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IMPORTANCE OF REGULAR PHYSICAL ACTIVITY AND PERSONAL RESOURCES FOR ACCEPTANCE OF DISABILITY*

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The aim of the study was to assess the role of regular physical activity (PA) and personal resources (positive orientation, preferred values, motivational function of physical activity objectives) for the acceptance of disability acquired during life. Participants had different types of disability. The study sample consisted of 97 adults with disabilities aged 20 to 82, including 65 women (67%) and 32 men (33%), who engaged in physical activity both professionally and recreationally. The results of the present study provide insight into the determinants of disability acceptance in intellectually normal adults and the role of regular PA in this process. This study highlights the importance of personal resources: positive orientation and preferred values for acceptance, as well as goal setting in sport and its motivational function. Time commitment of regular PA reinforces the positive impact of the personal resources (positive orientation, preference for sacred values) on the acceptance of functional loss.

Keywords: physical activity; acceptance; disability; positive orientation; values; physical activity objectives

Participation in sporting activities can have a variety of benefits for people with physical disabilities, including but not limited to social, health and psychological benefits (Luca et al., 2019). It should be noted that at present we

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still know too little about the role of sport in the lives of people with various dysfunctions, so this phenomenon is worth researching. The aim of the study was to assess the importance of regular PA and personal resources for the acceptance of disability acquired during life.

Acceptance of Disability

Issues related to the functioning of people with disabilities are of interest to researchers. According to information on the results of the 2021 National Population and Housing Census ran by Statistics Poland (Bank Danych Lokalnych GUS, n.d.), the total number of people with disabilities in Poland was 2,036,851 (at working age) and 3,097,570 were of post-working age. In general, disabled people face serious problems in their everyday functioning. Having a disability can be seen as an obstacle to meeting basic needs and performing social tasks normally performed by non-disabled people with similar socio-demographic characteristics (Kowalik, 2007). Until now, the World Health Organisation's (WHO) explanation of the phenomenon of disability has focused on the difficulties these people have in being active or participating, which are due to changes in their physical or mental abilities. The barriers they experience result from the interaction between their personal characteristics and the environment in which they live (Wood, 1989; by Lutte et al., 2024, p. 2). According to the biopsychosocial model, disability is not only considered in terms of the limitations possessed, but also in terms of the interactions between the impaired functions of a person and the environments in which they live, such as social, professional and economic environments. Therefore, disability is a natural human condition (Sozańska & Wilmoska-Pietruszyńska, 2015). The available literature reports and describes many types of disability, including congenital and acquired ones. In our article, we focus on the latter type, which is the result of an illness, an accident or the health condition (Levack et al., 2015). Specifically, the area of inquiry that we focused on concerns adults with acquired disabilities who are within the intellectual norm.

Issues related to acceptance of a life with a disability has long been addressed in psychology. One of the main theoretical approaches is Beatrice Wright's concept of acceptance of loss (1983) (as cited in Byra, 2017, p. 33). She believes acceptance of an impairment is a process of reassessing one's

life and, more specifically, recognizing new values that conflict with the developed disability. She assumes that a successful process of acceptance can happen when a person does not devalue themselves as person because of their disability (Byra, 2017). Adapting to disability is about changing certain values, such as finding meaning in goals, abilities, events, giving way to values other than body building, paying attention to effort and personality, integrating disability with one's self-image, paying attention to one's resources such as beauty, usefulness (Keany & Glueckauf, 1993; as cited in Ogawa et al., 2021, p. 2). As Pinquart et al. (2009; also Szcześniak et al., 2020) show, patients need to reassess their own life expectations, goals and health status in relation to chronic illness and disability.

Acceptance of a disability has positive implications for mental health. Evidence suggests that increased acceptance of a disability may be associated with a reduction in psychological distress and an increase in positive emotional experiences in people with colostomy cancer (Liu et al., 2021). Research among people with motor disabilities shows that acceptance of limitations and experienced depressive feelings are closely related to learned resourcefulness. Coping with their limitations and reducing unpleasant states was supported by better coping skills (Secinti et al., 2017).

The positive impact of acceptance on the functioning of people with disabilities leads researchers to search for its determinants. The issue of acceptance is related to the issue of adaptation to difficult, stressful life events. Resources, including environmental and personal ones, play an important role in the process of adapting to life with irreversible dysfunction and forming life satisfaction (Hobfoll, 2002; Dijkers et al., 2005; Byra, 2015).

Personal Resources

Personal resources are those qualities, skills and competencies necessary for the development and management of the self (Niewiadomska et al., 2022). In this research, we focus on the role of positive orientation and preferred values.

