirelli (1995), a proponent of the system theory, gave a detailed description of the sibling subsystem against the background of other subsystems of the family. The sibling relation is considered to be the most long-lasting of all relations in human life and although it often becomes somewhat distant, it is easily revived (Rostowska, 2009, 2010; Szymańska, 2016, 2018). Indeed, Polish studies of siblings have been mostly based on the system theory (Rostowska, 2009, Rostowska, Pastwa-Wojciechowska, 2010, Szymańska, 2018, Wałęcka-Matyja, 2018).

Adherents of the theory of social learning, on the other hand, point out that sisters and brothers can provide important models for their siblings to imitate. They play the role of teachers, who instil principles, beliefs, modes of behaviour and ways of dealing with difficult situations of various kinds (Perlman, Garfinkel, Turrell, 2007). A review of studies in this area by Defoe and his colleagues (2013) shows that the company of siblings helps one gain experience that no other social group can provide. At the same time, the researchers believe that siblings help children develop internalizing and externalizing behaviour. They noticed that close relations with one's siblings facilitate relations outside the family and offer protection against potential difficulties, while rivalry and conflicts between siblings also tend to be transferred to relations with other people.

Aggression and violence in the sibling subsystem is an important, though still somewhat neglected area of research. The two terms are often used interchangeably, although they are not equivalent in meaning (Allen, Anderson, 2017). Aggression is a social phenomenon, one that usually occurs in the presence of other people or products of their activity (Poraj, 2009; Farnicka, Liberska, Niewiedział, 2016). The term refers to "every form of behaviour, whose aim is to harm or injure another living being, which is motivated to avoid such treatment" (Baron, Richardson, 1994, p. 7). This is the sense in which aggression is understood in this article. The term violence, on the other hand, applies to behaviour marked by a clear intention to inflict pain or injury. It involves power and a clear advantage of the perpetrator over the victim. It is a product of society and culture, which, according to Ramirez (after: Farnicka, Liberska, Niewiedział, 2016), proves its connection with the rise of civilization. The term domestic violence refers to behaviour dictated by the intention to cause pain or injury to family members, takes place in a closed environment and is difficult to detect, regard-

less of whether the victims and perpetrators are adults or children. Herbert H. Krauss and Beatrice J. Krauss (1995) highlight its dangerous features: it recurs regularly and sometimes lasts for years, creating an intergenerational cycle of violence.

As mentioned earlier, domestic aggression and violence have been studied for years. However, researchers have been mainly interested in dysfunctional relations between parents and between parents and children. The reason why aggression and violence in the sibling subsystem have been studied less often may have something to do with the fact that such behaviour is considered widespread and normal, associated as it is with family life (Tucker et al., 2013a). It is wrongly ignored by adults and treated as the norm (Eriksen, Jensen, 2009; Skinner, Kowalski, 2013). And yet, research has shown that aggression between siblings is one of the most common forms of domestic aggression (Khan, Cooke, 2013; Tippett, Wolke, 2015). It leaves a lasting impression in the child's mind and affects subsequent adult life (Tippett, Wolke, 2015). The few studies carried out so far have shown that the experience of aggression in relations with siblings results in behavioural and psychological problems in adolescence and adulthood. Researchers speak of anxiety, problems with establishing relations with peers, anti-social behaviour, excessive risk taking and other issues (Dunn et al., 1994; Pike, Coldwell, Dunn, 2005; Snyder, Bank, Burraston, 2005).

Aggression among siblings – though belittled by parents and as yet attracting scant interest among researchers (as opposed to peer aggression, for example) (Eriksen, Jensen, 2009; Skinner, Kowalski, 2013) – is an important social problem, requiring systematic research and in-depth studies (Tippett, Wolke, 2015). All the more so because it is not limited to isolated cases. Based on their studies and observations of family life, Frances L. Ilg, Louise Bates Ames and Sidney M. Baker (1994) claim that siblings are more likely to use violence against one another than against members of their peer group, and the blows are more dangerous. Murray A. Straus and Richard J. Gelles (1990) studied aggression in American families and argued that violence between siblings is not rare, and sometimes can even be dangerous for the victims. The researchers have reported cases of severe beating and assault with a knife or a gun. In another study, Kahn and Monks (1997) found that domestic violence in the US includes cases of murder of siblings; what is more, the perpetrators apparently feel no guilt. The authors cite data indicating that murder of a sibling accounted for as many as 3% of all the killings reported in New York. Thus, dysfunctional relations between siblings can be a serious threat, with dangerous consequences for the victim's mental health.

According to John V. Caffaro and Allison Conn-Caffaro (1998, 2005), aggression between siblings has been the most common form of domestic violence for years. In their opinion, this is due to the widespread belief that it is usually adults who cause harm, while the harm done by a child is neither painful nor dangerous. Parents belittle the significance of violence between children. In fact, it is five times more prevalent than cases of a parent bullying a child or spouse. Researchers claim that at least half of American children have been pushed, hit, bit or kicked by a sibling, and about 15 percent are subjected to such treatment on a daily basis. Again, early studies by Straus and Gelles (1990) showed that about 80% of children aged 3 to 17 years experienced violence by a sibling at least once. Jacqueline L. Martin and Hildy S. Ross (2005) also tried to estimate the scale of the problem. In their study, they undertook to observe the natural behaviour of families with children during three-hour sessions. The results were astonishing. In almost all observed families, they noticed aggressive behaviour

between siblings. After a detailed analysis of their observations, they reported from 7 to 12 cases of violence between siblings in each of the families studied.

The alarming results of a nationwide phone survey of 3,599 people (parents and children) were presented by researchers from the University of New Hampshire (Tucker et al., 2013b). They reported that one third of the children and adolescents interviewed were subjected to violence by their siblings. This left permanent scars in the form of various behavioural disorders, emotional instability, anxiety, anger and aggression towards other people. They also noted numerous cases of depression among the respondents. The authors of the study confirmed that constant parental disregard of aggression and violence between children is not only wrong, but can be dangerous. Using a very large sample of surveyed families, they proved that trivial bickering between brothers and sisters can easily turn into humiliation, abuse and physical violence. According to Gerald R. Patterson (1986), parents usually fail to discipline a child who behaves aggressively towards siblings. They react either too late or ineffectually, and occasionally their reaction only escalates the violence. Moreover, when the problem of aggression and violence between siblings does affect a family, it generally has a continuous character.

Obviously, determining the sources of aggression and violence among siblings is an important step towards understanding this issue, preventing it and finding effective interventions. Interesting research on relations between siblings that involve aggression and violence was described by Green. Searching for the causes of this disturbing phenomenon, the author decided to carry out a qualitative study of children who admitted to being victims or perpetrators of aggression towards brothers or sisters. Such a procedure seems well justified, as it gives the researcher access to information often unavailable with the help of conventional methods. Green resorted to individual case studies, including in-depth interviews with parents and children. Analysis of the data showed that the vast majority of the children were raised in single-parent families, usually by a helpless mother, who could not provide proper parenting. There were also two-parent families, but the majority of them were dysfunctional. It was revealed that in such families acts of violence were committed by parent against parent or against child. Children were both witnesses and victims of parental violence (after: Kahn, Monks, 1997).

For the reason just mentioned, various dysfunctions in the family environment are believed to be among the factors associated with broken relations. This is confirmed by McCordze and colleagues, who looked to the family for causes of aggressive behaviour of 174 boys (after: Kahn, Monks, 1997). Their study revealed the following factors: conflicts and aggression between parents; rejection of their parental role; improper parental influence, going far beyond generally accepted norms; the use of strict discipline in the parenting process; as well as excessive or insufficient parental control. Other studies of the family environment have demonstrated that parents use violence against their children, condone aggression between siblings, often discriminate against some children, and treat domination of younger children by older ones as natural (Herzberger, 2002; Miller et al., 2012; Poraj, 2006, 2011; Straus, Gelles, 1990).

Deanna M. Button and Roberta Gealt (2010) noticed yet another pattern. In addition to such causes of violence between siblings as domestic violence between parents (already noted) and parents' violent behaviour towards children, they also mentioned aggression and violence among peers and the influence of the media. They also demonstrated that in order to understand this phenomenon thoroughly, its causes should be studied and analysed comprehensively. In their own research, they used

a specially constructed questionnaire, which met these conditions. For their study they recruited 213 families, in which the mother sought specialist help, because she could not cope with her own children. Violence in relations between siblings was one of the child-rearing problems mentioned by the mothers. They were invited to participate in an intervention program. Unfortunately, the researchers were unable to secure the participation of fathers in the study. The mothers' age ranged from 18 to 43 years. They all had secondary education, and most of them were permanently employed, so that their financial situation was stable. When participating in the study, the mothers were accompanied by their children. 108 girls and 105 boys aged from 3 to 5.5, of diverse ethnic origin, were included. The researchers concentrated on studying the mother-child pair.

Their initial hypotheses were confirmed. It turned out that the environment in which American children live today is rife with aggression: they experience it in the family, at school, on the street and in the broadly understood media. The researchers consider the media to be an especially powerful source of models of aggression against siblings. They also described the strongest predictor of violence between siblings. This turned out to be the violence of the father against the mother and the children. The researchers also concluded that aggression between siblings significantly increased the risk of asocial and antisocial behaviour in the peer environment and later in adult life (Button, Gealt, 2010).

Gender has also been mentioned as one of the factors conditioning aggression between siblings. Studies of the way the quality of sibling relations depends on gender have produced ambiguous results, although it has been claimed that siblings of the same sex experienced more problems. Some results suggest that the highest level of aggression and violence is observed between brothers. They are most likely to be victims or perpetrators of violence. Relations between sisters are usually described as positive, characterised by a strong emotional bond and friendship (Cole, Kerns, 2001; Updegraff, Tucker, Crouter, 2000). However, other studies have shown that relations between sisters are particularly susceptible to conflict. They are marked by strong mutual antagonism, aversion or even hostility, often accompanied by aggressive behaviour (Voorpostel, Blieszner, 2008).

The dependence of aggression and violence between siblings on gender was also investigated by Button and Gealt (2010). They described their study of a group of adolescents, clearly demonstrating that boys frequently behave aggressively towards their siblings, while girls admit to having been the victims of such aggression. A detailed analysis led to the conclusion that boys tended to use force as a means of resolving conflicts with siblings. Girls faced with conflict, on the other hand, were usually passive or attempted to ignore it.

Kahn and Monks (1997) made a significant contribution to the explanation of the causes of aggression among siblings. The researchers studied 360 pre-school children, analysing conflicts between siblings in the context of gender, age and order of birth. The results show that the first-born were more likely to behave aggressively towards younger brothers than towards sisters. On the other hand, second-born boys were more likely to have a conflicted relation with an older sister than with an older brother. It was also confirmed that aggression in relations with siblings of the same sex is more common. In other studies, the same researchers (Kahn, Monks, 1997) showed that as many as 53% of the surveyed children declared they were regularly victims of violence perpetrated by their older siblings. Their social skills were poorly developed and



they manifested a greater propensity to aggression than their older siblings, but they lacked the strength to defend themselves against those who were stronger. However, their social skills improved as they grew up, and the symptoms of aggression and violence decreased significantly.

Furman and Buhrmester (1985) noted that conflicts between siblings are more common if the age difference between the siblings is small. They attribute this pattern to the progress of socialisation, which is associated with the child's growing social skills, ability to control emotions and improving capacity to cope with conflict. It is also believed that boys accept aggression and violence directed against siblings more readily than girls do (Miller et al., 2012).

The stability of manifestations of aggression among siblings remains an important issue. It was shown earlier that as children grow older, their social skills improve and they have greater capacity to deal with difficult situations, such behaviour becomes markedly less common. However, to confirm this claim, longitudinal studies are required to study this phenomenon in the same group over a longer period of time. Stillwell and Dunn (after: Kahn, Monks, 1997) described precisely such a study. It lasted six years, and during this period the behaviour of first-born children towards their younger siblings was examined three times. The method of observation of the children's natural behaviour in the environment of their family was used. The first stage was performed immediately after the birth of the younger sibling; the second 14 months later, and the final one 6 years later. The observations revealed a positive and significant correlation between the aggressive behaviour of first-born children towards siblings in the initial and the final stages. In addition, the researchers concluded that aggression towards siblings may have greater predictive power with respect to aggressive behaviour in the peer environment than any other interaction in the family which is marked by conflict.

