Resilience and Quality of Life Among People Serving Prison Sentences in Penitentiary Institutions: The Mediating Role of Social Support

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ABSTRACT

The aim of this study was to explore the associations between resilience and quality of life and the possible mediating influence of social support. As dependent variables, we tested QoL global score and its specific components: psychosocial, psychophysical, subjective, and metaphysical. In addition, we tested global social support and its aspects—psychosocial, psychophysical, subjective, and metaphysical—as mediators. The models we constructed are acceptable and each of the predictors is significant. The study confirmed the mediating effect of social support on QoL in prisoners.

Keywords: Resilience and Quality of Life, People Serving Prison Sentences, Penitentiary Institutions, Mediating Role, Social Support

Introduction

In the most general terms, quality of life (QoL) is understood as satisfaction with life, "the sense of its meaningfulness, purposefulness, and agency" (WHOQOL Group, 1995). It comprises both objective factors, such as material conditions or health, and their personal, subjective evaluation: namely, self-perceived quality of life, relating to various aspects of human functioning: physical, psychosocial, emotional, and spiritual (Schalock, 2004). In the physical dimension, well-being manifests itself in bodily health, vitality, and attractive physical appearance. Psychosocial well-being is connected with the satisfaction of the need for belonging to a group and the need for security and manifests itself, among other things, in establishing and maintaining bonds with other people. An extremely important aspect of quality of life is the belief in one's own individuality and independence, associated with the possibility of making choices and bearing the responsibility for one's own life. This personal dimension of QoL manifests itself in the pursuit of personal goals, interests, and passions. Finally, what is important is the possibility of realizing universal values such as good, love, truth, or beauty. The spiritual aspect of QoL allows a person to experience his or her own existence as going beyond earthly life (Straś-Romanowska, 2005). Some concept analysis studies have identified well-being as synonymous with the concept of comfort, and QoL as a related concept (Mandzuk & McMillan, 2005; Pinto, Fumincellic, Mazzoc, Caldeirad, & Martinse, 2017). The concept of well-being rests on a psycho-spiritual basis, associated with happiness and "internal energy." QoL appears as a broader concept, associated with life improvement, dignity, and achieving autonomy and personal goals (Pinto et al., 2017).

The most often investigated and at the same time the most significant predictors of quality of life are: resilience, being the quality that enables a person to positively adapt to unfavorable conditions (Quiceno, Mateus, Cardenas, Villareal, & Vinaccia, 2013; Yazdi-Ravandi et al., 2013), and

social support (Boyle, 2015; Chung, Moser, Lennie, & Frazier, 2013; Salonen, Rantanen, Kellokumpu-Lehtinen, Huhtala, & Kaunonen, 2014), whose positive influence on quality of life has been found also in a sample of prison inmates (Jacoby & Kozie-Peak, 1997).

Resilience can be viewed as a defense mechanism that enables people to thrive in the face of adversity (Davydow, Stewart, Ritchie, & Chaudieu, 2010; Xu & Ou, 2014). The development of resilience may be an important target for long-term mental health recovery (Davydow et al., 2010; Hourani et al., 2012; R. Williams & Drury, 2009; Zobel & Khansa, 2014). There is evidence suggesting that resilience plays a positive role in improving well-being and promoting psychological growth in adverse circumstances (Fredrickson, 2001; Li, Xu, He, & Wu, 2012; Xu & Ou, 2014). Research results have revealed correlations between resilience and mental health in incarcerated woman (Sygit-Kowalkowska, Szrajda, Weber-Rajek, Porażyński, & Ziółkowski, 2016). Studies have indicated that tolerance of negative emotions is significantly related to life satisfaction in female prisoners; while control and personal competence are significantly related to life satisfaction in normal women (Afra, Bakhshayesh, & Yaghoubi, 2017).

Social support has been found to be a potential mediator for individuals' mental health (Hill, Kaplan, French, & Johnson, 2010; Kendler, Gardner, & Prescott, 2002, 2006; Tang, 2006; Vranceanu, Hobfoll, & Johnson, 2007). In addition, research results revealed social support to be a mediator between resilience and quality of life (Xu & Ou, 2014).

