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Time Perspective and Experience of Depression, Stress, and Loneliness Among Adolescents in Youth Educational Centres

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Abstract

Time perspective is of key significance in overcoming an identity crisis in adolescence. Research using the Zimbardo Time Perspective Inventory (ZTPI) was conducted on a group of 311 adolescents (aged 13–18) in several youth educational centres in south-eastern Poland. The research was designed to identify the significance of time perspective when it comes to levels of depression, stress and loneliness experienced in conditions of institutional rehabilitation and education. Linear regression analysis demonstrated the following: a positive past focus reduces the intensity of anxiety and depression; a positive past and future focus results

in reduced depression, loneliness and stress; the experience of stress combined with depression enhances the significance of time perspective for the feeling of loneliness; and a low level of family loneliness reduces depression.

Keywords: time perspective, depression, stress, loneliness, socially maladjusted youths, institutional education.

Introduction

Adolescence is a period of radical transformation related to puberty and intellectual, cognitive and social development (Susman, 2006; Schulz & Kerig, 2012). For over eight decades, one of more interesting areas of research has been time perspective analysis within the context of developmental changes occurring in youths. Adolescence is a life phase in which, informed by their past, young people undertake important decisions regarding their present and future. Some researchers assume that, essentially, time is an integral component of all psychological phenomena (Carstensen, 2006); hence the interest of the academic world in the time perspective model by Philip Zimbardo et al. (1997; Zimbardo & Boyd, 1999; 2008). In this paper, the authors adopt the argument that the time perspective is often an unconscious process in which personal and social experiences “flowing” in a person’s life are ascribed to time horizons (past, present, future). The strategy gives events order, cohesion and meaning (Zimbardo & Boyd, 1999, p. 1271). Aware of the theoretical significance of this model, we applied it to study on the perception of time among socially maladjusted adolescents within the context of their experiences of depression, stress and loneliness in institutional rehabilitation education conditions, which has never been explored before.

Depression. Juvenile depression may be explained by the interactive diathesis–stress model (Seligman et al., 2001). Biological (e.g. hormonal changes) and mental factors (low self-esteem), as well as environmental stressors (such as traumatic events in early childhood related to violence or separation from parents, living in a dysfunctional or pathological family environment, lack of teachers’ understanding, peer marginalisation at school, conflict with the law) are conducive to depression disorders. Statistically, depression is one of the most frequent mental disorders during adolescence (Brent & Pan, 2008;

Manthorpe & Iliffe, 2010; Bromet et al., 2011; Schiller et al., 2014). The epidemic of depression, conditioned by the lack of support from adults, features in a broader debate (Myers, 2000; Seligman, 2000; Seligman & Csikszentmihalyi, 2000; Duckworth et al., 2005; Seligman et al., 2005). Difficulties in social functioning, correlated with ways of coping with an excess of problematic situations (Kichler, 2012) and increasing pessimism regarding the future, as well as the experience of intense subjective loneliness (Hammond & Romney, 1995) are indicated as being among the negative consequences of depression disorders during puberty.

Stress. Stress may be analysed as a stimulus (from the perspective of the underlying factors/stressors), psychophysiological reaction (caused by stressors) or an interaction/transaction (perception and evaluation of the environment and body interaction) (Lazarus & Folkman, 1984; Schwarzer & Taubert, 2002; Heszen-Niejodek, 2006; Strelau, 2006). The experience of such an emotional state during puberty is one of the fundamental factors disrupting development. From the beginning of this period, adolescents are exposed to a higher intensity of this state than they have been so far in their lives. It originates from biological changes interacting with mental changes and difficulties with social functioning. In line with the definition of psychological stress, an individual experiences stress when the balance between their resources or capabilities and the environmental demands is disturbed. However, individual differences among adolescents mean that one person may experience the same event as more stressful than others; the diversification of dispositions across individuals determines such behaviour. The subjective and environmental resources of an individual are significant mediators in the stress process; they may improve coping, and reduce long-term difficulties that might otherwise occur in individual's mental, health and social functioning (Lazarus & Launier, 1978; Lazarus, 1987; 1993).

Loneliness. The difficult emotional states characteristic of adolescence involve an experience of subjective loneliness, most frequently arising from the absence of positive relationships with others. Loneliness is particularly destructive of self-development, as it constitutes a predictor of both educational and psychological difficulties. A high level of the experience of it causes problems in the process of stable-identity formation (Kupersmidt et al., 1990; Heinrich & Gullone, 2006; Dahl & Gunnar, 2009; Casey et al., 2010; Sebastian

et al., 2010; Golde et al., 2019), and also impedes social and moral development (Holt-Lunstad et al., 2015). Research on subjective loneliness conducted in Great Britain in 2016–2017 indicates a clearly growing trend of the experience of loneliness among adolescents (*Office for National Statistics*, 2018). In extreme instances, loneliness may lead to depression disorders. Research on the period of adolescence indicates that a supportive environment is a fundamental element conducive to coping with the developmental challenges of this phase and constitutes a correlate of mental health and ability to cope with emotions (Moretti & Peled, 2004).

Time perspective in adolescents

The literature on the subject features evidence for the significance of the time perspective for adolescent development. This section presents the problems addressed to date with the application of the time perspective concept (Zimbardo & Boyd, 1999).

The analyses that have been conducted generally emphasise that with the transition from childhood to puberty an individual's subjective perception of time changes (Piaget, 1955; Erikson, 1968). Hence, the potential to think about time perspective in a new manner emerges during adolescence, which is an effect of cognitive development, including abstract and hypothetical thinking (Piaget, 1955; 1975), define identity-shaping (Erikson, 1968). The oldest, now historical, research pertains to differences in time perception during childhood, with the dominating focus on the present during adolescence because teenagers develop a broader perspective than they previously had of time perception and start noticing the past and future in their lives (Frank, 1939) however, their focus on the future is stronger, particularly within the context of planning for it (Lewin, 1935; 1946). Research into this issue was continued in cross-sectional research, with the results confirming the thesis of an increased interest in future-orientation during adolescence relative to the period of childhood (Wessman & Gorman, 1977; Greene, 1986). Further studies on a similar issue, conducted among secondary school pupils (aged 16) and students (aged 19), did not confirm a positive correlation between the adolescent phase and the future aspect (Lennings et al., 1998). Such substantiation was found in the outcome of a neurobiological study

aimed at a diagnosis of structural cerebral changes (Steinberg, 2008). The findings show that focusing on the future is enhanced in a specific period only: from early- to mid-puberty. Subsequent studies (Steinberg et al., 2009) confirmed this finding. Furthermore, it follows that sixteen-year-olds and slightly older youths are typically more concerned about their future than other respondents, and this is manifested through forecasts regarding the consequences of their plans and through their attempts to discount them. Apart from the research findings indicating a dominating orientation towards the future perspective among youths (Worrell & Mello, 2009), there is also data that supports the notion of the domination of the perspective of the present (Cottle, 1967; Klineberg, 1967; Webb & Mayers, 1974; Gonzalez & Zimbardo, 1985; Tismar, 1987; Bowles, 1999; Mello & Worrell, 2006). The analyses of a subjective adolescents perception of time also include those underlining the significance of the adopted time perspective as a positive factor in the young people's development in the context of educational achievement (Zimbardo & Boyd, 1999; Oyserman et al., 2002; Phalet et al., 2004; Mello & Worrell, 2006), and health-promoting behaviours (Rakowski, 1985; Hall & Fong, 2003), including physical activity (Henson et al., 2006). Interesting data was provided by research revealing the relations between the time perspective adopted and involvement in pro-social behaviours of teenagers and experience of positive emotions providing satisfaction with their present life without the excessive burden of responsibility for a better future. Such skills are shaped by the adolescents' focus on the past and a future-oriented perspective (Molinari et al., 2016). Furthermore, Zimbardo and Boyd (1999) indicated one more, very important function of time-perspective: they demonstrated its applicability in developing intervention programmes. Their recommendations are an argument for the potential modification of the horizons in such ways that adolescents would effectively adopt a future perspective, the one most required for their development. This is an optimistic concept, especially within the context of our research group – socially maladjusted adolescents, subjected to institutional rehabilitation education.