When analysing the causes of aggression between siblings, one should not ignore biological factors. This refers to any individual traits of the child that may be relevant to the propensity to behave in socially unacceptable ways, both in the family and beyond. Such conditions include attention deficit hyperactivity disorder (ADHD), brain dysfunction associated with Conduct Disorder (CD) and – diagnosed with increasing frequency in recent time – the Asperger Syndrome (Poraj, 2011, 2014; Rostowski, 2012; Vetulani, 2010). However, one should stress that these are only risk factors for the manifestation of disturbed behaviour, including aggression in relations with siblings. They can provoke such manifestations only if certain circumstances are present, including, first and foremost, poor parenting.

The number of studies of aggression between siblings is still very small, and no proposals for preventive or interventionist measures have been put forward to help the affected families. It only exacerbates the problem if parents ignore it and show no awareness of or desire for professional help. The problem is serious. Psychotherapists who work every day with patients subjected to violence by their siblings during childhood keep calling for greater awareness of it. Their patients suffer the consequences of such violence in their adult life. They have serious problems with building satisfying relationships. They do not trust either themselves or the people around them. They often experience negative emotions, accompanied by anxiety and aggression towards their surroundings. They cannot cope with their problems without professional help (Caffaro, Conn-Caffaro, 1998, 2005). To be effective, however, help needs to reach families when the first symptoms of disturbed relations between the children appear. It is therefore the responsibility of the



parents to identify the problem and respond to it when the far-reaching consequences can still be prevented. Jonathan Caspi (2013) offered to assist families affected by this problem. In his practice as therapist – one who has been working with families for years – he has positively verified the efficacy of a task-oriented system therapy. So far, the clinician's success has confirmed the effectiveness of this approach.

Theoretical and empirical research on siblings conducted in Poland has begun to appear in publications recently. These papers analyse the quality of relations between brothers and sisters, the factors that shape them, and their consequences. A typology of the quality of relations between siblings has even been proposed (Rostowska, 2009, Szymańska, 2018, Wałęcka-Matyja, 2018). However, so far there have been no studies focusing exclusively on the issue of aggression between brothers and sisters. The present article is the first attempt to study empirically the family-related determinants of aggression between siblings and of the tendency to manifest aggression in adulthood.

## RESEARCH PROBLEM

The research presented in the present paper focused on the conditions of socialisation that lead to aggression between siblings. Correlations between the perceived quality of the family environment, the experience of aggression in the family, including aggression between siblings, and the level of aggression in adult life, were investigated. Three research hypotheses were tested. Firstly, it was expected that a statistically significant relation between the experience of domestic violence and the perceived quality of family environment would be found (H1). Secondly, it was hypothesized that the experience of domestic violence, including violence perpetrated by siblings, would lead to increased aggression in adulthood (H2). Thirdly, it was expected that the family assessment dimensions postulated in Olson's Circumplex Model (2000, 2011) and the symptoms of domestic violence (conflicts and aggression between parents, paternal violence, maternal violence, punishment) would be significant predictors of the propensity to violence in relations with siblings (H3).

## METHOD

### Subjects, procedure and research tools

The survey was administered on-line. It was completed by 201 respondents: 167 women (83.1%) and 34 men (16.9%), aged 19–36. Due to missing data, only 181 respondents were included in the analysis. Subjects were recruited among students of various faculties of the University of Łódź and the Institute of Psychology of the Academy of Special Education. The respondents completed the following questionnaires: (1) a set of basic personal questions and detailed questions about aggression and violence between parents, parental aggression towards children, and the use of punishment in parenting; (2) the Family Assessment Scale (FACES-IV) by David H. Olson, adapted by Andrzej Margasiński (2009, 2015); and (3) the Aggression Questionnaire by Buss and Perry (1992), adapted by Elżbieta Aranowska, Jolanta Rytel and Agnieszka Szmar (2005).

**SOR – Faces IV – the Family Assessment Scale** is the Polish adaptation by Margasiński (2009, 2015) of FACES IV – *Flexibility and Cohesion Evaluation Scales*,

developed by Olson (2000, 2011) for the study of the perception of the family. It can be used to assess the functioning of the family, including its cohesion and flexibility, communication and satisfaction with family life. Cohesion measures the strength of the bonds between family members; it comprises the following subdimensions: disengaged, balanced cohesion and enmeshed. Flexibility refers to the adaptability of the family and comprises the following subdimensions: rigid, balanced flexibility and chaotic. The dimension of communication measures the quality of communication in the family. Satisfaction with family life is an additional dimension, which can be used to measure the sense of fulfilment and happiness of individual family members related to their family life. The scale is constructed in such a way that measurements on individual subdimensions, as well as the general assessment of family functioning can be obtained. It has good psychometric parameters. The reliability of individual scales, measured by Cronbach's  $\alpha$  coefficient, is as follows: balanced cohesion  $\alpha = 0.80$ , balanced flexibility  $\alpha = 0.79$ , disengaged  $\alpha = 0.77$ , enmeshed  $\alpha = 0.70$ , rigid  $\alpha = 0.73$ , chaotic  $\alpha = 0.73$ , communication  $\alpha = 0.92$  and satisfaction with family life  $\alpha = 0.93$  (Margasiński, 2009, 2015).

**The Aggression Questionnaire by Buss and Perry** has for years been the most widely used and popular tool for the measurement of general aggressiveness and its manifestations. It can be used to assess four components: physical aggression and verbal aggression, two behavioural components of aggression in humans; anger, which reflects the affective aspect of aggression, and hostility, which is its cognitive component. In addition, it can be used to measure the overall aggressiveness of the subjects. The psychometric parameters of the questionnaire are satisfactory. The validity of the tool was determined by correlating its results with measures of impulsivity, assertiveness, competitiveness and peer assessment. The reliability of individual subscales, measured by Cronbach's  $\alpha$  coefficient, is as follows: physical aggression: 0.85; verbal aggression: 0.72, anger: 0.83, hostility: 0.77, overall measure: 0.80. Due to the popularity of the questionnaire, its psychometric parameters continue to be studied in various countries (Aranowska, Rytel, Szmar, 2005; Aranowska, Rytel, 2012).

An important source of information in the present study was a questionnaire designed especially for the purpose. In addition to demographic data, it included questions about conflict and violence between parents, with an indication of the perpetrator and victim; the ways in which this aggression was manifested; the use of discipline in child rearing and the specific punishments meted out to respondents and their siblings; and the parents' awareness of conflicts and aggression between children.

Questions pertinent to aggression between siblings were modelled on a questionnaire by Tippet and Wolke (2014). However, the present study did not include detailed analysis of various forms of aggression between siblings (this is the topic of a separate report); the focus was solely on the mere presence of aggression between siblings and the factors affecting it.

## RESULTS

In the first step, the data collected was subjected to diagnostic tests. The normality of the distribution of the analysed variables was tested. The tests based on the Kolmogorov-Smirnov statistic with Lilliefors significance correction (Bedyńska, Książek, 2012) showed that only two of the variables under analysis (the respondent's aggression:

overall measure and anger) were approximately normally distributed. The distribution of the remaining variables turned out to be asymmetric, requiring the use of non-parametric tests in the analysis of correlation and of the bootstrap in regression analysis (Domański, Pruska, 2000). The statistical analyses were performed with the help of the IBM SPSS Statistics 25 software package (IBM Corp., release: 2016).

Spearman rho was used to test the first and second hypotheses concerning the relationship between domestic violence and the perceived functioning of the family, and the level of aggression in adulthood. The results are presented in Tables 1 and 2.

In the next step, correlates of the assessment of the quality of the family environment were analysed (Table 1). The pattern of correlations that emerged confirmed ex-

TABLE 1. The experience of domestic violence and the perceived functioning of the family

	Dimensions of family assessment							
	D	BC	E	R	BF	Ch	C	S
Violence between parents	0.502**	-0.487**	-0.004	0.007	-0.356**	0.305**	-0.461**	-0.496**
Maternal violence	0.204**	-0.183*	0.010	-0.026	-0.183*	0.153*	-0.172*	-0.228**
Paternal violence	0.501**	-0.487**	0.073	0.081	-0.356**	0.251**	-0.452**	-0.462**
Aggression between siblings	0.270	-0.248	-0.126	-0.289*	-0.134	0.151	-0.307*	-0.261
Punishment	0.312**	-0.302**	0.169*	0.257**	-0.159*	0.222**	-0.400**	-0.431**

<sup>1</sup> Variable 'aggression between siblings' was analysed on a sample of 51 respondents.

D – disengaged, BC – balanced cohesion, E – enmeshed, R – rigid, BF – balanced flexibility, Ch – chaotic, C – communication, S – satisfaction

\*\* Correlation significant at 0.01 (two-tailed).

\* Correlation significant at 0.05 (two-tailed).

TABLE 2. Experience of domestic violence and the level of aggression in adulthood

	The level of aggression in adulthood				
	PA	VA	A	H	O
Violence between parents	0.269**	0.071	0.220**	0.270**	0.281**
Maternal violence	0.174*	0.072	0.123	0.148	0.174*
Paternal violence	0.315**	0.106	0.259**	0.337**	0.346**
Aggression between siblings	0.125	0.049	-0.041	-0.071	0.017
Punishment	0.183*	0.241**	0.161*	0.236**	0.254**

<sup>1</sup> Variable 'aggression between siblings' was analysed on a sample of 51 respondents.

PA – Physical Aggression, VA – Verbal aggression, A – Anger, H – Hostility, O – Overall

\*\* Correlation significant at 0.01 (two-tailed).

\* Correlation significant at 0.05 (two-tailed).

TABLE 3. The types of punishment meted out by parents and the assessment of the quality of the family environment, the propensity to aggression in relations with siblings and the level of aggression in adulthood

	D	BC	E	R	BF	Ch	C	S	SA	PA	VA	A	H	O
1. PP	0.162*	-0.174*	0.146	0.128	-0.127	0.043	-0.216**	-0.186*	0.205	0.160*	0.118	0.105	0.077	0.154*
2. SIT	0.352**	-0.364**	0.083	0.178*	-0.248**	0.300**	-0.456**	-0.440**	0.374**	0.298**	0.246**	0.194*	0.257**	0.307**
3. VR	0.235**	-0.214**	0.086	0.195**	-0.081	0.246**	-0.301**	-0.311**	0.245	0.115	0.152*	0.079	0.134	0.140
4. I	0.258**	-0.237**	0.139	0.130	-0.201**	0.155*	-0.289**	-0.360**	0.237	0.022	0.153*	0.189*	0.191*	0.176*
5. SDD	0.261**	-0.249**	0.119	0.137	-0.066	0.195**	-0.257**	-0.329**	0.21	0.097	0.218**	0.141	0.186*	0.199**
6. WP	0.128	-0.105	0.103	0.215**	-0.004	0.033	-0.188*	-0.189*	-0.031	0.059	0.181*	0.082	0.193*	0.156*

<sup>1</sup> Variable 'aggression between siblings' was analysed on a sample of 51 respondents.

1. PP – physical punishment, 2. SIT – screaming, insults, threats, 3. VR – (verbal) reprimand, 4. I – ignoring (eg silence, avoidance of eye contact), 5. SDD – expression of sadness, disapproval, disappointment, 6. WP – withdrawal of privileges, denial of pleasures.

D – disengaged, BC – balanced cohesion, E – enmeshed, R – rigid, BF – balanced flexibility, Ch – chaotic, C – communication, S – satisfaction SA – Aggression between siblings, PA – Physical Aggression, VA – Verbal aggression, A – Anger, H – Hostility, O – Overall

\*\* Correlation significant at 0.01 (two-tailed).

\* Correlation significant at 0.05 (two-tailed).

pectations. Two dimensions – disengaged and chaotic – turned out to be significantly and positively correlated with each type of violence under analysis, with the exception of violence between siblings. A similar, though reversed pattern was found for the following dimensions: balanced cohesion, balanced flexibility, communication (with violence between siblings a significant correlate) and satisfaction. Other dimensions of family assessment – enmeshed and rigid – turned out to be positively correlated with the dimension of punishment (which measures the degree to which various kinds of punishment were used in the subject's upbringing); the dimension "rigid" was negatively correlated with the dimension "violence between siblings". It is worth noting that the dimension of punishment proved to be significantly correlated with all dimensions of family assessment.

Next, relations between experience of domestic violence and the level of aggression in adulthood were analysed. The results are presented in Table 2. Two of the five dimensions of aggression (physical aggression and the overall score) were found to be significantly correlated with each of the forms of domestic violence under analysis, with the exception of violence between siblings. In addition, verbal aggression was shown to be significantly and positively correlated with the dimension of punishment. Anger and hostility were positively correlated with violence between parents, with paternal violence and with subjection to punishment. Contrary to expectation, no statistically significant relationship between the experience of violence between siblings and the level of aggression in adulthood was found. Interestingly, punishment again turned out to be the dimension with the greatest number of correlates – it was positively correlated with each of the manifestations of aggression under analysis. Therefore, an additional analysis was performed, in order to determine how the various types of punishment meted out by the parents were correlated with the assessment of the family environment, the propensity to aggression in relations with siblings and the level of aggression in adulthood (Table 3).