According to Caprara (2009), positive orientation is a genetically determined human disposition. It manifests itself in a positive perception of life, self and the future. It manifests a person's ability to cope with adversity, failure and the prospect of death. A person's value system, on the other hand, is one of the determinants of his choices. It is worth mentioning Max Scheler's

concept of values (1995). He identifies four subgroups of values that form an ideal hierarchy: hedonistic, life, spiritual (including moral, truth and aesthetic values), and sacred values, both religious and secular (Malinowska & Tokarz, 2019). Research on the role of personal resources suggests that they are important for the acceptance of one's disability. For example, Liu et al. (2021) studied colostomy cancer survivors. They investigated another personal resource—locus of control. One of their findings was that patients with a high internal locus of control are aware that their visible disability and mobility limitations are not determinants of their whole life. They are empowered to achieve their own values and life goals and to take action to increase acceptance of their disability (Liu et al., 2021).

Physical Activity

Physical activity plays an important role in our daily functioning. It can take different forms (individual, group), involve different sports, and the activities undertaken can vary in intensity (walking is also a form of PA). An important aspect of analysing PA is regular participation in sport. For people with disabilities, PA can have different functions: recreational, occupational or rehabilitative. The purpose of physical rehabilitation for people with disabilities is to improve the biological, psychological and social dimensions of their lives (Kowalik, 1996). Among people with disabilities, physical well-being is strongly related to the type and severity of the physical disability. However, mental wellbeing does not necessarily have such limitations, as practicing sport for these people can bring them great benefits (Puce et al., 2019). It focuses on increasing and maintaining mobility, developing interpersonal and communication skills (Mędrak et al., 2016; Pawlaczyk, 2017). Studies of people after spinal cord injury provide interesting insights. They show that sporting activities are an important way of spending time. It improves and maintains their physical condition, provides regular contact with other people and improves their quality of life. In addition, it increases self-esteem and accelerates the acceptance of disability (Frydlewicz-Bartman & Rykała, 2009). It also suggests that people with disabilities who do not meet the recommended levels of physical activity have a significantly lower quality of life than people with disabilities who do so (Keramat et al., 2022).

There is evidence that a competitive sporting activity can increase the psychological well-being of people with intellectual or physical disabilities. It is

defined as goal-directed action, and one of the determinants of goals in sport is the motivational function. One of the concepts of goal-directed behaviour in sport focuses on this. Zaleski identified three factors: motivational value, time management, persistence and goal conflict. The first characterizes the degree to which a goal influences the actions a person takes. The next one refers to the level of planning and organizing the time of PA, while the last describes the effectiveness and persistence in carrying out activities, as well as the ability to cope with difficulties (Lipowski & Zaleski, 2015).

The ability to set goals in sport can also be seen as a personal resource of the individual. PA goals are about planning for outcomes and involve the need to achieve a specific outcome. They are characterized by a conscious effort to achieve them and by setting them at a specific time (Behnke et al., 2017). They have a positive relationship with the various elements that determine action, especially the effective performance of sporting activities (Rychta, 2012). According to Zaleski (1991), the classification of goals uses different criteria, such as content, reality, concreteness—generality, finality, idiocentrism—allocentrism and temporal scope. Burton and Raedeke (2008; Rychta, 2012) point out that goal-setting increases self-confidence, improves attentional focus, has a preventive effect on stress, and helps to cope with stress. It also helps people to develop a positive mental attitude, increases intrinsic motivation and improves skills, techniques, strategies and overall performance. Sport, as an intensive experience of different aspects of people's own physicality, allows people to recognize the real possibilities of the damaged organism, thus helping to control and "manage" their own bodies, facilitating its acceptance. Sporting activities promote the initiation and development of self-activity in disabled people (Koper & Tasiemski, 2013). Briki's (2019) research on the development of happiness in people who actively exercise showed that a stable propensity to avoid performing worse than before negatively predicted happiness and dispositional self-control. In addition, a stable tendency to achieve effective performance positively predicted happiness and dispositional self-control. The results described above also suggest that dispositional self-control mediates, to some extent, the effective task goal effect on happiness. This study suggests that a task approach goal (or a self-avoidance goal) may or may not have adaptive effects on self-regulation and happiness.

In addition, sporting activities can help them to accept their limitations and strengthen the qualities they possess that have not been lost (Ryff & Keyes, 1995; Puce et al., 2019). Moreover, among people with disabilities it supports

the rehabilitation process, improves their psychological well-being, supports the reintegration and adaptation process and prepares them to cope with difficulties (Bacanac et al., 2014). Analyses conducted among Hungarian able-bodied and disabled swimmers suggest that physically impaired athletes have higher intrinsic motivation and higher levels of ego-orientation (Szemes et al., 2017). In addition, people with disabilities who do sports enjoy better mental health compared to those who do not (Aktas & Ilhan, 2023).

