

Psychological resources in male prisoners: an application of the growth resources model

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Summary

The main goals of this article are to describe the Growth Resources Model and to present the preliminary results of a research project that applied this model to an actual male prison population. The study was conducted in two prisons in Southern Poland – 37 inmates and 34 control group members took part.

The results indicate that prisoners put a high value on their psychological resources, with positive emotions being of highest importance. Furthermore, prisoners exhibit less trust in others than non-prisoners. We argue that the Growth Resources Model can be used in the context of criminal psychology and social rehabilitation.

growth resources model, prison, inmates, psychological resources

The fact that correctional officers are primarily focused on prisoners' weaknesses or vulnerabilities is easily understood. Persons who have been sentenced to imprisonment have violated essential legal norms and have committed acts which are generally considered to be morally unacceptable. In addition, such inmates have a history of childhood neglect, are poorly educated, and are characterized by personality and cognitive deficits. Additionally, a high proportion of prisoners are dependent on psychoactive substances. Correction of anti-social behaviour is broadly-understood to be the main objective of social rehabilitation. However, in our opinion, effective rehabilitation during incarceration cannot be restricted to this objective. In addition to correcting behaviour, it is useful to diagnose the positive potential of imprisoned persons. Each of them has a greater or lesser amount of com-

petencies, resources and interests that can serve as a basis for shaping or modifying the identity of a prisoner after leaving the correctional institution. An approach to social rehabilitation and desistance from crime that emphasizes the personal strengths of inmates has gained wide recognition from social scientists over the last decades [1-5]. That paradigm is in contrast to a *problem-based, deficiency-based or risk-based approach* [6, 7].

The main goals of this article are to describe a new concept in the field of health psychology, the Growth Resources Model [8], hereafter GRM, and to present the preliminary results of a research project that applied this model in an actual male prison population. We argue that the GRM can be used in the context of criminal psychology and social rehabilitation. One possible application is to diagnose prisoners and people from crime-related risk-groups in terms of their psychosocial resources that can help them function well in their society. Such information could form an important basis for interventions: a practitioner, for example a psychologist working in prison, could get important infor-

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mation on what positive characteristics they can strengthen in their clients or patients. The practitioner could also use information on the balance of various elements, for example whether or not there is a good balance between positive autonomy and positive belonging, or between positive and negative emotions. Thus, the model may serve as an important element of professional diagnosis and intervention planning. Diagnosis of criminal offenders is usually focused on their deficits and addictions. The proposed GRM could form a basis for additional, more positive diagnosis of psychosocial resources. It is our aim to make the first step in implementing the GRM within this particular context.

POLISH PRISON SYSTEM – A BRIEF DESCRIPTION

On 30 June 2018, the Polish prison population consisted of 74,094 people located in about 150 prisons and detention centers. Over 4% of them were women.

The detention center is designed for those suspected of having committed crimes and detained for criminal proceedings in order to prevent destruction of evidence or obstruction of a criminal investigation. Prisons vary depending on the security level and the type of the institution. There are prisons for juveniles (up to 21 years old), first-time convicts, recidivists, and soldiers serving a prison sentence.

Regarding the security level, there are three types of prisons in Poland: the first one (closed type) is intended for those offenders who pose a significant social risk, who are convicted for serious crimes, or who are serving long term sentences. Such offenders are given one hour of supervised exercise (e.g. walking) per a day. Half-open correctional institutions are designed for convicted women, unintentional offenders and those who cooperate with prison staff to create a so-called individual treatment program. The cells in this type of prison are open during the day, and all forms of prisoner activity can take place outside of the prison cell. In open-type prisons, the cells are open twenty-four hours a day, whereby prisoners experience the greatest freedom. Such “open” institutions are designed for people who are sentenced for unintentional crimes and prisoners transferred from

other types of prison as a reward. They may temporarily leave the prison without supervision and have money at their disposal.

The principle of progression in the Polish penitentiary system means that if the inmate performs systematic and desired changes in his or her behaviour (e.g. undertaking work or complements education, improving relations with the social environment, or deciding on therapy), the inmate may be rewarded for such productive behaviour. Prison staff observe the behaviour of prisoners, and some of them may be transferred to a medium-security institution as a result of positive changes.