Research results confirm that imprisonment leads to a decrease in inmates' quality of life (Coid, 1993; D. Williams, 2003), mainly due to the deprivation of many important needs— above all, the need for autonomy and freedom and the need for social contact (Dolińska-Zygmunt & Mokrzyńska, 2013; Przybyliński, 2006). Moreover, prisoners are deprived of factors that—as research shows—increase self-

perceived quality of life, such as good material conditions or high economic status (Dolińska-Zygmunt & Mokrzyńska, 2013). The lowered self-perceived quality of life in prison inmates manifests itself, among other symptoms, in increased high anxiety and depression (Chmielewska-Hampel & Wawrzyniak, 2009) and in decreased low emotional intelligence (Dolińska-Zygmunt & Mokrzyńska, 2013). Data collected from 81 Australian male prisoners indicated that prisoners have significantly compromised psychological well-being and that coping style appears to be more salient for prisoner well-being than prison-related variables (Gullone, Jones, & Cummins, 2000). Psychopathological factors explained the major part of the known QoL variance in a sample of Dutch prisoners with mental disorders (Zwemstra, Masthoff, & Trompenaars, 2009).

Material and Methods

The aim of this study was to explore the associations between resilience and QoL as well as the possible mediating effect of social support. We formulated the following general research problems:

Q1: What is the effect of resilience on prisoners' QoL?

Q2: Is social support a mediator between resilience and prisoners' QoL?

Based on the previously found associations between resilience, social support, and QOL, we hypothesized that (1) resilience would have an effect on prisoners' QoL, and that (2) social support would be an important factor for increased QoL, acting as a mediator between resilience and QoL.

In order to test the hypotheses, we conducted a study on a group of 390 men imprisoned in penitentiary institutions, aged 19 to 68 (M = 35.19, SD = 9.65). The study was conducted in April 2014. The largest number of participants had vocational (26.7%) or elementary education (18.5%), and only 7.7% of the sample had higher education. Inmates from big cities (over 150,000 inhabitants) constituted 38.2% of the sample.

The study was conducted in correctional facilities administered by the District Inspectorate of Prison Service in Warsaw (Poland); more specifically, it was carried out in the Warsaw–Grochów, Warsaw–Białołęka, Warsaw–Mokotów, and Warsaw–Służewiec Remand Prisons and in the Warsaw–Białołęka Penitentiary. Although we conducted some of the studies in remand prisons, all participants were individuals serving prison sentences. Due to the overpopulation of Polish penitentiary facilities, some inmates serve their sentences in remand prisons.

We used the following research instruments:

The Sense of Quality of Life Questionnaire (SQLQ) by Straś-Romanowska (2005), measuring global quality of life. We assessed the reliability of the questionnaire by computing its absolute stability (the time interval was three weeks). Correlation coefficients between time 1 and time 2 scores were the highest in the group of young people (.81 for the overall score, compared to .73 in the group of seniors and .65 in the group of adults). The internal consistency of the scales was also assessed as Cronbach's alpha, whose values were as follows: .77 for the Psychophysical QoL scale, .71 for the Psychosocial QoL scale, .72 for the Personal QoL scale, .65 for the Metaphysical Sphere scale, and .70 for the SQLQ as a whole.

The Resilience Assessment Scale (SPP-25) by Ogińska-Bulik and Juczyński (2008), measuring the general level of resilience and its five factors: persistence and determination in action; openness to experience and sense of humor; personal coping skills and tolerance of negative emotions; tolerance of failure and viewing life as a challenge; an optimistic approach to life and the ability to mobilize oneself in difficult situations (Ogińska-Bulik & Juczyński, 2008). Participants respond to each item using a five-point scale. The reliability of the scale (Cronbach's alpha) is .89; its test retest reliability (r = .85) is also acceptable.

The Social Support Scale (SWS) by Kmiecik-Baran (1995), measuring global social support

and its four types: informational, instrumental, appraisal, and emotional.