Associations of Personal Resources With Acceptance of Functional Loss

The literature suggests that there is a correlation between having resources and engaging in PA among people with disabilities. Male respondents with quadriplegia who participate in sport experience lower levels of psychological distress than those who do not participate in sport (Morgulec-Adamowicz et al., 2011). Furthermore, it has been suggested that high levels of positive resources, manifested through optimism, hope and self-efficacy, may be important in gaining resilience after a traumatic experience. The above resources can play an important role in building resilience by enabling proactive coping (Gallagher et al., 2019). Analyses from a study of people with physical disabilities from Korea report that leisure-time PA promotes the development of active coping strategies and increases life satisfaction. These individuals can solve problems and seek social support (Kim et al., 2021). Available research also suggests that people with disabilities become more socially active and productive as time passes since their injury. They also devote more time to sport, which helps them cope better with their disability. Devoting time to sport also increases their level of functionality and motivation (Wu & Williams, 2001; as cited in Marques & Alves, 2021, p. 417).

On the other hand, there is a lack of research that explicitly describes the relationships we analyzed. Therefore, the aim of this study was to describe the importance of regular PA and personal resources for the acceptance of functional loss. In the rest of article, we use term “acceptance” in the sense “acceptance of functional loss”.

METHOD

The main research question we asked was the following: What role does the time commitment of regular PA play in the relationship between preferred values, positive orientation and the motivational function of PA goals and the acceptance in disabled people?

Accordingly, we formulated four hypotheses based on a review of the literature.

H1. The preference for the sacred, for aesthetics, for truth and for moral values correlates positively with acceptance.

Values are the unique components of our personalities and give direction to our thoughts, behaviour and feelings.

They can be thought of as goals, norms and standards of behaviour that are learned through socialization. These values help people develop and feel satisfied. They affect how we cope with stress. The value system is shaped by factors like needs, goals and motivation. These factors influence how people behave in difficult moments. Religion can also help people cope. Krok (2016) describes that moral, aesthetic and truth values are associated with task-oriented coping. Similarly, religious coping, truth, vitality and moral values are associated with positive coping. In contrast, hedonic values are associated with negative coping.

H2. A higher level of positive orientation is linked to higher acceptance.

Hope helps people to achieve goals despite obstacles, especially after a traumatic event. It promotes resilience after trauma with positive expectations. Low levels may act as barriers to recovery (Gallagher et al., 2019). Research suggests that patients with high self-efficacy may be aware that changes in appearance and fitness do not define their lives. They may pursue their goals in different ways and accept disability (Liu et al., 2021).

H3. Time commitment of regular PA increases the positive association of preferred values with acceptance.

PA improves the mental health of people with disabilities. Regular exercise helps men with quadriplegic cerebral palsy to cope better with life (Morgulec-

Adamowicz et al., 2011). Furthermore, PA is crucial for disabled students as it helps them maintain their health and function (Tomporowska et al., 2023). Engaging in PA offers disabled people multiple benefits across the biological, social and psychological dimensions. Being active gives people new experiences, rebuilds self-esteem and helps them live independently. Sport, both competitive and non-competitive, develops self-control, personality and self-esteem (Tarkowski, 2023).

H4. Time commitment of regular PA increases the positive association of positive orientation with acceptance.

There is evidence that those who participate in sport have a more positive self-image. Those mobility-impaired respondents who use a wheelchair and do fencing and basketball manifest higher self-esteem, especially in relation to body functions. Physical performance, strength and sexuality are also rated highly. They are more body confident and show greater self-acceptance (Guszowska, 2010). The literature shows that PA promotes positive self-esteem (Niedbalski, 2014). Some studies show that disabled athletes have higher self-esteem as they consider themselves elite among disabled people thanks to their achievements and abilities. Sport helps people escape dead-end situations, set goals, build strength and believe in themselves (Niedbalski, 2016). Sims (2019) found that high levels of PA lead to higher optimism, which may also be positively associated with positive orientation.

No hypotheses were made regarding the relationship between the motivational function of PA goals and acceptance of functional loss. The inclusion of this variable in the analyses was exploratory. The literature suggests that setting PA goals is important for the implementation and duration of PA, so it seems interesting to include this variable in the model; however, its relationship with acceptance of functional loss in the study group is not known.

Participants

People with different types of disability were recruited to take part in the study. The selection of the group was purposive and the inclusion criteria for the study were: having a disability certificate, having a normal intellectual level and being an adult (research measures are designated for adults). Those criteria were selected to make sure that respondents are able to understand

meaning of position and participate in this kind of study. It would not be possible with people with an intellectual disability. A total of 109 participants were admitted. All questionnaires were checked for any missing data and compliance with the inclusion criteria. Twelve questionnaires were excluded because of the respondents' congenital disabilities. The study sample consisted of 97 individuals aged between 20 and 82 years (M = 40.39, SD = 13.99); 65 were women (67%) and 32 were men (33%). The detailed characteristics of the group in terms of socio-demographic variables are shown in Table 1.