According to the Polish Executive Penal Code, the principle of individualizing therapeutic and educational intervention is of primary importance and shapes the nature of incarceration. One of three penitentiary systems can be applied: regular, programmed, or therapeutic. The programmed system includes juvenile offenders and those who have agreed to cooperate with prison officers in the context of individual correctional interventions. It gives prisoners the greatest chance of getting rewards (even in the form of early release), and is considered the best option for social rehabilitation. The regular system includes those inmates who did not agree to participate in the re-entry program. They have a standard set of rights and obligations. The therapeutic system is intended for those convicted of alcohol and/or drug abuse, the developmentally disabled, those suffering from non-psychotic mental disorders, those convicted of crimes committed due to sexual dysfunction, and the physically disabled.

POSITIVE APPROACH TO CRIMINAL PSYCHOLOGY AND SOCIAL REHABILITATION

The so-called positive approach has been developed in the social sciences for more than thirty years. It is based on the belief that special emphasis should be placed on an individual's strengths, potential, and ability to cope with difficulties, without neglecting the typical problems faced by people in the (post)modern world, including the causes and mechanisms of such problems. Among the forerunners of this trend are the following: Dennis Saleebey [9],

Martin Seligman and Mihály Csikszentmihalyi [10], Shadd Maruna [11], Tony Ward and Claire A. Stewart [12]. Examples of particularly important research areas in the field of positive criminology include the rise of the so-called *strengths-based approach* (SBA) and works on the *desistance* phenomenon.

SBA is referred to in the literature as “collation of principles, ideas and techniques” [13, p. 15] or “an organizing principle for a family of theories and practice strategies” [7, p. 40]. In the field of offender rehabilitation, SBA applies both to individuals and their families, as well as to local communities and the broader social context. The main assumptions of this approach are as follows:

- both individuals and groups have many positive attributes, resources and aspirations that can lead to pro-social change, growth and development;
- problems and disorders should be perceived as a result of multifaceted relations between an individual and his or her social environment, and not just individual deficits;
- even a difficult period in life, crisis or trauma can be a source of strength, hope and positive experiences;
- the intervention should be free of moral judging, based on cooperation and acceptance that the person experiencing the problem is an expert on his/her own situation;
- self-determination and finding a new meaning of life is crucial in the process of rehabilitation;
- one should appreciate the individuality and active participation [13-17].

One of the most important theories of social rehabilitation, originated within SBA is the *good lives model* (GLM) [12, 18, 19]. GLM is defined as a comprehensive, strength-based rehabilitation theory that focuses on promoting offenders personal goals while at the same time reducing their risk for future offending” [18, pp. 289-290]. According to GLM it is advisable to take care of the individuals’ life goals and preferences carefully; their understanding by rehabilitation officer can facilitate positive changes in lives of offenders. In addition, their skills, competencies

and resources need to be developed; these may help them live a good life where their own activity will satisfy their needs and produce contentment without hurting others. In terms of GLM desired states, the types of activity or situations are referred to as *primary goods*. These include life, knowledge, excellence in play, excellence in work, agency, inner peace, friendship, community, spirituality, happiness and creativity [20]. Primary goods are achieved by means called *secondary* (instrumental) *goods*. When the primary goods are blocked by internal or external obstacles, the individual tries to meet his or her needs by appealing to socially unacceptable or prohibited methods. Thus, *criminogenic needs* arise when a person encounters barriers in their life (limitations related to individual features or characteristics of the social environment) that prevent the individual from achieving primary goods. As mentioned above, the goals of rehabilitation, according to GLM, are “to equip offenders with the knowledge, skills and competencies to obtain their primary goods in socially acceptable ways, overcome flaws in their good life plans, and to reduce and/or manage their risk of future reoffending” [18, p. 291].

The SBA is also linked to the studies on desistance from crime [11, 21-25]. As Maruna put it, “to desist from crime, ex-offenders need to develop a coherent, pro-social identity for themselves” (11, p. 7). Persons who help to achieve positive changes should therefore remember that transition towards desistance can be fostered by: cultivating relationships between people (especially with loved ones), focus on offenders’ strengths and resources, respect for their self-determination, building social capital, and avoiding identification with people exhibiting socially unacceptable behaviours [22].

THE GROWTH RESOURCE MODEL

In our research we implemented the Growth Resources Model – a new concept which can be situated within the fields of positive psychology and developmental psychology. The main goal of the model is to grasp the key internal resources supporting successful development towards the positive end of the mental health continu-

um [8]. According to Keyes [26], mental health can be described as a continuum from disorders through languishing to moderate health, and to flourishing as the positive end of the spectrum. The GRM identifies the key resources that help a person face life challenges, overcome obstacles, build positive relations with others, and reach important goals, and hence to move towards the category identified as “flourishing” by Keyes [8].