The Social Support Scale, consisting of 24 items assessed on 5-point scale (1 – *yes*, 2 – *rather yes*, 3 – *sometimes yes, sometimes not*, 4 – *rather not*, 5 – *no*). The questionnaire consists of four subscales measuring various types of social support (informational, instrumental, emotional, and appraisal support). The internal consistency of the subscales was acceptable: .74 for the Informational Support subscale, .79 for the Instrumental Support subscale, .82 for the Emotional

Support subscale, and .70 for the Appraisal Support subscale (Kmiecik-Baran, 1995).

All the above measures are suitable for use with a correctional population.

Results

We began the analysis of empirical data by computing descriptive statistics for each variable: quality of life, social support, and resilience. Table 1 presents the means, standard deviations, and minimum as well as maximum scores for the variables measured.

Table 1 *Descriptive Statistics for Quality of Life, Social Support, and Resilience (N = 390)*

	M	SD	Min.	Max.
global QoL	2.99	0.37	1.55	3.85
psychophysical QoL	3.06	0.49	1.40	4.00
psychosocial QoL	2.84	0.41	1.53	3.87
subjective QoL	3.02	0.42	1.40	4.00
metaphysical QoL	3.03	0.45	1.40	4.00
global social support	84	14.87	31	116
informational support	21.2	4.36	6	30
instrumental support	20.9	4.29	9	30
appraisal support	20.8	4.21	6	30
emotional support	21	4.33	6	28
general level of resilience	68.7	18.67	0	100
perseverance and determination in action	13.9	4.20	0	20
openness to new experiences and sense of humor	13.9	3.96	0	20
personal coping skills and tolerance of negative emotions	13.7	3.96	0	20
tolerance of failure and viewing life as a challenge	13.8	4	0	20
optimistic approach to life and focus in difficult situations	13.3	3.82	0	20

The dimension that prison inmates rated the highest was psychophysical quality of life (*M* = 3.05, *SD* = 0.49), the scores being similar in the case of metaphysical (*M* = 3.04, *SD* = 0.44) and subjective (*M* = 3.02, *SD* = 0.42) quality of life. The dimension they rated the lowest was psychosocial quality of life (*M* = 2.85, *SD* = 0.41). Raw scores were juxtaposed with the norms

specified by the authors of the SQLQ. It should be noted that these norms were set on the basis of research conducted on various groups: adolescents (N = 93), adults (N = 73), and seniors (N = 55) (Frąckowiak, 2004). Juxtaposing raw scores with the norms made it possible to conclude that the mean overall quality of life scores fell within the norm, though the overall quality of life verged on the bottom limit of the norm. Prison inmates pointed to informational support (M = 21.2, SD = 4.36) as the category of support that they experienced to the greatest extent; the one they experienced to the smallest degree was appraisal support (M = 20.8, SD = 4.21), although it should be noted that the differences between informational support and other categories of

support were small. Of the remaining indicators of resilience, the categories with the highest mean scores values were perseverance and determination in action (M = 13.9, SD = 4.20) as well as openness to new experiences and sense of humor (M = 13.9, SD = 3.96); the mean scores values were the lowest in the case of optimistic approach to life and focus in difficult situations (M = 13.3, SD = 3.82).

The correlation and path analysis was used to test the hypotheses and to describe the directed dependencies among the set of variables. Table 2 shows Pearson-s product-moment correlation coefficients between resilience and quality of life.