First, the relationships between the types of punishment to which the respondents were subjected in childhood and the perceived functioning of the family environment were analysed. Three dimensions of family assessment (balanced cohesion, communication and satisfaction) turned out to be significantly (negatively) correlated with all types of punishment meted out by parents; the correlation was strongest for screaming/threats/insults. In the case of the other two scales describing the cohesion of the family system, statistically significant correlations were found only for the dimension "disengaged", which was positively associated with all the types of punishment, except withdrawal of privileges and denial of pleasures. A different pattern was found for dimensions describing family flexibility. The dimensions rigid and chaotic were positively correlated with screaming/threats/insults and reprimand. In addition, the dimension rigid was positively correlated with withdrawal of privileges and denial of pleasures, and the dimension chaotic with ignoring (silence/avoidance of eye contact) and expression of sadness/disappointment/disapproval.

As far as the correlation between the types of punishment meted out by parents and the propensity to violence in relations with siblings is concerned, statistically significant results were found only for one dimension: screaming/threats/insults ( $r = 0.374$ ,  $p = 0.007$ ). Statistically significant correlates were more numerous in the case of aggression understood as a trait. It is worth noting that all the correlations were positive. This means that the more often the respondents were subjected to punishment in childhood, the higher the intensity of aggression in adulthood. Physical pun-

ishment correlated with physical aggression, reprimands with verbal aggression. The three dimensions of ignoring, expression of sadness/disappointment/disapproval and withdrawal of privileges and denial of pleasures were correlated with verbal aggression and hostility. In addition, ignoring was correlated with anger. Only one type of punishment – screaming/threats/insults – was significantly correlated with each of the dimensions of aggression under analysis. The results show that it is the most acutely felt punishment, with the widest range of negative consequences. It affects the assessment of the quality of the family environment, the tendency to react aggressively in relations with siblings and the level of aggression in adulthood in all of its aspects (physical aggression, verbal aggression, anger and hostility).

Next, to test the third hypothesis, statistically significant predictors of aggression between siblings were investigated. Because the variable representing the tendency to react with aggression in relations between siblings was dichotomous (binary), the logistic regression model was used. Since the distribution differed significantly from the normal distribution, the bootstrap was applied, with 1000 random samples. Predictors in the form of family assessment dimensions and experienced forms of violence were introduced into the model in two separate blocks (variable selection method: enter). The value of the Hosmer-Lemeshow test ( $\chi^2(8) = 11.29, p > 0.05$ ) turned out to be statistically insignificant, and thus there were no statistically significant differences between the assumed model and the data.

The final model contained two statistically significant predictors – the dimensions rigid and punishment. The odds ratio OR for the dimension rigid was in the range from 0.71 to 0.97, while the odds ratio for the intensity of the punishment ranged from 1.05 to 1.50. This means that a higher value on the dimension “rigid” of the family system lowers the probability of aggression in relations between siblings, while greater intensity of punishment during childhood clearly increases it. The dimension “rigid” explained 9.6% of the variance in the presence of aggression in relations between siblings; this figure for the intensity of punishment was 12.3%. In total, the two predictors explained 21.9% of the variance. The Cox-Snell  $R^2$  was used to estimate the strength of the relationship between the analysed variables.

## DISCUSSION

As part of the present study, correlations between the perceived quality of the family environment, the experience of domestic aggression, including aggression between siblings, and the level of aggression in adulthood were investigated. The data collected confirmed the first hypothesis, concerning the relationship between the experience of domestic violence and the assessment of family functioning along four dimensions: cohesion, flexibility, communication and satisfaction. It turned out that the dimensions most adaptive for the functioning of the family, viz. balanced cohesion and balanced flexibility, are negatively correlated with all the forms of violence under analysis, excluding violence between siblings. However, the lack of statistically significant correlation in this dimension may be due to the small sample – this variable was analysed on a sample of only 51 respondents who declared they had siblings and experienced violence in relations with them (as a victim or aggressor).

Negative correlations between the experience of domestic violence and communication was also found; the latter dimension plays only an auxiliary role in Olson's



model (2011, p. 65), but a significant role with respect to the optimal functioning of the family and the general satisfaction with family life, which is important in the context of the functioning of the entire family system. Furthermore, it was found that the experience of domestic violence is positively correlated with the dimensions “disengaged” (which indicates low cohesion in the family system) and “chaotic” (which indicates excessive system flexibility, absence of norms and principles, and dispute resolution skills). These results are in line with expectations and are not surprising in the context of other studies (Farnicka, Liberska, Niewiedział, 2016; Krahe, 2005; Poraj, 2014). It was shown that only one form of domestic violence, namely, punishment meted out to children as part of the upbringing process, is correlated with all the dimensions of the functioning of the family system (those that play a constitutive role with respect to the model – cohesion and flexibility at every level, as well as auxiliary ones: communication and satisfaction with the family). In the latter two cases, the correlations were negative and significant.

Another hypothesis tested in the study concerned the relationships between the experience of domestic violence (including violence between siblings) and the level of aggression in adulthood. The analyses carried out showed that aggression as a trait is engendered by models of aggression, that is, by observing aggression between parents and by experiencing parental (especially paternal) violence. These results are consistent with previous research (Labella, Masten, 2018). Contrary to expectation, no statistically significant relationship between the experience of violence between siblings and the level of aggression in adulthood was found, perhaps – as already indicated – because of the small size of the sample. Once again, punishment turned out to be the dimension with the greatest number of correlates – it was positively correlated with each of the manifestations of aggression under analysis.

Additional (detailed) analysis showed that while certain types of punishment are associated with specific manifestations of aggression (eg physical punishment with physical aggression, reprimands with verbal aggression, etc.), one type of punishment – screaming/threats/insults – is significantly correlated with each of the analysed dimensions of aggression and is the only one associated with the tendency to react with aggression in relations with siblings. Why is this type of punishment so important? Without a doubt such punishment is commonly used in the family as part of the process of parental influence on the child; it violates the child’s personal dignity; lasts longer, tends to escalate; and increases the tension between the parties to the conflict. This can lead to frustration, which in turn gives rise to the need for release (Dominiak-Kochanek et al., 2015). The siblings then become easy victims of the release of growing negative emotions (Caffaro, Conn-Caffaro, 1998, 2005; Caspi, 2013; Ley, 2004). Frustrated, children also unload strong negative emotional tensions on those around them (Ley, 2004). They direct their hostility, anger and verbal aggression caused by the above-mentioned punishment against people outside their family. However, this interpretation can only be confirmed through qualitative research. Such a procedure will be used in further research conducted by the authors.

The analysis of logistic regression, performed to test the third hypothesis, revealed two important predictors of the tendency to respond with aggression in relations with siblings: family system rigidity and the use of punishment in parenting. It turned out that the greater the rigidity, the lower the probability of aggression in relations between siblings; on the other hand, this probability grows with the use of punishment during childhood. This suggests that siblings release the tension caused by punish-

ment in relations between each other, and the rigidity of the family system, associated with the lack of flexibility in mutual relations, in the way people live together, etc., only exacerbates the problem (Olson, 2000, 2011).

## LIMITATIONS AND DIRECTIONS OF FUTURE RESEARCH

In interpreting the results of the study, one should note certain limitations. There are several issues to consider: the structure of the study, based on estimates of correlations; the size and structure of the sample; and the adopted (retrospective) research strategy.

It is clearly a limitation of the present study that it is based on correlation analysis, specifically between certain characteristics of the family system and the propensity to react with violence in relations between siblings during childhood and the higher level of aggression in adulthood. The mere existence of correlation does not allow one to conclude (with certainty) which factor is the “cause” and which the “effect”. Empirical verification of the postulated causal relationships would require a longitudinal study (Brzeziński, 2006).

The size and structure of the sample was another limitation. Though the total number of respondents was 201, only 51 declared to have experienced violence in relations with siblings. As a consequence, some analyses (important in the context of the research problem posed) were performed on a small sample of respondents, which could render some of the results presented inconclusive. Furthermore, the sample was not balanced with respect to gender. Women were over-represented both in the whole sample and in the subsample of respondents who declared they had experienced aggression in relations with siblings. When designing new studies, a larger sample should be used, with a balanced proportion of women and men.

The retrospective character of the study may also give rise to objections: the subjects were adults who had a brother or sister, but the topic of the study was childhood experience. Such a research strategy, based as it is on retrospective assessment of childhood by adults, required the use of self-report questionnaires. Although the use of such tools is accepted in studies of the family system, and all the tools used in the present study had satisfactory psychometric parameters, nevertheless, a retrospective study based on self-reports is susceptible to situational and temporal effects, which may lead to distortions in the memories reported. Therefore, when designing future studies, one should consider the use of qualitative methods. Conflicts between siblings and their long-term effects are extremely sensitive and subtle issues. The use of qualitative methods will allow researchers to explore and understand this phenomenon more effectively, and therefore also deal with its negative consequences.

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## PERFECTIONISM AND AGGRESSION IN ARTISTICALLY GIFTED PERSONS

**Abstract:** Some scholars define perfectionism as the relationship between one's abilities and expectations. A strong emotional reaction to the discrepancy between these can be maladaptive and even lead to aggressive behaviour. The study covered 133 students and graduates of colleges around Poland, including 67 persons of various specialties in visual arts. In order to characterise perfectionism, the Polish version of the *Goals and Work Habits Survey* (Schuler, 1994) was used, while the tool called *Inwentarz Psychologiczny Agresji* [Aggression Psychological Inventory] (Gaś, 1980) was used for description of aggression. The aim of the study was to analyse the relationship between specific aspects of perfectionism and aggression in artistically gifted persons.

The results of the study indicate that artistically gifted persons scored higher in respect of some aspects of perfectionism than persons from the control group. The assumption that the studied groups differ in terms of aggression syndrome has not been confirmed. The artistically gifted men differed from the control group men in terms of aspects of perfectionism and in terms of *transferred aggression*. No statistically significant differences in terms of perfectionism or aggression syndrome have been established between the women. Moreover, gender did not differentiate perfectionism in the group of artistically talented persons.

**Keywords:** perfectionism, aggression, gifted persons, visual arts, gender differences.

### INTRODUCTION

The construct of perfectionism is difficult to describe because the literature on this subject offers many different approaches. Some scholars describe its dichotomous nature by naming two contrasting types of perfectionism. Bransky, Jenkins, Friedman and Murphy (1987) differentiate between enabling perfectionism and disabling perfectionism. Enns and Cox (2002) define positive aspects of perfectionism as adaptive perfectionism and negative – as maladaptive perfectionism. Patricia A. Schuler (2000) sees adaptive aspects as healthy perfectionism and maladaptive – as unhealthy. Other scholars (Barrow, Moore, 1983; Greenspon, 2000; Pacht, 1984) see perfectionism as a purely negative trait.



In some personality theories (Adler, 1973, Dąbrowski, 1975a; Maslow, 1971), perfectionism is described as an indispensable element of development. Wendy C. Roedell (1984) claims that positive perfectionism can direct energy towards big achievements. On the other hand, precise attention to detail, involvement and perseverance keep artists at their easels (Dąbrowski, Piechowski, 1977).

Kazimierz Dąbrowski (1979a) has proposed a theory of positive disintegration (Polish: *teoria dezintegracji pozytywnej*, TDP) connected with personality development. According to this author, development is based on disintegration of an integral, original structure, which occurs so that it can be merged into a new, better one on a higher level. This process, which initially occurs spontaneously, with time adopts a conscious and targeted form. Achieving further levels of an individual's development entails some very important *dynamisms*, including lack of agreement to the existing reality, a sense of guilt, inferiority, lack of confidence, dissatisfaction with oneself, shame, etc. These lead to self-improvement and are inseparably connected with perfectionism (Piechowski, 1979).

Dąbrowski has defined and characterised perfectionism occurring at five developmental levels. At the first one, which is the furthest from perfection, it is narcissistic expectation of perfection from others, whose shortages are treated as attack on oneself. At the further levels, person learns to pursue his or her independent vision with altruistic intentions. Thus, directing perfectionism at oneself leads to full personality development and when perfectionism is directed at others, it can cause improper expectations, disappointment and paralyse beneficial actions (Silverman, 2007).

Apart from views pointing to the innate character of perfectionism, the literature also offers concepts referring to its dependence on environmental factors. Many theoreticians believe that perfectionist children have perfectionist parents. Wayne D. Parker (1998) has noticed that children are gifted disproportionately – perfectionists are more likely to be found among single children and the eldest of siblings. Research by Schuler (1999) has shown that groups to which a person belongs in the period of growing up (parents, school, peers) are important for the development of healthy or dysfunctional perfectionism.