The model consists of three major components: positive autonomy, positive belonging, and positive emotionality. Positive autonomy is understood as the key resources allowing a person to deal with the everyday reality in a constructive way, and to reach important goals. Within the positive autonomy component we can distinguish: hope, sense of competency and efficiency, initiative and perseverance, independence and leadership, sense of control, self-esteem, and a well-developed personal identity. Positive belonging is understood as the key resources allowing a person to build constructive and satisfactory relations with others. Within the positive belonging component we can distinguish: sense of purpose, loyalty/fidelity, positive attitude towards others, a sense of positive contribution to society, self-esteem in social contexts, assertiveness, individuation, and abilities to cooperate with others. And finally, positive emotionality is understood as a positive versus negative emotions balance in which there are more positive emotions experienced with 3:1 ratio as the optimum [8].

According to the model, these three psychosocial characteristics (positive autonomy, positive belonging, and positive emotionality) are the most important personal resources allowing lifelong personal development trending towards the positive end of the mental health continuum. Positive autonomy allows a person to deal with uncertainty and volatility of the environment, and to pursue and reach important life-goals, thus improving individual functioning and satisfaction. Positive belonging allows a person to build and sustain a network of social support, which is very important since humans are fundamentally social and relational; it is difficult to flourish in isolation. It is important to note that positive autonomy and positive belonging are not opposite poles of a single, autonomy-belonging dimension in which the more autonomy we

have, the less of positive belonging we represent, or vice versa. Instead, autonomy and belonging are two separate dimensions. Thus, it is possible to have a high level of positive autonomy and at the same time a high level of positive belonging. In fact, such a situation would be the most beneficial. Finally, positive emotionality forms an important motivational completion to the model. If a person experiences more positive than negative emotions, they should have more energy and motivation, and also gain more satisfaction in life. Positive emotions can also provide more resilience and creativity [8].

Our main research objective was to pilot the short version of the Growth Resources Questionnaire, which will be presented below, in a group of imprisoned criminals. It was assumed that the prisoners would score lower than the control group members in the Growth Resources Questionnaire, both in the overall score and in each scale: Positive Autonomy Scale, Positive Belonging Scale, and Positive Emotionality Scale.

We hope that the questionnaire may become a useful diagnostic tool especially for practitioners involved in social rehabilitation and various crime-prevention programs, but also for researchers interested in psychological, psychosocial, and emotional characteristics of this specific target group.

METHODS

Participants

37 imprisoned men from prisons in Krakow and Nowy Wisnicz (Southern Poland) took part in the research. Before the procedure took off, official permissions had been granted from the prisons' directors. The participants were chosen by prison psychologists with regard to their intellectual abilities and willingness to take part in additional activities. Prison guards were responsible for decision if particular prisoners should participate in groups or individually. All of the participants were currently occupying semi-open prison wards. The age range was 20-51 years ($M_{age}=30,25$ years). All of the prisoners have primary or secondary education, and none of them graduated from university or other higher education institution. Fourteen of the

participants are blue-collar workers including car mechanics, welders, locksmiths, tinsmiths, bakers, and painters. Other participants do not have any profession requiring special training; they were engaged in a variety of different jobs when outside of prison. As for the crimes committed, the majority were sentenced for physical assault and/or theft. Prison sentences ranged from several months to a maximum of fourteen years. The majority of the participants filled out the paper questionnaire in groups of four to six people. A few of the prisoners were individually escorted by the prison service and filled out the questionnaire in the absence of other prisoners, but with the researcher always present. Prison guards were not present when the participant were filling out the questionnaires; the guards waited outside of the room.

To compare the results with a control group, 34 men that had never been in prison were also tested with the GRQ prison form. 12 of the men had a secondary education, and 22 of them held a university degree. Their age was between 20 and 39 with 28 as the average. The majority of them were employed (some of them were also university students). The control sample was chosen in such a way that its size and average age of the participants correspond with the prison sample (size: 34 control group and 37 prison group; and average age: 28 control group and 30,25 prison group). The most important difference between these two groups is education. While all of the prisoners were educated at the level of primary/secondary school, the majority of the members of the control sample hold a university degree (22 of them). This difference in education should be taken into account when drawing conclusions from the research.

Materials and Procedure

Based on the model presented above, a diagnostic questionnaire was built, called the Growth Resources Questionnaire [27]. Following the theoretical structure of the model, the questionnaire consists of three major scales: Positive Autonomy Scale, Positive Belonging Scale, and Positive Emotionality Scale. In standard version of the tool each of the scales consists of thirty items, so the entire tool consists of ninety items in total.

