

MEASURING PERSONALITY DEVELOPMENT IN THE AFTERMATH OF CRITICAL LIFE EVENTS: A PRELIMINARY LONGITUDINAL MIXED METHODS STUDY

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This article aims to conceptualize, operationalize, and empirically validate the concept of *actual* personality development in the aftermath of a Critical Life Event. Two qualitative tools have been elaborated: the Structured Critical Life Events Interview and the Coding System for Personality Development. They were empirically verified in a preliminary longitudinal mixed methods study ($N = 40$ participants, $n = 1440$ narratives) with three measurements in one year referring to the Transition Cycle (Hopson & Adams, 1976). For assessing reliability the Intraclass Correlation Coefficient (ICC) and Cronbach's α were assessed. The convergent validity of the tools was determined by correlating the results with (1) linguistic structure of participants' verbalizations and (2) the questionnaires measuring similar behaviours and features. The research showed good psychometric properties of the tools. Moreover, they better identified personality growth and the specific dynamics of personality changes (positive and negative) than the Post-traumatic Growth Inventory (Tedeschi & Calhoun, 1996).

Keywords: personality development; positive disintegration theory; coding system for personality development; critical life events interview; psychometrics.

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The term “positive disintegration” reflects the vast range of potential changes in personality. To achieve the desired effect in terms of our own development, we must first break down some integral, original whole to be able to make a new mosaic, forming the more excellent, creative, and valuable person we become. Hence, the Theory of Positive Disintegration (TPD; Dąbrowski, 1967, 1972, 1979, 1996) captures and appreciates the dynamics of co-occurring positive and negative changes at the same time. In this way it potentially overcomes the limitation of the majority of post-traumatic growth (PTG) approaches (see Jayawickreme & Blackie, 2014) focusing on positive changes only and leading to positive response bias (Tomich & Helgeson, 2004), and thus of overtly positive reports of growth (Park & Lechner, 2006; see illusory PTG or Boals, 2023). It is worth noticing that many studies have not supported Tedeschi and Calhoun’s (1996) assumption that PTG emerges gradually in the adjustment process (see Tennen & Affleck, 2002).

These attitudes make the theory potentially very interesting, especially in the context of readaptation and/or personality development in the aftermath of Critical Life Event (CLE). However, one severe hurdle to the investigation, study, and application of the Theory of Positive Disintegration is the fact that no suitable psychological qualitative instrument exists to measure any Dąbrowskian constructs well and allow to observe some changes in the meaning attributed to a recent CLE on the timeline at the same time. The Dąbrowski’s idea was to ask volunteers to write autobiographies and open-ended responses to Verbal Stimuli (VS) to look for key emotional events to assess the type and level of development (see Piechowski, 2008). The majority of good quality tools operationalizing TPD include some questions or sentences to allow for open-ended responses, however, they are not directly related to CLE (e.g., Gage et al., 1981; Miller & Silverman, 1987). For the review of existing personality development approaches and tools please see Supplemental Material 1.

At the same time, the biographical method, incorporated in the study, allows one to grasp the meaning of many given events (including the most recent CLE) and their consequences for a person due to indirect questions measuring changes that are not always observed by respondents themselves. Research has shown that sufferers are not accurate in their perceptions of change when compared to how they really have changed (Blackie et al., 2017; Gangel et al., 2023; Owenz & Fowers, 2019). What is more, recalling the state before the event and determining how much they have changed since the event and to what extent this change was caused solely by the trauma is a demanding task for respondents (Jayawickreme & Blackie, 2014). In consequence, perceived

and actual growth have been conflated in PTG literature (Boals, 2023; Infurna & Jayawickreme, 2021). This, in turn, justifies the search for a qualitative tools that will explain and predict the wider scope and dynamics of personality changes (Jayawickreme & Blackie, 2014; Jayawickreme et al., 2020) after CLEs and can be measured more independently of the respondents' declarations. The article is the result of these research endeavors.

The Theory of Positive Disintegration: Conceptualization

The Theory of Positive Disintegration (TPD; Dąbrowski, 1964, 1967, 1972, 1996) is an influential theory of personality development. It was called “a personality theory for the 21st century” (Mendaglio, 2008). Dąbrowski (1967) states: “The process of personality building is characterized by a wandering ‘upward’ toward an ideal ... and the gradual acquiring of a structure within which ... general human traits appear ... [where] ... the instincts of a human being are to a considerable extent subject to the principle of dynamic disintegration ... in order to unify within the process of development in a homogeneous personality structure” (pp. 54–55). There are five levels of development outlined by his theory: (I) Primary Integration, (II) Unilevel Disintegration, (III) Spontaneous Multilevel Disintegration, (IV) Organized Multilevel Disintegration, and (V) Secondary Integration (Dąbrowski, 1975, 1979). For the description of the levels please see Supplemental Material 1. The levels are not successive stages but rather different types of development. Furthermore, due to its limited developmental potential level I is not the starting point of growth in Dąbrowski's sense and its breakdown may lead up to unilevel disintegration (Piechowski, 2014). Besides, the developmental journey can start anywhere.

The transition from one level to another is not automatic and does not correlate with age or maturation. Within the TPD it might be initiated by a critical life event (CLE), which is consistent with contemporary research (e.g., Edmonds et al., 2008; Park & Folkman, 1997; Roberts & Mroczek, 2008). However, it is not the experience of stress *per se* that causes development. In fact, the process of disintegration can end in three possible ways: (1) personality structure reverts back to the pre-crisis state (*recessive*), (2) the individual falls back to even lower level of development (*regressive*) and (3) the person achieves a higher level of personal development (*progressive*). It is the engagement of the following dynamisms that leads to positive outcome: dissatisfaction with oneself, anxiety over oneself, astonishment in oneself, conscious interest in the individual's own mental life and the ability

to develop an ever broader and deeper penetration into it, the Third Factor (which is both a developmental dynamism and a factor of development in its own right), the creation and recognition of relationships, perception of a hierarchy of values and purposes, empathy, self-awareness, self-control and self-criticism, self-education, autopsychotherapy, autonomy, authenticity, responsibility, and activation of personal ideal (Dąbrowski, 1967, 1975, 1979).

These developmental factors do not correlate linearly and create an intricate web of interrelationships, which is unique for each person (Harper et al., 2017). Hence, the TPD might solve the inconsistencies in recent observations of survivors' reactions ranging from decline to improvement or even no changes at all (e.g., Bleidorn et al., 2019; Chopik et al., 2020) and explain what they might depend on. For further information on the contribution of the TPD to understanding personality development in comparison with other existing approaches please see Supplemental Material 1.

The Theory of Positive Disintegration: Operationalization

The process of tool creation consisted in selecting and developing a biographical method that would allow us to identify a wide scope of key emotional events (including a recent CLE) referring to dimensions of the TPD and elaboration a coding system for personality development reflecting the Dąbrowski's assumption of multilevelness of psychic functions.

Critical Life Events Interview

Among the ways of measuring the concept recommended by Dąbrowski (1979) is a biographical method. This approach, incorporated in the study, enables measurement of the personality structure on a deeper level than based on the items of existing questionnaires. As a result, the structured the Critical Life Events Interview (CLEI) has been elaborated. The interview's questions were formulated indirectly. They correspond respectively to the following main dimensions of personality development: the functions and structure of (1) feelings, (2) drives, and (3) values, (4) self-awareness level, (5) ability to solve internal conflicts, (6) ability to manage interpersonal conflicts, (7) aspiration for development, (8) creativity, and (9) reaction to stress. It should be noted that Dąbrowski directly distinguished only the first three of them; however, in the Theory of Positive Disintegration one can see remaining dimensions along with the differentiation of their indicators depending on the personality development level (PDL).

The interview was based on two qualitative instruments: the Life Story Interview (LSI; McAdams, 2001) and the Guided Autobiography (GA; Foley Center for the Study of Lives, 1997). In the process of construction of the CLEI, the procedure of LSI was shortened to the key life scenes part. Moreover, only the most relevant key life scenes from the perspective of TPD were used such as high point, low point, turning point, and life challenge. Moreover, such GA episodes as continuity, morality, decision, and goal were chosen to enrich the constructed CLEI as they referred to the remaining dimensions of personality development.

The CLEI questions (see Supplemental Material 2) refer to the following dimensions of TPD: (1) High Point, (2) Low Point, (3) Most Recent Negative Critical Life Event (functions and structure of feeling), (4) Goal (functions and structure of drives), (5) Morality (functions and structure of values), (6) Life Turning Point, (7) Continuity (level of self-awareness), (8) Critical Decision (ability to solve internal conflicts), (9) Interpersonal Conflict (ability to manage interpersonal conflicts), (10) Activity (aspiration for development), (11) Experience of Creativity (creativity), and (12) Life Challenge (reaction to stress/change). Dimensions such as “the functions and structure of feeling” were matched to three positions of the CLEI (1–3) to acknowledge and observe a wider range of feelings. Also, “level of self-awareness” was operationalized through two positions of the CLEI (6 and 7) to capture the awareness of both what has been changed and what has remained stable in personality over time.

Coding System for Personality Development

The Coding System for Personality Development (CSPD) reflects Dąbrowski’s assumption of multilevelness of psychic functions. They constitute independent dimensions of personality development: (1) functions and structure of feeling, (2) functions and structure of drives, (3) functions and structure of values, (4) self-awareness level, (5) ability to solve internal conflicts, (6) ability to manage interpersonal conflicts, (7) aspiration for development, (8) creativity, and (9) reaction to stress/change. Each psychic function was characterised by Dąbrowski (1967, 1979) and operationalized in the study based on specific more or less advanced dynamisms related to separate PDLs (Dąbrowski, 1975, 1979; see the shapers of development, 1996).

Indicators of personality development included in the coding protocol refer to the aforementioned criteria of positive disintegration (i.e., dynamisms of the last three levels of personality development; positive changes) and nega-

tive disintegration (i.e., indicators of pathological changes; Dąbrowski, 1975). Coders determine whether or not there is evidence of each of the five levels of personality development separately for each interview question referring to one concrete dimension. If evidence exists for the level in the narrative, then the narrative receives a score from 0 to 5, where 0 denotes Primary Integration—unsocialized type structure, and 5 denotes Secondary Integration. If no evidence exists, the narrative does not receive any score (for more details please see Supplemental Material 3).

Empirical Examination of the Qualitative Tools

Apart from operationalization of TPD, the main study objective was to empirically verify the created qualitative tools. The evaluation employed reliability and convergent validity analyses.

METHOD

Participants

The recruitment method was based on the recruitment advertisement disseminated on several websites with paid surveys offers. Participants were paid \$50. The following recruitment criteria were adopted.

1. Being up to 2 months after the occurrence of a recent negative CLE (i.e., a situation of significant imbalance between the resources of an individual and some elements of the environment that required immediate changes to the so-called ordinary pattern of life; Sęk, 1991). A CLE was distinguished from a traumatic event understood in accordance with the DSM-IV (First et al., 2002) during the recruitment meeting. People after traumatic events were not included in the survey as possible posttraumatic stress disorder and its dynamics would alter the process of disintegration in an uncontrollable way. The traumatic character of the event was assessed according to criterion A posttraumatic stress disorder. Technically, I relied on the volunteers' declarations, i.e., direct answers to the questions referring to the following A criterion: The person has been exposed to a traumatic event in which both of the following were present: (a) the person experienced, witnessed, or was confronted with an event or events that involved actual or threatened death or serious injury, or

a threat to the physical integrity of self or others; (b) the person's response involved intense fear, helplessness, or horror.

2. Age from 22 to 45 (i.e., early adulthood; Levinson, 1996).

3. Mental health: As in the aftermath of a CLE it is reasonable to anticipate the occurrence of some mood disorders, volunteers were allowed with either (1) lowered mood or adjustment disorder only or (2) major depressive disorder. At the same time, volunteers with symptoms meeting the criteria of any other mental disorders (including personality disorders) were not invited, but they could participate in another study. The justification of the criteria was to control the mood disorder and prevent intervening other disease symptoms with disintegration processes. Particularly, the rigidity of non-adaptive cognitive, emotional and behavioural patterns of psychological functioning specific to different kinds of personality disorders could have an uncontrollable impact on emotionality, drive, behaviour and level of self-awareness (dimensions of Dąbrowskian Theory). The mental state was assessed by a trained clinician equipped with standardised diagnostic tools described below.