Table 1
Descriptive Statistics for Sociodemographic Variables

Variable		*f*	%
Gender	Male	32	33.0
	Female	65	67.0
Location	Village	14	14.4
	Town < 20,000	11	11.3
	City 20,000–100,000	33	34.0
	City > 100,000	39	40.2
Education	Primary	3	3.1
	Vocational	10	10.3
	Secondary	47	48.5
	Higher	35	36.1
Marital status	Single	34	35.1
	In relationship	48	49.5
	Divorced	11	11.3
	Widowed	4	4.1
Vocational activity	Study	4	4.1
	Study and work	6	6.2
	Work	53	54.6
	Unemployed	2	2.1
	Retired	30	30.9
Degree of disability	Light	19	19.6
	Moderate	37	38.1
	Significant	41	42.3
Type of disability	03L: disorders of speech, voice and hearing	1	1.0
	04O: eye diseases	15	15.5

	05R: musculoskeletal impairment	68	70.1
	07S: respiratory and cardiovascular diseases	1	1.0
	10N: neurological diseases	6	6.2
	11I: other	6	6.2
Regular physical activity	No	22	22.7
	Yes	75	77.3
Professional sport	No	45	46.4
	Yes	52	53.6
Recreational sport	No	36	37.1
	Yes	54	55.7
		M	*SD*
Duration/time of regular PA		12.55	12.01
BMI		24.67	3.54
Age		40.39	13.99

Note. f = frequency, % = percentage, *M* = mean, *SD* = standard deviation.

Measures

The research was conducted using a series of questionnaire methods. In order to characterize the group, the questionnaire began with a series of questions on demographic data (sex, age, place of residence, education, marital status, presence of children, professional activity, assessment of material situation), basic information on the disability (type, duration), questions on PA: membership of a club or sports organization, regularity of training, number of competitions in which the respondent has participated, participation in training.

Inventory of Physical Activity Objectives (IPAO)

The IPAO (Lipowski & Zaleski, 2015) measures the motivational function of PA goals, defined as engaging in PA or sports requiring physical exertion during leisure time. It consists of several parts, including questions about the types and frequency of PA undertaken, a list of 12 goals rated for importance on a Likert scale, and a questionnaire part (18 items) measuring the motivational function of the goals. The instrument allows for four subscale scores ($\alpha = .78$): motivational value, time management, persistence in action, and

motivational conflict. The time organization subscale score was excluded from the analyses due to the low reliability obtained in this study.

Scheler's Values Scale

Scheler's Values Scale is a Polish research tool dedicated to measure preference of values (Brzozowski, 1995). It contains a list of fifty values that form six basic scales (values: Hedonistic-HV, Vital-VV, Truth-TV, Aesthetic-AV, Sacred-SV, Moral-MV). Respondents determine the importance of values by rating them on a scale of 0–100, where 0 means the value is not important (completely indifferent), and 100 means it is very important. The raw scores can be converted into Sten norms (for men and women), which provide information about how highly a particular set of values is valued. All subscales are highly reliable.

Positive Orientation Scale

This scale (Caprara et al., 2009), adapted for Polish by Łaguna et al. (2011), is used to measure positive orientation. It consists of eight statements to which the subject responds on a 5-point scale, with possible scores ranging from 8 to 40. The higher the score, the higher the level of positive orientation of the respondent. The method has developed standards, satisfactory validity and reliability.

Multidimensional Acceptance of Functional Loss Scale

This scale (Byra, 2017) is used to measure the level of acceptance of functional loss. It consists of 42 statements that make up four subscales: reducing the importance of physical characteristics relative to other values, broadening the range of values, reformulating relative values into fixed values, and reducing the impact of disability. The subscale scores are obtained by summing all the test items included in the subscale. The respondent answers each item on a 4-point scale. The higher the score, the greater the acceptance of the disability. The instrument has satisfactory psychometric properties.

Procedure

The research was carried out in cooperation with centres for people with disabilities who do sports, in cooperation with community and support groups for people with disabilities on online portals. Each person who decided to take part in the research was given a paper questionnaire. Each time, the subjects were made aware of the instructions and how to complete the questionnaires; they were informed about the purpose of the study, the principle of confidentiality, voluntariness and the option to withdraw from the study. All measures were taken to ensure complete anonymity of the respondents.