Measurement of perfectionism has evolved from a homogeneous to a multi-dimensional concept. Currently, two tools with similar names are available: *The Frost Multidimensional Perfectionism Scale (FMPS; Frost et al., 1990)* and *The Hewitt-Flett Multidimensional Perfectionism Scale (H&F-MPS; Hewitt, Flett, 1991)*. Randy O. Frost, Patricia Marten, Cathleen Lahart and Robin Rosenblate (1990) studied university students in the United States and Canada. They have created a tool consisting of 35 statements and defining: concern over mistakes, personal standards, parental expectations, parental criticism, doubts about actions, and organisation.

Paul L. Hewitt and Gordon L. Flett (1991) have developed a scale consisting of 45 statements and measuring three dimensions connected with perfectionism: self-oriented perfectionism, socially-prescribed perfectionism and other-oriented perfectionism (Frost et al., 1993). Self-oriented perfectionism means strong motivation to be perfect, setting unrealistic standards, compulsive pursuit of goals and dichotomous thinking in which only total success or total failure exist. At extreme, it can be related to work addiction. Other-oriented perfectionism sets demanding standards, punishing and hostile attitude and narcissistic tendencies to blame others. Socially-prescribed perfectionism is defined as belief that others expect us to be perfect. Persons with such a conviction are very prone to criticism and have a strong need for acceptance (Hewitt, Flett, 1991).

Schuler (1999) has adapted *FMPS* (Frost et al., 1990) and developed *The Goals and Work Habits Survey* (Schuler, 1994). Her research has shown that as many as 87.5% of talented young people exhibit perfectionist tendencies. Among her subjects, 58% were students with healthy perfectionism, while 29.5% – with neurotic perfectionism. A healthy perfectionist is one who has a strong need for order and organisation as well as positive models concerning pursuit of goals, who is free from parents' expectations and accepts his or her mistakes. On the other hand, a dysfunctional (neurotic) perfectionist lives in fear of committing errors, has extremely high standards, has faced very high expectations and negative criticism in the childhood, questions his or her own judgements, lacks effective strategies for dealing with stress, seeks and needs acceptance. Interestingly, gender did not differentiate the level of perfectionism (Schuler, 1999).

Research using this questionnaire was conducted in Poland by Joanna Śliwińska, Wiesława Limont and Katarzyna Dreszer (2008). It has revealed significant differences between gifted students with high and low school achievement in three aspects of perfectionism: parental expectations, parental criticism and organisation. Like in the studies by Schuler (1999), no differences between boys and girls were recorded in any of the studied aspects, also among persons with similar school achievement level.

Gifted students were also the subject of study of Wayne D. Parker and Carol J. Mills (1996). They compared 600 gifted persons with a control group which lacked this property. For their study, they used the *FMPS* tool (Frost et al., 1990). The results revealed that gifted persons were characterised by healthy perfectionism in the form of high standards and organisation.

Alison Ram (2005) studied PhD candidates using *FMPS* (Frost et al., 1990) and proved that positive perfectionism was positively related to academic achievement, achievement motivation and general sense of well-being. Negative perfectionism, on the other hand, was related to negative affect, depression, anxiety, stress or more frequent use of non-constructive methods of dealing with problems. The latter group can be reluctant to learn difficult tasks for fear of failure or leave tasks uncompleted to avoid poor grades (Ram, 2005).

## PERFECTIONISM AND AGGRESSION

In some approaches, aggression is defined as intentional or unintentional behaviour resulting from an impulse to fight against forbidden or threatening situations and causing harm to oneself or to others (Ayan, 2007).

Joachim Stoeber and collaborators (2017) have studied the relationship between perfectionism and aggression among 1133 university students using, among others, *H&F-MPS* (Hewitt, Flet, 1991). They have concluded that self-oriented perfectionism and socially-prescribed perfectionism are related to social disconnection and hostility, while self-oriented perfectionism – to low physical aggression and malice.

Demet E. Öngen (2009) has assumed that perfectionism is the relationship between one's own high abilities and expectations (Hamachek, 1978; Rice, Ashby, Slaney, 2007) and observed in high school students that discrepancy between these is a positive predictor of anger, physical aggression and hostility, while order is a negative predictor of anger, physical and verbal aggression; high standards are a negative predictor of hostility and positive – of verbal aggression.

The discrepancy problem has also been considered in the studies of David S. Chester, Lauren M. Merwin, C. Nathan DeWall (2015). It has turned out that persons reacting strongly with negative affect to unpleasant feedback are characterised by maladaptive perfectionism. This consists in excessive focus on the perceived discrepancy between the standards set by oneself and the real efficiency (Rice, Ashby, Slaney, 2007). The study results suggest that maladaptive perfectionists have a bigger tendency to hurt themselves and others. This is caused by negative feedback, which has a stronger affective effect in persons accepting aggression as a means of dealing with a difficult situation (Chester, Merwin, DeWall, 2015). This happens because aggression leading to tension drop is rewarding. It encourages the tendency to ascribe negative traits to victims, which justifies the negative reaction (Poraj, 2003). However, they do not react aggressively on an every-day basis, but only in frustrating situations. Therefore, stronger negative affect can lead to a bigger tendency to use aggression (Chester, Merwin, DeWall, 2015).

David M. Dunkley, David C. Zuroff and Kirk R. Blankstein (2003) have set out to explain the relationship between perfectionism and affect and studied over 150 university students. *Self-critical perfectionists* have been characterised by problems in dealing with stress and low perception of social support; they reacted emotionally to stressors which implied potential failure, loss of control and criticism from others. Paul L. Hewitt et al. (2002) have proven that in 114 children aged 10–15 (investigated using, among others, the *Child-Adolescent Perfectionism Scale*), self-oriented perfectionism is related to depression and anxiety, while socially-prescribed – to depression, anxiety, social stress and anger.

Fatih Camadan and Hikmet Yazici (2017) believe that aggression is a product of interaction of innate and acquired traits. They have studied nearly 3 thousand Turkish university students in seven cities using, among others, *H&F-MPS* (Hewitt, Flett, 1991) and proven that aggression can be accounted for by perfectionism ( $\beta = 0.13$ ;  $p < 0.001$ ), forgiving ability ( $\beta = -0.40$ ;  $p < 0.001$ ), and stress management ( $\beta = 0.17$ ;  $p < 0.001$ ). Other scholars point to significant negative correlation between perfectionism and forgiving (Earl, 2012; Kim, Johnson, Ripley, 2011) and perfectionism and stress management (Park, Heppner, Lee, 2010).

Öngen (2009) has investigated the relationship between perfectionism and aggression in 445 high school students using *The Almost Perfect Scale-Revised (APS-R)* (Slaney, Rice, Mobley, Trippi, Ashby, 2001) and the *Aggression Questionnaire (BPAQ)* (Buss, Perry, 1992). Aspects of perfectionism were high standards, order (adaptive perfectionism) and discrepancy (maladaptive perfectionism); aspects of aggression were anger, physical aggression, hostility and verbal aggression. Discrepancy has been a positive predictor of anger, physical aggression and hostility, while order has been a negative predictor of anger, physical and verbal aggression. High standards have proven a negative predictor of hostility and positive – of verbal aggression.

## PERFECTIONISM AND AGGRESSION IN ARTISTS

In this article, we have focused on aggression and perfectionism in artists. Aforementioned Kazimierz Dąbrowski (1979a) was interested in prominent artists in the context of the positive disintegration theory. In his view, perfectionism predisposed persons to extraordinary achievements and personality development could

be accompanied by psychic problems such as depression and anxiety (Dąbrowski, 1975a, b).

There have been other scholars to investigate artists: Mohammad Behroozi and collaborators (2014) have proven the relationship between *negative perfectionism* and low self-esteem and depression in 200 artists. Jon Arcelus and collaborators (2015) have recorded the relationship between concern about mistakes (Frost et al., 1990) and eating disorders in 281 Spanish female dancers. Joachim Stoeber and Ulrike Eismann (2007) have studied perfectionism in 146 young musicians using a tool (Stoeber, Rambow, 2007) adapted from the *Multidimensional Inventory of Perfectionism in Sport*. The results have shown that striving for perfection is related to adaptive behaviour, while negative reactions to imperfection and perceived parental pressure to be perfect can weaken motivation and well-being of students. Studies of professional musicians (Mor et al., 1995) conducted using *H&F-MPS* (Hewitt, Flett; 1991) stress the relationship between perfectionism and fear of performance and satisfaction of goal achievement.

In the Polish context, we lack research into relationships between perfectionism and aggression in artists. The aim of the study was, therefore, the analysis of relationships between individual aspects of perfectionism and aggression in artistically gifted persons. The following hypotheses have been formulated:

- H1: Artistically gifted persons and persons without such talents differ in terms of perfectionism and aggression levels.
- H2: Gender differentiates the levels of perfectionism and aggression in artistically gifted and not gifted persons.
- H3: Artistically gifted women differ in terms of perfectionism and aggression from control group women.
- H4: Artistically gifted men differ in terms of perfectionism and aggression from control group men.
- H5: There is a relationship between aggression and perfectionism in the groups of artistically gifted and not gifted persons.

## METHOD

### Procedure and study subjects

The study was completed via the Internet. Due to shortages identified in the study, 13 persons were covered using direct contact. The number of study participants was  $N = 133$  persons (51% female) aged  $M = 27.87$ ,  $SD = 3.69$ , mainly students and graduates of colleges from around Poland. Voluntary participation in the study was declared by  $N = 35$  artistically gifted women aged  $M = 28.63$ ,  $SD = 3.67$  with various visual art specialties, i.e. architecture, interior decoration, artistic print, industrial design, clothing design, photography, painting, paintings preservation. The control group included  $N = 33$  women aged  $M = 27.64$ ,  $SD = 3.95$ . The study covered also 65 men, including  $N = 32$  artistically gifted men aged  $M = 27.88$ ,  $SD = 3.5$  with the following visual art specialties: architecture, landscape architecture, artistic print, painting, design, computer graphics and multimedia, visual education, photography, sculpture, and  $N = 33$  men aged  $M = 27.39$ ,  $SD = 3.66$  in the control group. The study was anonymised. Among the subjects, 41% came from small towns (up to 20 thousand residents), 15% from middle-sized towns (between 20 and 100 thousand residents) and 41.4% from

big cities (over 100 thousand residents). The biggest number of study subjects had completed MA education programmes (66.2%), followed by high school education (21.8%), BA programme (9.8%) and others (2.3%).

### Tools

In search of an answer to the questions, we used the following tools: to investigate perfectionism – the Polish version of *Goals and Work Habits Survey* (Schuler, 1994); the *Aggression Psychological Inventory* (Gaś, 1980) was used for characterization of aggression syndrome.

The *Goals and Work Habits Survey* (GWHS, Schuler, 1994) translated into Polish by Joanna Dreszer is a modification of the *Multidimensional Perfectionism Scale* test (Frost et al., 1990). The questionnaire contains 35 statements with 5-point Likert scale from 1 – *does not absolutely describe me* to 5 – *describes me very well*.

The test measures six aspects connected with perfectionism: concern about mistakes (CM), personal standards (PS), parental expectations (PE), parental criticism (PC), doubts about actions (D), and organisation (O).

Following a study, three types can be distinguished: a) non-perfectionist, b) healthy and normal perfectionist, and c) dysfunctional and neurotic perfectionist type.

The *Aggression Syndrome Psychological Inventory* (*Inwentarz Psychologiczny Syndromu Agresji – IPSA*; Gaś, 1980) is used to measure severity of aggression symptoms in adults. An aggression syndrome is understood here as an “ensemble of experiences, attitudes and behaviours whose aim or effect (intended or not) is doing harm (directly or indirectly) to another person or to oneself” (Gaś, 1980, p. 143). Thus, the scale is clearly founded on a very broad understanding of aggression as aggressive tendencies of which one is aware or unaware, demonstrated, but also experienced and directed at oneself or the environment.

The inventory consists of 83 statements which make up 10 scales. These are: emotional self-aggression, physical self-aggression, hostility towards environment, unrealised aggressive tendencies, transferred aggression, indirect aggression, verbal aggression, physical aggression, control and retaliation tendency. The first eight scales make it possible to identify the dominant direction of aggression according to three indices: self-aggression (Polish: *samoagresja* – S), hidden aggression (Polish: *agresja ukryta* – U) and externalised aggression (Polish: *agresja skierowana na zewnątrz* – Z). At the same time, using these data and indices of K (control – Polish: *kontrola*) and O (retaliation – Polish: *odwet*), it is possible to calculate the overall score of aggression syndrome (Polish: *wynik ogólny* – WO).