4. Neither psychotherapy nor pharmacotherapy directed by professional interventions but rather a "spontaneous adaptation path" to a recent CLE. Among 77 volunteers who applied for the study, 40 participants were selected based on the recruitment criteria (23 women and 17 men) aged from 22 to 44 ($M = 30.43$, $SD = 5.82$). Fifty percent of them had high education level, 32.5% were undergraduate/postgraduate students and 15% participants completed high school and 2.5% of them completed primary school. All of them were White. The participants reported the loss of either a long-term relationship (46.2%), their own health (17.9%), a loved one's health (10.3%), work (23.1%) or an unborn child (2.6%).

Procedure

To empirically verify hypotheses, a longitudinal repeated narration study ($N = 40$) was conducted three times corresponding to the Transition Cycle (Hopson & Adams, 1976):

- t_1 : up to two months after a CLE (*the provisional adjustment phase*),
- t_2 : three months later and around five months from a CLE (*the inner crisis phase*),
- t_3 : 8+ months from a CLE (*the reconstruction and recovery phase*).

Participants were interviewed at each stage (i.e., 3 times) about 1 hour and asked to fill in a set of questionnaires (about 25 minutes).

Measures

Psychological outcomes were assessed using qualitative and quantitative methods. At the qualifying meeting, volunteers were selected for the survey based on the Polish version of the Structured Clinical Interviews for DSM-IV Axis I (SCID-I; First et al., 2002) and Axis II (SCID-II; First et al., 1997) Disorders. Specifically, the psychological diagnosis was made using Screening Modules for Axis I and II Disorders and, if necessary, relevant Diagnostic Modules Sheets. Based on this criterion participants were divided into two groups: (1) non-clinical (i.e., lowered mood or adjustment disorder only and (2) with depression (the diagnosis of major depressive disorder).

In the next step, personality development was assessed with the CLEI (see Supplemental Material 2). Each recorded interview was then transcribed verbatim. All coding of the PDL was carried out by two independent peer judges (psychologists with qualitative research experience). They used the CSPD (see Supplemental Material 3).

To analyse participants' language LCM typology (Semin & Fiedler, 1991) the Polish LCM dictionary (Wawer & Sarzyńska, 2018) was used as the basis. In order to analyse the language samples a natural language-processing (NLP) pipeline was employed with a number of connected modules: the morphosyntactic analyser Morfeusz (Woliński, 2014), the morphosyntactic disambiguation module Concraft-pl (Waszczuk, 2012), dependency parser (Jurafsky & Martin, 2008) based on a Polish-language MaltParser engine model (Wróblewska, 2014). The modules communicate via the Thrift framework. The implementation has been integrated into the Multiservice NLP toolbox (Ogrodniczuk & Lenart, 2012).

The level of abstractness was determined according to the formula described in Kaźmierczak et al. (2022). Word sentiment was calculated based on a dictionary of 3276 lemmas, divided into 1494 positive words and 1774 negative ones, which is a part of the Sentipejd tool (Buczyński & Wawer, 2008). To compute syntactic complexity there was employed a metric for language comprehension difficulty (mean dependency distance, MDD; see Liu, 2008), which is the measure that use dependency parsing information and the order of words in a sentence (the formula can be found in Sarzyńska-Wawer et al. 2023). The language coherence describes the degree of similarity between phrases. For each phrase, its vector representation was counted: each word was replaced with a vector using word2vec (Mikolov et al., 2013) and then these vectors of individual words were averaged within each phrase. The similarity between phrases was calculated using the cosine of the angle between the vectors rep-

resenting the phrases. The higher this measure is, the more similar the phrases are. First order (fo; the phrases of direct neighbours are compared) and second order (so; the phrases of indirect neighbours are compared) are statistics describing the average similarity between phrases counted with the cosine.

Apart from the qualitative methods, the main standard psychometric tools were:

- the Post-traumatic Cognitions Inventory (PTCI; Foa et al., 1999), adapted by Dragan, Gulcz, and Wójtowicz (2005);
- the Post Traumatic Growth Inventory (PTGI; Tedeschi & Calhoun, 1996), adapted by Ogińska-Bulik and Juczyński (2010);
- the Hospital Anxiety and Depression Scale (HADS; Zigmond & Snaith, 1983), adapted by Majkowicz, Walden-Gałuszeko, and Chojnacka-Szawłowska (1994); the tool was applied to measure depression and anxiety symptoms from the last week;
- the Beck Depression Inventory (BDI; Beck et. al, 1961; Czapiński, 1998); it was used to measure the intensity of depressiveness present within the last month.

All of the above questionnaires are standard psychological questionnaires with satisfying psychometric properties.

Data Analysis Strategy

The qualitative tools were developed based on the general psychometric principles of scale construction (Dyer, 2006; Rattray & Jones, 2007). In the coding process, narratives were translated into numbers considering the presence/the intensity or absence of analysed indicators of PD. Statistical analyses were performed with IBM SPSS Statistics 27.

RESULTS

Data Analysis

In the first step, the qualitative analysis of narratives was performed by two peer judges to verify CSPD. As the construct of PDL was rated on a 6-point ordered scale, the Intraclass Correlation Coefficient (ICC) was chosen for assessing interrater reliability (Shrout & Fleiss, 1979). In t_1 , the ICCs of coding all aspects of PD ranged from .76 to .87. The ICC(2,k) for the total PDL was .92. In t_2 , the ICCs of coding all other aspects of PD were between .74 and .87. The ICC(2,k) for the total PDL was .90. In t_3 , besides the functions and structure

of drives ($ICC[2,k] = .69$), the ICCs of coding all other aspects of PD were between .71 and .95. The $ICC(2,k)$ for the total PDL was .89. Based on the average total protocol ratings, each participant was allocated to one of five PDLs separately for all measurements (see Table 1).

Table 1

Distribution of Participants to the PDL in Three Measurements in Time

PDL	$N(t_1)$	$N(t_2)$	$N(t_3)$
Primary Integration: asocialized type	0	0	0
Primary Integration: socialized type	5 (12.5%)	3 (7.7%)	2 (5.1%)
Unilevel Disintegration	25 (62.5%)	20 (51.3%)	11 (28.2%)
Spontaneous Multilevel Disintegration	10 (25%)	16 (41%)	20 (51.7%)
Organized Multilevel Disintegration	0	0	6 (15.5%)
Secondary Integration	0	0	0

Note. PDL = Personality Development Level, t_1 = the provisional adjustment phase, t_2 = the inner crisis phase, t_3 = the reconstruction and recovery phase of the Transition Cycle.

Then reliability analyses, including all 12 positions of the CLEI, were applied. All outcomes appeared to be above the required threshold of $\alpha = .70$ (Nunnally & Bernstein, 1994): Cronbach's $\alpha = .92$ (t_1), Cronbach's $\alpha = .89$ (t_2), and Cronbach's $\alpha = .90$ (t_3). Absolute stability was determined with the test-retest method. The score was found to be $r = .70$ ($p < .001$) between t_1 and t_2 , $r = .83$ ($p < .001$) between t_2 and t_3 , and $r = .73$ ($p < .001$) between t_1 and t_3 .

To identify the changes in PDLs between measurements, a one-way univariate repeated-measures ANOVA was run. The analysis revealed significant changes between measurements, $F(2, 76) = 30$, $p < .001$, $\eta^2 = .44$. Post-hoc Bonferroni tests showed that PDL was significantly ($p < .05$) different in all measurements: $M = 2.27$, $SD = .6$ (t_1); $M = 2.49$, $SD = .53$ (t_2); and $M = 2.8$, $SD = .65$ (t_3). More time passed since a CLE corresponded with a higher PDL.

The convergent validity of the tool was determined by correlating PDLs with (1) linguistic structure of participants' verbalizations and (2) the questionnaires measuring similar constructs.

The Language Used

In t_1 , partial correlations (with number of words controlled; however it was uncorrelated with PDL) were statistically significant or at a tendency level between PDL and abstractness ($r = .28, p = .085$; DAVs: $r = -.32, p = .050$), negations ($r = -.37, p = .020$), and coherence (fo: $r = .28, p = .084$).

In t_2 , partial correlations (with the number of words controlled, which was correlated with PDL: $r = .52, p = .001$) were statistically significant or at a tendency level between PDL and abstractness ($r = .42, p = .009$; DAVs: $r = -.37, p = .022$; SVs: $r = .29, p = .073$; ADJs: $r = .35, p = .032$), sentiment (positive words: $r = .40, p = .013$), negations ($r = -.43, p = .007$), and coherence (fo: $r = .29, p = .077$).

Similarly, in t_3 , partial correlations (with the number of words controlled, which was correlated with PDL: $r = .40, p = .013$) were statistically significant between PDL and the frequency of the words types related to the language abstractness (IAVs: $r = .45, p = .005$; DAVs: $r = -.40, p = .013$; ADJs: $r = .37, p = .022$; however, the correlation coefficient with the abstractness index has not reached the statistical significance in this case: $r = .21, p = .207$), sentiment (positive words: $r = .58, p = .001$, negations: $r = -.51, p = .001$), and coherence (fo: $r = .33, p = .043$). Moreover, PDL was associated with complexity: $r = .40, p = .012$.

Measuring Similar Constructs

Moreover, (2) the quantitatively encoded PDL occurred to be correlated neither with some emotional state's indices nor post-traumatic cognitions, regardless the measurement. As the mental health status might play a role, we divided the general sample in two groups based on the controlled variable in the project and repeated the analyses.

1. In the non-clinical group: the quantitatively encoded PDL related positively with the intensity of depression symptoms ($r = .43, p = .056$) and self-blame ($r = .47, p = .038$) in t_2 . In turn, in t_3 it correlated with self-blame ($r = .46, p < .043$). PTG, measured quantitatively, obtained one statistically significant correlate only in t_2 : more negative cognitions about others corresponded with higher PTGI scores: $r = -.72, p < .001$.

2. In the group with depression: the quantitatively encoded PDL did not correlate with any variables included in the research, regardless of time. To compare, PTGI scores correlated with the aforementioned variables only in the

inner crisis phase: more negative cognitions about self ($r = -.37, p = .020$) and higher depressiveness in the last month ($r = -.50, p = .030$) corresponded with lower PTGI scores.

Furthermore, Student's t -test showed no significant differences between women and men in terms of PDL, regardless of time: $t(38) = -.42, p = .674$ (t_1); $t(37) = -1.00, p = .292$ (t_2); and $t(38) = -.32, p = .750$ (t_3).

The PDL correlated with the PTGI score not earlier than in t_3 ($r = .34, p = .020$). The PTGI score in t_1 ($M = 48.97, SD = 21.69$) was significantly lower compared to the norm group ($M = 60.68, SD = 19.5; t[38] = -3.46, p = .002$). Similarly, the average PTGI scores from t_2 ($M = 52.69, SD = 19.52; t[38] = -2.47, p = .015$); only in t_3 it was not significantly different from the norm ($p = .161$). All PTGI scores stayed stable across measurements, $F(2,74) = 2.47, p = .091, \eta^2 = .06$.

DISCUSSION

Two qualitative tools have been elaborated to examine personality development: the CLEI and the CSPD. They were empirically verified in the present longitudinal study. In the case of total personality development and the majority of its dimensions, the consistency of codings provided by peer judges appeared to be above the acceptable level of reliability by ICC standards (Cicchetti, 1994; Orwin, 1994). These good levels of agreement were achieved regardless of the time passed since the CLE. Reliability analyses including all 12 positions of the CLEI separate for each measurement showed strong internal consistency (Nunnally & Bernstein, 1994) of the tool.