In Positive Autonomy Scale and in Positive Belonging Scale each item is a short statement with a five-point Likert scale assessing to what degree a person thinks each statement refers to them. Positive Emotionality Scale is somehow different: it consists of a list of emotions (fifteen positive and fifteen negative), also with a five-point Likert scale that assesses how often a person has been experiencing each emotion within the past month. As a result, we get information on the levels of positive autonomy, positive belonging, and both positive and negative emotions being experienced. In addition to the raw results within each of the scales, equally important is the balance between autonomy and belonging, and between positive and negative emotions [27]. The basic GRQ was tested on a group of 304 participants, and results of this study are presented in Pasowicz [27].

To use the questionnaire presented above in the context of correctional institutions, we created a short, simplified and modified version of the tool to be used in this specific target group. Prisoners frequently display cognitive and personality deficits [28]. Specific executive brain functions are also impaired in prison population [29]. That is why the questionnaire was shortened to only twenty-six items in total: seven items testing positive autonomy, nine items testing positive belonging, and ten referring to emotions (five positive and five negative). We chose statements and emotions that should be easy to understand by the target group, and that at the same time should provide important information. Also, a person filling in the questionnaire provides basic information on their social status and on the crime/law offense they have committed (gender, age, occupation, education, place of residence before imprisonment, marital status, children, number of years sentenced, number of years served, number of distinct incarcerations). It takes about five to ten minutes to fill in the questionnaire.

Psychometric Properties of the Growth Resources Questionnaire – Prison Form (GRQ-PF)

As it was mentioned before, the questionnaire consists of three scales: Positive Autonomy Scale, Positive Belonging Scale, and Positive Emotion-

ality Scale. It consists of twenty-six items in total: seven items testing positive autonomy, nine items testing positive belonging, and ten refer-

ring to emotions (five positive and five negative). Psychometric properties of the questionnaire are presented in Table 1 below.

Table 1. Psychometric Properties of the Growth Resources Questionnaire – Prison Form

Scale	n	Items	M	SD	Cronbach's alpha	Potential range	Actual range	Skew
Autonomy	37	7	26.92	4.19	0.82	7-35	18-35	0.02
Belonging	37	9	35.95	4.39	0.74	9-45	24-42	-0.65
Autonomy + Belonging	37	16	62.86	7.85	0.86	16-80	42-76	-0.31
Emotionality	37	10	29.59	4.63	0.42	10-50	12-40	-1.25
Positive emotions	37	5	16.7	3.83	0.69	5-25	5-22	-1.04
Negative emotions	37	5	12.89	3.36	0.5	5-25	6-19	-0.23

From the perspective of testing a new diagnostic tool, the most important properties are Cronbach's alphas of the particular scales. Both of the two major scales (Positive Autonomy Scale and Positive Belonging Scale) have good Cronbach's alpha parameters (0.82 and 0.74 respectively). What is interesting, when we take the two scales together and assess the Cronbach's alpha for the joint scales, alpha is even higher and reaches the level of 0.86. One might think that the scales should have lower reliability when taken together, but this can be explained by realizing that the more items we take, the higher the Cronbach's alpha. More importantly, and as previously stated in the theoretical introduction to the Growth Resources Model, Positive Autonomy and Positive Belonging are not two opposite aspects of a single autonomy-belonging dimension. Rather, they are two separate dimensions supporting one another (the higher the level of positive autonomy, the higher the level of positive belonging, and vice versa). Thus, we can expect that items from these two scales should correlate with each other at a significant level.

Cronbach's alpha for the Emotionality Scale is at a rather unsatisfying level of 0.42, but when we take items referring to positive and negative emotions together, they cannot strongly correlate with each other. What is more, we should also remember that from the psychological perspective there is often a significant qualitative difference between different emotions, even if

they have similar valence (e.g., joy and trust, or fear and boredom), so it is difficult to expect them to correlate at a very high level. Cronbach's alpha for the positive emotions sub-scale is at a satisfying level of 0.69, but the parameter for the negative emotions sub-scale is at a rather low level of 0.5, which suggests that this particular sub-scale might need revision and improvement.

RESULTS

Growth resources in male adult criminals

Below we present the results of the first usage of GRQ-PF as a diagnostic tool in male prison population.