The reliability has been verified with the stability estimation method. The same group of persons was studied twice at the interval of two weeks; the absolute stability index was obtained at the level of 0.94 for women, 0.91 for men, significant in the both cases at the level of  $p = 0.001$ .

## RESULTS

In order to verify whether the group of artistically gifted persons (Z) and the control group (K) differed between each other in respect of aggression and perfectionism, we conducted a single factor variance analysis. The relations between the variables were

investigated using the Pearson correlation coefficient for the scales for which the normal distribution condition was met and using the Spearman correlation coefficient for those for which the condition was not met (the Shapiro-Wilk test).

## PERFECTIONISM

The data presented in Table 1 show that the artistically gifted persons and persons from the control group statistically significantly differed between each other in terms of perfectionism.

TABLE 1. Differences between mean scores of the artistically gifted group ( $N = 67$ ) and the control group ( $N = 66$ ) in respect of aspects of perfectionism ( $M$  and  $SD$  in italics)

Perfectionism	Z		K		F	p
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>		
Overall score	90.03	17.19	82.83	19.69	5.045	<b>0.026 *</b>
Concern about mistakes (CM)	28.40	7.15	24.91	8.12	6.941	<b>0.009 **</b>
Personal standards (PS)	25.03	4.06	23.24	4.94	5.208	<b>0.024 *</b>
Parental expectations (PE)	13.00	4.47	13.30	4.93	0.138	0.711
Parental criticism (PC)	10.54	3.70	10.00	3.91	0.662	0.417
Doubt about actions (D)	13.06	3.63	11.38	3.29	7.832	<b>0.005 **</b>
Organisation	22.07	4.38	22.14	5.77	0.005	0.945

Key: \*\*  $p < 0.01$ ; \*  $p < 0.05$ .

A comparative analysis of the mean scores shows that the artistically gifted persons scored higher ( $M = 90.03$ ,  $SD = 17.19$ ) than the persons from the control group ( $M = 82.832$ ,  $SD = 19.69$ ) in respect of the overall score  $F(1,131) = 5.045$ ;  $p = 0.026$  and some specific aspects. Concern about mistakes  $F(1,131) = 6.941$ ;  $p = 0.009$  was higher in the artistically gifted persons ( $M = 28.40$ ;  $SD = 7.15$ ) than in the persons from the control group ( $M = 24.91$ ;  $SD = 8.12$ ). We have also recorded statistically significant differences in personal standards  $F(1,131) = 5.208$ ;  $p = 0.024$ . Here also the artistically gifted persons scored higher ( $M = 25.03$ ;  $SD = 4.06$ ) than the persons from the control group ( $M = 23.24$ ;  $SD = 4.94$ ). The study subjects differed also in doubt about actions  $F(1,131) = 7.832$ ;  $p = 0.006$ . The artistically gifted persons scored higher ( $M = 13.06$ ;  $SD = 3.63$ ) than the persons from the control group ( $M = 11.38$ ;  $SD = 3.29$ ).

The effect size showed low value for the overall score ( $\eta^2 = 0.037$ ), concern about mistakes ( $\eta^2 = 0.050$ ) and personal standards ( $\eta^2 = 0.038$ ) and medium value for doubt about actions ( $\eta^2 = 0.056$ ).

Furthermore, statistical analysis revealed no statistically significant differences between the artistically gifted and the control group in respect of perceived parental expectations, parental criticism and organisation.

In the next part, we present results in respect of perfectionism in the artistically gifted persons broken down according to gender. This is illustrated in Table 2.

It is visible that the artistically gifted women do not differ from the artistically gifted men in respect of perfectionism. Statistical analysis revealed no statistically sig-



TABLE 2. Differences between women ( $N = 35$ ) and men ( $N = 32$ ) in respect of aspects of perfectionism in the group of artistically gifted persons

Perfectionism	Z				F	P
	Women		men			
	M	SD	M	SD		
Overall score	89.09	18.65	91.06	15.68	0.218	0.642
Concern about mistakes (CM)	29.06	7.62	27.69	6.64	0.610	0.438
Personal standards (PS)	24.20	3.89	25.94	4.10	3.168	0.080
Parental expectations (PE)	12.77	4.65	13.25	4.33	0.189	0.665
Parental criticism (PC)	10.29	3.79	10.81	3.65	0.335	0.565
Doubt about actions (D)	12.77	3.90	13.38	3.34	0.458	0.501
Organisation	22.80	4.25	21.28	4.46	2.038	0.158

Key: \*\*  $p < 0.01$ ; \*  $p < 0.05$ .

TABLE 3. Differences between women ( $N = 33$ ) and men ( $N = 33$ ) in respect of aspects of perfectionism in the control group

Perfectionism	K				F	P
	women		Men			
	M	SD	M	SD		
Overall score	86.67	20.21	79.00	18.68	2.562	0.114
Concern about mistakes (CM)	27.27	7.38	22.55	8.25	6.025	<b>0.017*</b>
Personal standards (PS)	23.39	5.38	23.09	4.54	0.061	0.805
Parental expectations (PE)	13.64	5.32	12.97	4.57	0.298	0.587
Parental criticism (PC)	10.85	3.76	9.15	3.94	3.206	0.078
Doubt about actions (D)	11.52	3.56	11.24	3.03	0.112	0.739
Organisation	22.91	5.56	21.36	5.95	1.187	0.280

Key: \*\*  $p < 0.01$ ; \*  $p < 0.05$ .

nificant differences according to gender in respect of the overall score and its specific aspects: concern about mistakes, personal standards, parental expectations, parental criticism, doubt about actions and organisation.

An analogous analysis broken down according to gender has been conducted for the control group. Table 3 shows results according to which no differences between the compared groups have been revealed in respect of overall perfectionism score, personal standards, parental expectations, parental criticism, doubt about actions, organisation and the overall score. The only recorded difference concerns concern about mistakes  $F(1,64) = 6.025$ ;  $p = 0.017$ , where women scored higher ( $M = 27.27$ ;  $SD = 7.375$ ) than men ( $M = 22.55$ ;  $SD = 8.25$ ). The effect size for anxiety due to committed errors showed medium value ( $\eta^2 = 0.086$ ).

In accordance with the assumed study objectives, we have compared the results of women from the artistically gifted group and from the control group (Table 4), but the

TABLE 4. Differences between women from the group of artistically gifted persons ( $N = 35$ ) and the control group ( $N = 33$ ) in respect of aspects of perfectionism

Perfectionism	Women				F	P
	Z		K			
	M	SD	M	SD		
Overall score	89.09	18.65	86.67	20.21	0.264	0.609
Concern about mistakes (CM)	29.06	7.62	27.27	7.38	0.960	0.331
Personal standards (PS)	24.20	3.89	23.39	5.38	0.506	0.479
Parental expectations (PE)	12.77	4.65	13.64	5.32	0.511	0.477
Parental criticism (PC)	10.29	3.79	10.85	3.76	0.378	0.541
Doubt about actions (D)	12.77	3.90	11.52	3.56	1.914	0.171
Organisation	22.80	4.25	22.91	5.56	0.008	0.928

Key: \*\*  $p < 0.01$ ; \*  $p < 0.05$ .

TABLE 5. Differences between men from the group of artistically gifted persons ( $N = 32$ ) and the control group ( $N = 33$ ) in respect of aspects of perfectionism

Perfectionism	Men				F	P
	Z		K			
	M	SD	M	SD		
Overall score	91.063	15.678	79.000	18.680	7.927	<b>0.006**</b>
Concern about mistakes (CM)	27.688	6.640	22.545	8.247	7.638	<b>0.007**</b>
Personal standards (PS)	25.938	4.103	23.091	4.537	7.025	<b>0.01*</b>
Parental expectations (PE)	13.250	4.325	12.970	4.572	0.064	0.801
Parental criticism (PC)	10.813	3.649	9.152	3.938	3.106	0.083
Doubt about actions (D)	13.375	3.338	11.242	3.031	7.278	<b>0.009**</b>
Organisation	21.281	4.459	21.364	5.952	0.004	0.950

Key:\*\*  $p < 0.01$ ; \*  $p < 0.05$ .

statistical analysis has not revealed any statistically significant differences in respect of the overall perfectionism score and all its specific aspects: concern about mistakes, personal standards, parental expectations, parental criticism, doubt about actions and organisation.

An analogous analysis has been carried out in both male groups. The data presented in Table 5 show that the artistically gifted men and the men from the control group differ between each other in respect of the overall perfectionism score  $F(1.63) = 7.927$ ;  $p = 0.006$ , for which the men from the experimental group again scored higher ( $M = 91.06$ ;  $SD = 15.68$ ) than the men from the control group ( $M = 79.00$ ;  $SD = 18.68$ ). Concern about mistakes  $F(1.63) = 7.638$ ,  $p = 0.007$  was higher in the men from the artistically gifted group ( $M = 27.69$ ;  $SD = 6.64$ ) than in the men from the control group ( $M = 22.55$ ;  $SD = 8.25$ ). Moreover, personal standards  $F(1.63) = 7.025$ ;  $p = 0.010$  were higher in the artistically gifted men ( $M = 25.94$ ;

$SD = 4.1$ ) than in the men from the control group ( $M = 23.09$ ;  $SD = 4.54$ ). A similar picture can be seen when it comes to doubt about actions  $F(1.63) = 7.278$ ;  $p = 0.009$ , where the men from the control group ( $M = 13.38$ ;  $SD = 3.34$ ) scored higher than the men from the control group ( $M = 11.24$ ;  $SD = 3.03$ ). The effect size showed medium value for the overall perfectionism score ( $\eta^2 = 0.112$ ), concern about mistakes ( $\eta^2 = 0.108$ ), personal standards ( $\eta^2 = 0.100$ ) and doubt about actions ( $\eta^2 = 0.104$ ).

At the same time, no significant differences between the group of artistically gifted men and the control group have been recorded in respect of parental expectations, parental criticism and organisation.

To sum up, the study results presented above have confirmed that the level of artistic talent differentiates groups in respect of aspects of perfectionism. Artistic talent did not differentiate perfectionism in women, however the artistically gifted men scored higher in respect of most scales of perfectionism than the men from the control group. Surprisingly, in the artistically gifted group, the women got similar scores on the perfectionism scales as the men. In the control group, women scored higher than men only on the scale of concern about mistakes.

## AGGRESSION

In the first place, we have compared the results of studies of aggression syndrome in the both groups. We revealed that the artistically persons did not differ from the control group in terms of aggression (Table 6).

TABLE 6. Differences between mean scores of the artistically gifted group ( $N = 67$ ) and the control group ( $N = 66$ ) in terms of aspects of aggression

Aggression syndrome	Z		K		F	p
	M	SD	M	SD		
Overall score	40.701	24.839	36.848	21.514	0.913	0.341
S (self-aggression index)	6.090	5.044	5.652	4.850	0.260	0.611
U (hidden aggression index)	7.687	5.821	6.848	5.438	0.736	0.393
Z (externalised aggression index)	14.881	9.227	12.955	8.284	1.603	0.208
Control	15.507	4.875	15.515	4.990	0.000	0.993
Retaliation	3.284	3.976	3.439	4.232	0.048	0.827
Scale I – Emotional self-aggression	6.985	4.381	5.803	4.534	2.338	0.129
Scale II – Physical self-aggression	1.373	1.774	1.318	1.807	0.031	0.860
Scale III – Hostility towards environment	4.716	3.892	4.333	3.836	0.327	0.569
Scale IV – Unrealised aggressive tendencies	2.970	2.866	2.515	2.537	0.939	0.334
Scale V – Transferred aggression	3.642	3.467	2.621	2.955	3.333	0.070
Scale VI – Indirect aggression	3.642	3.274	2.621	2.423	4.166	<b>0.04*</b>
Scale VII – Verbal aggression	6.821	4.082	6.909	4.630	0.014	0.907
Scale VIII – Physical aggression	0.776	1.526	0.803	1.417	0.011	0.916

Key: \*\*  $p < 0.01$ ; \*  $p < 0.05$ .

We have recorded no statistically significant differences in terms of the overall score and specific aspects: self-aggression, hidden aggression and externalised aggression indices, control, retaliation, emotional self-aggression, physical self-aggression, hostility towards environment, unrealised aggressive tendencies, transferred aggression, verbal aggression and physical aggression.

Indirect aggression  $F(1.131) = 4.166$ ;  $p = 0.043$  was higher in the group of artistically gifted persons ( $M = 3.642$ ;  $SD = 3.274$ ) than in the control group ( $M = 2.621$ ;  $SD = 2.423$ ), while the effect size for indirect aggression showed low value ( $\eta^2 = 0.031$ ).