Socially maladjusted youths at educational centres

The services provided by Youth Educational Centres (YEC) (*Młodzieżowe Ośrodki Wychowawcze - MOW*) in south-eastern Poland are addressed to socially maladjusted juveniles. Polish law provides a range of measures applicable to socially maladjusted juveniles. One of such measures is a referral to a Youth Educational Centre (YEC). The distinguishing features of a YEC are providing a broad scope of services directed at education, resocialisation and support for socially maladjusted juveniles; the open nature of the facility is expressed in the fact that some tasks may be performed externally, which illustrates the relative lack of focus on the repressive function. A YEC is not a place where a socially maladjusted juveniles serve their sentence for offences committed or other behaviours in breach of social order. In this sense, the facility may not be identified with a detention facility that isolates a juvenile for the period of a sentence ruled by a court.

Methodology

Research objective

The research objective was to establish to the degree to which the time perspective dimensions adopted by juveniles determine the level of depression, stress and loneliness experienced in conditions of institutional rehabilitation education. The validity and uniqueness of the analysis undertaken arise from the fact that until now no research has been conducted to study socially maladjusted youths, ordered by a family court to be placed in a YEC as an educational measure. The problem of a relation between the time perspective dimensions adopted by pupils and the depression, stress and loneliness they experience has not been taken up until now.

The previous research allows for the assumption that the diverse attitudes adolescents adopt towards time distinguish them in terms of experienced depression, stress and loneliness. The following hypotheses in relation to youths subjected to institutional rehabilitation education have been verified: (H1). Youths who demonstrate higher focus on a negative past dimension (*Past-Negative*) experience a higher level of depression, stress and loneliness; (H2). The level of depression, stress and loneliness (constituting a protective buffer)

is reduced when youths adopt a positive past dimension (*Past-Positive*); (H3). The level of depression, stress and loneliness is intensified when youths adopt a hedonistic present dimension (*Present-Hedonistic*); (H4). Focusing on their future perspective (*Future*) results in a reduction of the depression, stress and loneliness; (H5). Stress and depression play an intermediary role between the time horizon adopted by youths (or one of its forms: *Past vs. Negative*) and the level of loneliness experienced.

Instruments

The Zimbardo Time Perspective Inventory (PS-ZTPI) (Zimbardo & Boyd, 1999) in the Polish adaptation by A. Przepiórka, M. Sobol-Kwapińska and T. Jankowski (2016) – A Polish Short Version of the Zimbardo Time Perspective Inventory. All scales feature a high reliability level, measured with Cronbach's α coefficient: *past-negative* $\alpha = .82$, *present-hedonistic* $\alpha = .83$, *future* $\alpha = 0.85$, *past-positive* $\alpha = .87$.

The "Major Depression" subscale (short version: 5 items) derived from the *Revised Child Anxiety and Depression Scale* (RCADS) (Chorpita et al., 2000), Polish adaptation by Skoczeń et al., (2017). The tool reliability, measured with Cronbach's α coefficient, was satisfactory $\alpha = .90$.

The Perceived Stress Scale (PSS-10) (Cohen et al., 1983) in the Polish adaptation by Juczyński and Ogińska-Bulik (2009). The tool reliability measured with Cronbach's α coefficient was satisfactory $\alpha = .75$

The de Jong Gierveld Loneliness Scale (DJGLS) (de Jong-Gierveld & Kamphuls, 1985) in the Polish adaptation by P. Grygiel et al. (2012) consists of 11 items and is a partially balanced tool: 5 items are positive and 6 items are negative statements, with the word "loneliness" absent. The tool reliability measured with Cronbach's α coefficient was satisfactory $\alpha = .87$.

Family loneliness (LLCA); family part items (L-PART) of the *Louvain Loneliness Scale for Children and Adolescents* (Marcoen et al., 1987) in the Polish adaptation by M. Kwiatkowska et al. (2018) consists of 12 items. The tool reliability, measured with Cronbach's α coefficient, was satisfactory $\alpha = .94$.

Peer loneliness measured with the short version of the *Social and Emotional Loneliness Scale for Adults* (SELSA-S); *Social Loneliness Subscale* (DiTommaso et al., 1993) in the Polish adaptation by M. Kwiatkowska et al. (2018).

The tool reliability, measured with Cronbach's α coefficient, was satisfactory $\alpha = .76$.

A Survey for the assessment of sociodemographic features, which provided the characteristics of the respondent group.

Research and recruitment procedure

The research recruitment procedure commenced with the publication on the Centre for Education Development¹ website of information about the planned research and requests to conduct it at Polish youth educational centres. In response to the announcement, the heads of six facilities (YEC) declared their readiness to cooperate². All pupils who consented participated in the research.

The research was conducted using the CAWI (*Computer Assisted Web Interview*) technique. Every respondent completed a battery of tests individually on the computer in the presence of a trained interviewer/instructor. Some of the data was also acquired on the basis of document analysis of individual pupil files. The material collected concerned the psychosocial functioning of youths from the period preceding their placement in a youth educational centre, which provided valuable information on their families, peer and school environment. The documents included: (1) psychologists' assessment issued upon school referral to specify the norm *vs.* deviations from an intellectual norm; (2) results of interviews conducted by a social services worker within the family environment (types of dysfunctions or pathologies in the educational environment, parents' addictions, evaluation of the fulfilment of parental obligations, child-rearing styles, relations with parents and siblings, living and economic conditions, parent-school cooperation, youths' behaviours towards their parents, siblings, peers, neighbours) and school environment (headteacher's opinion regarding behaviour and

¹ A public facility reporting to the Polish Ministry of National Education (*Ministerstwo Edukacji Narodowej*), whose tasks include implementing government programmes within education and care as well as running the system for the placement for youths at youth educational centres.

² The authors would like to thank the DIRECTORS of YEC for enabling the research to be carried out and for helping in its implementation.

academic achievements, time and duration of the problems, and their types, types of interventions undertaken); and (3) assessments by court-appointed guardians. These documents provide the basis for a Family Court to issue an order for an individual to be placed in a youth educational centre.

Respondents

Willingness to participate in the research was declared by 317 socially maladjusted adolescents at YEC within in south-eastern Poland. However, eventually 311 respondents (38 girls, 273 boys) aged 13–18 functioning within the intellectual norm (psychological test results held in a pupil's personal file; see 'procedure') participated in the research. YEC pupils are, as we have noted, adolescents who require a special organisation of learning, methods of work, education, psychological and pedagogical assistance as well as rehabilitation³. Due to crises experienced on the biological, psychological and social level (which are actually standard in all adolescents) as well as educational delays and negative socialisation and educational experiences, they belong to one of the most problematic populations it is possible to conduct scientific research on.

Detailed results of an analysis of the sociodemographic features of the group are presented in table 1.

Table 1. Social-demographic characteristics

Variable	
Sex n (%)	
Boys	273 (87.8)
Girls	38 (12.2)
Age n (%)	
13 years	44 (14.1)
14 years	15 (4.8)
15 years	25 (8.0)
16 years	67 (8.0)

³ Cf. footnotes 1 and 3.