Table 2 *Pearson's Product-Moment Correlation Coefficients for QoL and Resilience and Social Support*

	QoL				
	global	psychophysical	psychosocial	subjective	metaphysical
Resilience: global score	.585**	.507**	.459**	.523**	.471**
Perseverance and determination in action	.540**	.453**	.409**	.497**	.454**
Openness to new experiences and sense of humor	.534**	.454**	.417**	.468**	.452**
Personal coping skills and tolerance of negative emotions	.580**	.525**	.472**	.517**	.429**
Tolerance of failure and viewing life as a challenge	.564**	.485**	.446**	.496**	.465**
Optimistic approach to life and focus in difficult situations	.520**	.458**	.407**	.472**	.406**
Global social support	.565**	.490**	.520**	.466**	.422**
Informational support	.492**	.411**	.484**	.400**	.359**
Instrumental support	.496**	.441**	.451**	.404**	.366**
Appraisal support	.533**	.428**	.483**	.474**	.410**
Emotional support	.436**	.415**	.381**	.335**	.326**

Note. ** $p < .01$

All resilience variables correlate positively with all QoL variables. These correlations are moderate and significant ($p < .01$). As shown in Table 2, the majority of correlations between QoL and social support are also significant ($p < .01$), positive or moderate. Global social support corelates with global QoL ($r = .565$): the higher the social support, the higher the quality of life. The correlation coefficients between resilience and social support are significant and positive, but their values are weak or moderate (see Table 3).

Table 3 *Pearson's Product-Moment Correlation Coefficients for Resilience and Social Support*

	Social support				
	Global	Informational	Instrumental	Appraisal	Emotional
Resilience: global score	.398**	.299**	.316**	.418**	.346**
Perseverance and determination in action	.365**	.255**	.291**	.382**	.336**
Openness to new experiences and sense of humor	.354**	.260**	.295**	.373**	.299**
Personal coping skills and tolerance of negative emotions	.392**	.311**	.299**	.407**	.340**
Tolerance of failure and viewing life as a challenge	.411**	.321**	.324**	.418**	.360**
Optimistic approach to life and focus in difficult situations	.342**	.252**	.269**	.380**	.285**

Note. ** $p < .01$

We have tested a few models based on the hypothetical model presented in Figure 1. All models were specified in a path analysis using Mplus version 8.2. The first model (Model a) included the direct effect of resilience on prisoners' global quality of life and the indirect effect of resilience on global quality of life through social support (global). Model b included specific social support scores instead of the global social support score.

Further models differed in the dependent variable: psychophysical QoL in Model b, contained psychosocial QoL in Model c, subjective QoL in Model d, and metaphysical QoL in Modele.

The following fit indices were used, based on Hu and Bentler's recommendations: comparative fit index (CFI), Tucker–Lewis index (TLI), root mean square error of approximation (RMSEA), and standardized root mean square residual (SRMR) (Hu & Bentler, 1999). The strength of relationships between the study variables was estimated using standardized path coefficients. In the case of unacceptable values of model fit indices, we started to look for a new model by testing different models with the predictors of quality of life (resilience and social support) as independent variables, with quality of life as a dependent variable, and with different relationships between them. These models were calibrated based on theory and modification indices.