Subsequently, we have analysed the results of the aggression syndrome level in the artistically gifted persons broken down according to gender. This is shown in Table 7. We have recorded no statistically significant differences between women and men in terms of the overall score, self-aggression and externalised aggression indices, control, emotional self-aggression, physical self-aggression, hostility towards environment, transferred aggression, indirect aggression, verbal aggression and physical aggression. The differences between the groups lied in the hidden aggression index  $F(1.65) = 4.591$ ;  $p = 0.036$ , where men ( $M = 4.344$ ;  $SD = 4.660$ ) scored higher than women ( $M = 2.314$ ;  $SD = 2.978$ ); moreover, these have been recorded in terms of unrealised aggressive tendencies  $F(1.65) = 15.675$ ;  $p = 0.001$ , where men ( $M = 4.281$ ;  $SD = 3.324$ ) scored higher than women ( $M = 1.771$ ;  $SD = 1.664$ ), and retaliation  $F(1.65) = 4.591$ ;  $p = 0.036$ , in terms of which men ( $M = 4.344$ ;  $SD = 4.660$ ) also scored higher than women ( $M = 2.314$ ;  $SD = 2.978$ ). The effect size showed medium

TABLE 7. Differences between women ( $N = 35$ ) and men ( $N = 32$ ) in terms of aspects of aggression in the artistically gifted group

Aggression syndrome	Z				F	p
	Women		Men			
	M	SD	M	SD		
Overall score	35.914	21.366	45.938	27.545	2.796	0.099
S (self-aggression index)	4.971	4.239	7.313	5.614	3.750	0.057
U (hidden aggression index)	5.686	4.317	9.875	6.499	9.814	<b>0.003**</b>
Z (externalised aggression index)	13.600	8.128	16.281	10.243	1.421	0.238
Control	15.571	4.901	15.438	4.925	0.012	0.912
Retaliation	2.314	2.978	4.344	4.660	4.591	<b>0.036*</b>
Scale I – Emotional self-aggression	6.829	4.098	7.156	4.732	0.092	0.762
Scale II – Physical self-aggression	1.057	1.327	1.719	2.129	2.374	0.128
Scale III – Hostility towards environment	3.914	3.425	5.594	4.226	3.218	0.077
Scale IV – Unrealised aggressive tendencies	1.771	1.664	4.281	3.324	15.675	<b>0.001**</b>
Scale V – Transferred aggression	2.857	3.117	4.500	3.672	3.919	0.052
Scale VI – Indirect aggression	3.286	3.064	4.031	3.496	0.865	0.356
Scale VII – Verbal aggression	6.857	3.882	6.781	4.353	0.006	0.940
Scale VIII – Physical aggression	0.600	1.241	0.969	1.787	0.976	0.327

Key: \*\*  $p < 0.01$ ; \*  $p < 0.05$ .

value for the hidden aggression index ( $\eta^2 = 0.131$ ) and retaliation ( $\eta^2 = 0.066$ ), and high value for unrealised aggressive tendencies ( $\eta^2 = 0.194$ ).

The analysis broken down according to gender was also conducted in the control group (Table 8). We have recorded no statistically significant differences between women and men in terms of the overall score and specific aspects, i.e.: self-aggression, hidden aggression and externalised aggression indices, control, retaliation, emotional self-aggression, hostility towards environment, unrealised aggressive tendencies, transferred aggression and physical aggression. The differences between the groups concerned verbal aggression  $F(1.64) = 4.787$ ;  $p = 0.032$  and indirect aggression  $F(1.64) = 4.114$ ;  $p = 0.047$ . In terms of indirect aggression, women ( $M = 2.03$ ;  $SD = 1.776$ ) scored higher than men ( $M = 3.212$ ;  $SD = 2.837$ ). Similarly, in terms of verbal aggression, women ( $M = 8.121$ ;  $SD = 4.827$ ) also scored higher than men ( $M = 5.697$ ;  $SD = 4.149$ ). The effect size for indirect aggression ( $\eta^2 = 0.060$ ) and verbal aggression ( $\eta^2 = 0.070$ ) showed medium value.

TABLE 8. Differences between women ( $N = 33$ ) and men ( $N = 33$ ) in terms of aspects of aggression in the control group

Aggression syndrome	K				F	p
	Women		Men			
	M	SD	M	SD		
Overall score	36.152	17.529	37.545	25.137	0.068	0.795
S (self-aggression index)	5.182	4.004	6.121	5.594	0.615	0.436
U (hidden aggression index)	6.273	4.193	7.424	6.466	0.737	0.394
Z (externalised aggression index)	13.424	7.830	12.485	8.811	0.210	0.649
Control	15.394	4.769	15.636	5.273	0.038	0.845
Retaliation	2.758	2.916	4.121	5.189	1.732	0.193
Scale I – Emotional self-aggression	6.182	4.081	5.424	4.981	0.457	0.502
Scale II – Physical self-aggression	0.909	1.378	1.727	2.096	3.512	0.065
Scale III – Hostility towards environment	4.273	3.538	4.394	4.168	0.016	0.899
Scale IV – Unrealised aggressive tendencies	2.000	2.136	3.030	2.823	2.796	0.099
Scale V – Transferred aggression	2.606	3.142	2.636	2.804	0.002	0.967
Scale VI – Indirect aggression	2.030	1.776	3.212	2.837	4.114	<b>0.047*</b>
Scale VII – Verbal aggression	8.121	4.827	5.697	4.149	4.787	<b>0.032*</b>
Scale VIII – Physical aggression	0.667	1.242	0.939	1.580	0.608	0.438

Key:\*\*  $p < 0.01$ ; \*  $p < 0.05$ .

In accordance with the study objectives, we have compared the results of the women from the artistically gifted and the control group (Table 9), however the analysis revealed no statistically significant differences between them in terms of the overall aggression score and specific aspects: self-aggression, hidden aggression and externalised aggression indices, control, retaliation, emotional self-aggression, physical self-aggression, hostility towards environment, unrealised aggressive tendencies,

TABLE 9. Differences between the women from the artistically gifted group ( $N = 35$ ) and the control group ( $N = 33$ ) in terms of aspects of aggression

Aggression syndrome	Women				F	p
	Z		K			
	M	SD	M	SD		
Overall score	35.914	21.366	36.152	17.529	0.002	0.960
S (self-aggression index)	4.971	4.239	5.182	4.004	0.044	0.834
U (hidden aggression index)	5.686	4.317	6.273	4.193	0.323	0.572
Z (externalised aggression index)	13.600	8.128	13.424	7.830	0.008	0.928
Control	15.571	4.901	15.394	4.769	0.023	0.880
Retaliation	2.314	2.978	2.758	2.916	0.384	0.538
Scale I – Emotional self-aggression	6.829	4.098	6.182	4.081	0.425	0.517
Scale II – Physical self-aggression	1.057	1.327	0.909	1.378	0.204	0.653
Scale III – Hostility towards environment	3.914	3.425	4.273	3.538	0.180	0.673
Scale IV – Unrealised aggressive tendencies	1.771	1.664	2.000	2.136	0.244	0.623
Scale V – Transferred aggression	2.857	3.117	2.606	3.142	0.109	0.742
Scale VI – Indirect aggression	3.286	3.064	2.030	1.776	4.206	<b>0.044*</b>
Scale VII – Verbal aggression	6.857	3.882	8.121	4.827	1.424	0.237
Scale VIII – Physical aggression	0.600	1.241	0.667	1.242	0.049	0.826

Key: \*\*  $p < 0.01$ ; \*  $p < 0.05$ .

transferred aggression, verbal aggression and physical aggression. Indirect aggression  $F(1.65) = 4.206$ ;  $p = 0.044$  was higher in the artistically gifted group ( $M = 3.286$ ;  $SD = 3.064$ ) than in the control group ( $M = 2.030$ ;  $SD = 1.776$ ), whereas the effect size for indirect aggression showed medium value ( $\eta^2 = 0.060$ ).

An analogous analysis has been conducted in the both groups of men. As the data presented in Table 10 reveal, no statistically significant differences between the men from the artistically gifted and the control group have been recorded in terms of the overall score and the specific scales: self-aggression, hidden aggression and externalised aggression indices, control, retaliation, emotional self-aggression, physical self-aggression, hostility towards environment, unrealised aggressive tendencies, indirect aggression, verbal aggression and physical aggression. The only difference concerned transferred aggression  $F(1.64) = 5.309$ ;  $p = 0.025$ , in respect of which the artistically gifted men scored higher ( $M = 4.5$ ;  $SD = 3.672$ ) than the men in the control group ( $M = 2.636$ ;  $SD = 2.804$ ). The effect size for transferred aggression showed medium value ( $\eta^2 = 0.078$ ).

To sum up, the presented study results have revealed no differences in the levels of aggression syndrome between the group of artistically gifted persons and the persons from the control group. The artistically gifted women did not differ from the women from the control group, while the men from the artistically gifted group obtained higher transferred aggression index than the men from the control group. Further analysis has shown more differences in terms of gender in the group of artistically gift-



TABLE 10. Differences between the men from the artistically gifted group ( $N = 33$ ) and the control group ( $N = 33$ ) in terms of aspects of aggression

Aggression syndrome	Men				F	p
	Z		K			
	M	SD	M	SD		
Overall score	45.938	27.545	37.545	25.137	1.648	0.204
S (self-aggression index)	7.313	5.614	6.121	5.594	0.734	0.395
U (hidden aggression index)	9.875	6.499	7.424	6.466	2.322	0.133
Z (externalised aggression index)	16.281	10.243	12.485	8.811	2.571	0.114
Control	15.438	4.925	15.636	5.273	0.025	0.879
Retaliation	4.344	4.660	4.121	5.189	0.033	0.856
Scale I – Emotional self-aggression	7.156	4.732	5.424	4.981	2.063	0.156
Scale II – Physical self-aggression	1.719	2.129	1.727	2.096	0.000	0.987
Scale III – Hostility towards environment	5.594	4.226	4.394	4.168	1.328	0.254
Scale IV – Unrealised aggressive tendencies	4.281	3.324	3.030	2.823	2.681	0.107
Scale V – Transferred aggression	4.500	3.672	2.636	2.804	5.309	<b>0.025*</b>
Scale VI – Indirect aggression	4.031	3.496	3.212	2.837	1.079	0.303
Scale VII – Verbal aggression	6.781	4.353	5.697	4.149	1.057	0.308
Scale VIII – Physical aggression	0.969	1.787	0.939	1.580	0.005	0.944

Key:\*\*  $p < 0.01$ ; \*  $p < 0.05$ .

ed persons. The men were characterised by higher hidden aggression index, unrealised aggressive tendencies, i.e. manifestation of seemingly non-aggressive and non-confrontational behaviours, and transferred aggression, or transfer of attack from persons to objects, at a higher level than the women.

## RELATIONS BETWEEN PERFECTIONISM AND AGGRESSION

The main objective of the study was the search for a relationship between aggression syndrome and perfectionism. In order to determine the effect size between the studied variables, we have calculated the Pearson correlation coefficient for the index of externalised aggression Z in the control group and the Spearman correlation coefficient for the remaining scales. The results of the correlation analysis of the artistically gifted persons are presented in Table 11.