The level of qualitatively measured PD differed between all measurements. The more time that passed since a CLE, the higher the PDL. Participants' personality developed over time, and the elaborated qualitative measures were able to capture the process. At the same time, post-traumatic growth measured by the PTGI stayed stable across the measurements. This suggests that qualitatively measured PD is a better tool for identifying a broader scope of the personality growth than the traditional questionnaire. Hence, it is understandable that qualitatively measured PD correlated with PTGI scores only in the last phase of the Transition Cycle (reconstruction and recovery). It should also be noted that the average PTGI scores measured soon after a CLE and in the inner crises phase were significantly lower compared to the norm group and non-significantly different than the norm group only in the last measurement.

A similar result was obtained by Baillie et al. (2014). Also, Tedeschi and Calhoun (1996) demonstrated that persons experiencing severe trauma reported higher levels of PTG than those who had not experienced such extraordinary events. There are also empirical results supporting the theory that trauma symptoms act as a catalyst for PTG (Baillie et al., 2014). The findings of Morgan and Desmarais (2017) underscore the heterogeneity within experiences of PTG over time. Based on PTGI outcomes, the researchers distinguished four significantly different groups characterized by differential associations between PTG and time since the event: an immediate moderate-growth group that experienced moderate levels of PTG over shorter periods of time, a low-growth group that was characterized by minimal PTG regardless of time, a long-term small-growth group that was primarily characterized by small amounts of PTG over longer periods of time, and a high-growth group that was characterized by high PTG regardless of time. This indicates that PTGI is a good tool for measuring post-traumatic growth in some groups of participants in the aftermath of a traumatic event but not necessarily after a CLE that does not meet the criteria for being traumatic.

It is also reasonable to assume that the systematic growth was identifiable by a qualitative tool because it takes into account also some co-occurring negative changes. Particularly at the beginning of the adaptation process there may be more of them (internal conflicts, dissatisfaction with oneself, etc.), and at the same time, they do not necessarily mean the personality regression or the lack of constructive processes. Meanwhile, the PTGI focuses only on positive changes.

In terms of the language used, as expected, the more abstractive and the more coherent language and the less negations, the higher PDL in the phase of provisional adjustment. The same PDL correlates were obtained in the phase of the inner crisis (with a greater number of connections between the components of abstractness and the PDL). Additionally, the more positive words used in stories, the higher PDL. All results were replicated in the phase of reconstruction and recovery (except for abstractness) and furthermore the PDL was associated with narrative complexity in terms of language comprehension difficulty.

Language abstractness and coherence turned out to be associated with the PDL regardless of the time since the CLE. The positive association of the PDL with abstractness is consistent with the previous research outcomes (Kaźmierczak et al., 2022), while the relationship between the PDL and coherence confirms the Adler and colleagues' (2007a, 2007b, 2008) findings that participants high in ego development describe more coherent stories compared to those with lower PD levels. Positive sentiment gained importance in the inner crises phase and its linkage to the PDL is also consistent with the

existing literature (McAdams et al., 2006; Pennebaker, 1995). In turn, more complex and sophisticated vocabulary became associated with the PDL no sooner than in the reconstruction and recovery stage of the Transition Cycle. Also Lanning et al. (2018) revealed increasing complexity to be co-occurring with higher levels of PD.

Correlates of the qualitatively measured PDL changed depending on the time passed since the recent CLE and the group. In the non-clinical group, in the phase of provisional adjustment the PDL was not systematically related to any emotional state indices or post-traumatic cognitions. However, in the inner crisis phase, it positively correlated with the intensity of depression and self-blame in this group. In this stage of the Transition Cycle (Hopson & Adams, 1976), the reality of the change becomes apparent, and this often provokes depressive mood. This might be associated with feeling that the situation is beyond one's control. There appears a greater awareness of real level of competence in relation to the requirements, which leads to feelings of frustration or confusion about how to handle the change process. An individual might blame herself or himself for the event and/or for ineffective coping with the consequences. Moreover, according to Dąbrowski (1967, 1979), lower levels of disintegration are characterized by strong mental tensions, ambivalence, and instability of feelings. Also, dissatisfaction with oneself, concern about oneself, and the state of one's development, and morality appear. An individual might feel ashamed and guilty. However, having such emotions and cognitions enables further acceptance of the event and taking the next step toward Secondary Integration. In the phase of reconstruction and recovery, the PDL positively correlated only with self-blame in this group. Higher levels of disintegration are related to directing attention to the internal environment and distinguishing what is higher in one's own behaviour from what is lower, which must be reduced or weakened. In this process, self-blame might be a result of this judgment and constitutes a motivation for further mental reconstruction.

At the same time in the clinical group, the quantitatively encoded PDL did not correlate with any variables included in the research, regardless of time, suggesting different mechanisms of personality development in the depressed and the non-clinical groups. Further study is needed to identify them, especially considering the fact that the research on PTG correlates yields inconsistent results from positive, through negative to null relationships between measures of post-traumatic growth and mental and physical health (Jayawickreme & Blackie, 2014). Helgeson et al.'s (2006) meta-analysis revealed that perceiving post-traumatic growth predicted lower levels of depression and higher levels of

well-being. However, the vast majority of effects sizes was small or moderate. Post-traumatic growth was related neither to anxiety, measures of global distress, subjective physical health nor global quality of life. Post-traumatic growth seems to be a better predictor of mental and physical health after a longer time since the event (Helgeson et al., 2006). It is worth also noting that Boals (2023) delivered evidence that the perceived PTG is mostly illusory PTG and the genuine PTG is very rare. It is consistent with Gangel et al. (2023) showing that perceived growth does not serve as a catalyst for positive further change.

Practical Implications

We do not have many provisions for a curriculum of advanced personality growth for highly gifted adults, particularly outside universities. The elaborated tools can be used (1) to help researchers identify adults deeply engaged in multilevel growth to identify and analyse their individual developmental paths and (2) transfer their insights to professionals (e.g., counsellors, psychotherapists) helping them to go even further. Moreover, the tools may be applied (3) to assess the developmental potential before psychotherapy or counselling to predict to what extent personality can grow (see “conserving and transforming” developmental potential; Piechowski, 2008) and, as each level is a large universe with many possible developmental patterns (described in the Coding System for Personality Development), to facilitate the personality growth within levels.

It is recommended to conduct the Critical Life Events Interview (12 key life events) in two parts for the sake of psychological comfort of participants as some questions may provoke emotions. Also for this reason the interview should be conducted by an experienced clinician.

Limitations of the Study

There are some limitations of the study. Although the coding based on the Coding System for Personality Development was consistent among peer judges for the general personality development scores, and all personality dimensions in the phases of provisional adjustment and the inner crises are satisfactory, the functions and structure of drives from the third measurement should be interpreted with caution due to its lower Intraclass Correlation Coefficients. It is advisable to continue searching for the best indicators of personality development derived from the Dąbrowskian theory. The presented psychometric prop-

erties of the tool can be considered preliminary. While the tools achieved criteria of reliability and are related to some emotional and cognitive variables (in the non-clinical group), there is nevertheless considerable room for improvement in the specification of qualitatively measured correlates of personality development. What is more, the project is lacking pre-trauma data and there is no suitable control group without any CLEs. Despite these limitations, it is hoped that using this qualitative tool in future studies will be an important step toward developing empirically testable qualitative measurements of the construct of personality development. This approach will also be a useful addition to the methodological repertoire available to personality development researchers.

REFERENCES

- Adler, J. M., & McAdams, D. P. (2007a). The narrative reconstruction of psychotherapy. *Narrative Inquiry, 17*(2), 179–202. <https://doi.org/10.1075/ni.17.2.03adl>
- Adler, J. M., Skalina, L. M., & McAdams, D. P. (2008). The narrative reconstruction of psychotherapy and psychological health. *Psychotherapy Research, 18*(6), 719–734. <https://doi.org/10.1080/10503300802326020>
- Adler, J. M., Wagner, J. W., & McAdams, D. P. (2007b). Personality and the coherence of psychotherapy narratives. *Journal of Research in Personality, 41*(6), 1179–1198. <https://doi.org/10.1016/j.jrp.2007.02.006>
- Baillie, S. E., Sellwood, W., & Wisely, J. A. (2014). Post-traumatic growth in adults following a burn. *Burns, 40*(6), 1089–1096. <https://doi.org/10.1016/j.burns.2014.04.007>
- Beck, A., Ward, C., Mendelson, M., Mock, J., & Erbaugh, J. (1961). An inventory for measuring depression. *Archives of General Psychiatry, 4*(6), 561–571. <https://doi.org/10.1001/archpsyc.1961.01710120031004>
- Bleidorn, W., Schwaba, T., Denissen, J. J., & Hopwood, C. J. (2019). Charting self-esteem during marital dissolution. *Journal of Personality, 89*(1), 9–22. <https://doi.org/10.1111/jopy.12525>
- Boals, A. (2023). Illusory posttraumatic growth is common, but genuine posttraumatic growth is rare: A critical review and suggestions for a path forward. *Clinical Psychology Review, 103*, Article 102301. <https://doi.org/10.1016/j.cpr.2023.102301>
- Buczyński, A., & Wawer, A. (2008). Automated classification of product review sentiments in Polish. *Intelligent Information Systems, 213–217*.
- Chopik, W. J., Kelley, W. L., Vie, L. L., Oh, J., Bonett, D. G., Lucas, R. E., & Seligman, M. E. (2020). Development of character strengths across the deployment cycle among US Army soldiers. *Journal of Personality, 89*(1), 23–34. <https://doi.org/10.1111/jopy.12564>
- Cicchetti, D. V. (1994). Guidelines, criteria, and rules of thumb for evaluating normed and standardized assessment instruments in psychology. *Psychological Assessment, 6*(4), 284–290. <https://doi.org/10.1037/1040-3590.6.4.284>
- Czapiński, J. (1998). *The quality of life of Poles during the 1991–1997 social change* [Jakość życia Polaków w czasie zmiany społecznej 1991–1997]. Institute of Social Studies, Warsaw University.
- Dabrowski, K. (1967). *Personality-shaping through positive disintegration*. Little Brown & Co.

- Dąbrowski, K. (1972). *Psychoneurosis is not an illness: Neuroses and psychoneuroses from the perspective of positive disintegration*. GRYF Publications.
- Dąbrowski, K. (1975). *Trud istnienia* [The hardship of existence]. Wiedza Powszechna.
- Dąbrowski, K. (1979). *Dezintegracja pozytywna* [Positive disintegration]. Państwowy Instytut Wydawniczy.
- Dąbrowski, K. (1996). *Multilevelness of emotional and instinctive functions*. Towarzystwo Naukowe KUL.
- De Bondt, N., & Van Petegem, P. (2015). Psychometric evaluation of the overexcitability questionnaire-two applying Bayesian structural equation modelling (BSEM) and multiple-group BSEM-based alignment with approximate measurement invariance. *Frontiers in Psychology*, 6, Article 1963. <https://doi.org/10.3389/fpsyg.2015.01963>
- Dragan, M., Gulecz, M., & Wójtowicz, S. (2005). Adaptacja Post-traumatic Cognitions Inventory (PTCI): raport ze wstępnego badania walidacyjnego [The adaptation of the Post-traumatic Cognitions Inventory (PTCI): A report from an initial study]. *The Review of Psychology*, 48, 417–430.
- Dyer, C. (2006). *Research in psychology: A practical guide to methods and statistics*. Blackwell Publishing.
- Edmonds, G. W., Jackson, J. J., Fayard, J. V., & Roberts, B. W. (2008). Is character fate, or is there hope to change my personality yet? *Social and Personality Psychology Compass*, 2(1), 399–413. <https://doi.org/10.1111/j.1751-9004.2007.00037.x>
- First, M. B., Gibbon, M., Spitzer, R. L., Williams, J. B. W., & Benjamin, L. S. (1997). *Structured Clinical Interview for DSM-IV Axis II Personality Disorders, (SCID-II)*. American Psychiatric Press.
- First, M. B., Spitzer, R. L., Gibbon M., & Williams, J. B. W. (2002). *Structured Clinical Interview for DSM-IV-TR Axis I Disorders, Research Version, Patient Edition. (SCID-I/P)*. Biometrics Research, New York State Psychiatric Institute.
- Foa, E. B., Ehlers, A., Clark, D. M., Tolin, D. F., & Orsillo, S. M. (1999). The Post-Traumatic Cognition Inventory (PTCI): Development and validation. *Psychological Assessment*, 11(3), 303–314. <https://doi.org/10.1037/1040-3590.11.3.303>
- Foley Center for the Study of Lives. (1997). *Guided Autobiography*. https://www.sesp.northwestern.edu/docs/guided_autobiograph.pdf
- Gangel, M. J., Kemmerly, R., Wilson, L., Glickson, S., Frazier, P. A., Tennen, H., & Jayawickreme, E. (2023). Does perceived posttraumatic growth predict observed changes in current-standing and state posttraumatic growth? *Clinical Psychological Science*. <https://doi.org/10.1177/21677026231182329>
- Harper, A., Cornish, L., Smith, S., & Merrotsy, P. (2017). Through the Dąbrowski lens: A fresh examination of the Theory of Positive Disintegration. *Roeper Review*, 39(1), 37–43. <https://doi.org/10.1080/02783193.2016.1247395>
- Helgeson, V. S., Reynolds, K. A., & Tomich, P. L. (2006). A meta-analytic review of benefit finding and growth. *Journal of Consulting and Clinical Psychology*, 74(5), 797–816. <https://doi.org/10.1037/0022-006X.74.5.797>
- Hopson, B. & Adams, J. (1976). *Transition – Understanding and managing personal change*. Martin Robertson.
- Jayawickreme, E., & Blackie, L. E. R. (2014). Post-traumatic growth as positive personality change: Evidence, controversies and future directions. *European Journal of Personality*, 28(4), 312–331. <https://doi.org/10.1002/per.1963>
- Jayawickreme, E., & Blackie, L. E. R. (2016). *Exploring the psychological benefits of hardship*. Springer.