Distribution of variables. When we know the basic psychometric properties of the questionnaire, we can proceed to the most important and interesting results, pointing out the levels of particular growth resources within the research group. Taking into consideration our target group, we expected that the levels of growth resources should be rather low. However, when one looks at the distributions, one notices that most of them present slight negative skewness, and the mean numeric response is well above the middle of the potential range (3), which means that the participants declared rather optimistic levels of resources tested by the questionnaire. To provide more detailed analysis, we present basic parameters, includ-

ing skewness and mean, of every single item in Table 2 below.

Table 2. Mean, standard deviation, potential range, and skewness of particular variables in Positive Autonomy and Positive Belonging Scales

Item	M	SD	Potential range	Skew
Positive Autonomy Scale				
1. I can handle my life	4.08	0.83	1-5	-0.77
2. I often feel helpless ²	3.62	0.89	1-5	0.11
3. My future will be good	3.97	0.8	1-5	-0.3
4. When I care about something a lot, I achieve it	4.05	0.74	1-5	-0.52
5. I am a valuable person	4.14	0.71	1-5	-0.2
6. I have leadership skills	3.35	0.86	1-5	-0.21
7. I am satisfied with who I am	3.7	1.15	1-5	-0.53
Positive Belonging Scale				
8. My life has a meaning	4.05	0.85	1-5	-0.68
9. People are good	3.08	0.83	1-5	-0.16
10. I can work well with others	3.97	0.76	1-5	-0.75
11. I am loyal to people close to me	4.54	0.61	1-5	-0.96
12. I am a confident person	4.16	0.73	1-5	-0.26
13. I have close friends	4.35	0.86	1-5	-1.33
14. Doing everything for yourself would be meaningless	4.22	0.89	1-5	-0.71
15. Getting to know new people comes easily to me	3.89	1.1	1-5	-0.97
16. In a crowd I feel comfortable and safe	3.68	1	1-5	-0.34

All of the variables have negative skewness (remember item number 2 has a reverse-scoring) and mean above the middle of the potential range. In psychological terms it means that people who have difficulties with adapting to society and playing a constructive role in it, assess their own psychosocial resources to be above the middle of the potential range! They believe they succeed in handling their life, think

of themselves as valuable people, are optimistic about their future, think that their life has a meaning, and that they can build positive social relations.

It may be also interesting to look at the distributions and means of particular items concerning emotions. This results are divided into two groups (positive and negative emotions), and are presented in Table 3 below.

Table 3. Mean, standard deviation, potential range, and skewness of particular variables in Emotionality Scale

Item	M	SD	Potential range	Skew
Positive emotions				
1. Joy	3.38	1.11	1-5	-0.82
2. Hope	3.51	1.22	1-5	-0.52
3. Curiosity	3.38	1.16	1-5	-0.81
4. Trust	2.81	1.13	1-5	-0.22
5. Calmness	3.62	1.11	1-5	-0.32

	Negative emotions			
1. Fear	1.92	0.92	1-5	0.84
2. Disgust	2.3	1.1	1-5	0.55
3. Anger	2.62	1.19	1-5	0.27
4. Sadness	2.68	1.2	1-5	0.47
5. Boredom	3.38	1.34	1-5	-0.24

Skewness for the positive emotions taken together is -1.04 , and the distributions of each of the positive emotions shows a similar, slightly negative tendency. What is more, the majority of means are also slightly above the middle of the potential range (one exception is the mean of the trust variable). It means that the participants declare that they have been experiencing positive emotions like joy, hope, curiosity, trust, and calmness quite often within the past month prior to the research (while still in prison). Most of the negative emotions items represent an opposite tendency: skewness for fear, disgust, anger, and sadness is positive, and the means are below the arithmetical average of potential range, which means that the participants declare that they have been experiencing these emotions quite rarely within a month prior to the research. Taking into account their imminent social and physical circumstances it is quite surprising. The only negative emotion they admit to have been experiencing quite often is boredom. Interestingly, in general the research group declare a dominance of positive over negative emotions in their daily experience.

What is important, their emotions ratio (positive emotions experienced to negative emotions experienced) is at a low level of 1.42:1, and it is far from the approximately 3:1 ratio that seems to support flourishing most [30].

DIFFERENCES BETWEEN VARIABLES.

Other interesting information may be provided by the analysis of statistically important differences between variables and by correlations. Results of Student's *t*-test for dependent groups of the difference between positive autonomy and positive belonging are provided in Table 4, below. The Shapiro-Wilk test shows that both of the variables have distribution similar to normal ($W = 0.97$ and $p = 0.40$ for positive autonomy, and $W = 0.95$ and $p = 0.08$ for positive belonging).