Table 1. (continued)

Variable	
17 years	77 (24.8)
18 years	83 (26.7)
Period of stay at the centre M (SD) (number of months)	26.48 (21.40)
YEC Centre n (%)	
YEC in Podzamcze Chęcińskie	48 (15.4)
YEC in Solec Zdrój	53 (17.0)
YEC in Kielce	33 (10.6)
YEC in Zawichost	(24.1)
YEC in Rembów	38 (12.2)
YEC in Skarżysko-Kamienna	64 (20.6)
Who you lived with prior to your arrival at the facility n (%)	
father and mother	115 (37.0)
only mother	99 (31.8)
only father	17 (5.5)
somebody else, without parents	80 (25.7)
Siblings n (%)	
yes	259 (83.3)
Mother's education n (%)	
primary or lower	52 (16.7)
basic vocational	68 (21.9)
secondary	67 (21.5)
tertiary	33 (10.6)
Father's education n (%)	
primary or lower	36 (11.6)
basic vocational	72 (23.2)
secondary	54 (17.4)
tertiary	27 (8.7)
Place of residence n (%)	
village	75 (24.1)
small town	69 (22.2)
town	95 (30.5)
city	72 (23.2)

Source: Authors' research.

Results

Data analysis

Analyses were conducted with the *IBM SPSS Statistics* program in version 25⁴. Compliance with the normal distribution was verified with the Kolmogorov-Smirnov test. The analysis demonstrated that all variables deviated slightly from the normal distribution (the K-S test results were significant $p < .001$), whereas the value of skewness did not exceed the 0.8 threshold, which means that the deviation was not significant (George & Mallery, 2016).

In order to establish a correlation between the horizons of temporal perspective and the depression, stress, and general, peer and family loneliness level experienced by juveniles, a linear regression analysis. The regression analyses conducted constituted the basis for the creation of a comprehensive model of correlations between the time perspective adopted and depression, stress and sense of loneliness, with the application of structural equation modelling. The AMOS program in version 24 was used for the analyses.

Time perspective dimensions as predictors of level of depression. The first step was an analysis, with a linear regression with an introduction method, to verify which dimensions of the time perspective adopted by the respondents had a significant impact on the level of their depression. The analysed model turned out to be well matched to the data $F(4,309) = 21.99$; $p < .001$, explaining in total 21% of depression level variance (adj. $R^2=0.214$). Table 2 features the coefficients of the regression model.

Table 2. Coefficients of linear regression for the depression level prediction model

	B	SE	Beta	t	p	95% CI for B	
						LL	UL
(Constant)	15.82	1.13		13.95	< .001	13.59	18.05
Hedonistic present	0.15	0.09	0.12	1.62	0.106	-.03	0.33
Future	0.08	0.11	0.06	0.691	0.490	-.14	0.29
Positive past	-.54	0.09	-.49	-5.97	< .001	-.72	-.36
Negative past	0.51	0.09	0.41	5.80	< .001	0.34	0.68

Source: Authors' research.

⁴ The authors would like to thank Mrs. Marta Formela for professional preparation of statistical analyses.

The analysis demonstrated that significant predictors of the depression level of YEC youths were the perspectives on a positive and negative past they adopted. With an increase of a positive past level of one unit, the depression level decreased by 0.54 of a unit (negative relation). The relationship proved to be positive for a negative past: with an increase of a negative past level of one unit, the depression level increased by 0.51 of a unit. The time perspective adopted by the individual: a future-oriented approach or a hedonistic present one – proved to be irrelevant to the level of depression.

Time perspective dimensions as predictors of stress level. Analogical analyses were conducted for the stress level as an explanatory variable. The analysed model proved to be well matched to the data $F(4.304) = 35.32; p < .001$, explaining in total 31% of the depression-level variance (adj. $R^2 = 0.308$). Table 3 features the coefficients for the regression model conducted.

Table 3. Linear regression model coefficients for a stress-level prediction model

	B	SE	Beta	t	p	95% CI for B	
						LL	UL
(Constant)	15.38	1.14		13.55	< .001	13.14	17.61
Hedonistic present	0.27	0.09	0.20	2.97	.003	0.09	0.45
Future	-.43	0.11	-.32	-3.97	< .001	-.65	-.22
Positive past	-.30	0.09	-.25	-3.25	.001	-.47	-.12
Negative past	0.72	0.09	0.55	8.23	< .001	-.55	0.89

Source: Authors' research.

The analysis conducted demonstrated that all of the time perspective dimensions adopted by youths are significantly connected with the stress level they experience. With an increase of a future-oriented attitude and a positive past of one unit the stress level experienced by the youths decreased by .43 and .30 of a unit respectively. The hedonistic present and negative past focus adopted by the respondents had a positive connection with the stress level they experience. With an increase of those dimensions of time perspective of one unit, the experienced stress level increased by .27 unit in the instance of the hedonistic present perspective and by .72 of a unit with respect to a negative past perspective.

Time perspective dimensions as predictors of general loneliness predictors. An analysis of linear regression with an introduction method for prediction of general loneliness level indicated that the model proved to be well matched to the data $F(4.306) = 15.19$; $p < .001$ and explained in total 16% of general loneliness level variance (adj. $R^2 = .155$). Table 4 features the coefficients for the regression model.

Table 4. Linear regression model coefficients for a model explaining general loneliness level

	B	SE	Beta	t	p	95% CI for B	
						LL	UL
(Constant)	22.22	1.52		14.64	< .001	19.25	25.22
Hedonistic present	0.18	0.12	0.11	1.47	0.142	-.06	0.42
Future	-.12	0.14	-.08	-.86	0.393	-.41	0.16
Positive past	-.50	0.12	-.35	-4.14	< .001	-.74	-.26
Negative past	0.60	0.12	0.38	5.10	< .001	-.37	0.83

Source: Authors' research.

The analysis demonstrated a significant relation between the positive and negative past dimensions adopted by respondents and the general level of loneliness experienced. With an increase of a positive past oriented attitude of one unit, the level of general loneliness experienced decreased by .50 of a unit (negative correlation), whereas with an increase of a negative past focus by one unit, the general loneliness level increased by .60 of a unit (positive correlation). The remaining two dimensions of the time perspective were not significantly related to the general loneliness experienced by respondents.

Time perspective dimensions as predictors of peer loneliness. Analogical analyses were conducted to establish the correlation between the time perspective dimensions assumed by the juveniles and the level of peer loneliness experienced. The model proved to be well matched to the data $F(4.301) = 9.02$; $p < .001$, although it explained in total only 10% of the variance in the level of peer loneliness (adj. $R^2 = .095$). Table 5 features the coefficients for the regression model conducted.

Table 5. Linear regression model coefficients for a model explaining the level of peer loneliness

	B	SE	Beta	t	p	95% CI for B	
						LL	UL
(Constant)	14.15	1.25		11.33	< .001	11.69	16.61
Hedonistic present	0.18	0.10	0.14	1.76	0.080	-.02	0.38
Future	-.13	0.12	-.10	-1.08	0.282	-.36	0.11
Positive past	-.29	0.10	-.26	-2.94	0.004	-.49	-.10
Negative past	0.35	0.10	0.28	3.57	< .001	-.16	0.54

Source: Authors' research.

The analysis conducted demonstrated a significant relationship between the positive and negative past dimensions adopted by respondents and the level of peer loneliness experienced. With an increase of a positive past oriented attitude of one unit, the loneliness level decreased by 0.29 of a unit (negative correlation), whereas with an increase of a negative past focus of one unit the loneliness level increased by 0.35 of a unit (positive correlation).