- Jayawikreme, E., Infurna, F. J., Alajak, K., Blackie, L. E. R., Chopik, W. J., Chung, J. M., Dorfman, A., Fleeson, W., Forgeard, M. J. C., Frazier, P., Furr, R. M., Grossmann, I., Heller, A. S., Laceulle, O. M., Lucas, R. E., Luhmann, M., Luong, G., Meijer, L., McLean, K. C., ... Zonneveld, R. (2020). Post-traumatic growth as positive personality change: Challenges, opportunities, and recommendation. *Journal of Personality, 89*(1), 145–165. <https://doi.org/10.1111/jopy.12591>
- Jurafsky, D., & Martin, J. H. (2008). *Speech and language processing: An introduction to speech recognition, computational linguistics and natural language processing*. Prentice Hall.
- Każmierczak, I., Sarzyńska-Wawer, J., Wawer, A., & Chądzyńska, M. (2022). Describing a critical life event and its psychological consequences: The type of language used by patients suffering from depression and its relationship with personality development. *Current Psychology, 41*, 4368–4378. <https://doi.org/10.1007/s12144-020-00944-5>
- Lanning, K., Pauletti, R. E., King, L. A., & McAdams, D. P. (2018). Personality development through natural language. *Nature Human Behaviour, 2*(5), 327–334. <https://doi.org/10.1038/s41562-018-0329-0>
- Levinson, D. J. (1986). A conception of adult development. *American Psychologist, 41*(1), 3–13. <https://doi.org/10.1037/0003-066X.41.1.3>
- Levinson, D. J. (1996). *The seasons of a woman's life*. Alfred Knopf.
- Majkowicz, M., & Chojnacka-Szawłowska, G. (1994). Metodologiczne problemy badania jakości życia [Methodological problems in measuring the quality of life]. In K. de Walden-Gałużsko & M. Majkowicz (Eds.), *Jakość życia w chorobie nowotworowej* (pp. 65–81). Wydawnictwo Uniwersytetu Gdańskiego.
- McAdams, D. P. (2001). The psychology of life stories. *Review of General Psychology, 5*(20), 100–122. <https://doi.org/10.1037/1089-2680.5.2.100>
- McAdams, D. P., Bauer, J. J., Sakaeda, A. R., Anyidoho, N. A., Machado, M. A., Magrino-Failla, K., White, K. W., & Pals, J. L. (2006). Continuity and change in the life story: A longitudinal study of autobiographical memories in emerging adulthood. *Journal of Personality, 74*(5), 1371–1400. <https://doi.org/10.1111/j.1467-6494.2006.00412.x>
- Mendaglio, S. (2008). Dabrowski's Theory of Positive Disintegration: A personality theory for the 21st century. In S. Mendaglio (Ed.), *Dabrowski's Theory of Positive Disintegration* (pp. 13–40). Great Potential Press.
- Mikolov, T., Wen-Tau Yiy, & Zweig, G. (2013). *Linguistic regularities in continuous space word representations*. Microsoft Research Redmond, WA 98052. Linguistic Regularities in Continuous Space Word Representations (aclanthology.org).
- Morgan, J. K., & Desmarais, S. L. (2017). Associations between time since event and posttraumatic growth among military veterans. *Military Psychology, 29*(5), 456–463. <https://doi.org/10.1037/mil0000170>
- Nunnally, J. C., & Bernstein, I. H. (1994). *Psychometric theory* (3rd ed.). McGraw-Hill.
- Ogińska-Bulik, N., & Juczyński, Z. (2010). Posttraumatic growth – Characteristic and measurement. *Psychiatria, 7*(4), 129–142. <https://doi.org/10.5114/hpr.2014.43917>
- Ogrodniczuk, M., & Lenart, M. (2012). Web service integration platform for Polish linguistic resources. *Proceedings of the Eighth International Conference on Language Resources and Evaluation, LREC'12*, 1164–1168. http://www.lrec-conf.org/proceedings/lrec2012/pdf/648_Paper.pdf
- Orwin, R. G. (1994). Evaluating coding decisions. In H. Cooper & L. V. Hedges (Eds.), *The Handbook of Research Synthesis* (pp. 150–151). Russell Sage Foundation.
- Pennebaker, J. W. (1995). *Emotion, disclosure and health*. American Psychological Association.

- Piechowski, M. M. (2008). Discovering Dabrowski's theory. In S. Mendaglio (Ed.), *Dabrowski's theory of positive disintegration* (pp. 41–77). Great Potential Press.
- Rattray, J., & Jones, M. C. (2007). Essential elements of questionnaire design and development. *Journal of Clinical Nursing, 16*(2), 234–243. <https://doi.org/10.1111/j.1365-2702.2006.01573.x>
- Roberts, B. W., & Mroczek, D. (2008). Personality trait change in adulthood. *Current Directions in Psychological Science, 17*(1), 31–35. <https://doi.org/10.1111/j.1467-8721.2008.00543.x>
- Sarzyńska-Wawer, J., Pawlak, A., Szymanowska, J., Hanusz, K., & Wawer, A. (2023). Truth or lie: Exploring the language of deception. *PLoS One, 18*(2), Article e0281179. <https://doi.org/10.1371/journal.pone.0281179>
- Semin, G. R., & Fiedler, K. (1991). The linguistic category model, its bases, applications and range. *European Review of Social Psychology, 2*(1), 1–30. <https://doi.org/10.1080/14792779143000006>
- Sęk, H. (1991). Procesy twórczego zmagania się z krytycznymi wydarzeniami życiowymi a zdrowie psychiczne [The processes of creative struggle with critical life events and mental health]. In H. Sęk (Ed.), *Twórczość i kompetencje życiowe a zdrowie psychiczne* (pp. 30–41). UAM.
- Shrout, P. E., & Fleiss, J. L. (1979). Intraclass correlations: Uses in assessing rater reliability. *Psychological Bulletin, 86*(2), 420–428. <https://doi.org/10.1037/0033-2909.86.2.420>
- Tedeschi, R. G., & Calhoun, L. G. (1996). The Posttraumatic Growth Inventory: Measuring the positive legacy of trauma. *Journal of Traumatic Stress, 9*(3), 455–471. <https://doi.org/10.1007/BF02103658>
- Tedeschi, R. G., & Calhoun, L. G. (2004). Posttraumatic growth: conceptual foundations and empirical evidence. *Psychological Inquiry, 15*(1), 1–18. https://doi.org/10.1207/s15327965pli1501_01
- Waszczuk, J. (2012). Harnessing the CRF complexity with domain specific constraints. The case of morphosyntactic tagging of a highly inflected language. *Proceedings of the 24th International Conference on Computational Linguistics (COLING2012)*, 2789–2804. <https://aclanthology.org/C12-1170>
- Wawer, A., & Sarzyńska, J. (2018). The linguistic category model in Polish (LCM-PL). *Proceedings of the Eleventh International Conference on Language Resources and Evaluation (LREC-2018)*. <https://aclanthology.org/L18-1696>
- Woliński, M. (2014). Morfeusz reloaded. *Proceedings of the Ninth International Conference on Language Resources and Evaluation, LREC* (pp. 1106–1111). http://www.lrec-conf.org/proceedings/lrec2014/pdf/768_Paper.pdf
- Wróblewska, A. (2014). *Polish dependency parser trained on an automatically induced dependency Bank* [Unpublished doctoral dissertation]. Institute of Computer Science, Polish Academy of Sciences, Warsaw.
- Zigmond, A. S., & Snaith, R. P. (1983). The Hospital Anxiety and Depression Scale. *Acta Psychiatrica Scandinavica, 67*(6), 361–370. <https://doi.org/10.1111/j.1600-0447.1983.tb09716.x>

SUPPLEMENTAL MATERIAL 1

THE THEORY OF POSITIVE DISINTEGRATION: DESCRIPTION AND THE CONTRIBUTION OF THE THEORY TO UNDERSTANDING PERSONALITY DEVELOPMENT IN COMPARISON WITH OTHER EXISTING APPROACHES

The Theory of Positive Disintegration: Description of Developmental Levels

The first level constitutes an integration that occurs through interaction with the environment and may be seen as the outcome of social conditions (Dąbrowski, 1979; Piechowski, 2008). It is defined by an absence of any developmental dynamisms (i.e., a developmental state). If people are operating at Level I, it is because this is the condition of their world, not because they are constituted that way (Piechowski, 2003). As it is neither primary nor a personality structure on this level, Piechowski (2008, 2014) said the concept of primary integration needed to be reconsidered. This level is characterised by dominant concern with self-protection and survival, self-serving egocentrism and instrumental view of others (Piechowski, 2008).

People on this level show prominence of (a) “heredity and endowment” (First Factor) and/or (b) “social environment” (Second Factor). Hence, there are (a) those who are unsocialized, well-integrated in their drive to follow their own impulses and for that reason never experiencing any inner conflicts, and (b) “average” normally socialized people who derive their values from an external source (social norms or peer pressure). Dąbrowski (1996) described this level as having “little differentiation, primitive drive structure, and predominant externality” (p. 18) and believed that most of society’s members (70%) live on it (Dąbrowski, 1979), however Level I, as a broad category, is subject to many distinctions (Piechowski, 2017a).

Unilevel Disintegration (Level II, see “the patchwork self”, Elkind, 1984) may be a transitional period for those with developmental potential and constitute the first stage of disintegration (i.e., process of loosening of rigid mental structures, Dąbrowski, 1979). In general, it has no structure comparable to higher levels (Piechowski, 2017b). Nonetheless, it is not always characterized by disintegration, because it enables partial or adaptive integration, that follows the conventions and social norms (Piechowski, 2008). Moreover, there

is some evidence that the majority of people who live on this level are rather stable (Piechowski, 2017b).