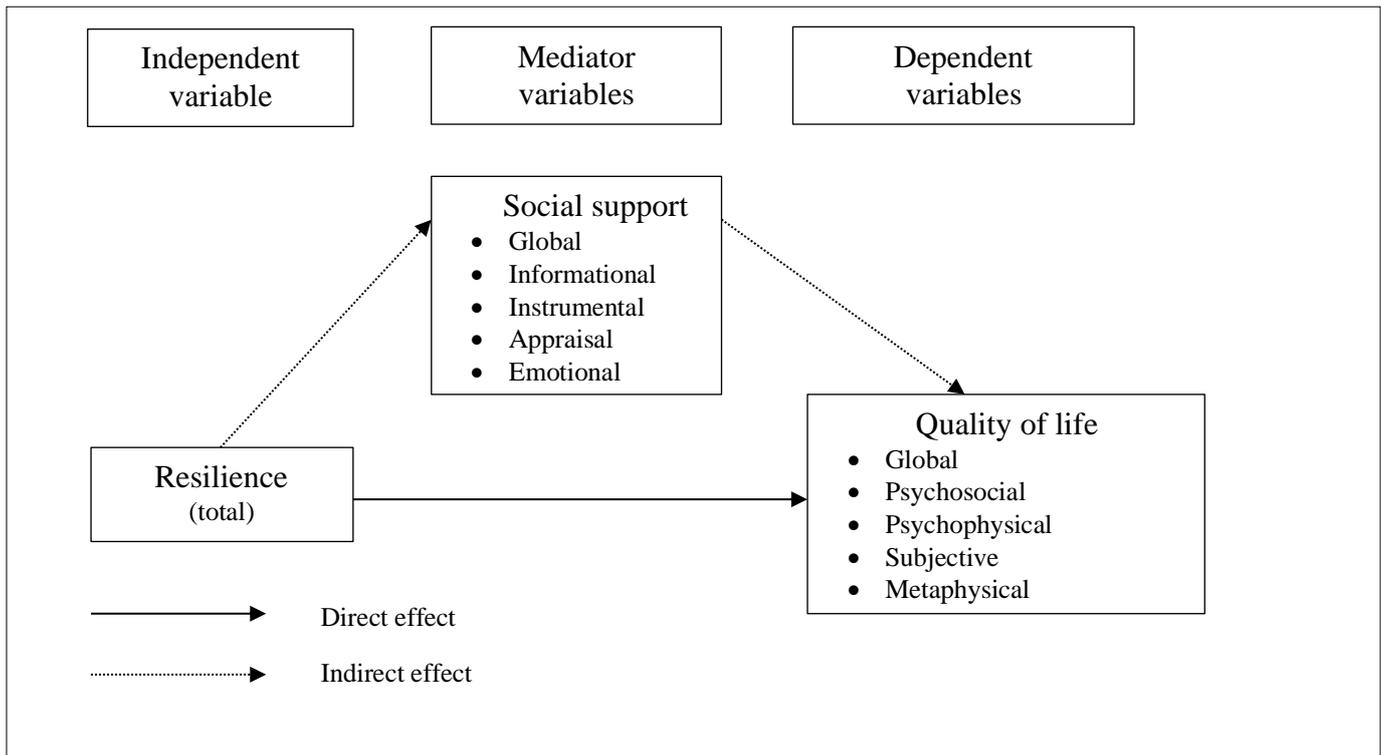Table 4 shows model fit indices for the conceptual models.

Figure 1. Hypothetical model.

Table 4 *Model Fit Indices for the Final Models (N = 390)*

Model#	χ^2 (*df*)	*p*- value	CFI	TLI	RMSEA	SRMR
Model a	317.39 (3)	<.001	.998	.999	.002	.041
Model b	866.05 (10)	<.001	.995	.999	.036	.033
Model c	440.83 (6)	<.001	.966	.945	.043	.054
Model d	489.81 (6)	<.001	.951	.966	.051	.061
Model e	443.37 (6)	<.001	.944	.941	.041	.064
Model f	399.5 (6)	<.001	.966	.977	.049	.066

All the linear models had significant χ^2 tests (*p* < .001 in all cases); however, other fit indices: the normed χ^2 value, CFI, TLI, RMSEA, and SRMR, were acceptable. Significance in the χ^2 statistic, which is generally indicative of a poor-fitting model, is typically tolerated in evaluating the fit of hypothesized models in data sets containing a large number of observations (Hu & Bentler, 1999)

Table 5 *Results for Models Depicting the Relationships Observed Among the Study Variables*