Time perspective dimensions as predictors of family loneliness. The last model analysed considered family loneliness as a dependent variable. This model proved to be well matched to the data $F(4,305) = 24.22$; $p < .001$, explaining in total 23% of variance in the level of family loneliness (adj. $R^2 = 0.231$). Table 6 features the coefficients for the regression model.

Table 6. Linear regression model coefficients for a model explaining family loneliness

	B	SE	Beta	T	p	95% CI for B	
						LL	UL
(Constant)	25.88	1.85		13.99	< .001	22.24	29.51
Hedonistic present	0.38	0.15	0.18	2.55	0.001	0.09	0.67
Future	-.34	0.18	-.17	-1.95	0.052	-.69	0.01
Positive past	-.83	0.15	-.46	-5.64	< .001	-1.13	-.54
Negative past	0.68	0.14	0.33	4.74	< .001	0.40	0.96

Source: Authors' research.

The analysis demonstrated a positive relationship between experiencing family loneliness and the hedonistic present and negative past focus adopted by respondents. With an increase of those time perspective dimensions of one unit the family loneliness level experienced by the youths increased by 0.38 of a unit and 0.68 of a unit respectively (positive correlation). With an increase of a positive past focus of one unit, the family loneliness level experienced by pupils decreased by 0.83 of a unit (moderate and negative correlation).

Holistic model. The regression analyses and application of structural equation modelling resulted in a holistic model of correlations between the time perspective dimensions adopted by YEC pupils and the depression, stress and loneliness. Following consideration of slight modifications to the model, pursuant to modification coefficients, the model proved to be well matched to the data: $\chi^2/df = 1.41$; CFI = 0.99; GFI = 0.99; RMSEA = 0.036 [95%CI: 0.01; 0.08], SRMR=0.02. Figure 1 features the standardised regression coefficient for the model.

The analysis demonstrated absence of significant correlations between the negative past perspective adopted by adolescents and the DJGLS – the general loneliness ($\beta = 0.10$; $p = 0.086$), peer loneliness ($\beta = 0.01$; $p = 0.885$) and

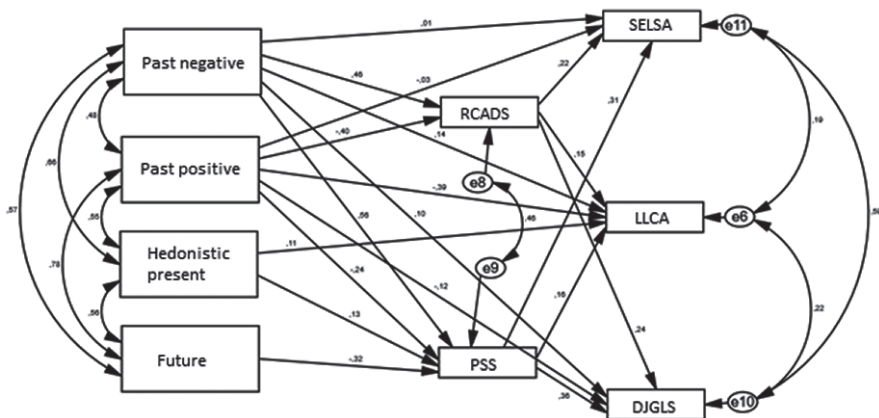


Figure 1. Model of correlations between the time perspective dimensions adopted by YEC pupils and the levels of depression, stress and loneliness they experience

Source: Authors' research.

family loneliness they experience ($\beta = 0.11$; $p = 0.053$); adopted dimension of a positive past and peer loneliness experienced ($\beta = 0.14$; $p = 0.620$) and between the dimension of hedonistic present and family loneliness experienced ($\beta = -.03$; $p = 0.101$). Other correlations in the model proved to be significant at the $p < 0.05$ level. A negative past perspective had a moderately positive impact on the depression level ($\beta = 0.46$; $p < .001$) and a strong positive impact on the stress level ($\beta = 0.56$; $p < .001$). A positive past perspective had a moderate impact on the depression level ($\beta = -.40$; $p < .001$), a weak negative one on the stress level ($\beta = -.24$; $p = 0.001$), and general loneliness ($\beta = -.13$; $p = 0.030$), moderately negative on family loneliness ($\beta = -.39$; $p < .001$). A hedonistic present perspective had a positive (but weak) impact on the stress level ($\beta = 0.13$; $p = 0.034$). A future perspective had a moderate negative impact on the stress level ($\beta = -.32$; $p < .001$). Stress had a moderate positive impact on general ($\beta = 0.36$; $p < .001$), peer ($\beta = 0.31$; $p < .001$) and positive (but weak) family loneliness ($\beta = 0.17$; $p = 0.009$). Depression had a positive and weak impact on general ($\beta = 0.24$; $p < .001$), peer ($\beta = 0.22$; $p < .001$) and family loneliness ($\beta = 0.15$; $p = 0.011$).

The next step involved the verification of whether depression and stress played the intermediary role of a variable between the time perspective adopted by youths and general, peer and family loneliness. With an intent to specify the significance of specific intermediary effects, an additional *bootstrapping* analysis was conducted for 5000 sampling, in order to specify the 95% confidence interval for effects. When the values between the bottom and top threshold exceed 0, then an analysed effect is insignificant. Detailed values of intermediary effects are presented in table 7.

Table 7. Specific intermediary effects of depression and stress experienced for correlation between the time perspective dimensions adopted by respondents and the general, peer and family loneliness experienced – unstandardized coefficients

Path analysis	B	LL	UL
past negative → RCADS → SELSA	0.14	0.067	0.238
past negative → RCADS → LLCA	0.15	0.030	0.287
past negative → RCADS → DJGLS	0.18	0.095	0.285
past negative → PSS → SELSA	0.23	0.114	0.379
past negative → PSS → LLCA	0.19	0.029	0.371

Table 7. (continued)

Path analysis	B	LL	UL
past negative → PSS → DJGLS	0.32	0.189	0.479
past positive → RCADS → SELSA	-.11	-.184	-.055
past positive → RCADS → LLCA	-.11	-.222	-.027
past positive → RCADS → DJGLS	-.14	-.227	-.077
past positive → PSS → SELSA	-.09	-.198	-.024
past positive → PSS → LLCA	-.07	-.177	-.019
past positive → PSS → DJGLS	-.12	-.243	-.037
hedonistic present → PSS → SELSA	0.06	-.002	0.132
hedonistic present → PSS → LLCA	0.08	-.006	0.164
hedonistic present → PSS → DJGLS	0.08	-.006	0.164
future → PSS → SELSA	-.13	-.252	-.056
future → PSS → LLCA	-.11	-.263	-.012
future → PSS → DJGLS	-.18	-.318	-.075

Source: Authors' research.

The analysis demonstrated a significant effect on all path analyses apart from an intermediary role of stress on the correlation between a hedonistic present and all loneliness dimensions: *SELSA*, *LLCA*, *DJGLS*. For the remaining correlations the depression and stress level play the role of an intermediary between the time perspective dimensions adopted by the young people and the experienced loneliness dimensions. Table 8 features the values of the complete indirect effects of depression and stress experienced for the correlation between the time perspective dimensions adopted by respondents and the dimensions of loneliness experienced.