Table 4. Student's *t*-test results showing the difference between positive autonomy and positive belonging variables in the research group

Scale	N	M	SD	t	p	α
Positive Autonomy	37	26.92	4.19	4.00	0.000000	0.05
Positive Belonging	37	35.95	4.39			

The results presented above allow us to state that the level of declared positive belonging is significantly higher than the level of declared positive autonomy in the research group of adult male criminals. It is also worth checking the statistical significance of the difference between positive and negative emotions. Since the distribution of the positive emotions variable is not normal (Shapiro-Wilk test results are: $W = 0.93$ and $p = 0.01$ for positive emotions, and $W = 0.97$ and $p = 0.32$ for negative emotions), a sign test for dependent groups was implemented. Its result are presented in Table 5, below.

Table 5. Sign test results showing the difference between positive emotions and negative emotions variables in the research group

Scale	N	M	SD	Z	P	α
Positive emotions	37	16.7	3.83	3.04	0.002	0.05
Negative emotions	37	12.89	3.36			

The results signify that the level of declared experience of positive emotions is significantly higher than the level of declared experience of negative emotions in the research group of adult male criminals.

CORRELATIONS.

The last analysis we would like to present before proceeding to control-group comparison is the analysis of the levels of correlation between var-

ables. Since some of the variable distributions are not normal, we implemented the Spearman's *rho* correlation test, and we would like to briefly present selected statistically important results.

There is a moderate, positive correlation of 0.65 between the two major questionnaire scales: Positive Autonomy Scale and Positive Belonging Scale, which is a confirmation of the theory underlying the model and saying that these two phenomena – positive autonomy and positive belonging – are not two opposite extremes of a single dimension, but two separate dimensions complementing one another. As for emotions correlating with the level of both positive autonomy and positive belonging combined, the emotion of calmness has the highest value of 0.4.

What is important is that the Positive Belonging Scale correlates with: positive emotions (0.38), balance of emotions (0.34), joy (0.33), and calmness (0.47). Balance of emotions is defined to be positive emotions minus negative emotions. Interestingly, there is no statistically significant correlation between the Positive Autonomy Scale and any of the emotion variables. Such results suggest that, in the research group, positive belonging plays an important role in supporting positive emotions and the balance of emotions. Positive autonomy seems to have little influence on emotions experienced by the research subjects.

Looking at how particular positive emotions correlate with the positive emotions sub-scale, we can notice that all of the correlations are satisfactory (Cronbach's alpha of the sub-scale is 0.69). The most important emotion seems to be trust, which correlates with the sub-scale at a high level of 0.8. Other correlations are as follows: hope and joy (0.59), curiosity (0.57), and calmness (0.55). Situation gets more interesting with the negative emotions sub-scale. Here most of the correlations are also satisfactory or quite strong: for anger it is 0.72; 0.64 for boredom, 0.58 for disgust, and 0.56 for sadness. What is very interesting here is that the correlation for fear is only 0.27, and it is not statistically significant, which means it does not correlate well with the whole sub-scale of negative emotions. This can explain the rather unsatisfactory level of Cronbach's alpha for the sub-scale of 0.5.

Other interesting correlations refer to the issue of which of the emotions tested influence

the balance of emotions (positive minus negative) the most. It seems that the key emotions are joy and curiosity (0.61 and 0.49), and sadness (-0.47). This information may be important if we wonder which of the emotions are the most important ones when we want to strengthen the most adaptive balance of emotions in which there is an advantage of positive feelings.

Naturally, we can expect that in a prison there would be a relation between anger and boredom. Indeed, these two emotions correlate with each other at the level of 0.37.

Since the analysis of correlations can provide us with some interesting information on what are the relations between psychological variables tested in the group of adult male criminals, we decided to look at the correlations between particular items of the autonomy and belonging scales, as well as emotions. Results of such analysis are presented in Table 6, below.

Table 6. Selected statistically significant correlations between items from the autonomy and belonging scales, as well as emotions

Item	Related emotion(s)	<i>r_s</i>
5. I am a valuable person	Joy	0.38
8. My life has a meaning	Calmness Positive emotions	0.52 0.36
12. I am a confident person	Joy	0.36
13. I have close friends	Calmness	0.41
15. Getting to know new people comes easily to me	Joy	0.38
16. In a crowd I feel comfortable and safe	Joy Trust	0.33 0.34

The data presented above convey some important information. For example, one can see that a sense of a meaningful life is related with experiencing positive emotions, especially calmness. Experiencing calmness is also related to being a confident person and having close friends. Experiencing joy is related to considering oneself as a valuable person, being confident, having a good ability of getting to know new people, and feeling comfortable in a crowd (essentially high self-esteem).