Data Analyses

The results of the survey instruments were analyzed quantitatively, statistical analyses were carried out using IBM SPSS Statistics version 29. First, we checked the assumptions for the parametric analyses. The first step was to determine what the acceptance of functional loss was in the study group and how it varied as a function of the subjects' engagement in PA. Descriptive statistics (mean, standard deviation) and tests of significance of differences (*t*-test for dependent samples, Wilcoxon *z*-test) were used for this purpose. The analysis of the empirical data was based on the analysis of the relationship between the analysed variables (preference of values and variables connected with motivational function of PA) and the acceptance of functional loss. Pearson's *r* correlation coefficients were used to test the value and statistical significance of these relationships. A multiple regression analysis was also carried out to find the variables that best predicted the acceptance. The sample size was not sufficient to test all the predictors in one model, therefore we analysed the set of predictors with general acceptance as the explanatory variable. The stepwise method of regression analysis was used. The next step in the data analysis was to test the moderation hypothesis using Andrew Hayes' PROCESS macro (version 4.2).

RESULTS

The significance analysis of the mean differences between the values preferred by the respondents (the *t*-test analysis for dependent samples) showed that they prefer hedonistic values ($M = 6.31$, $SD = 1.85$), vital values ($M = 5.95$,

SD = 1.80) and moral values (*M* = 6.19, *SD* = 1.50) significantly more than truth values (*M* = 5.41, *SD* = 1.82), aesthetic values (*M* = 5.14, *SD* = 1.87) and sacred values (*M* = 4.73, *SD* = 2.02). Differences between pairs of variables: HV and AV, HV and SV, MV and SV, have a medium level of effect size (*d* = .64 to .67). The effect size is small (*d* = .22 to .49) for pairs of variables: HV and TV, VV and AT, VV and TV, VV and SV, AV and MV, TV and MV, TV and SV (Table 2).

Results of acceptance scales were statistically significant and differentiated ($p < .001$). Transformation from comparative to asset values ranked the highest, containment of disability effects had a statistically significantly lower score, next came subordination of physique, and enlargement of scope of values ranked the lowest. The size effect is large for differentiation between AC-II and AC-III (*d* = 1.04), medium effect for difference between AC-I and AC-III (*d* = .55) and the rest differences have small effects (*d* = .26 to .44).

The correlation analysis showed that preference for all of types of values except aesthetic values ($p = .051$) are positively correlated with general acceptance. The strength of correlations was moderate for Pearson coefficients between general acceptance with hedonistic values (*r* = .34), moral values (*r* = .38) and sacred values (*r* = .38). And the rest of statistically significant correlations was weak (*r* = .24 and .29). The higher level of positive orientation, the higher the general acceptance and this relationship is very strong (*r* = .78). The scales of motivational function of PA also have a positive relationship with the general acceptance. The correlation between motivational value and the general acceptance is strong (*r* = .64). And the other Pearson's *r* coefficients suggest moderate strength of correlations (from .39 to .50). Details are presented in Table 3.

Table 2

The t*-Test for Dependent Samples Outcomes of Significance of Differences Between Study Variables*

Physical Activity Objective scales						
Pairs of compared variables		*M*	*SD*	*t*-test	*p*	*d*
1	HV	6.31	1.85	1.72	.089	–
	VV	5.95	1.80			
2	HV	6.31	1.85	6.47	<.001	.66
	AV	5.14	1.87			
3	HV	6.31	1.85	4.78	<.001	.49
	TV	5.41	1.82			
4	HV	6.31	1.85	.58	.561	–
	MV	6.19	1.65			
5	HV	6.31	1.85	6.23	<.001	.64
	SV	4.73	2.02			
6	VV	5.95	1.80	4.14	<.001	.43
	AV	5.14	1.87			
7	VV	5.95	1.80	2.78	.007	.29
	TV	5.41	1.82			
8	VV	5.95	1.80	−1.09	.280	–
	MV	6.19	1.65			
9	VV	5.95	1.80	4.77	<.001	.49
	SV	4.73	2.02			
10	AV	5.14	1.87	−1.07	.289	–
	TV	5.41	1.82			
11	AV	5.14	1.87	−4.76	<.001	.49
	MV	6.19	1.65			
12	AV	5.14	1.87	1.43	.158	–
	SV	4.73	2.02			
13	TV	5.41	1.82	−4.61	<.001	.47
	MV	6.19	1.65			
14	TV	5.41	1.82	2.09	.040	.22
	SV	4.73	2.02			
15	MV	6.19	1.65	6.54	<.001	.67
	SV	4.73	2.02			