Table 8. Complete indirect effects of depression and stress experienced for the correlation between the time perspective dimensions adopted by respondents and general, peer and family loneliness

Path analysis	B	LL	UL	β
past negative → RCADS, PSS → SELSA	0.37	0.253	0.512	0.28
past negative → RCADS, PSS → LLCA	0.50	0.355	0.671	0.31
past negative → RCADS, PSS → DJGLS	0.33	0.158	0.532	0.16
past positive → RCADS, PSS → SELSA	-.20	-.306	-.112	-.17

Table 8. (continued)

Path analysis	B	LL	UL	β
past positive → RCADS, PSS → LLCA	-.26	-.395	-.145	-.19
past positive → RCADS, PSS → DJGLS	-.19	-.307	-.088	-.10
hedonistic present → PSS → SELSA	0.06	-.002	0.132	0.04
hedonistic present → PSS → LLCA	0.08	-.006	0.164	0.05
hedonistic present → PSS → DJGLS	0.08	-.006	0.164	0.02
future → PSS → SELSA	-.13	-.252	-.056	-.10
future → PSS → LLCA	-.11	-.263	-.012	-.11
future → PSS → DJGLS	-.18	-.318	-.075	-.05

Source: Authors' research.

The analysis demonstrated indirect effects of depression and stress for the correlation between the time perspective dimensions: negative, positive past, future and all dimensions of loneliness experienced (Dąbrowska et al., 2021). With consideration for the intermediary role of depression and stress, a positive correlation between negative past and general family and peer loneliness increases. Depression and stress in the instance of a positive past focus diminish the negative relation with the loneliness level, which means that the positive role of a positive future focus with consideration for depression and stress is increased. An analogical correlation exists for the future – consideration of stress as an intermediary variable increases the negative correlation between a future focus and the loneliness level.

Discussion

As indicated earlier, the objective of the analyses conducted was to establish the correlations between the time perspective dimensions adopted by juveniles and the stress, depression and loneliness they experience.

The study validated hypothesis 1, which assumed a positive correlation between the negative past dimension adopted by youths and the level of depression, stress and loneliness they experienced. A negative vision of the past is conducive to a decrease of a fundamental trust in relations with others; it contributes to the development of non-adaptive behaviours aimed at obtaining approval and care from others, and is also conducive to making intuitive

and spontaneous, but not always informed, decisions (Mello & Worrell, 2015; Molinari et al., 2016). This may be the reason why the respondents living in conditions of institutional rehabilitation education, who adopt a negative past perspective, focus on experiencing pleasure in a hedonistic present perspective, involving high impulsiveness, an active search for new and exciting sensations, avoiding discomfort and a tendency towards risky conduct. This is typical of people who encounter difficulties in their daily lives (Franken & Muris, 2005) and, therefore, also socially maladjusted people.

Validation was also given to hypothesis 2, which assumed a negative relation between the positive past dimension adopted by respondents and depression, stress and loneliness. Those findings confirm the conclusions of Zimbardo and Boyd (1999) who indicate that a focus on a positive past dimension contributes to a lower intensification of anxiety and depression. The fact is that the most balanced juveniles, with regards to the psychological variables measured, are the YEC pupils who feature high results within the positive past and future dimensions; this would, yet again, justify the significance of temporal perspective to the quality of life (Stolarski & Matthews, 2016). This also refers to the respondents remaining in institutional rehabilitation education. The results achieved validate hypothesis 2, which assumes that a focus on a positive past dimension is conducive to good mental functioning (lower level of anxiety and depression intensification, better relationships with parents and peers) and successful adaptation to a present life situation of adolescents subjected to institutional rehabilitation education. This is consistent with other findings (Stolarski et al., 2015).

Partial validation was given to hypothesis 3, which assumed that a hedonistic present perspective is related to depression, stress and loneliness (this is explained in the comments on hypothesis 1). The analysis confirmed a positive correlation of this dimension of the perspective with family loneliness and stress level (a correlation between this perspective and stress was validated solely in the holistic model).

Partial validation was also given to hypothesis 4, which assumed a correlation between a future focus and depression, stress and loneliness (this is explained in the comments on hypothesis 2). The analysis confirmed a negative correlation between future focus and stress, although such a correlation was validated solely in the holistic model.

Validation was given to hypothesis 5, which assumed an intermediary role of stress and depression for a correlation between juveniles' focus on a time horizon (or one if its forms) and the loneliness they experienced. This means that experiencing stress in connection with depressions enhances the significance of the adopted time perspective dimension for a sense of loneliness. Therefore, if the experience of stress and depression is minimalised, we may achieve an effect in the form of a reduced level of the loneliness experienced. This is indirectly confirmed in the results of other research, where loneliness is treated as a significant correlate and a risk factor for the occurrence of health disorders, depression and auto-destructive behaviours, e.g. suicide (Moore & Schultz, 1983; Page et al., 2006; Pereira & Cardoso, 2017), as well as self-depreciation and a sense of low attractiveness, pessimism, apprehension, and a sense of rejection and emptiness which may at the same time evoke and enhance depressive states, which are a secondary source of the experience of stress. Loneliness is connected with a lower sense of happiness and life satisfaction as well as a lower propensity to undertake social risk. This may result in an increase of a propensity to isolation and other social development problems (Moore & Schultz, 1983). Reference to diverse sources of loneliness (in family, peer, and romantic relationship contexts) indicates that it is related to various forms of psychopathology (depression, anxiety, suicidal thoughts, social phobia) which emerge during puberty (Lasgaard et al., 2011). Such studies also demonstrate a direct correlation between a sense of loneliness and depression. It emerged that reducing family loneliness among pupils (parental visits) influences youths' mental health (a faster decrease of symptoms of depression), particularly in the initial stage of being placed at a youth educational centre (Monahan et al., 2011). The results of our research permit the conclusion that influences aimed at the elimination of stress and depressive states may constitute a basis for changes within the scope of the level of loneliness experienced.

Conclusions

The results may be significant for the creation of a support system and improvement of socially maladjusted youths' functioning in institutional rehabilitation education. Consequently, it presents an opportunity for their

successful social re-adaptation. The temporal competence anomalies shown, which evidently reflect deficits in the psychosocial functioning of the respondents, may be modified by educational and preventive, therapeutic or training influences, which is indicated by the existing result of studies of adults (James & Woodsmall, 1988; Tokarska, 2016; Tucholska & Tylikowska, 2016).

The research was restricted with regards to the application of a temporal perspective study tool (*i.e.* *ZTPI* and its short version). This tool was developed for use with a school-age youth sample, without restrictions arising from developmental delays related to potentially low environmental stimulation and the educational negligence of socially maladjusted people. Previous studies, however, demonstrated that a time perspective was significantly correlated also with educational and not just psychological variables (Zimbardo & Boyd, 1999). Therefore, it would be advisable to repeat such studies in comparison groups, *i.e.* youths at a corresponding age (development phase) but correctly adjusted. To do so is the intention of the authors of this article.

To reiterate, this research contributes to an increase in the number of studies focused on time perspective and its determinants and correlates. The time perspective is considered to be an important psychological construct related to human development and education (e.g. Phalet et al., 2004), but also – it appears – their development and socialisation. Primarily, however, our work closes the gap in research on the functioning of socially maladjusted youths placed in a specific kind of educational institution (YEC). The time perspective is a potentially significant object of research in numerous fields, yet it is hardly analysed within the context of adjustment disorders. Research on the phenomena of social maladjustment too rarely analyses the cognitive factors in adjustment disorders and, above all, there is a tangible deficit of research referring to the adoption of temporal dimensions/foci. Effective rehabilitation must be based on data on the nature of individuals' perception of past, present and future because this factor may turn out to be significant in that process of internal transformation which is an effect of successful rehabilitation. This factor is also significant to the activation of specific emotional states. Therefore, we plan to continue research aimed at acknowledging the regulation of emotional states as an intermediary mechanism in behaviour regulation (Gross, 2013). We recognize that further research on emotional states in socially maladjusted adolescents subjected to

institutional education, within the context of the time perspective adopted, will make a significant contribution to theory and, if followed through, in rehabilitation practice.