However, the prominent features of this level are brief and intense inner struggles, many selves, the lack of inner direction, obedience, relativism (Piechowski, 2003) and rapid mood shifts (Piechowski, 2008) with prevalence of negative elements (Dąbrowski, 1996). Automatic dynamisms with only slight self-consciousness and self-control prevail. The resulting internal conflicts produce noticeable ambivalencies (i.e., changeable and conflicting courses of action), ambivalences (i.e., fluctuations between opposite feelings) and syntony (i.e., positive emotions toward others can easily turn to resentment or jealousy (Dąbrowski, 1970, 1977). The individual is likely to experience indecision because they strive for two irreconcilable things at once (see Dąbrowski, 1996). However, this level has some capacity for development. In this situation the Second Factor (i.e., fulfilling the expectations of others and the sense of inferiority toward others) can serve as a dynamism because the individual might seek some guidance to resolve the internal conflict. If the social influence is strong, the person might follow the order and reintegrate at Level I (i.e., derive a sense of self from a social role). But if there is a conflict between authorities as well and the person's inner tension compels them to change the situation or the person does not want to succumb the social pressure, she or he might need to determine which way is superior for themselves personally. Responding positively to the challenge, people are making a meaningful step forward. They look for self-knowledge and self-definition in others like themselves, and eventually in themselves. Emergent individual values of the "new" personality increasingly encounter as a result of it and conflict with the person's previous socialization (Dąbrowski, 1996). The possible kinds of emotional development are: a personal growth from black-and-white to relativistic thinking, from no sense of self to an individual self, and fulfillment of one's talents as a productive member of society (Piechowski, 2017b). In a dark scenario, however, the individual is literally thrust into a void; their social rationales fail to account for their experiences, and no alternative explanations are satisfactory anymore. The predominant emotion of this misfortune resolution is an existential despair.

Spontaneous Multilevel Disintegration (Level III) is the aforementioned step forward but requires a huge amount of energy to take and developmental potential. At the same time Dąbrowski believed that multilevel disintegration was indispensable for growth (Piechowski, 2008). The individual begins to perceive superior and inferior potential courses of action. They have a sense

of the ideal but not reaching it (Piechowski, 2008). This new perception constitutes a basis on which to build and prioritize their autonomous values. The individual's hierarchy of values begins to emerge and starts to influence their behaviour. The First and Second Factors are both targets of the inner conflict. The individual might ask: "Should I follow my instincts (First Factor), my teachings (Second Factor), or my heart (i.e., own inner voice, Third Factor)?" The right approach (the quest for self) is to choose the last path, transform instincts into virtues, and resist internalised social answers (which is not necessarily "gut feeling", see Piechowski, 2008).

Reaching the Dąbrowski's higher levels is achieved through the shift to multilevelness. Then the unilevel stimulus-response model of life is replaced by a hierarchical one. All events come to be interpreted in relation to the personal ideal, which is an inner vision of how the person wants to live their life and the kind of person one wants to become. As all life events are perceived in relation to this multilevel view and higher life goals are identified, it becomes implausible to take positions that favour the lower course. However, if a person does not have sufficient resources to take the multilevel perspective, then they might fall back from the crises of Level II to reintegrate at Level I.

At Level IV (Organized Multilevel Disintegration), the individual accepts authorship of their development and takes full responsibility of it. The Third Factor, described as "an autonomous factor of conscious choice (valuation) by which one affirms or rejects certain qualities in oneself and in one's environment" (Dąbrowski, 1972, p. 306), flourishes. Also, behaviour is under the influence of the chosen person's ideal (see self-actualising people, Maslow, 1970; Piechowski, 2008).

In consequence, the behaviour becomes less reactive, and more deliberate and volitional. The social orientation taken by an individual reflects their deep responsibility based on both intellectual and emotional factors. This perspective results from seeing life in relation to the consistent hierarchy of values: the individual perceives how their life could be and ought to be lived. People have a high level of energy, drive for autonomy and development of their own powers, respond to opportunities, offer help, have high self-esteem, live a deeply satisfying way of life, and are able to let go of experiences without devaluing (Wetzel, 1991). Some inevitable disagreements with a lower society, called *positive maladjustment*, are expressed on this level compassionately and with understanding and empathy.

Secondary Integration (Level V) has again an integrated (but different compared to the Primary) character. Huge developmental potential (i.e., talents,

abilities, intelligence, overexcitabilities, and capacity for inner transformation (Dąbrowski, 1977) is needed to reach the summit. Here, personality understood as “a self-aware, self-chosen, and self-affirmed structure whose dominant dynamism is personality ideal” (Dąbrowski, 1977, p. 53), is fully developed. This inner state occurs after having attained inner peace for good (Piechowski, 2008) and a high level of energy to serve (Piechowski, 2014).

For steps toward this state and timeline please see, e.g., Peace Pilgrim (1982) or Piechowski (2009). Personality ideal is the only one dynamism operating on this level. One’s behaviour is subordinate to thoughtful decisions derived from an individually established hierarchy of values. For this reason, inner conflicts arise rarely in one’s life.

The Contribution of the Theory of Positive Disintegration to Understanding Personality Development in Comparison With Other Existing Approaches

Among some psychological instruments that measure Dąbrowskian constructs, the most widely known is the Overexcitability Questionnaire–Two (Falk et al., 1999; see also the first version of it, i.e., OEQ; Lysy & Piechowski, 1983). It measures the developmental potential, specifically the degree and nature of emotional, intellectual, and imaginal overexcitability rather than personality development *per se* and is used primarily in research on giftedness. Emotional and intellectual overexcitabilities occurred to moderately correlate with potential for multilevel growth (Miller et al., 1995; Piechowski, 2008). Moreover, it has inconclusive psychometric properties (Botella et al., 2015; Falk et al., 1999; Van den Broeck et al., 2014; Warne, 2011).

In turn, the Definition Response Instrument (DRI, Gage et al., 1981) contains six thought-provoking questions related to such themes as: (a) susceptibility to the influence of others, (b) internal conflict, (c) inferiority, (d) dissatisfaction, (e) self-observation, and (f) personality idea. It was designed to elicit responses (through content analysis) indicating level of emotional development as conceptualized in Dąbrowski’s TPD (Dąbrowski & Piechowski, 1977). The internal consistency of DRI items was .71 (Miller, 1985). Both OEQ and DRI were developed as alternatives to neurological exams, clinical interviews, and autobiographical essays.

Miller (1985) expanded on the initial DRI instrument and coding procedure in her development of an updated content analysis coding system, the Miller Assessment Coding System (MACS, see also Miller & Silverman, 1987). MACS

is a coding system in which dynamisms are categorised as feeling towards values, self and others at the five theoretical levels of development (Miller, 1985). The categories represent motivations which are assumed to direct the behavior of individuals. The categories and sub-categories were derived from the dynamisms and descriptions of developmental levels in Dabrowski's theory. Interrater reliability ranges between .77 and .80 (Miller, 1985). The most recently revised edition of MACS (Miller, 1991) was used in Bailey's (2011) research.

Finally, the Multilevelness of Emotional and Instinctive Functions Project may be very useful (see Piechowski, 2008; see also Dąbrowski & Piechowski, 1977, 1996), showing in a detailed way Piechowski's approach to content analysis of the material (autobiographies and verbal stimuli responses) sent by Dąbrowski. It ranged from defining interpretative units through converting Dąbrowski's conceptions of levels into a numerical expression to assessing reliability and validity of his approach by three post facto empirical test of the Theory.

Referring to the concept of positive disintegration, also the Post-Traumatic Growth Inventory (PTGI; Tedeschi & Calhoun, 2004) cannot be ignored. This is the most commonly used tool (see Jayawickreme & Blackie, 2014) in the trauma-related (in a broad sense) research area with satisfying reliability and validity coefficients. However, the specificity of the research sample on which the psychometric properties of the original psychometric tool were tested raises some methodological doubts. It consisted of 199 men and 405 women recruited from general psychology classes at one U.S. university. In majority they aged from 17 to 25 (92% of them), were single (95%) and Protestant (85%) (Tedeschi & Calhoun, 1996). In consequence, both the nature and the range of the stressors reported by participants (such as bereavement (36%), injury-producing accidents (16%), separation or divorce of parents (8%), relationship break-up (7%), criminal victimization (5%), academic problems (4%), and unwanted pregnancy (2%) [Tedeschi & Calhoun, 1996]) were hardly comparable to the general population. What is more, PTGI language adaptations showed that the factor structure identified from two to five PTG dimensions (Weiss & Berger, 2010) and explained no more than 57.7% of the total variance of PTG (e.g., Ogińska-Bulik & Juczyński, 2010).

Also recent adaptations suggest that the former translations of PTGI should be reconsidered and improved (e.g., Henson et al., 2022) or show not always satisfactory reliability, if not of the total PTGI scale, then of some of its five subscales (e.g., Heidarzadeh et al., 2017). In this context it is worth noticing

that Cann, Calhoun, Tedeshi, and Solomon (2010), and Cann, Calhoun, Tedeshi, et al., (2010) developed a shortened version of the PTGI: the PTGI-Short Form (PTGI-SF). It displayed adequate internal consistency ($\alpha = 0.86$ to 0.89) and confirmatory factor analyses supported the five-factor structure.

At the same time, the biographical method, incorporated in the study, allows one to grasp the meaning of many given events (including the most recent CLE) and their consequences for a person due to indirect questions measuring personality changes that are not always observed by respondents themselves. In consequence, the tools (CLEI and CSPD) fit into the current work on narrative identity development. Within this paradigm there are two major contemporary approaches: identity status model (Schwartz, 2015, 2001) and the narrative identity model (e.g., McAdams, 2001; McAdams & Cox, 2010; McAdams & McLean, 2013; Singer, 2004). Within the former model surveys either directly ask about the identity processes of exploration and commitment (Marcia, 1966) in different content domains (e.g., Balistreri et al., 1995) or ask more generalized questions about them that are decontextualized from content (e.g., Luyckx et al., 2008). The main limitation of these questionnaire assessments is that responses in different content domains are aggregated to form identity statuses and their closed-ended format does not allow to capture any personal meaning of various identity contents (e.g., McLean et al., 2016). Moreover, the convergence of these assessments with the identity status paradigm is problematic (e.g., Waterman, 2015).

According to the narrative identity model growth is manifested in changes in individuals' personal life stories. In McAdams's (1988, 1993, 1995; McAdams & Pals, 2006) theory of personality, life stories constitute one level (next to traits [neuroticism] and characteristic adaptations [i.e., goals, ego development]) of personality. Life Story Interview (LSI; McAdams, 2001) and the Guided Autobiography (GA; Foley Center for the Study of Lives, 1997), or some modified versions of them are usually used to collect the narrative accounts (Bruner, 1991). At the heart of this model lies the construct of autobiographical reasoning (Habermas & Bluck, 2000; Habermas & Kober, 2015) and there are many ways of examining it, such as meaning-making (e.g., McLean & Pratt, 2006; Park 2010; Park & Folkman, 1997; Wortmann & Park, 2009), exploratory processing (Pals, 2006), and making self-event connections (Pasupathi & Mansour, 2006; Pasupathi et al., 2007).

Moreover, studies on personality development within the narrative identity model often focus on growth themes, such as: "disequilibrating" emotional impact of the event on self and a positive ending to the story (McAdams et al.,

1997; Pals, 2000; Pals & McAdams, 2004) and their interactions within stories (e.g., King et al., 2000), agency and/or communion and/or their combination (e.g., Guisinger & Blatt, 1994; Gutmann, 1994; Kaźmierczak et al., 2023; McAdams et al., 1996), coherence (e.g., Adler et al., 2012, 2013; Adler & McAdams, 2007; Adler et al., 2007; Adler et al., 2008; Baerger & McAdams, 1999), contamination and/or redemption (e.g., Adler et al., 2006; Adler et al., 2015; Blackie et al. 2020; McAdams et al., 2006), and narrative and emotion problem markers (Angus, 2012), to name a few. However, studies conducted in this approach typically examine only one content, without comparing across content types. Therefore, the narrative approach allows rather identifying marker(s) of personality development than the diagnosis of its complex structure and change in time (McLean et al., 2016).