Types of preferred values						
		M	*SD*	*t*-test	*p*	*d*
1	MotV	4.42	1.76	7.97	<.001	.84
	TimeM	3.23	1.72			
2	MotC	6.08	2.08	−7.01	<.001	.74
	MulO	5.32	2.27			
3	MulO	5.32	2.27	−5.14	<.001	.54
	MotV	4.42	1.76			
4	MotV	4.42	1.76	−10.14	<.001	1.32
	MotC	6.08	2.08			
5	MotC	6.08	2.08	−9.78	<.001	1.28
	TimeM	3.23	1.72			
6	TimeM	3.23	1.72	3.03	.003	.32
	TimeM	3.23	1.72			
Acceptance of functional loss						
		M	*SD*	*t*-test	*p*	*d*
1	AC-I	3.05	.45	2.48	.015	.26
	AC-II	2.94	.57			
2	AC-I	3.05	.45	−5.35	<.001	.55
	AC-III	3.27	.54			
3	AC-I	3.05	.45	−2.59	.011	.26
	AC-IV	3.13	.46			
4	AC-II	2.94	.57	−10.11	<.001	1.04
	AC-III	3.27	.54			
5	AC-II	2.94	.57	−4.26	<.001	.44
	AC-IV	3.13	.46			
6	AC-III	3.27	.54	4.08	<.001	.42
	AC-IV	3.13	.46			

Note. HV = hedonistic values, VV = vital values, AV = aesthetic values, TV = truth values, MV = moral values, SV = sacred values, PO = positive orientation, MotV = motivational value, TimeM = time management, MotC = motivational conflict, MulO = multidimensionality of the objective, AC-G = general acceptance of functional loss, AC-I = subordination of physique, AC-II = enlargement of scope of values, AC-III = transformation from comparative to asset values, AC-IV = containment of disability effects.

Table 3

Descriptive Statistics and Pearsons Correlation Coefficients Between Study Variables

	Variable	*M*	*SD*	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Values	1. HV	6.31	1.85	–															
	2. VV	5.95	1.80	.405**	–														
	3. AV	5.14	1.87	.520**	.487**	–													
	4. TV	5.41	1.82	.461**	.374**	.330**	–												
	5. MV	6.19	1.65	.299**	.263*	.297**	.533**	–											
	6. SV	4.73	2.02	.257**	.228*	.281**	.013	.382**	–										
	7. PO	30.18	5.25	.404**	.232*	.327**	.413**	.375**	.349**	–									
PA Objectives	8. MotV	4.42	1.76	.347**	.307**	.243*	.196	.282**	.303**	.610**	–								
	9. TimeM	3.23	1.72	.135	.301**	.297**	,074	.136	.256*	.374**	.666**	–							
	10. MotC	6.08	2.08	.427**	.125	.165	.123	.127	.268*	.451**	.319**	.017	–						
	11. MulO	5.32	2.27	.413**	.262*	.334**	.132	.235*	.265*	.475**	.681**	.506**	.400**	–					
Acceptance	12. AC-G	130.16	19.11	.340**	.241*	.204	.294**	.376**	.378**	.780**	.640**	.389**	.431**	.499**	–				
	13. AC-I	3.05	.45	.279**	.232*	.152	.229*	.351**	.429**	.697**	.622**	.420**	.358**	.412**	.856**	–			
	14. AC-II	2.94	.57	.326**	.251*	.199	.262*	.310**	.292**	.676**	.443**	.288**	.355**	.423**	.889**	.655**	–		
	15. AC-III	3.27	.54	.328**	.225*	.223*	.325**	.345**	.287**	.724**	.643**	.329**	.397**	.465**	.934**	.691**	.826**	–	
	16. AC-IV	3.13	.46	.284**	.176	.117	.215*	.351**	.313**	.659**	.606**	.356**	.433**	.473**	.888**	.764**	.651**	.779**	–

Note. HV = hedonistic values, VV = vital values, AV = aesthetic values, TV = truth values, MV = moral values, SV = sacred values, PO = positive orientation, MotV = motivational value, TimeM = time management, MotC = motivational conflict, MulO = multidimensionality of the objective, AC-G = general acceptance of functional loss, AC-I = subordination of physique, AC-II = enlargement of scope of values = AC-III = transformation from comparative to asset values, AC-IV = containment of disability effects.

* $p < 0.05$, ** $p < 0.01$ (two-tailed).

A stepwise regression analysis was conducted to select the most significant predictors of explained variable—general acceptance. Firstly, as predictors were included scales of motivational function of PA: motivational value, time management, motivational conflict and multidimensionality of the objective. It was aimed to check what features of physical activity objectives are the most important in prediction of acceptance of functional loss.

In the first step, the stepwise method identified motivational value as the most significant predictor. The regression model was statistically significant and explained 29% the variance in the general acceptance (Table 4).

In the second step, motivational conflict was included as an additional predictor. The updated regression model was also statistically significant and explained 33% of the variance of the general acceptance (Table 4). Time management and multidimensionality of the objective were not involved in the final models, which suggests they did not significantly contribute to the prediction of the general acceptance in the presence of motivational value of the objective and motivational conflict of realization and engaging in PA objective in the presence of other objectives.