	Estimate	Standard Error	R^2
Model a			
Quality of life (global)			.473***
Resilience	0.428***	0.038	
Social support (global)	0.395***	0.038	
Social support (global)			.159***
Resilience	0.398***	0.043	
Model b			
Quality of life (global)			.484***
Resilience	0.424***	0.038	
Informational support	0.169**	0.054	
Instrumental support	0.135*	0.056	
Appraisal support	0.162**	0.052	
Informational support			.089**
Resilience	0.299***	0.046	
Instrumental support			.100**
Resilience	0.316***	0.046	
Appraisal support			.175***
Resilience	0.418***	0.042	
Model c			
Quality of life (psychosocial)			.362***
Resilience	0.298***	0.043	
Informational support	0.281***	0.051	
Appraisal support	0.184**	0.054	
Appraisal support			.175***
Resilience	0.418***	0.042	
Informational support			.089**
Resilience	0.299***	0.046	
Model d			
Quality of life (psychophysical)			.354***
Resilience	0.397***	0.041	
Informational support	0.137*	0.058	
Instrumental support	0.218***	0.058	
Informational support			.100**
Resilience	0.299***	0.046	
Instrumental support			.089**
Resilience	0.316***	0.046	
Model e			
Quality of life (subjective)			.366***
Resilience	0.387***	0.042	
Informational support	0.147**	0.051	
Appraisal support	0.222***	0.054	
Appraisal support			.175***
Resilience	0.418***	0.042	
Informational support			.089**
Resilience	0.299***	0.046	
Model f			
Quality of life (metaphysical)			.291***
Resilience	0.356***	0.045	
Informational support	0.148**	0.054	
Appraisal support	0.169**	0.057	
Appraisal support			.175***
Resilience	0.418***	0.042	
Informational support			.089**
Resilience	0.299***	0.046	

Note. * $p < .05$; ** $p < .01$; *** $p < .001$

Model a demonstrated that resilience and social support (global) positively impacted the QoL (global) of prisoners (direct effect, β = 0.429 and β = 0.395, respectively), and that resilience impacted QoL through social support (indirect effect, β = 0.157). The model accounts for 47% of the variance in global QoL. Model b depicts the direct effects of resilience (β = 0.429) as well as informational (β = 0.169), instrumental (β = 0.135), and appraisal support (β = 0.162) on QoL. There was also an indirect effect of resilience on QoL through instrumental support, information support and appraisal support (β = 0.043, β = 0.050, and β = 0.068, respectively). The strongest mediator was appraisal support. Model b accounts for 48% of the variance in global QoL. Model c takes account of factors related to psychosocial QoL. The strongest predictors are resilience (β = 0.298) and informational support (β = 0.281). Another significant predictor of psychosocial QoL is appraisal support (β = 0.184). The model accounts for 36% of the variance in psychosocial QoL. The analysis has revealed an indirect effect of resilience through appraisal (β = 0.079) and informational support (β = 0.086). The significant predictors of psychophysical QoL (Model d) are: resilience (β = 0.397), informational support (β = 0.137), and instrumental support (β = 0.218). This model depicts an indirect effect of resilience on psychophysical QoL through informational support (β = 0.016) and instrumental support (β = 0.027). Model d accounts for 35% of the variance in psychophysical QoL, which was the dependent variable in this case. Model e shows a direct effect of resilience (β = 0.387), informational support (β = 0.147), and appraisal support (β = 0.222) on subjective QoL. Resilience also impacts subjective QoL indirectly through informational (β = 0.044) and appraisal support (β = 0.093). This model accounts for about 37% of the variance in subjective QoL. Finally, resilience (β = 0.356), informational support (β = 0.148), and appraisal support (β = 0.169) are predictors of metaphysical QoL (direct effect), but an indirect effect of resilience through appraisal (β = 0.071) and informational support (β = 0.044) has also been found (Model f). The model accounts for almost 30% of the variance in metaphysical QoL.

Discussion

The aim of this study was to explore the associations between resilience and QoL and the possible mediating effect of social support. As a dependent variable we examined global quality of life and its specific dimensions: psychosocial, psychophysical, subjective, and metaphysical. We also examined global social support and its aspects—psychosocial, psychophysical, subjective, and metaphysical—as mediators. The models we constructed are acceptable (see Table 4), and each of the predictors included in them is significant.