Apart from the two classic models, there has been a recent movement toward their integration, both theoretically (McLean & Pasupathi, 2012; McLean & Syed, 2015; Syed & McLean, 2015) and empirically (McLean & Pratt, 2006; McLean et al., 2014, 2016; Syed, 2012; Syed & Azmitia, 2008). For instance the process model of narrative self-development (McLean et al., 2007) assigns storytelling the role of a major process for the ego development and maintenance of self-concept (which elements are brought to experience of events and to the construction of situated stories). Blackie et al. (2016) focus on the process of identity integration (defining to what extent people integrate conflicting identities [e.g., beliefs, values, needs] into a coherent self-concept). Blackie and McLean (2021) integrate the engagement in repeated narration and meaning-making processes with character trait changes over time (see also development of character strengths over time; Jayawickreme et al., 2020; and virtue of wisdom that is developed by coping with and overcoming adversity; Jayawickreme & Blackie, 2016). The integrative approach seems to be well complemented by the concept and the operationalisation of Positive Disintegration as they both allow for identifying the dynamics that underlie personality change and provide methods of measuring the structure of the changing personality.

REFERENCES

- Adler, J. M. (2013). Clients' and therapists' stories about psychotherapy. *Journal of Personality, 81*(6), 595–605. <https://doi.org/10.1111/j.1467-6494.2012.00803.x>
- Adler, J. M. (2019). Stability and change in narrative identity: Introduction to the special issue on repeated narration. *Qualitative Psychology, 6*(2), 134–145. <https://doi.org/10.1037/qup0000155>
- Adler, J. M., Franklin, W., Chin, E. D., Kolisetty, A. P., & Oltmanns, T. F. (2012). The distinguishing characteristics of narrative identity in adults with features of borderline personality disorder: An empirical investigation. *Journal of Personality Disorders, 26*(4), 498–512. <https://www.doi.org/10.1521/pedi.2012.26.4.498>
- Adler, J. M., Kissel, E., & McAdams, D. P. (2006). Emerging from the CAVE: Attributional style and the narrative study of identity in midlife adults. *Cognitive Therapy and Research, 30*(1), 39–51. <https://doi.org/10.1007/s10608-006-9005-1>
- Adler, J. M., & McAdams, D. P. (2007). The narrative reconstruction of psychotherapy. *Narrative Inquiry, 17*(2), 179–202. <https://doi.org/10.1075/ni.17.2.03adl>
- Adler, J. M., Turner, A. F., Brookshier, K. M., Monahan, C., Walder-Biesanz, I., Harmeling, L. H., Albaugh, M., McAdams, D. P., & Oltmanns, T. F. (2015). Variation in narrative identity is associated with trajectories of mental health over several years. *Journal of Personality and Social Psychology, 108*(3), 476–496. <https://doi.org/10.1037/a0038601>
- Adler, J. M., Skalina, L. M., & McAdams, D. P. (2008). The narrative reconstruction of psychotherapy and psychological health. *Psychotherapy Research, 18*(6), 719–734. <https://www.doi.org/10.1080/10503300802326020>
- Adler, J. M., Wagner, J. W., & McAdams, D. P. (2007). Personality and the coherence of psychotherapy narratives. *Journal of Research in Personality, 41*(6), 1179–1198. <https://doi.org/10.1016/j.jrp.2007.02.006>
- Angus, L. (2012). Toward an integrative understanding of narrative and emotion processes in emotion-focused therapy of depression: Implications for theory, research and practice. *Psychotherapy Research, 22*(4), 367–380. <https://doi.org/10.1080/10503307.2012.683988>
- Baerger, D. R., & McAdams, D. P. (1999). Life story coherence and its relation to psychological well-being. *Narrative Inquiry, 9*(1), 69–96. <https://doi.org/10.1075/ni.9.1.05bae>
- Bailey, C. L. (2011). An examination of the relationships between ego development, Dąbrowski's theory of positive disintegration, and the behavioral characteristics of gifted adolescents. *Gifted Child Quarterly, 55*(3), 208–222. <https://doi.org/10.1177/0016986211412180>
- Balistreri, E., Busch-Rossnagel, N. A., & Geisinger, K. F. (1995). Development and preliminary validation of the ego identity process questionnaire. *Journal of Adolescence, 18*(2), 179–192. <https://doi.org/10.1006/jado.1995.1012>
- Blackie, L. E. R., Colgan, J. E. V., McDonald, S., & McLean, K. C. (2020). A qualitative investigation into the cultural master narrative for overcoming trauma and adversity in the United Kingdom. *Qualitative Psychology, 10*(1), 154–170. <https://doi.org/10.1037/qup0000163>
- Blackie, L. E. R., Cozzolino, P. J., & Sedikides, C. (2016). Specific and individuated death reflection fosters identity integration. *PLoS ONE, 11*(5). <https://doi.org/10.1371/journal.pone.0154873>
- Blackie, L. E. R., Jayawickreme, E., Tsukayama, E., Forgeard, M. J., Roepke, A. M., & Fleeson, W. (2017). Post-traumatic growth as positive personality change: Developing a measure to assess within-person variability. *Journal of Research in Personality, 69*, 22–32. <https://doi.org/10.1016/j.jrp.2016.04.001>

- Blackie, L. E. R., & McLean, K. C. (2021, June 10). *Examining the longitudinal associations between repeated narration of recent transgressions within individuals' romantic relationships and character growth in empathy, humility and compassion*. <https://doi.org/10.31234/osf.io/sjn3w>
- Botella, M., Fürst, G., Myszkowski, N., Storme, M., Pereira Da Costa, M., & Luminet, O. (2015). French validation of the overexcitability questionnaire 2: Psychometric properties and factorial structure. *Journal of Personality Assessment*, 97(2), 209–220. <https://doi.org/10.1080/00223891.2014.938750>
- Bruner, J. (1991). The narrative construction of reality. *Critical Inquiry*, 18(1), 1–21. <https://doi.org/10.1086/448619>
- Cann, A., Calhoun, L. G., Tedeschi, R. G., & Solomon, D. T. (2010). Posttraumatic growth and depreciation as independent experiences and predictors of well-being. *Journal of Loss and Trauma*, 15(3), 151–166. <https://doi.org/10.1080/15325020903375826>
- Cann, A., Calhoun, L. G., Tedeschi, R. G., Taku, K., Vishnevsky, T., Triplett, K. N., & Danhauer, S. C. (2010). A short form of the Posttraumatic Growth Inventory. *Anxiety, Stress & Coping*, 23(2), 127–137. <https://doi.org/10.1080/10615800903094273>
- Dabrowski, K., & Piechowski, M. M. (1977). *Theory of levels of emotional development: Vol. 2. From primary integration to self-actualization*. Dabor Science Publications.
- Dąbrowski, K. (1970). Positive and accelerated development. In K. Dąbrowski, A. Kawczak, & M. M. Piechowski, *Mental growth through positive disintegration* (pp. 26–60). Gryf Publications.
- Dąbrowski, K. (1972). *Psychoneurosis is not an illness. Neuroses and psychoneuroses from the perspective of positive disintegration*. GRYF Publications.
- Dąbrowski, K. (1977). *Theory of levels of emotional development: Vol. 1. Multilevelness and positive disintegration*. Dabor Science Publications.
- Dąbrowski, K. (1979). *Dezintegracja pozytywna* [Positive disintegration]. Państwowy Instytut Wydawniczy.
- Dąbrowski, K. (1996). *Multilevelness of emotional and instinctive functions*. Towarzystwo Naukowe KUL.
- Dąbrowski, K., & Piechowski, M. M. (1996). *Multilevelness of emotional and instinctive functions: Part 2. Types and levels of development*. Towarzystwo Naukowe KUL.
- Elkind, D. (1984). *All grown up and no place to go: Teenagers in crisis*. Addison-Wesley.
- Falk, R. F., Lind, S., Miller, N. B., Piechowski, M. M., & Silverman, L. K. (1999). *The Overexcitability Questionnaire-Two (OEQ-II): Manual, scoring system, and questionnaire*. Institute for the Study of Advanced Development.
- Foley Center for the Study of Lives. (1997). *Guided Autobiography*. https://www.sesp.northwestern.edu/docs/guided_autobiograph.pdf
- Gage, D. F., Morse, P. A., & Piechowski, M. M. (1981). Measuring levels of emotional development. *Genetic Psychology Monographs*, 103, 129–152.
- Guisinger, S., & Blatt, S. (1994). Individuality and relatedness: Evolution of a fundamental dialectic. *American Psychologist*, 49(2), 104–111. <https://doi.org/10.1037/0003-066X.49.2.104>
- Gutmann, D. (1994). *Reclaimed powers: Men and women in later life*. Northwestern University Press.
- Habermas, T., & Bluck, S. (2000). Getting a life: The emergence of the life story in adolescence. *Psychological Bulletin*, 126(5), 748–769. <https://doi.org/10.1037/0033-2909.126.5.748>
- Habermas, T., & Kober, C. (2015). Autobiographical reasoning in life narratives buffers the effect of biographical disruptions on the sense of self-continuity. *Memory*, 23(5), 664–674. <https://doi.org/10.1080/09658211.2014.920885>

- Heidarzadeh, M., Naseri, P., Shamshiri, M., Dadkhah, B., Rassouli, M., & Gholchin, M. (2017). Evaluating the factor structure of the Persian version of Posttraumatic Growth Inventory in cancer patients. *Asian Nursing Research, 11*(3), 180–186. <https://doi.org/10.1016/j.anr.2017.07.003>
- Henson, C., Truchot, D., Canevello, A., & Andela, M. (2022). Psychometric properties of a European French version of the PTGI. *Research on Social Work Practice, 32*(8), 993–1002. <https://doi.org/10.1177/10497315221101906>
- Infurna, F. J. & Jayawickreme, E. (2021). Toward a more credible understanding of post-traumatic growth. *Journal of Personality. Special Issue: Post-Traumatic Growth as Positive Personality Change, 89*(1), 5–8. <https://doi.org/10.1111/jopy.12575>
- Jayawickreme, E., & Blackie, L. E. R. (2014). Post-traumatic growth as positive personality change: Evidence, controversies and future directions. *European Journal of Personality, 28*(4), 312–331. <https://doi.org/10.1002/per.1963>
- Jayawickreme, E., & Blackie, L. E. R. (2016). *Exploring psychological benefits of hardship*. Springer.
- Jayawickreme, E., & Infurna, F. J. (2020). Toward a more credible understanding of post-traumatic growth. *Journal of Personality, 89*(1), 5–8. <https://doi.org/10.1111/jopy.12575>
- Jayawickreme, E., Infurna, F. J., Alajak, K., Blackie, L. E. R., Chopik, W. J., Chung, J. M., Dorfman, A., Fleeson, W., Forgeard, M. J. C., Frazier, P., Furr, R. M., Grossmann, I., Heller, A. S., Lacerulle, O. M., Lucas, R. E., Luhmann, M., Luong, G., Meijer, L., McLean, K. C., ... Zonneveld, R. (2020). Posttraumatic growth as positive personality change. Challenges, opportunities and recommendations. *Journal of Personality, 89*(1), 145–168. <https://doi.org/10.1111/jopy.12591>
- Kaźmierczak, I., Szulawski, M., Masłowiecka, A., & Zięba, M. (2023). What do females really dream of? An individual-differences perspective on determining how narrative identity affects types of life projects and the ways of telling them. *Current Psychology, 42*, 4031–4040. <https://doi.org/10.1007/s12144-021-01739-y>
- King, L. A., Scollon, C. K., Ramsey, C., & Williams, T. (2000). Stories of life transition: Subjective well-being and ego development in parents of children with Down's syndrome. *Journal of Research in Personality, 34*(4), 509–536. <https://doi.org/10.1006/jrpe.2000.2285>
- Luyckx, K., Schwartz, S. J., Berzonsky, M. D., Soenens, B., Vansteenkiste, M., Smits, I., & Goossens, L. (2008). Capturing ruminative exploration: Extending the four-dimensional model of identity formation in late adolescence. *Journal of Research in Personality, 42*(1), 58–82. <https://doi.org/10.1016/j.jrp.2007.04.004>
- Lysy, K. Z., & Piechowski, M. M. (1983). Personal growth: An empirical study using Jungian and Dabrowskian measures. *Genetic Psychology Monographs, 108*(2), 267–320.
- Marcia, J. E. (1966). Development and validation of ego-identity status. *Journal of Personality and Social Psychology, 3*(5), 551–558. <https://doi.org/10.1037/h0023281>
- Maslow, A. H. (1970). New introduction: Religions, values, and peak-experiences. *Journal of Transpersonal Psychology, 2*(2), 83–90.
- McAdams, D. P. (1988). *Power, intimacy and the life story*. New York, NY: Guilford Press.
- McAdams, D. P. (1993). *The stories we live by: Personal myths and the making of the self*. Guilford Press.
- McAdams, D. P. (1995). What do we know when we know a person? *Journal of Personality, 63*(3), 365–396. <https://doi.org/10.1111/j.1467-6494.1995.tb00500.x>
- McAdams, D. P. (2001). The psychology of life stories. *Review of General Psychology, 5*(20), 100–122. <https://doi.org/10.1037/1089-2680.5.2.100>