References

- Bowles, T. (1999). Focusing on Time Orientation to Explain Adolescent Self-Concept and Academic Achievement: Part II Testing a Model. *Journal of Applied Health Behavior*, 1(2), 1–8.
- Brent, D.A., & Pan, L. (2008). Depressive Disorders (in Childhood and Adolescence). In: M.H. Ebert, P.T. Loosen, B.B. Nurcombe, & J.F. Leckman (Eds.), *Current Diagnosis and Treatment: Psychiatry* (pp. 601–606). New York: McGraw-Hill Education.
- Bromet, E., Andrade, L.H., Hwang, I., Sampson, N.A., Alonso, J., de Girolamo, G., de Graff, R., Demyttenaere, K., Hu, C., Iwata, N., Karam, A.N., Kaur, J., Kostyuchenko, S., Lépine, J.P., Levinson, D., Matschinger, H., Mora, M.E.M., Browne, M.O., Posada-Villa, J., Viana, M.C., Williams, D.R., & Kessler, R.C. (2011). Cross-National Epidemiology of MSM-IV Major Depressive Episode. *BMC Medicine*, 9, 1–16, doi: 10.1186/1741-7015-9-90.
- Carstensen, L.L. (2006). The Influence of a Sense of Time on Human Development. *Science*, 312(5782), 1913–1915, doi: 10.1126/science.1127488.
- Casey, B.J., Duhoux, S., & Cohen, M.M. (2010). Adolescence: What do Transmission, Transition, and Translation Have to Do with It? *Neuron*, 9, 749–760, doi: 10.1016/j.neuron.2010.08.033.
- Chorpita, B.F., Yim, L., Moffitt, C., Umemoto, L.A., & Francis, S.E. (2000). Assessment of Symptoms of DSM-IV Anxiety and Depression in Children: A Revised Child Anxiety and Depression Scale. *Behaviour Research and Therapy*, 38(8), 835–855, doi: 10.1016/s0005-7967(99)00130-8.
- Cohen, S., Kamarck, T., & Mermelstein, R. (1983). A Global Measure of Perceived Stress. *Journal of Health and Social Behavior*, 24(4), 385–396, doi: 10.2307/2136404.
- Cottle, T.J. (1967). The Circles Test: An Investigation of Perceptions of Temporal Relatedness and Dominance. *Journal of Projective Techniques & Personality Assessment*, 31, 58–71, doi: 10.1080/0091651X.1967.10120417.
- Dahl, R.E., & Gunnar, M.R. (2009). Heightened Stress Responsiveness and Emotional Reactivity During Pubertal Maturation: Implications for Psychopathology. *Developmental and Psychopathology*, 21(1), 1–6, doi: 10.1017/S0954579409000017.

- Dąbrowska, A., Marek-Banach, J., & Zimbardo, Ph. (2021). Temporal Perspective and Mental Functioning of Socially Maladjusted Youth Held in Conditions of Institutional Isolation. *Problemy Opiekuńczo-Wychowawcze*, 10(605), 53–67, doi: 10.5604/01.3001.0013.9121.
- DiTommaso, E., & Spinner, B. (1993). The Development and Initial Validation of the Social and Emotional Loneliness Scale for Adults (SELSA). *Personality and Individual Differences*, 14, 127–134, doi: 10.1016/0191-8869(93)90182-3.
- DiTommaso, E., & Spinner, B. (1997). Social and Emotional Loneliness: A Re-Examination of Weiss' Typology of Loneliness. *Personality and Individual Differences*, 22(3), 417–427, doi: 10.1016/S0191-8869(96)00204-8.
- Duckworth, A.L., Steen, T.A., & Seligman, M.E.P. (2005). Positive Psychology in Clinical Practice. *Annual Reviews of Clinical Psychology*, 1, 629–651, doi: 10.1146/annurev.clinpsy.1.102803.144154.
- Erikson, E. (1968). *Identity: Youth and Crisis*. New York: Norton.
- Erikson, E. (1980). *Identity and the Life Cycle*. New York: W.W. Norton & Company.
- Frank, L.K. (1939). Time Perspectives. *Journal of Social Philosophy*, 4, 293–312, doi: 10.1016/j.paid.2005.04.004.
- Franken, I.H.A., & Muris, P. (2005). Individual Differences in Decision Making. *Personality and Individual Differences*, 39, 991–998, doi: 10.1016/j.paid.2005.04.004.
- George, D., & Mallery, P. (2016). *IBM SPSS Statistics 23 Step by Step: A Simple Guide and Reference*. New York: Routledge.
- Golde, S., Romund, L., Lorenz, R.C., Pelz, P., Gleich T., Beck, A., & Raufelder, D. (2019). Loneliness and Adolescents' Neural Processing of Self, Friends, and Teachers: Consequences for the School Self-Concept. *Journal of Research on Adolescence*, 29(4), 938–952, doi: 10.1111/jora.12433.
- Gonzalez, A., & Zimbardo, P. (1985). Time in Perspective: A Psychology Today Survey Report. *Psychology Today*, 19, 21–26.
- Greene, A.L. (1986). Future-Time Perspective in Adolescence: The Present of Things Future Revisited. *Journal of Youth and Adolescence*, 15(2), 99–113, doi: 10.1007/BF02141732.
- Gross, J.J. (2013). Emotion Regulation: Taking Stock and Moving Forward. *Emotion*, 13(3), 359–365, doi: 10.1037/a0032135.
- Grygiel, P., Humenny, G., Rebisz, S., Świtaj, P., & Sikorska-Grygiel, J. (2012). Validating the Polish Adaptation of the 11-item De Jong-Gierveld Loneliness Scale. *European Journal of Psychological Assessment*, 29(2), 129–139.

- Hall, P.A., & Fong, G.T. (2003). The Effects of a Brief Time Perspective Intervention for Increasing Physical Activity Among Young Adults. *Psychology and Health*, 18, 685–706, doi: 10.1080/0887044031000110447.
- Hammond, W.A., & Romney, D.M. (1995). Cognitive Factors Contributing to Adolescent Depression. *Journal of Youth and Adolescence*, 24(6), 667–683, <https://doi.org/10.1007/BF01536950>.
- Heinrich, L., & Gullone, E. (2006). The Clinical Significance of Loneliness. *Clinical Psychology Review*, 26, 695–718, doi: 10.1016/j.cpr.2006.04.002.
- Henson, J.M., Carey, M.P., Carey, K.P., & Maisto, S.A. (2006). Associations Among Health Behaviors and Time Perspective in Young Adults: Model Testing with Boot-Strapping Replication. *Journal of Behavioral Medicine*, 29, 127–137, doi: 10.1007/s10865-005-9027-2.
- Heszen-Niejodek, I. (2006). *Psychologia stresu: korzystne i niekorzystne skutki stresu życiowego* [Stress Psychology. Advantageous and Disadvantageous Effects of Life Stress]. Warszawa: Wydawnictwo Naukowe PWN.
- Holt-Lunstad, J., Smith, T.B., Baker, M., Harris, T., & Stephenson, D. (2015). Loneliness and Social Isolation as Risk Factors for Mortality: A Meta-Analytic Review. *Perspectives on Psychological Science*, 10, 227–237, doi: 10.1177/1745691614568352.
- James, T., & Woodsmall, W. (1988). *Time Line Therapy and the Basis of Personality*. Capitola, CA: Meta Publications.
- Juczyński, Z., & Ogińska-Bulik, N. (2009). *Narzędzia pomiaru stresu i radzenia sobie ze stresem* [Stress Measurement Tools and Coping with Stress]. Warszawa: Pracownia Testów PTP.
- Kichler, K. (2012). Obrony psychiczne i psychospołeczne a poczucie koherencji u młodzieży z zaburzeniami depresyjnymi [Mental and Psycho-Social Defence and Sense of Coherence in Youths with Depression Disorders]. In: E. Drop, & M. Maćkiewicz (Eds.), *Młoda psychologia* [Young Psychology] (v. 1, pp. 81–99). Stare Kościeliska: Liberi Libri.
- Klineberg, S.L. (1967). Changes in Outlook on the Future Between Childhood and Adolescence. *Journal of Personality and Social Psychology*, 7, 185–193, doi: 10.1037/h0024988.
- Kupersmidt, J.B., Coie, J.D., & Dodge, K.A. (1990). The Role of Poor Peer Relationships in the Development of Disorder. In: S.R. Asher, & J.D. Coie (Eds.), *Cambridge Studies in Social and Emotional Development. Peer Rejection in Childhood* (pp. 274–305). New York, NY: Cambridge University Press.
- Kwiatkowska, M., et al. (2018). Skala osamotnienia i postaw wobec samotności u dzieci i młodzieży. Polska adaptacja skali *Loneliness and Aloneness Scale for*