Table 4

Predictors (Motivational Function of PA Objectives) of General Acceptance

		Acceptance		
		β	*t*	*p*
Model 1	MotV	.55	5.37	<.001
	$R_{adj}^2 = .290$, $F(1, 67) = 28.84$, $p < .001$			
Model 2	MotV	.50	4.94	<.001
	MotC	.23	2.30	.025
	$R_{adj}^2 = .333$, $F(2, 66) = 17.98$, $p < .001$			

Note. Predictors: MotV = Motivational Value, TimeM = Time Management, MotC = Motivational Conflict, MulO = Multidimensionality of the Objective. The explained variable: AC-G = general acceptance of functional loss.

The second regression analysis included six scales of preference of values: hedonistic values, vital values, aesthetic values, truth values, moral values, sacred values. The stepwise regression analysis identified two statistically significant models.

The first model includes sacred values. It explains 14% of the variance in general acceptance (Table 5).

The variable "truth values" was added in the second model. It caused increasing the explained variance of general acceptance of disability to 23%. Other preferred values—hedonistic, vital, aesthetic, moral—were not statistically significant in this regression model (p >.05). It suggests that sacred values and truth values are the most important predictors explaining the variance of the general acceptance of disability in testing variable arrangement (Table 5).

Table 5

Predictors (Preferred Values) of General Acceptance

		Acceptance		
		β	*t*	*p*
Model 1	SV	0.39	3.94	<.001
$R_{adj}^2 = .140$, $F(1, 88) = 15.52$, $p < .001$				
Model 2	SV	.39	4.19	<.001
	TV	.31	3.30	.001
$R_{adj}^2 = .229$, $F(2, 87) = 14.19$, $p < .001$				

Note. Predictors: HV = Hedonistic Values, VV = Vital Values, AV = Aesthetic Values, TV = Truth Values, MV = Moral Values, SV = Sacred Values. The explained variable: AC-G = general acceptance of functional loss.

The next step in the statistical analyses was to verify the hypothesis of the role of time commitment of regular PA as a moderator of the relationship between the predictors and general acceptance. Nine moderation models were tested for associations of statistically significant correlation coefficients. The results of the two moderating models that were statistically significant are presented below. Other moderation models are not statistically significant. It means that the time commitment to regular PA does not change the strength or direction of relationship between predictors (time of regular physical activity, hedonistic values, vital values, truth values, moral values, motivational value, time management, motivational conflict, multidimensionality of the objective) and the general acceptance (Table 1S in the supplementary material).

The regression model with positive orientation as a predictor of the general acceptance was statistically significant $F(3, 68) = 26.55$; $p \leq .001$. The model explains 54% of variance in the general acceptance. The moderation model was statistically significant $F(1, 68) = 4.30$, $p = .041$, coefficient $B = .05$ (.002, .107). This effect is statistically significant of each level of moderator

and the higher level of moderator, the stronger effect on relationship between variables ($\Delta R^2 = .0291$).

The second statistically significant moderation model refers to relationship between sacred values and the general acceptance. The regression model was statistically significant $F(3, 85) = 7.51$; $p < .001$. The model explains 21% of variance in the general acceptance. The moderation model with time commitment of regular PA as moderator was statistically significant $F(1, 85) = 5.19$, $p = .025$; coefficient $B = .23$ (.03, .44). This effect is statistically significant of medium and high level of moderator, and it cause the stronger effect on relationship between variables ($\Delta R^2 = .0483$).

DISCUSSION

The aim of the present study was to examine whether the time commitment of regular PA moderates the relationship between personal resources (positive orientation, value preference, motivational function of PA) and general acceptance in the group of disabled people. The study included people with different types of acquired disability, who were intellectually normal, with different levels of engagement in PA. It was hypothesized that the personal resources would be positively correlated with acceptance, and that the time commitment of regular PA would statistically significantly moderate these relationships.

The first hypothesis was partially supported. Only aesthetic values were not statistically significantly correlated with acceptance, although the result remains at the trend level ($p = 0.051$). These correlations are justified by Wright's (1986) concept of acceptance. According to her, the whole process of accepting involves reflecting on previously held values and confronting the need to change values. Undoubtedly, the value system plays a key role in this process. This confirms the findings of Krok's (2016) study in another group of people with chronic diseases, where significant relationships were found between preference for specific value groups and coping strategies. An interesting finding is that in this group of respondents, sacred values were the most important for disability acceptance.

The test of the second hypothesis confirmed the assumption that higher levels of positive orientation are significantly associated with acceptance. This finding is supported by the literature. Positive expectations, optimism

and other positive attributes promote positive adaptation to difficult life situations and recovery from experiencing traumatic events (Gallagher et al., 2019). Participation in sport promotes a positive self-image, evaluation of one's own body and attractiveness, which consequently leads to self-acceptance of one's limitations (Guszkowska, 2010). Similarly, in other studies, competitive athletes had higher self-esteem than similar physically inactive individuals (Niedbalski, 2016). High levels of PA are also associated with higher levels of optimism (Sims, 2019).