- McAdams, D. P., Bauer, J. J., Sakaeda, A. R., Anyidoho, N. A., Machado, M. A., Magrino-Failla, K., & Pals, J. L. (2006). Continuity and change in the life story: A longitudinal study of autobiographical memories in emerging adulthood. *Journal of Personality, 74*(5), 1371–1400. <https://doi.org/10.1111/j.1467-6494.2006.00412.x>
- McAdams, D. P., & Cox, K. S. (2010). Self and identity across the life span. In A. Freund & R. Lerner (Eds.), *Handbook of lifespan development* (Vol. 2, pp. 158–207). Wiley.
- McAdams, D. P., Diamond, A., de St. Aubin, E., & Mansfield, E. (1997). Stories of commitment: The psychosocial construction of generative lives. *Journal of Personality and Social Psychology, 72*(3), 678–694. <https://doi.org/10.1037/0022-3514.72.3.678>
- McAdams, D. P., Hoffman, B. J., Mansfield, E. D., & Day, R. (1996). Themes of agency and communion in significant autobiographical scenes. *Journal of Personality, 64*(2), 339–378. <https://doi.org/10.1111/j.1467-6494.1996.tb00514.x>
- McAdams, D. P., & McLean, K. C. (2013). Narrative identity. *Current Directions in Psychological Science, 22*(3), 233–238. <https://doi.org/10.1177/0963721413475622>
- McAdams, D. P., & Pals, J. L. (2006). A new big five: Fundamental principles for an integrative science of personality. *American Psychologist, 61*(3), 204–217. <https://doi.org/10.1037/0003-066X.61.3.204>
- McLean, K. C. & Pasupathi, M. (2012). Processes of identity development: Where I am and how I got there. *Identity, 12*(1), 8–28. <https://doi.org/10.1080/15283488.2011.632363>
- McLean, K. C., Pasupathi, M., & Pals, J. L. (2007). Selves creating stories creating selves: A process model of self-development. *Personality and Social Psychology Review, 11*(3), 262–278. <https://doi.org/10.1177/1088868307301034>
- McLean, K. C., & Pratt, M. W. (2006). Life's little (and big) lessons: Identity statuses and meaning-making in the turning point narratives of emerging adults. *Developmental Psychology, 42*(4), 714–722. <https://www.doi.org/10.1037/0012-1649.42.4.714>
- McLean, K. C., & Syed, M. (2015). The field of identity development needs an identity: An introduction to the handbook of identity development. In K. C. McLean & M. Syed (Eds.), *The Oxford handbook of identity development* (pp. 1–10). Oxford University Press.
- McLean, K. C., Syed, M., & Shucard, H. (2016). Bringing identity content to the fore. *Emerging Adulthood, 4*(5), 356–364. <https://doi.org/10.1177/2167696815626820>
- Miller, N. B. (1985). *A content analysis coding system for assessing adult emotional development*. University of Denver.
- Miller, N. (1991). *Miller assessment coding system* [Unpublished manuscript]. University of Akron, OH.
- Miller, N. B., & Silverman, L. K. (1987). Levels of personality development. *Roeper Review, 9*(4), 221–225. <https://doi.org/10.1080/02783198709553056>
- Miller, N. B., Silverman, L. K., & Falk, R. F. (1995). Emotional development, intellectual ability, and gender. *Journal for the Education of the Gifted, 18*(1), 20–38. <https://doi.org/10.1177/016235329401800103>
- Ogińska-Bulik, N., & Juczyński, Z. (2010). Rozwój potraumatyczny – charakterystyka i pomiar [Posttraumatic growth: Characteristics and measurement]. *Psychiatria, 7*(4), 129–142.
- Owenz, M., & Fowers, B. J. (2018). Perceived post-traumatic growth may not reflect actual positive change: A short-term prospective study of relationship dissolution. *Journal of Social and Personal Relationships, 36*(10), 3098–3116. <https://doi.org/10.1177/0265407518811662>

- Pals, J. L. (2000). *Self-narratives of difficult life experiences in adulthood* [Doctoral dissertation, University of California, Berkeley]. ProQuest Dissertations Publishing. <https://www.proquest.com/openview/0b31be596b07cf964b1a981e1c265dfe/1?pq-origsite=gscholar&cbl=18750&diss=y>
- Pals, J. L. (2006). Narrative identity processing of difficult life experiences: Pathways of personality development and positive self-transformation in adulthood. *Journal of Personality, 74*(4), 1079–1110. <https://doi.org/10.1111/j.1467-6494.2006.00403.x>
- Pals, J. L., & McAdams, D. P. (2004). The transformed self: A narrative understanding of posttraumatic growth. *Psychological Inquiry, 15*, 65–69.
- Park, C. L. (2010). Making sense of the meaning literature: An integrative review of meaning making and its effects on adjustment to stressful life events. *Psychological Bulletin, 136*(2), 257–301. <https://doi.org/10.1037/a0018301>
- Park, C. L., & Folkman, S. (1997). Meaning in the context of stress and coping. *Review of General Psychology, 1*(2), 115–144. <https://doi.org/10.1037/1089-2680.1.2.115>
- Park, C. L., & Lechner, S. C. (2006). Measurement issues in assessing growth following stressful life experiences. In L. G. Calhoun & R. G. Tedeschi (Eds.), *Handbook of posttraumatic growth: Research & practice* (pp. 47–67). Lawrence Erlbaum Associates Publishers.
- Pasupathi, M., Brubaker, J., & Mansour, E. (2007). Developing a life story: Constructing relations between self and experience in autobiographical narratives. *Human Development, 50*(2–3), 85–110. <https://doi.org/10.1159/000100939>
- Pasupathi, M., & Mansour, E. (2006). Adult age differences in autobiographical reasoning in narratives. *Developmental Psychology, 42*(5), 798–808. <https://doi.org/10.1037/0012-1649.42.5.798>
- Peace Pilgrim. (1982). *Peace Pilgrim: Her life and work in her own words*. Ocean Tree Books.
- Piechowski, M. M. (2003). From William James to Maslow and Dabrowski: Excitability of character and self-actualization. In D. Ambrose, L. M. Cohen, & A. J. Tannenbaum (Eds.), *Creative intelligence: Toward a theoretic integration* (pp. 283–322). Hampton Press.
- Piechowski, M. M. (2008). Discovering Dabrowski's theory. In S. Mendaglio (Ed.), *Dabrowski's theory of positive disintegration* (pp. 41–77). Great Potential Press.
- Piechowski, M. M. (2009). Peace Pilgrim, exemplar of level V. *Roepers Review, 31*(2), 103–112. <https://doi.org/10.1080/02783190902737673>
- Piechowski, M. M. (2014). The roots of Dąbrowski's theory. *Advanced Development Journal, 14*, 28–41.
- Piechowski, M. M. (2017a). Rethinking Dąbrowski's theory: I. The case against primary integration. *Roepers Review, 36*(1), 11–17. <https://doi.org/10.1080/02783193.2013.856829>
- Piechowski, M. M. (2017b). Rethinking Dąbrowski's theory II: It's not all flat here. *Roepers Review, 39*(2), 87–95. <https://doi.org/10.1080/02783193.2017.1289487>
- Schwartz, S. J., Luyckx, K., & Crocetti, E. (2015). What have we learned since Schwartz (2001)?: A reappraisal of the field of identity development. In K. C. McLean & M. Syed (Eds.), *The Oxford handbook of identity development* (pp. 539–561). Oxford University Press.
- Schwartz, S. J. (2001). The Evolution of Eriksonian and, Neo-Eriksonian Identity Theory and Research: A Review and Integration. *Identity, 1*(1), 7–5. <https://doi.org/10.1207/S1532706XSCHWARTZ>
- Singer, J. A. (2004). Narrative identity and meaning-making across the adult lifespan: An introduction. *Journal of Personality, 72*(3), 437–460. <https://doi.org/10.1111/j.0022-3506.2004.00268.x>
- Syed, M. (2012). The past, present, and future of Eriksonian identity research: Introduction to the special issue. *Identity: An International Journal of Theory and Research, 12*(1), 1–7. <https://doi.org/10.1080/15283488.2012.632362>

- Syed, M., & Azmitia, M. (2008). A narrative approach to ethnic identity in emerging adulthood: Bringing life to the identity status model. *Developmental Psychology, 44*(4), 1012–1027. <https://doi.org/10.1037/0012-1649.44.4.1012>
- Syed, M., & McLean, K. C. (2015). The future of identity development research: Reflections, tensions, and challenges. In K. C. McLean & M. Syed (Eds.), *The Oxford handbook of identity development* (pp. 562–574). Oxford University Press.
- Tedeschi, R. G., & Calhoun, L. G. (1996). The Posttraumatic Growth Inventory: Measuring the positive legacy of trauma. *Journal of Traumatic Stress, 9*(3), 455–471. <https://doi.org/10.1007/BF02103658>
- Tedeschi, R. G., & Calhoun, L. G. (2004). Posttraumatic growth: Conceptual foundations and empirical evidence. *Psychological Inquiry, 15*(1), 1–18. https://doi.org/10.1207/s15327965pli1501_01
- Tennen, H., & Affleck, G. (2002). Benefit-finding and benefit reminding. In C. R. Snyder & S. J. Lopez (Eds.), *Handbook of Positive Psychology* (pp. 584–597). Oxford University Press.
- Tomich, P. L., & Helgeson, V. S. (2004). Is finding something good in the bad always good? Benefit finding among women with breast cancer. *Health Psychology, 23*(1), 16–23. <https://doi.org/10.1037/0278-6133.23.1.16>
- Van den Broeck, W., Hofmans, J., Cooremans, S., & Staels, E. (2014). Factorial validity and measurement invariance across intelligence levels and gender of the overexcitabilities questionnaire-II (OEQ-II). *Psychological Assessment, 26*(1), 55–68. <https://doi.org/10.1037/a0034475>
- Waterman, A. S. (2015). What does it mean to engage in identity exploration and to hold identity commitments? A methodological critique of multidimensional measures for the study of identity processes. *Identity, 15*(4), 309–349. <https://doi.org/10.1080/15283488.2015.1089403>
- Warne, R. T. (2011). An investigation of measurement invariance across genders on the Overexcitability Questionnaire–Two. *Journal of Advanced Academics, 22*(4), 578–593. <https://doi.org/10.1177/1932202X11414821>
- Weiss, T., & Berger, R. (Eds.). (2010). *Posttraumatic growth and culturally competent practice: Lessons learned from around the globe*. Wiley & Sons.
- Wetzel, J. W. (1991). Universal mental health classification systems: Reclaiming women's experience. *Affilia, 6*(3), 8–31. <https://doi.org/10.1177/088610999100600302>
- Wortmann, J. H., & Park, C. L. (2009). Religion/spirituality and change in meaning after bereavement: Qualitative evidence for the meaning making model. *Journal of Loss and Trauma, 14*(1), 17–34. <https://doi.org/10.1080/15325020802173876>

SUPPLEMENTAL MATERIAL 2

CRITICAL LIFE EVENTS INTERVIEW*

I would like to get to know you by talking about various aspects of your life. During this meeting, you will have an opportunity to construct the story of your life as you understand it regarding the past, present, and anticipated future. However, this autobiography will be highly selective. You will focus only on 12 specific “episodes” in your life story and describe each of them in detail. Therefore, it will not be possible to tell everything that has happened to you, how you would probably do if you were writing a book about yourself. During this conversation, a lot of important information about you will undoubtedly be omitted. Nevertheless, focusing on 12 “episodes” will provide an interesting and useful perspective.