COMPARISON WITH A CONTROL GROUP

Unexpectedly, the results of the two groups studied are very similar to each other. All of the differences were tested with the Mann-Whitney *U* test ($\alpha = 0.05$), and the only variable in which the control group has a significantly higher result is the level of positive emotions experienced (bold face). All of the other results are very similar and the differences are not statistically significant. Also unexpectedly, emotion ratio of the control group was far from the approximately 3:1 ratio considered best for flourishing [30]. Comparison of mean results of the test group and the control group are presented in Table 7, below.

Table 7. Comparison of the test group with the control group

	Test group	Control group
<i>N</i>	37	34
Positive autonomy	26.92	27.71
Positive belonging	35.95	34.71
Autonomy + belonging	62.86	62.41
Positive emotions	16.70	18.82
Negative emotions	12.89	12.79
Emotions intensity*	29.59	31.62
Emotions balance	3.81	6.03
Emotions ratio	1.42: 1	1.60: 1
General**	66.68	68.44

* positive + negative emotions; ** autonomy + belonging + emotions balance

A bit more information can be drawn when we compare results of the test group and the control group in regard to each item. A series of results are statistically significant, and they are presented in Table 8, below.

Table 8. Comparison of the test group with the control group – selected items

Item	Test group	Control group
9. People are good	3.08	3.68
12. I am a confident person	4.16	3.59
Fear	1.92	2.59
Disgust	2.30	1.56
Curiosity	3.38	4.06
Trust	2.81	3.71

It seems that people from the control group think better of others, and thus they also experience more trust. Additionally, the control group experiences more curiosity. These results are not surprising. Notably, people from the control group seem to experience more fear, and less disgust. These results will be further discussed later.

DISCUSSION

On the basis of our findings we conclude that prisoners highly evaluate their psychological resources and declare dominance of positive emotions. The level of declared positive belonging is significantly higher in male prisoners than the level of declared autonomy. Furthermore, it seems that what differentiates prison inmates from the control group is the perception of the social world: the prisoners have less trust in others and evaluate them in a more negative manner.

The dominance of positive emotions and a high evaluation of personal psychological resources are a surprising characteristics of inmates. Let us look at these results in the light of personality psychology, also considering what we know about the specifics of prison isolation and inmate community.

A basic level of self-acceptance is among the most important conditions for building identity and undisturbed psychological functioning. The key to the analysis of our results seems to be the notion of self-enhancement. As Sedikides and Gregg put it [31, p. 111], self-enhancement is “the drive to affirm the self [32], that is, to convince ourselves, and any significant others in the vicinity, that we are intrinsically meritorious persons: worthwhile, attractive, competent, lovable, and moral”. The term can be used both in the context of self-promotion and self-protection [33].

Maintaining a positive self-image is often related to a preference for information consistent with such positive self-image, even if this requires a biased interpretation or unrealistic reinterpretation of features or events. When a person intends to act contrary to his or her own image, there are various ways of reducing cognitive dissonance [34] that allow such incongruous behaviour while maintaining a positive self-image.

These mechanisms have already been described by Sykes and Matza in their classic theory of techniques of neutralization. According to them: “much delinquency is based on what is essentially an unrecognized extension of defenses to crimes, in the form of justifications for deviance that are seen as valid by the delinquent but not by the legal system or society at large” [35, p. 666]. The importance of a positive self-image and a “hedonistic balance” reached by the means of habitual use of justifications was also indicated in later years, among others by: [36, 37, 38, 39, 40, 41, 42, 43, 44, 45].

According to Barriga and Gibbs [46] there are two main kinds and four types of self-serving cognitive distortions. Primary cognitive distortions manifest as self-centered attitudes: the individual is so focused on his aspirations, expectations, and rights that he does not take into account the rights and beliefs of other people. Secondary cognitive distortions are associated with the use of justifications [47, 48].

Among them, the authors distinguish:

- (a) a tendency to blame others, which is related to the search for the causes of socially unacceptable behavior in external factors;
- (b) minimizing and/or mislabelling, defined as regarding antisocial behavior as an acceptable way of achieving the objectives of the individual;
- (c) assuming the worst (i.e., cognitive distortion including catastrophic thinking and a belief that the social environment is hostile to the individual).

The cognitive distortions mentioned above, reinforced by the specific prison culture of mistrust, violence and manipulation, result in the belief that the world is hostile and people should not be trusted.