The analysis of the results of the artistically gifted group has revealed that concern about mistakes showed moderate positive correlation with the overall aggression score ( $\rho = 0.461$ ) and some specific scales, i.e. high with emotional self-aggression ( $\rho = 0.595$ ), moderate with self-aggression index ( $\rho = 0.421$ ), hostility towards environment ( $\rho = 0.353$ ), hidden aggression index ( $\rho = 0.328$ ), externalised aggression index ( $\rho = 0.343$ ), physical self-aggression ( $\rho = 0.332$ ) and verbal aggression ( $\rho = 0.335$ ); lower correlation was revealed with indirect aggres-

TABLE 11. Coefficients of correlation between aggression and perfectionism in the artistically gifted group ( $N = 67$ )

Aggression syndrome / Perfectionism	<i>r</i> coefficient; <i>rho</i>	CM	PS	PE	PC	D	O	Overall score
	/Significance <i>p</i>							
Overall score	<i>Rho</i>	<b>0.461**</b>	0.076	0.205	<b>0.266*</b>	<b>0.467**</b>	<b>-0.411**</b>	<b>0.427**</b>
	<i>P</i>	<b>0.001</b>	0.543	0.096	<b>0.030</b>	<b>0.001</b>	<b>0.001</b>	<b>0.001</b>
Self-aggression index – S	<i>rho</i>	<b>0.421**</b>	0.123	0.138	<b>0.262*</b>	<b>0.303*</b>	<b>-0.304**</b>	<b>0.382**</b>
	<i>P</i>	<b>0.001</b>	0.320	0.264	<b>0.032</b>	<b>0.013</b>	<b>0.012</b>	<b>0.001</b>
Hidden aggression index – U	<i>rho</i>	<b>0.328**</b>	0.130	0.096	0.140	<b>0.287*</b>	<b>-0.352**</b>	<b>0.306*</b>
	<i>P</i>	<b>0.007</b>	0.293	0.439	0.257	<b>0.019</b>	<b>0.003</b>	<b>0.012</b>
Externalised aggression index – Z	<i>rho</i>	<b>0.343**</b>	-0.007	0.151	0.211	<b>0.397**</b>	<b>-0.406**</b>	<b>0.324**</b>
	<i>P</i>	<b>0.004</b>	0.952	0.221	0.087	<b>0.001</b>	<b>0.001</b>	<b>0.007</b>
Control	<i>rho</i>	<b>-0.390**</b>	0.043	-0.109	-0.098	<b>-0.358**</b>	<b>0.395**</b>	<b>-0.274*</b>
	<i>P</i>	<b>0.001</b>	0.728	0.379	0.431	<b>0.003</b>	<b>0.001</b>	<b>0.025</b>
Retaliation	<i>rho</i>	<b>0.247*</b>	0.012	0.102	0.102	<b>0.321**</b>	<b>-0.421**</b>	0.233
	<i>P</i>	<b>0.044</b>	0.921	0.412	0.410	<b>0.008</b>	<b>0.000</b>	0.058
Scale I – Emotional self-aggression	<i>rho</i>	<b>0.595**</b>	0.203	<b>0.257*</b>	<b>0.409**</b>	<b>0.509**</b>	-0.181	<b>0.561**</b>
	<i>P</i>	<b>0.001</b>	0.100	<b>0.036</b>	<b>0.001</b>	<b>0.001</b>	0.143	<b>0.001</b>
Scale II – Physical self-aggression	<i>rho</i>	<b>0.332**</b>	0.114	0.107	<b>0.311*</b>	<b>0.272*</b>	-0.163	<b>0.307*</b>
	<i>P</i>	<b>0.006</b>	0.360	0.389	<b>0.010</b>	<b>0.026</b>	0.187	<b>0.011</b>
Scale III – Hostility towards environment	<i>rho</i>	<b>0.353**</b>	0.102	0.091	0.173	0.236	<b>-0.328**</b>	<b>0.305*</b>
	<i>P</i>	<b>0.003</b>	0.410	0.462	0.162	0.055	<b>0.007</b>	<b>0.012</b>
Scale IV – Unrealised aggressive tendencies	<i>rho</i>	0.171	0.180	0.063	0.037	0.230	-0.235	0.204
	<i>P</i>	0.165	0.145	0.613	0.769	0.061	0.056	0.099
Scale V – Transferred aggression	<i>rho</i>	0.207	-0.017	0.072	0.096	<b>0.276*</b>	<b>-0.266*</b>	0.199
	<i>P</i>	0.093	0.894	0.562	0.440	<b>0.024</b>	<b>0.030</b>	0.107
Scale VI – Indirect aggression	<i>rho</i>	<b>0.292*</b>	0.076	0.189	0.178	0.191	<b>-0.314**</b>	<b>0.289*</b>
	<i>P</i>	<b>0.016</b>	0.542	0.126	0.150	0.122	<b>0.010</b>	<b>0.018</b>
Scale VII – Verbal aggression	<i>rho</i>	<b>0.335**</b>	-0.059	0.087	<b>0.269*</b>	<b>0.373**</b>	<b>-0.400**</b>	<b>0.292*</b>
	<i>P</i>	<b>0.006</b>	0.632	0.485	<b>0.028</b>	<b>0.002</b>	<b>0.001</b>	<b>0.017</b>
Scale VIII – Physical aggression	<i>rho</i>	0.056	-0.205	-0.073	0.047	0.179	<b>-0.245*</b>	0.002
	<i>P</i>	0.651	0.095	0.558	0.706	0.148	<b>0.045</b>	0.988

Key: \*\*  $p < 0.01$ ; \*  $p < 0.05$ ; abbreviations: concern about mistakes (CM), personal standards (PS), parental expectations (PE), parental criticism (PC), doubt about actions (D), organisation (O).

sion ( $\rho = 0.292$ ) and retaliation ( $\rho = 0.247$ ); negative correlation was revealed with control ( $\rho = 0.335$ ).

Doubt about actions showed moderate positive correlation with the overall score ( $\rho = 0.467$ ) and some specific scales, i.e. strong with emotional self-aggression ( $\rho = 0.509$ ), moderate with self-aggression index ( $\rho = 0.303$ ), externalised aggression index ( $\rho = 0.397$ ), retaliation ( $\rho = 0.321$ ), verbal aggression ( $\rho = 0.373$ ), lower with physical self-aggression ( $\rho = 0.272$ ), hidden aggression index ( $\rho = 0.287$ ) and transferred aggression ( $\rho = 0.276$ ); negative and moderate with control ( $\rho = -0.358$ ).

Organisation showed negative and moderate correlation with the overall aggression score ( $\rho = -0.411$ ), retaliation ( $\rho = -0.421$ ), externalised aggression index ( $\rho = -0.406$ ), self-aggression index ( $\rho = -0.304$ ), hidden aggression index ( $\rho = -0.352$ ), hostility towards environment ( $\rho = -0.328$ ), verbal aggression ( $\rho = -0.400$ ) and indirect aggression ( $\rho = -0.314$ ); negative low with transferred aggression ( $\rho = -0.266$ ), indirect aggression ( $\rho = -0.294$ ) and physical aggression ( $\rho = -0.245$ ); while positive moderate with control ( $\rho = 0.395$ ).

The overall perfectionism score showed high and positive correlation with emotional self-aggression ( $\rho = 0.561$ ), moderate with overall aggression score ( $\rho = 0.427$ ), self-aggression index ( $\rho = 0.382$ ), physical self-aggression ( $\rho = 0.307$ ), hostility towards environment ( $\rho = 0.305$ ), hidden aggression index ( $\rho = 0.306$ ), externalised aggression index ( $\rho = 0.324$ ); low with indirect aggression ( $\rho = 0.289$ ), verbal aggression ( $\rho = 0.292$ ) and low negative with control ( $\rho = -0.274$ ).

Parental criticism showed positive low correlation with the overall aggression score ( $\rho = 0.266$ ), moderate with emotional self-aggression ( $\rho = 0.409$ ) and physical self-aggression ( $\rho = 0.311$ ), lower with verbal aggression ( $\rho = 0.269$ ) and self-aggression index ( $\rho = 0.262$ ). Parental expectations showed only correlation with emotional self-aggression ( $\rho = 0.257$ ). No significant correlations of aggression with personal standards have been found.

The results of the correlation analysis of persons from the control group are presented in Table 12.

The obtained results of the persons from the control group indicate occurrence of many moderate or low correlations: concern about mistakes showed moderate positive correlation with the overall score ( $\rho = 0.484$ ), self-aggression index ( $\rho = 0.441$ ), externalised aggression index ( $r = 0.369$ ), emotional self-aggression ( $\rho = 0.496$ ), hostility towards environment ( $\rho = 0.399$ ), verbal aggression ( $\rho = 0.445$ ), hidden aggression index ( $\rho = 0.384$ ), physical self-aggression ( $\rho = 0.301$ ), positive low with transferred aggression ( $\rho = 0.282$ ) and moderate negative correlation with control ( $\rho = -0.390$ ).

Personal standards showed low correlation with the overall aggression score ( $\rho = 0.256$ ) and negative with control ( $\rho = -0.278$ ). Parental expectations showed moderate positive correlation with the overall aggression score ( $\rho = 0.385$ ), retaliation ( $\rho = 0.305$ ) and externalised aggression index ( $r = 0.315$ ), lower with transferred aggression ( $\rho = 0.297$ ), emotional self-aggression ( $\rho = 0.279$ ), verbal aggression ( $\rho = 0.275$ ), negative moderate with control ( $\rho = -0.373$ ).

Parental criticism showed positive correlation with the overall aggression score ( $\rho = 0.472$ ), self-aggression index ( $\rho = 0.353$ ), hidden aggression index ( $\rho = 0.323$ ), externalised aggression index ( $r = 0.410$ ), emotional self-aggression ( $\rho = 0.496$ ), transferred aggression ( $\rho = 0.357$ ), verbal aggression ( $\rho = 0.335$ ),

TABLE 12. Coefficients of correlation of aggression and perfectionism scales in the control group (N = 66)

Aggression syndrome / Perfectionism	<i>r</i> coefficient; <i>rho</i>	CM	PS	PE	PC	D	O	Overall score
	/Significance <i>p</i>							
Overall score	<i>rho</i>	<b>0.484**</b>	<b>0.256*</b>	<b>0.385**</b>	<b>0.472**</b>	<b>0.296*</b>	-0.098	<b>0.501**</b>
	<i>p</i>	<b>0.001</b>	<b>0.038</b>	<b>0.001</b>	<b>0.001</b>	<b>0.016</b>	0.435	<b>0.001</b>
Self-aggression index – S	<i>rho</i>	<b>0.441**</b>	0.162	0.213	<b>0.353**</b>	<b>0.276*</b>	-0.069	<b>0.392**</b>
	<i>p</i>	<b>0.001</b>	0.193	0.086	<b>0.004</b>	<b>0.025</b>	0.579	<b>0.001</b>
Hidden aggression index – U	<i>rho</i>	<b>0.384**</b>	0.164	0.230	<b>0.323**</b>	<b>0.293*</b>	-0.093	<b>0.358**</b>
	<i>p</i>	<b>0.001</b>	0.187	0.063	<b>0.008</b>	<b>0.017</b>	0.456	<b>0.003</b>
Externalised aggression index – Z	<i>rho</i>	<b>0.369**</b>	0.159	0.315**	<b>0.410**</b>	<b>0.172*</b>	-0.210	<b>0.382**</b>
	<i>p</i>	<b>0.002</b>	0.201	0.010	<b>0.001</b>	<b>0.166</b>	0.091	<b>0.002</b>
Control	<i>rho</i>	<b>-0.390**</b>	<b>-0.278*</b>	<b>-0.373**</b>	<b>-0.416**</b>	<b>-0.296*</b>	-0.026	<b>-0.471**</b>
	<i>p</i>	<b>0.001</b>	<b>0.024</b>	<b>0.002</b>	<b>0.001</b>	<b>0.016</b>	0.838	<b>0.001</b>
Retaliation	<i>rho</i>	0.212	0.217	<b>0.305*</b>	0.166	0.022	0.115	<b>0.250*</b>
	<i>p</i>	0.088	0.080	<b>0.013</b>	0.184	0.864	0.358	<b>0.043</b>
Scale I – Emotional self-aggression	<i>rho</i>	<b>0.496**</b>	0.212	<b>0.279*</b>	<b>0.496**</b>	<b>0.322**</b>	-0.168	<b>0.477**</b>
	<i>p</i>	<b>0.001</b>	0.087	<b>0.023</b>	<b>0.001</b>	<b>0.008</b>	0.179	<b>0.001</b>
Scale II – Physical self-aggression	<i>rho</i>	<b>0.301*</b>	0.155	0.222	<b>0.293*</b>	0.203	-0.072	<b>0.317**</b>
	<i>p</i>	<b>0.014</b>	0.214	0.073	<b>0.017</b>	0.102	0.564	<b>0.009</b>
Scale III – Hostility towards environment	<i>rho</i>	<b>0.399**</b>	0.125	0.179	<b>0.319**</b>	<b>0.267*</b>	-0.068	<b>0.341**</b>
	<i>p</i>	<b>0.001</b>	0.316	0.150	<b>0.009</b>	<b>0.030</b>	0.585	<b>0.005</b>
Scale IV – Unrealised aggressive tendencies	<i>rho</i>	0.239	0.119	0.199	0.217	0.226	-0.192	0.236
	<i>p</i>	0.053	0.342	0.109	0.081	0.068	0.122	0.056
Scale V – Transferred aggression	<i>rho</i>	<b>0.282*</b>	0.164	<b>0.297*</b>	<b>0.357**</b>	0.182	-0.162	<b>0.345**</b>
	<i>p</i>	<b>0.022</b>	0.187	<b>0.016</b>	<b>0.003</b>	0.144	0.195	<b>0.005</b>
Scale VI – Indirect aggression	<i>rho</i>	0.113	-0.044	0.218	0.165	-0.026	<b>-0.273*</b>	0.120
	<i>p</i>	0.367	0.724	0.079	0.184	0.839	<b>0.027</b>	0.336
Scale VII – Verbal aggression	<i>rho</i>	<b>0.445**</b>	0.172	<b>0.275*</b>	<b>0.335**</b>	0.188	-0.112	<b>0.396**</b>
	<i>p</i>	<b>0.001</b>	0.166	<b>0.025</b>	<b>0.006</b>	0.130	0.371	<b>0.001</b>
Scale VIII – Physical aggression	<i>rho</i>	0.122	0.055	0.059	0.112	0.052	0.034	0.086
	<i>p</i>	0.329	0.660	0.636	0.369	0.678	0.787	0.492

Key: \*\*  $p < 0.01$ ; \*  $p < 0.05$ ; abbreviations: anxiety due to committed mistakes (CM), personal standards (PS), perceived parents' expectations (PE), perceived parents' criticism (PC), excessive doubt in one's actions (D), order and organisation (O).

hostility towards environment ( $\rho = 0.319$ ), lower with physical self-aggression ( $\rho = 0.293$ ), negative moderate with control ( $\rho = -0.416$ ).