People’s lives are very different. What’s more, people give meaning to their lives in many different ways. As a social scientist, I want to understand how people do it. That is why I collect and analyse autobiographies of people and look for significant similarities and differences in these stories. I will not try to find out what is wrong with you. I am also not going to assess your life. Instead, I want to “read” your life story as if it was a book, focusing on what types of characters, scenes, and motifs appear in it the most often.

This interview is based on the idea of critical life episodes. An episode is a specific event that occurs at a specific time and place. I would like you to focus on individual events rather than a series of events or a longer period of time. I will ask you to tell me about 12 critical life events in your life. For each of them, please provide the following information:

- When did this event take place?
- What exactly happened?
- Who else was involved in this event? How?
- What did you think, feel, and what did you want during this event?
- Why is this a significant event in your life? How did it affect you and your life? What can it tell us about you and your personality?

* Based on the Life Story Interview (McAdams, 2001) and the Guided Autobiography (Foley Center for the Study of Lives, 1997).

The conversation will last about 1 hour. It will be recorded on the voice recorder. At any time, when you feel tired, we can break it or postpone and finish next time. Have you got any questions? Shall we start?

1. The High Point

Let's start with the most positive event, a moment in your whole life when you felt excitement, joy, satisfaction, or other very pleasant emotions. Please tell about a specific episode.

2. The Low Point

Now think about your whole life and recall those experiences that are associated with the feeling of extremely negative emotions. Please choose one of them. Although the memory may be unpleasant, please try to tell as much detail as possible about this event.

3. The Most Recent Critical Life Event

Now I would like you to describe a significant negative event that took place in your life recently (up to 2 months) and the meaning of this event for you. A critical life event is one that can affect the way you think, experience emotions, behaviour, and how your body reacts. Although it is not traumatic, it can be somewhat compared to an earthquake. It shatters some current beliefs and changes the way you think about yourself, the world, and relationships with other people. What event comes to your mind?

4. Goal

At different times in our lives, we set different goals for the future. Please consider some goals that you are currently pursuing in one way or another. Please choose one goal that is most important to you. Then describe a specific event from the recent past (up to 2 months) in which you did something particular that was a natural step forward toward this goal.

5. Morality Event

We learn what is good and what is bad throughout our lives. I would like you to consider a special episode in your life in which you have somehow encountered a moral problem. It can be an episode in which you got involved in some immoral act, you learned a moral lesson, you struggled with a moral dilemma, or you undertook decision to follow new moral standards or any other episode of life that connects with morality in some way.

6. Turning Point

Looking back at your life, please identify some episodes through which you have undergone a significant change. Turning points can occur in many different areas of life. Indicate the specific episode in the history of your life in which you made an important transition or change in relation to your understanding of yourself. It is not necessary for you to have consciously seen the event at that time. It is rather important that you now see this event as a turning point in your life.

7. Continuity

Recently you described the experience in which you have undergone an important change in your understanding of yourself. Now, please focus on the opposite experience. Please recall moments in your life story that show your identity or continuity in your life. Please choose one event or experience that you think represents something that is stable and unchanged in you.

8. Life Decision

Our life line is broken by events that force us to make an important choice. So far, you've probably made at least few key decisions in your life. Please recall them and then describe in detail one specific event in which you made a life decision. Please tell me about the decision-making process, what kind of internal conflict you were struggling with, what was the final decision, and why was it important?

9. Interpersonal Conflicts

Now please tell a story about how a conflict of interest appeared in a relationship with someone important to you. What was the conflict about? What did you strive for? What was the other side's aim? How was this conflict resolved?

10. Activity

Tell me about an activity you did that has developed you the most so far. How and what did you start doing? What was this development about?

11. The Experience of Creativity

Please tell us about a significant event related to your encounter with creativity or some manifestation of someone else's or your own creativity.

12. Life Challenge

Looking back at your whole life, please identify and describe what you currently consider as the biggest single challenge you have faced in your life.

REFERENCES

- Foley Center for the Study of Lives. (1997). *Guided Autobiography*. https://www.sesp.northwestern.edu/docs/guided_autobiograph.pdf
- McAdams, D. P. (2001). The psychology of life stories. *Review of General Psychology*, 5(2), 100–122. <https://doi.org/10.1037/1089-2680.5.2.100>

SUPPLEMENTAL MATERIAL 3

CODING SYSTEM FOR PERSONALITY DEVELOPMENT

	Primary Integration		Unilevel Disintegration	Spontaneous Multilevel Disintegration	Organized Multilevel Disintegration	Secondary Integration
	Unsocialized type	Socialized type				
Functions and structure of feelings	Extreme emotions. Suspiciousness towards others in life failures. Glorification of own successes.	Balance of sadness and joy. Mood generally cheerful.	Ambivalence; conflicting emotions at the same time. Mood changes. Signs of dissatisfaction with oneself.	Astonishment with one's internal environment. Concerns about oneself, the state of own personality and morality development. Shame and guilt about doing something harmful to own development. The sense of inferiority toward oneself. Disquietude with oneself.	Attempts (often successful) to manage feelings and experiences with a simultaneous tendency to emotional lability. Excitability and freshness of feelings (as in adolescence). Feelings of spiritual emptiness because of being misunderstood and lonely.	Authenticity in expression of emotions. Sense of responsibility for oneself and for others.
Functions and structure of drives	Primitive drives. Intelligence is in the instrumental function for drives. Brutality and immediacy in achieving goals.	Quite primitive drives that are mainly guided by the self-preservation instinct. Achieving goals without considering the good of other people.	Instability of impulses. Ambitendencies: conflicting trends of action at the same time. Lack of a single directing and control	Predominance of intellectual elements over impulses. Vague tendencies to subdue drives to higher values. Vague tendencies to	Impulses are sublimated. Own behaviour and everyday activities are controlled and interpreted. Analysing actions and carrying out corrections. Not relying on primitive	A stable directing and control centre constitutes a core of personality structure and its dynamisms. Control over impulses, emotions and feelings.

	Primary Integration		Unilevel Disintegration	Spontaneous Multilevel Disintegration	Organized Multilevel Disintegration	Secondary Integration
	Unsocialized type	Socialized type				
			centre. Tendency to reduce primitive impulses and some difficulties in subliming these tensions. Primitive drives are limited by the environmental requirements and moral standards.	achieve a higher level of development than that which results from the influence of the immediate environment and common moral standards.	impulses and even social norms. A slow transition to the personal ideal. A directing and control centre (however unstable) prevents from returning to the earlier lower ways of thinking, experiencing, and behaving.	
Functions and structure of values	Lack of the hierarchy of values and goals. Caring mainly for lower needs as possession, comfort, etc.	Lack of the hierarchy of values and goals. Caring mainly for equipping for the future and adaptation, success and mental health.	Awareness of the hierarchy of values and goals. At the same time lack of a deeper understanding the need for hierarchizing them.	Deep understanding the need to hierarchize goals and values. Vague tendencies to subdue drives to higher values. At the same time, the lack of skills in this area.	Hierarchization of values and goals. Previous lifestyle and meaning of life lose their value. The conscious choice of specific values, multi-level analysis and assessment of the internal and external environment. The attitude of objectivity and criticism towards oneself.	Awareness and practice of multi-level values. Higher and authentic values become goals.

	Primary Integration		Unilevel Disintegration	Spontaneous Multilevel Disintegration	Organized Multilevel Disintegration	Secondary Integration
	Unsocialized type	Socialized type				
Level of self-awareness	Poor mental environment. No reflection on own mental life.	Single manifestations of reflection on own mental life.	Reflection on own mental life combined with a low assessment of the moral or developmental state.	Drawing attention to the inside or even the tendency to get to know oneself better. Astonishment as an expression of intellectual discovery of own mental environment.	High level of consciousness. The subject analyses himself, starts to observe and make decision (separation of the subject and the subject in himself). Distinguishing what is higher in own behaviour from what is lower. Constant interest in the self from the past and in the future.	Sense of identity created by merging the self from the past, now and the projection of its further development for the future. These three elements give meaning to life. Approval of higher structures and dynamisms in shaping personality.
Ability to solve internal conflicts	No internal conflicts.	Noticeable but short (traces of internal conflicts).	Internal conflicts are often related to ambivalence and ambitendency. Inability to solve them.	Disagreement with own negative characteristics.	Negative response to most of their own attitudes and needs. A strong need for development is combined with understanding and agreeing on the cost of development: states of breakdown, depression, developmental crises, anxiety, etc. The individual realizes that they must survive them.	No intrapsychic tensions as goals are determined by hierarchical values.
Ability to manage interpersonal conflicts	Lack of empathy and egoism lead to numerous interpersonal conflicts. Seeking	The predominance of egoism with some sensitivity to others. Superficial syntonia in relationships with others.	Interpersonal conflicts are related to ambivalence and ambitendency. Contradictory	Tendencies to reject inappropriate environmental influences. At the same time feeling sorry for	A stable and objective attitude towards the outside world. The acceptance of these environmental influences that are consistent with the	Authenticity in relationships. Permanent and unique emotional relationships of friendship and love or tendencies to

	Primary Integration		Unilevel Disintegration	Spontaneous Multilevel Disintegration	Organized Multilevel Disintegration	Secondary Integration
	Unsocialized type	Socialized type				
	explanation of their interpersonal failures not inside, but in the outside world.	Certain but small capacity to understand the interests of others. Quite positive attitude towards the environment. Behaviour in accordance with common social norms. No significant conflicts with the outside world. Having friends and acquaintances without treating them as irreplaceable. Love without excessive exclusivity. Sensitizing to common difficulties and joys.	tendencies to reject inappropriate environmental influences and satisfy others' needs.	doing something wrong in relationships with others, causing them harm or humiliating them. Need to compensate others for that.	personal ideal. Possible interpersonal conflicts resulting from disapproval of those elements in the social group that are incompatible with the personal ideal. The reflection that the person cannot hate those whom they disagree with. Offering real help to others. Putting moral requirements on others.	achieve them. Attitude of empathy. Deep attitude of responsibility for oneself and for others. At the same time autonomy.
Aspiration for development	Seeing neither personality defects nor internal causes of failures. No need to improve.	Satisfaction with the current version of the self although the awareness of imperfection.	Experiences that enable to separate in the self the part that is higher in own behaviour and should develop from what is lower and must be reduced or weakened. Changeability of sense of inferiority and superiority towards oneself.	Anxiety and the sense of inferiority towards oneself resulting from the awareness that the individual sees that they have already reached a higher intellectual and emotional level and have the tendency to lower it.	The appearance of the personal ideal. Strong self-chosen necessity of development towards it. Tendencies to achieve perfection and personal goals. Need for a self-diagnosis, measuring progress, and examining one's own achievements. Creating a program of self-influence. Finding and refining new methods.	Comprehensive development. Manifestations of a clear developmental instinct. Personality is conscious, selected, confirmed and subjected to self-education by the individual. The personal ideal is complex and active.

	Primary Integration		Unilevel Disintegration	Spontaneous Multilevel Disintegration	Organized Multilevel Disintegration	Secondary Integration
	Unsocialized type	Socialized type				
Creativity	Lack of symptoms of creativity.	Single expressions of creativity.	Many expressions of creativity.	Creative activity. Creative instinct.	Creative talents that are implemented.	Strong and developed interests and talents.
Reaction with stress / change	Tendency to destroy an existing order without any attempts to introduce a new one.	Significant adaptation to changing living conditions and interpersonal loses. Lack of experiencing tragedies, and life dramas do not destroy their internal structure. Stress lasts short and occurs rarely. In stress selfishness, narrow perspective, inflexibility, and aggression.	Suicidal thoughts or tendencies as a result of psychological tensions and difficulties in their sublimation. Inclination to mental illness.	Vague tendencies to overcome stress.	Successful attempts to manage stress with a simultaneous tendency to emotional lability.	Staying resilient in the face of changes and stressors.