The declared dominance of positive emotions in the prisoners group and the lower level of fear compared to the control group is also easy to explain. To understand the phenomena we should take into account the influence of macho prison culture [35, 40, 49, 50, 51, 52, 53, 54]. As Sabo, Kupers & London put it, “prison is an ultramasculine world [...]” [53, p. 3]. This means that adapting to prison conditions requires one to adopt a “tough guy” mask. Prisoners know that displaying fear, grief or helplessness can be recognized by others as weakness and is likely to

result in a loss of status in prison society. Strong emotional control can serve as a protection from exploitation by others, as an indication of a masculine self-esteem, or as a way to achieve the reputation of a dangerous man [49, 51, 55]. Under certain conditions or in some places (*emotional zones*) [49], prisoners may, however, react more freely: emotional expression that is generally not allowed in front of prison staff or other inmates in the gym, might be openly displayed when talking to visiting family members, or in a prison chapel.

As mentioned above, the level of declared positive belonging is higher in the inmates group than the level of autonomy. This result is predictable. It is difficult to deal with uncertainty and volatility of the environment in prison conditions. The ability to achieve important life-goals is also severely limited. On the other hand, building a social support network, predominantly including a small group of colleagues, is very important for a prisoner’s daily life.

CONCLUSION

Imprisonment is undoubtedly an extremely difficult psychological situation. One of the main problems of prison isolation is the restriction of freedom and autonomy. Inmates’ activity remains under pressure of formal and informal norms and values, limited opportunities and the restricted contacts with the world outside the bars. However, the functions of correctional institutions are not only limited to isolation and providing social security, but also involve social rehabilitation.

In order to gradually reduce high rates of recidivism, perhaps we should pay more attention to prisoner resources, which may be instructive for the re-adaptation process. The Growth Resources Model is one of the ways of conceptualizing psychological strengths, which is not limited to prison populations. The preliminary results obtained by us show how the inmates perceive themselves, their psychological resources, and social reality. This image may be a starting point for social rehabilitation projects. The Growth Resources Model can serve as a basis for cognitive-behavioral therapy (CBT) programs, which are currently considered to be the

most effective in reducing prison misconducts and recidivism rates [56, 57, 58, 59, 60]. The main goal of CBT is to help prisoners to shape a new way of thinking about themselves and the world around them. CBT programs refer most often to two strategies: cognitive restructuring and social skills development.

LIMITATIONS

Of course, our study has several limitations that merit consideration. To make stronger generalizations, the study group should be larger and prisoners from multiple correctional institutions should be interviewed, including women.

Before the research began, it was stressed that the researcher is an academic and the results of the research will not be disclosed to anyone and will only be used for scientific purposes. However, to carry out research in prison, close cooperation with Prison Service staff is indispensable. Therefore, some participants may have suspected that they are being misled and their answers will be evaluated. In such a situation, they could provide answers suggesting a high level of psychological resources and positive emotions.

In order to perform more reliable and in-depth analyses in the future, the Growth Resources Questionnaire – Prison Form should be further developed. In our research we used first pilot version of the questionnaire, so there is still a lot to be done in order to develop a mature diagnostic tool.

One possible improvement is to add a scale to evaluate deception (i.e., lying), so that participants with tendencies to manipulate their answers may be identified. Such a scale is especially important if we aim our questionnaire at crime-related target groups. A different solution, or an additional one, would be a scale measuring a tendency for self-enhancement.

Because prisoners have difficulties with filling out long questionnaires, we decided to construct a tool with twenty-six items. Such a questionnaire proved easy to fill out and we determined that the participants could clearly handle working with a longer tool. Constructing a slightly longer questionnaire, which could provide us with more information, might also be a good idea.

Such a tool could be used on bigger groups with prisoners staying in several different correctional institutions and prison wards. Female prisoners could also be tested and their results compared with their male counterparts. With a big experimental group we could perform a factor-analysis of the questionnaire that could provide us with further important information, both on the questionnaire and the target group.

Finally, revision of the negative emotions sub-scale is indicated, because Cronbach's alpha of this sub-scale has a rather unsatisfactory level of 0.5. The extent to which we can improve reliability of scales measuring emotions may be limited, because various emotions of the same valence often represent different subjective experiences. However, the fact that the positive emotions sub-scale has Cronbach's alpha at the level of 0.69 means that still there is some potential for improvement.

NOTES

Data obtained from: <https://www.sw.gov.pl/strona/statystyka—miesieczna>.

This item has a reverse scoring.

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