Although plenty of research has recently been conducted on the relationships between resilience and QoL in patients with cancer (Temprado Albalat, Garcia Martínez, Ballester Arnal, & Collado-Boira, 2018; Young, 2015) and in different populations (Seungyoun & Knight, 2018; Xu & Ou, 2014), the literature about the relationships between resilience and prisoners' QoL (or similar constructs) is surprisingly poor. The present study confirms that resilience is a strong predictor of prisoners' QoL: global, psychosocial, psychophysical, subjective, and metaphysical. Thus, its results are consistent with the study by Sygit-Kowalkowska et al. (2016), which confirmed that resilience was a predictor of mental health in incarcerated women. The results are also consistent with the findings reported by Afra and colleagues (2017), who indicated that tolerance of negative emotions was significantly related to life satisfaction in female prisoners. The present study reveals that resilience is significant to all aspect of prisoners' quality of life. This association was previously found, for instance, in a sample of university students (Krzowska, 2015). Resilience refers to the processes and mechanisms that promote the individual's positive functioning despite negative conditions, present or past (Luthar & Cicchetti, 2000; Masten, 2007; Masten & Powell, 2003). Prison is undoubtedly an institution in which conditions require resilience.

The present study confirms that, for prison inmates, a significant factor protecting their quality of life (every type of it) is social support (Jacoby & Kozie-Peak, 1997); a particularly important factor is appraisal support, which consists in giving individuals to understand that they have the possibilities and abilities important for a given social group (Kmiecik-Baran, 1995). This is understandable in the context of the functioning of prison inmates, for whom one of the priority challenges is to find their place in the prison hierarchy and to adapt to the norms established by the prison subculture (Chmielewska-Hampel & Wawrzyniak, 2009). In other words, the more a person feels a member of the prison subculture, the more satisfied his or her needs are, such as: the need for belonging, security, and social contact (psychosocial quality of life) as well as the needs connected with the possibility of making choices and pursuing personal goals and interests (subjective quality of life). Generally, a person's subjective evaluation of quality of life increases with the appraisal support received. In this context, relations with the prison staff are of importance—research shows that the more positive and supportive they are, the higher is the prison inmates' quality of life (Beijersbergen, Dirkzwager, Molleman, van der Laan, & Nieuwbeerta, 2015; Newberry, 2010).

The factor significant for all dimensions of quality of life turned out to be informational support, which manifests itself in giving important advice and information helpful in solving problems connected (according to the obtained results) with health, body vitality, and good psychophysical condition.

There is one dimension of social support that is not significant for any of the QoL categories (in presented models): namely, emotional support. For this reason, it was excluded from all models. Although the correlations (Pearson's product-moment correlation coefficients) between this variable and the dimensions of QoL are significant, they are relatively the lowest, compared to those between other social support dimensions and QoL.

So far, the mediator role of social support between resilience and quality of life has been confirmed among patients with breast cancer (Zhang, Zhao, Cao, & Ren, 2017) and earthquake survivors (Xu & Ou, 2014). We have not found research results confirming the mediating role of social support between resilience and quality of life in prisoners. The statistical analysis (path analysis) revealed that most dimensions of social support (all except emotional support) acted as mediators between prisoners' resilience and their QoL.

In order to explain this relationship, it is worth mentioning the conclusion of Bonanno and Diminich (2013), who highlighted the difference between recovery and resilience. In their view, recovery from traumatic events is associated with an increase in the number of psychological problems over a period of time, and the resilience pattern consists in seeking social support, getting on with life, and accepting circumstances with hope (Garcia-Dia, DiNapoli, & Garcia-Ona, 2013; Ho, Ho, & Bonanno, 2010). Therefore, if resilience is closely related to seeking social support, then people scoring high on resilience will also score higher on perceived social support. By contrast, people with low resilience will not seek social support and will therefore score low on this variable.

Paul Corneau, Boozary, and Stergiopoulos (2018) concluded that individuals experiencing homelessness and mental illness linked resilience to receiving support from professionals as well as from family and friends. Based on their own study of the relationships between resilience and perceived stress and social support among the homeless, Durbin et al. (2019) concluded that increased resilience in homeless adults was associated with higher scores on three social support and social functioning measures. However, these authors did not examin QoL as a dependent variable.

Perhaps the explanation for the mediating role of social support between resilience and QoL lies in willingness to look for help and to use it effectively. This, however, is only a hypothesis and

may serve as a starting point for further research. The main limitation of the presented research is the failure to take gender differences into account in the analyses due to the absence of women in the sample.

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