- Children and Adolescents* (LACA) autorstwa Alfonsa Marcoena, Luca Goossensa oraz Paula Caesa (1987) przygotowana w ramach programu „Diamentowy Grant” finansowanego przez Ministra Nauki i Szkolnictwa Wyższego, projekt pt. *Wieloaspektowe spojrzenie na zjawisko samotności oraz weryfikacja modelu relacji samotności, nieśmiałości i samooceny* (nr projektu: 0101/DIA/2017/46; czas trwania: 2017–2020) realizowany na Uniwersytecie Kardynała Stefana Wyszyńskiego w Warszawie, kierowany przez mgr Marię M. Kwiatkowską pod opieką dr. hab. Henryka Gasiuła, prof. UKSW [The Scale of Loneliness and Attitudes Towards Loneliness in Children and Adolescents. Polish Adaptation of the Loneliness and Aloneness Scale for Children and Adolescents (LACA) by Alfons Marcoen, Luc Goossens and Paul Caes (1987) Prepared as Part of the “Diamond Grant” Program Financed by the Minister of Science and Higher Education, the Project Entitled A Multifaceted Look at the Phenomenon of Loneliness and Verification of the Model of Relationships of Loneliness, Shyness and Self-Esteem (Project Number: 0101/DIA/2017/46; Duration: 2017-2020) Implemented at the Cardinal Stefan Wyszyński University in Warsaw, Headed by Maria M. Kwiatkowska Under the Supervision of Dr. Henryk Gasiul, Professor at UKSW.
- Lasgaard, M., Goosens, L., Bramsen, R.H., Trillingsgaard, T., & Elklit, A. (2011). Different Sources of Loneliness are Associated with Different Forms of Psychopathology in Adolescence. *Journal of Research in Personality*, 45(2), 233–237, doi: 10.1016/j.jrp.2010.12.005.
- Lazarus, R.S. (1987). Transactional Theory and Research on Emotions and Coping. *European Journal of Personality*, 1(3) (Spec. Issue), 141–169, doi: 10.1002/per.2410010304.
- Lazarus, R.S. (1993). Coping Theory and Research: Past, Present, and Future. *Psychosomatic Medicine*, 55(3), 234–247, doi: 10.1097/00006842-199305000-00002.
- Lazarus, R.S., & Folkman, S. (1984). *Stress, Appraisal, and Coping*. New York, NY: Springer.
- Lazarus, R.S., & Launier, R. (1978). Stress-Related Transactions Between Person and Environment. In: L.A. Pervin, & M. Levis (Eds.), *Perspectives in Interactional Psychology* (pp. 287–327). New York: Plenum Press.
- Lennings, C.L., Burns, A.M., & Cooney, G. (1998). The Profiles of Time Perspective and Personality: Developmental Considerations. *The Journal of Psychology*, 132, 629–641, doi: 10.1080/00223989809599294.
- Lewin, K. (1935). *A Dynamic Theory of Personality*. New York: McGraw-Hill.
- Lewin, K. (1946). Behavior and Development as a Function of the Total Situation. In: L. Carmichael (Ed.), *Manual of Child Psychology* (pp. 918–970). 2nd ed. New York: Wiley.

- Manthorpe, J., & Iliffe, S. (2010). *Depresja wieku podeszłego* [Depression in Later Life]. Warszawa: PZWL.
- Marcoen, A., Goossens, L., & Caes, P. (1987). Loneliness in Pre-Through Late Adolescence: Exploring the Contributions of a Multidimensional Approach. *Journal of Youth and Adolescence*, 16(6), 561–577, doi: 10.1007/BF0213882.
- Mello, Z.R., & Worrell, F.C. (2006). The Relationship of Time Perspective to Age, Gender, and Academic Achievement Among Academically Talented Adolescents. *Journal for the Education of the Gifted*, 29, 271–289, doi: 10.1177/016235320602900302.
- Mello, Z.R., & Worrell, F.C. (2015). The Past, the Present, and the Future: A Conceptual Model of Time Perspective in Adolescence. In: M. Stolarski, N. Fieulain, & W. van Beek (Eds.), *Time Perspective Theory: Review, Research and Application. Essays in Honor of Philip Zimbardo* (pp. 115–129). Cham, Switzerland: Springer International Publishing.
- Molinari, L., Speltini, G., Passini, S., & Carelli, M.G. (2016). Time Perspective in Adolescents and Young Adults: Enjoying the Present and Trusting in a Better Future. *Time & Society*, 25(3), 1–19, doi: 10.1177/0961463X15587833.
- Monahan, K.C., Goldweber, A., & Cauffman, E. (2011). The Effects of Visitation on Incarcerated Juvenile Offenders: How Contact with the Outside Impacts Adjustment on the Inside. *Law and Human Behavior*, 35, 143–151, doi: 10.1007/s10979-010-9220-x.
- Moore, D.W., & Schultz, N.R. (1983). Loneliness at Adolescence: Correlates, Attributions, and Coping. *Journal of Youth and Adolescence*, 12(2), 95–100, doi: 10.1007/bf02088307.
- Moretti, M.M., & Peled, M. (2004). Adolescent-Parent Attachment: Bonds That Support Healthy Development. *Paediatrics & Child Health*, 9(8), 551–555, doi: 10.1093/pch/9.8.551.
- Myers, D.G. (2000). *The American Paradox: Spiritual Hunger in an Age of Plenty*. New Haven–London: Yale University Press.
- Office for National Statistics (2018). Retrieved 20 September 2021 from: <https://www.ons.gov.uk/releases/overviewoftheukpopulationnovember2018>.
- Oyserman, D., Terry, K., & Bybee, D. (2002). A Possible Selves Intervention to Enhance School Involvement. *Journal of Adolescence*, 25, 313–326, doi: 10.1006/jado.2002.0474.
- Page, R.M., Yanagishita, J., Suwanteerangkul, J., Zarco, E.P., Mei-Lee, C., & Miao, N.F. (2006). Hopelessness and Loneliness Among Suicide Attempters in School-Ba-