Doubt about actions showed moderate positive correlation with emotional self-aggression ( $\rho = 0.322$ ), low with the overall aggression score ( $\rho = 0.296$ ), self-aggression index ( $\rho = 0.276$ ), hidden aggression index ( $\rho = 0.293$ ), hostility towards environment ( $\rho = 0.267$ ), and negative low with control ( $\rho = -0.296$ ).

Organisation showed low negative correlation only with indirect aggression ( $\rho = -0.273$ ). The overall perfectionism score showed high positive correlation with the overall aggression score ( $\rho = 0.501$ ), moderate with self-aggression index ( $\rho = 0.392$ ), hidden aggression index ( $\rho = 0.358$ ), externalised aggression index ( $\rho = 0.382$ ), emotional self-aggression ( $\rho = 0.477$ ), physical self-aggression ( $\rho = 0.317$ ), hostility towards environment ( $\rho = 0.341$ ) and transferred aggression ( $\rho = 0.345$ ); lower with retaliation ( $\rho = 0.250$ ), while negative moderate with control ( $\rho = -0.471$ ).

## DISCUSSION

The results of the study have partially confirmed hypothesis H1 which has assumed that artistic talent does differentiate the groups in terms of aspects of perfectionism. The artistically gifted persons scored higher in doubt about actions. The result differed slightly from the one obtained by Parker and Mills (1996), where gifted people were characterised by higher scores in terms of the scale 'high standards'. Parental criticism and expectations did not significantly differ in the compared groups, similarly to organisation; this was inconsistent with the results obtained by Śliwińska, Limont and Dreszer (2008), where significant differences between gifted pupils with high and low school achievement occurred precisely in terms of parental expectations, criticism and organisation. This discrepancy may result from age differences and the type of talent. The aforementioned authors studied pupils who were particularly gifted in terms of intelligence, at the age of 13–18, while the average age of the artistically gifted persons covered in this article was  $M = 27.89$ . Likely, as a person gets older, parents' opinion plays a smaller role, even more so for artists. Moreover, another cause for the recorded differences might be the fact that students in Śliwińska's study attended a school for especially gifted children, which can suggest that their parents had very high expectations of them. Also the results obtained in the scale 'organisation' by Śliwińska, Limont and Dreszer (2008) and Parker and Mills (1996) were higher in gifted persons. Perhaps the lack of differences in the presented study between the scores of the gifted persons and the control group can be explained by the specific character of the artistic talent, where creative abilities are one of key components (Limont, 1984, 2008), creative chaos is valued and there is no need to be better organised than persons in other talent areas.

One surprising result which was contrary to the expectations (H1) was the lack of differences in all aspects of aggression between the groups of artistically talented persons and control. We assumed that it was possible for artistically gifted persons to be more predisposed to aggressive reactions in connection with stronger perfectionist tendencies (Camadan, Yazici, 2017; Chester, Merwin, DeWall, 2015; Öngen, 2009; Schuler, 1999). The obtained result indicates that aggression can be connected not with artistic talent but with other abilities or personal traits. It is possible that there

were persons in the control group who were talented in other fields than visual arts, therefore the lack of differences in aggression between our subjects can indicate that aggression is probably a significant component of talent, not only artistic. This conclusion should be treated as hypothetical and calls for verification.

The analyses presented in the article have shown partial confirmation of hypothesis H1. Artistically gifted persons differ from control group persons in terms of the perfectionism level (higher scores in the artistically gifted in respect of concern about mistakes, personal standards, doubt about actions).

The further studies have partially confirmed hypothesis H2. The analysis of the results has shown that in the control group women scored higher in terms of concern about mistakes; unlike in the studies conducted by Iryna Macsinga and Oana Dobrita (2010), in which men were more focused on mistakes than women. These are results obtained from 62 persons not divided according to the profession or talent fields. The difference between the results of the cited study and those analysed in the article can be related to different characteristics of functioning and gender roles in non-artistic environment.

Surprisingly, gender did not differentiate the scores of persons from the artistically gifted group, which is the reason why hypothesis H2 has been partially rejected. Similar results were obtained by Schuler (1999) and Śliwińska, Limont and Dreszer (2008) in studies of pupils, where no differences between boys and girls were recorded in any aspect. In the research of Hala K. Hassan, Sabry M. Abd-El-Fattah, Mohamed K. Abd-El-Maugoud, and Aly H.A. Badary (2012) on university students gender did not differentiate the scores of self-oriented perfectionism and socially-prescribed perfectionism as well as performance expectations.

We have also studied differences between women and men within the artistically gifted group for aggression. The men were characterised by higher hidden aggression index, unrealised aggressive tendencies and higher retaliation index than women. On the other hand, in the control group, the men were characterised by higher indirect aggression than women. It is highly probable that there are psychophysical and social factors in the men community which prevent them from showing their aggression directly and, therefore, they select art as a tool for expression of unrealised conflicts. Men can have bigger problems with communication than women and choose a homogeneous channel to express accumulated feelings. Perhaps women communicate their feelings using more ways. Moreover, the study subjects had obtained different education and specialised in different fields of visual arts, which could also have an impact on the differences in the scores.

We have also confirmed our speculation that in the control group women are characterised by higher *verbal aggression* than men, similarly to what research of Stanisław Lipiński (2003) has shown, which can be explained by the fact that women have more developed linguistic skills than men and use language more fluently. In the literature, studies of aggression in women and in men have also pointed to gender differences but in terms of other aggression aspects. In the Polish research by Elżbieta Aranowska and Jolanta Rytel (2011) on persons of the average age of 26, differences have been recorded between the scores obtained by women and men for all the scales of the *Aggression Questionnaire* (Buss, Perry, 1992). In the men, average aggression for all the scales of the questionnaire apart from anger was significantly bigger than in the women. The strongest, moderately high effect of gender has been revealed for physical aggression (Aranowska, Rytel, 2011).



The results of the study presented in the article suggest that men are not characterised by significantly higher aggression than women, unlike in the results obtained by Marta Wojdat et al. (2017), John Archer (2004) or Jolanta Rytel (2011). The latter have shown the greatest differences in the level of physical aggression to occur between women and men aged 18–21 and 22–30 (long dash), i.e. at the age of the study subjects. Differences in respect of verbal aggression have proven smaller for all age groups. Similarly to the results of studies carried out by József Gerevich, Erika Bácskai and Pál Czobor (2007), no differences in respect of hostility towards environment have been revealed. Also in the research by Gernot von Collani and Ronny Werner (2005), no statistically significant differences in the level of hostility were found. The discrepancy with the study results presented in this article can be caused by the division of the subjects into artistically gifted and non-gifted persons; this division can also produce other differences.

The conducted analysis indicates partial confirmation of hypothesis H2. The women and men in the control group differed from each other in respect of perfectionism (higher scores by the men in respect of concern about mistakes) and in respect of aggression syndrome (indirect aggression higher in the men, verbal aggression higher in the women). The assumption that artistically gifted women and men differ in terms of perfectionism has not been confirmed.

No differences have been recorded between the artistically gifted women and the women from the control group in respect of perfectionism and aggression apart from higher indirect aggression in the women from the control group, which was decisive in the partial acceptance of hypothesis H3. We have, however, recorded a great number of differences in respect of perfectionism in the group of men (hypothesis H4). The artistically-gifted men scored higher than the men from the control group in respect of: overall score, concern about mistakes, personal standards and doubt about actions. Perhaps the artistic environment of men imposes different requirements, produces even more anxiety or sense of competition than environment of women. The grounds for the differences can also be found in different psychophysical properties of men. Moreover, the artistically gifted men have scored statistically significantly higher on transferred aggression index in comparison with the control group of the same gender. This can indicate that aggression is more important for artistically gifted men than artistically gifted women.

In the next step of the analysis, we have compared relations between perfectionism and aggression. We have recorded statistically significant moderate or low correlations in nearly all scales of perfectionism and aggression, which is also confirmed in the research of Camadan and Yazici (2017), where aggression of the youth was accounted for in terms of perfectionism, forgiving ability and ability to deal with stress. The results have confirmed hypothesis H5.

In the group of artistically gifted persons, the overall score of perfectionism showed strong correlation with emotional self-aggression, moderate with the overall aggression score, self-aggression index, hidden aggression index, externalised aggression index, physical self-aggression, hostility towards environment, low positive with indirect aggression, verbal aggression and low negative with control. The overall aggression score showed moderate correlation with the overall perfectionism score, doubt about actions, concern about mistakes, parental criticism and negative – with organisation.

Surprisingly, we have recorded no correlations between aspects of aggression and personal standards and parental expectations (apart from emotional self-aggression).

This result does not accord with the research of Öngen (2009) as well as Chester, Merwin and DeWall (2015), where the authors found relations different from those described in this article. These researchers assumed that perfectionism could be defined as a relationship between one's own high standards and abilities (Hamackek, 1978). They observed that discrepancy between standards established by oneself or others and abilities was a positive predictor of anger, physical aggression and hostility, while high standards were a negative predictor of hostility and a positive – of verbal aggression. Are we to conclude that the artists studied in the article were free from the aforementioned discrepancy? The control group could have also included persons talented in other fields, such as music, literature, etc., therefore the relation between aggression and perfectionism does not have to depend on visual arts talents, but can be dependent on talents regardless of their specific character. This conclusion requires further, empirical verification.

In the control group, the overall aggression score showed positive correlation with all the perfectionism scales apart from organisation. This result does not accord with the research of Öngen (2009), who believes that 'order' is a negative predictor of anger, physical and verbal aggression. The overall perfectionism score showed correlation with all the scales of aggression apart from unrealised aggressive tendencies, indirect aggression and physical aggression.

So many relations between the aggression and perfectionism scales are confirmed in other studies (Camadan, Yazici, 2017; Chester, Merwin, DeWall, 2015; Hamackek, 1978; Öngen, 2009). Stoeber and collaborators (2017) claim that attaching much significance to requirements of others and excessive expectations of them lead to hostility towards environment.

Perfectionism can prove a destructive force with harmful consequences, but it can also adopt the form of a force stimulating an individual's development. Knowledge about this topic can be important for the pedagogical and educational community and help them appropriately direct perfectionism of talented individuals.

The results of the study have confirmed that artistically gifted persons are characterised by specific aspects of perfectionism. It is, therefore, important to consider problems connected with the specific character of their future professional activity in the process of artistic education. Artists can feel depressed due to their perfectionism, they need help in establishing priorities and learning from mistakes. It is possible for perfectionists to feel satisfaction if they derive happiness from the activity itself and do not treat it only as a means to achieve the goal (Csikszentmihalyi, 2005). Artists should not equate assessments with their own value. The pedagogical community can help individuals focus not on their weaknesses but on their strengths and on appreciating what they have already achieved. It is also important to clearly formulate the goals and strategies to achieve them which increase motivation to action (Pyryt, 2007).

The study has foregrounded the significance of artistic talent in the severity of perfectionism and aggression in men, which can point to men being in bigger need of development of communication skills and training in expressing emotions and tensions in a constructive manner.

The presented study shows interesting relations which are worthy of verification on a bigger group of subjects, not only among persons talented in the field of visual arts, but also showing other talents specific for various fields.

It is worth noting that the author of the Goals and Work Habits Questionnaire (Schuler, 1994) believes that higher scores obtained by artistically gifted persons in the

aspects of personal standards and organisation need not mean neurotic perfectionism, but only show statistically significant differences between the groups. Regardless of the indicated limitations, the obtained results point to relations which are worthy of verification in persons talented in fields other than visual arts.

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