The third hypothesis was partially confirmed. The time commitment of regular PA increases the relationship between sacred values and acceptance, which is the most intriguing result. In the context of Wright's (1983; as cited in Byra, 2017, p. 33) concept of acceptance, in which the value system and its reformulation in the adaptation process is a central concept, the relationship between the variables is confirmed. An explanation why precisely the relationship between preference for sacred values and acceptance is moderated by the time commitment of regular PA can be found in Krok's (2016) study on coping with the illness. It is possible that for these individuals, regular PA serves functions other than those directly related to improving athletic performance, and may also have a recreational, rehabilitative, or activating function in the context of participation in the life of some communities. People who prefer vital, hedonistic or fitness-related values may find it more difficult to accept their disability when confronted with their limitations, which may be the case in PA.

The last hypothesis was confirmed in the study. The relationship between positive attitudes and acceptance is stronger when individuals engage in regular PA, and the effect is greater the longer they engage in PA. This finding corroborates other studies conducted among people with disabilities who do sports professionally. These have not looked directly at positive orientation, but at its components, i.e. optimism and self-esteem. Fencers and wheelchair basketball players had higher self-esteem and self-acceptance (Guszkowska, 2010). In contrast, other studies comparing people with disabilities who participate in competitive sport with those who are not physically active also show that regular sport participation is associated with higher self-esteem (Niedbalski, 2016) and optimism (Sims, 2019). This finding suggests that positive attitudes towards self, future and others may be even more important for the acceptance and, consequently, for greater life satisfaction in people with disabilities who engage in regular PA, and this increases with the length of time spent in sport. It is possible that the longer people experience the positive

effects of PA, the more their self-esteem increases, which in turn leads to a greater acceptance of their limitations.

This study has several limitations. The people surveyed were very diverse in terms of the type of their disability and age. The research was preliminary and thus not limited to one type of disability, although this seems to be a factor that should be considered in future research. The group of people with disabilities is very heterogeneous, even within the type of disability, so it is worth doing a comparative study to check that this is not a factor in the variability of the results. The study did not include a health assessment and an objective assessment of the ability to participate in PA, which may have been a reason for some respondents not to participate.

In future research, it would be worthwhile considering the diversity of the group of people with disabilities and carrying out a separate study dedicated to one type of disability; also, the recruitment process might take into account respondents of different disabilities to ensure adequate representation of the different sub-groups. In the context of our results in this research, it seems important to explore further the function of PA in this group and the relationship between a chosen activity as well as the respondents' religiosity and, spirituality. In future studies, it would also be useful to examine other indicators of positive adjustment to disability other than acceptance, and to consider whether acceptance in this process results from the interaction of different individual conditions or coping strategies adopted, or whether or not it is an element occurring earlier in the process, being the starting point for engaging in PA already as a person with a disability, with the limitations they have.

CONCLUSIONS

The results of the present study shed some light on the determinants of disability acceptance in intellectually normal adults and the role of regular PA in that. The results highlight the importance of personal resources: positive orientation and preferred values for acceptance, as well as goalsetting in sport and its motivational function. Our results provide interesting information for professionals who support people who, for various reasons, are affected by a disability, especially in terms of helping them to adapt to their new situation and living conditions. They also show how important it is to encourage people to engage in regular PA according to their abilities and state of health, while the role of professionals is to broaden their awareness that there are different

forms and ways of organizing sport activities adapted to the needs of a particular person.

The following conclusions can be drawn from the study:

1. The level of positive orientation is important for acceptance in people with different types of disability.

2. The preference for hedonistic, vital, truthful, sacred and moral values is conducive to acceptance in people with different types of disability.

3. Goal setting in PA is positively associated with disability acceptance. It is linked to the following:

– motivational value: the subjective likelihood of achieving the goal;

– time management: the persistence in working towards a goal;

– motivational conflict: the ability to overcome obstacles to a sporting goal;

– multidimensionality of the objective: the many goals a person sets for themselves when engaging in PA.

4. Regular PA reinforces the positive impact of the resources studied (positive orientation, preference for sacred values) on the acceptance.

5. Professional support programmes for adaptation to sudden impairment in people with different disabilities can be based on their personal resources, such as their preferred value system; such programmes should activate their positive thinking about themselves, others and their future.

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MONIKA KRUPA-NOWOSAD (60%): conceptualization, methodology, software, validation, formal analysis, resources, writing (original draft, review and editing), supervision.

MILENA RÓŻYŁO (40%): conceptualization, methodology, software, resources, writing (original draft, review and editing), supervision.

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