- sed Samples of Taiwanese, Philippine, and Thai Adolescents. *School Psychology International*, 27(5), 583–559, doi: 10.1177/0143034306073415.
- Pereira, A.A.G., & Cardoso, F.M.S. (2017). Searching for Psychological Predictors of Suicidal Ideation in University Students. *Psicologia: Teoria e Pesquisa*, 33, 1–8, doi: 10.1590/0102.3772e33420.
- Phalet, K., Andriessen, I., & Lens, W. (2004). How Future Goals Enhance Motivation and Learning in Multicultural Classrooms. *Educational Psychology Review*, 16, 59–89, doi: 10.1023/B:EDPR.0000012345.71645.d4.
- Piaget, J. (1955). The Development of Time Concepts in the Child. In: P.H. Hoch, & J. Zubin (Eds.), *Psychopathology of Childhood* (pp. 34–44). New York: Grube & Stratton.
- Piaget, J. (1975). The Intellectual Development of the Adolescent. In: A.H. Esman (Ed.), *The Psychology of the Adolescent?: Essential Readings* (pp. 104–108). New York: International Universities Press.
- Przepiórka, A., Sobol-Kwapińska, M., & Jankowski, T. (2016). A Polish Short Version of the Zimbardo Time Perspective Inventory. *Personality and Individual Differences*, 101, 78–89, doi: 10.1016/j.paid.2016.05.047.
- Rakowski, W. (1985). Future Time Perspective: Application to the Health Context of Later Adulthood. *American Behavioral Scientist*, 29, 730–745, doi: 10.1177/000276486029006007.
- Schiller, Y., Schulte-Körne, G., Eberle-Sejari, R., Maier, B., & Allgaier, A.-K. (2014). Increasing Knowledge About Depression in Adolescents: Effects of an Information Booklet. *Social Psychiatry and Psychiatric Epidemiology*, 49, 51–58, doi: 10.1007/s00127-013-0706-y.
- Schulz, M.S., & Kerig, P.K. (2012). Looking Beyond Adolescence: Translating Basic Research into Clinical Practice. In: P.K. Kerig, M.S. Schulz, & S.T. Hauser (Eds.), *Adolescence and Beyond: Family Processes in Development* (pp. 304–314). New York: Oxford University Press.
- Schwarzer, R., & Taubert, S. (2002). Tenacious Goal Pursuits and Striving Toward Personal Growth: Proactive Coping. In: E. Frydenberg (Ed.), *Beyond Coping: Meeting Goals, Visions and Challenges* (pp. 19–35). London: Oxford University Press.
- Sebastian, C., Viding, E., Williams, K.D., & Blakemore, S.-J. (2010). Social Brain Development and the Affective Consequences of Ostracism in Adolescence. *Brain and Cognition. Journal of Experimental and Clinical Research*, 72(1), 134–145, doi: 10.1016/j.bandc.2009.06.008.

- Seligman, M.E.P. (2000). Positive Psychology. In: J.E. Gillham (Ed.), *Laws of Life Symposia Series. The Science of Optimism and Hope: Research Essays in Honor of Martin E.P. Seligman* (pp. 415–429). West Conshohocken, PA: Templeton Foundation Press.
- Seligman, M.E.P., & Csikszentmihalyi, M. (2000). Positive Psychology. An Introduction. *American Psychologist*, 55(1), 5–14, doi: 10.1037/0003-066X.55.1.5.
- Seligman, M.E.P., Steen, T.A., Park, N., & Peterson, Ch. (2005). Positive Psychology Progress – Empirical Validation of Interventions. *American Psychologist*, 60(5), 410–421, doi: 10.1037/0003-066X.60.5.410.
- Seligman, M.E.P., Walker, E.F., & Rosenhan, D.L. (2001). *Abnormal Psychology*. 4th ed. New York–London: W.W. Norton.
- Skoczeń, I., Rogoza, R., Rogoza, M., Ebesutani, C., & Chorpita, B. (2017). Structure, Reliability, Measurement Stability, and Construct Validity of the Polish Version of the Revised Child Anxiety and Depression Scale. *Assessment*, 26(8), 1492–1503, doi: 10.1177/1073191117711019.
- Steinberg, L. (2008). A Social Neuroscience Perspective on Adolescent Risk-Taking. *Developmental Review*, 28, 78–106, doi: 10.1016/j.dr.2007.08.002.
- Steinberg, L., Graham, S., O’Brien, L., Woolard, J., Cauffman, E., & Banich, M. (2009). Age Differences in Future Orientation and Delay Discounting. *Child Development*, 1, 28–44, doi: 10.1111/j.1467-8624.2008.01244.x.
- Stolarski, M., & Matthews, G. (2016). Time Perspectives Predict Mood States and Satisfaction with Life Over and Above Personality. *Current Psychology*, 35(4), 516–526, doi: 10.1007/s12144-016-9515-2.
- Stolarski, M., Wiberg, B., & Osin, E. (2015). Assessing Temporal Harmony: The Issue of a Balanced Time Perspective. In: M. Stolarski, N. Fieulaine, & W. van Beek (Eds.), *Time Perspective Theory: Review, Research and Application. Essays in Honor of Philip Zimbardo* (pp. 57–71). Cham, Switzerland: Springer International Publishing.
- Strelau, J. (2006). *Psychologia. Podręcznik akademicki* [Psychology. Academic Textbook]. Gdańsk: GWP.
- Susman, E.J. (2006). Psychobiology of Persistent Antisocial Behavior: Stress, Early Vulnerabilities and the Attenuation Hypothesis. *Neuroscience & Biobehavioral Reviews*, 30, 376–389, doi: 10.1016/j.neubiorev.2005.08.002.
- Tismar, K.G. (1987). Psychological Aspects of Temporal Dominance During Adolescence. *Psychological Reports*, 61, 647–654, doi: 10.2466/pr0.1987.61.2.647.

- Tokarska, U. (Ed.) (2016). *Applied Psychology of Time*. Warszawa: Wydawnictwo Naukowe PWN.
- Tucholska, K., & Tylikowska, A. (2016). Psychological Time Representations in Films and Their Application. In: U. Tokarska (Ed.), *Applied Psychology of Time* (pp. 127–145). Warszawa: Wydawnictwo Naukowe PWN.
- Webb, J.T., & Mayers, B.S. (1974). Developmental Aspects of Temporal Orientation in Adolescents. *Journal of Clinical Psychology*, 30, 504–507, doi: 10.1002/1097-4679(197410)30:4<504::aid-jclp2270300414>3.0.co;2-q.
- Wessman, A.E., & Gorman, B.S. (1977). *The Personal Experience of Time*. New York: Plenum Press.
- Worrell, F.C., & Mello, Z.R. (2009). Convergent and Discriminant Validity of Time Attitude Scores on the Adolescent Time Perspective Inventory. *Diskurs Kindheits-und Jugendforschung*, 4, 185–196, doi: <https://psycnet.apa.org/doi/10.1027/1015-5759/a000671>.
- Zimbardo, P.G., & Boyd, J.N. (1999). Putting Time in Perspective: A Valid, Reliable Individual Difference Metric. *Journal of Personality and Social Psychology*, 77, 1271–1288, doi: 10.1037/0022-3514.77.6.1271.
- Zimbardo, P.G., & Boyd, J.N. (2008). *Time Paradox: The New Psychology of Time That Will Change Your Life*. New York: Simon & Schuster.
- Zimbardo, P.G., Keough, K.A., & Boyd, J.N. (1997). Present Time Perspective as a Predictor of Risk Driving. *Personality and Individual Differences*, 23, 1007–1023, doi: 10.1037/0022-3514.77.6.1271.