

Locus of control in girls with anorexia readiness syndrome

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Summary

Purpose. The aim of the research was to indicate whether there are differences between locus of control (LOC) in girls with anorexia readiness syndrome (ARS) and without this syndrome. There was also a question about the relationship between LOC and the tendency to respond in incorrect attitudes towards food, eating and their bodies under stress.

Method. The sample consisted of girls aged 13-18 years randomly selected from five public Polish middle and high schools. Tools: 1) *Eating Attitudes Questionnaire (EAQ)* by B. Ziółkowska; 2) *Locus of Control Questionnaire (LOCQ)* by G. Krasowicz, A. Kurzyp-Wojnarska, to assess LOC of the subjects. The criterion group (N=23) was formed by girls who received high score in EAQ (signs of ARS) in the first stage of research (N=189). The control group (N=23) were girls who received a low score in EAQ (no signs of ARS).

Results. Subjects with ARS were characterized by more external LOC than girls without any signs of this syndrome ($t = -2.898$; $p < 0.01$). The results did not confirm the hypothesis about the relationship between LOC and the tendency to respond by abnormal attitude to eating and own body in difficult situations in both groups.

Conclusions. In pathogenesis of ARS where anorexic behaviors can become a way to a regain lost control, LOC may play a role as a mediating variable rather than a direct determinant of this syndrome.

Key words: locus of control, anorexia, anorexic readiness

Introduction

Alarming phenomenon of growing numbers of people suffering from anorexia (especially among children and teenagers), lowering of the age of patients, complicated process of treatment and high death rate of illness shows the need for early diagnosis and prevention regarding the high risk groups endangered by possible appearance of anorexia. Such group has been indicated and characterized by B. Ziółkowska [1], who confirms in her study the existence of Subjective Global Assessment (SGA) among maturing girls. The author especially highlights the syndrome as a pathological method of dealing with stress. The study is a response to postulate of B. Ziółkowskiej [1] concerning the necessity of further analysis of determinant that favours SGA. It consists of locus of control analysis among girls displaying the syndrome since the change. From one side, it is an essential determinant in process of approaching difficult situations, and from the other side – intermediates in SGA statement.

Subjective Global Assessment is a group of abnormality indicators in sphere of attitude towards food and own body, hence a premorbid stage of a fully developed anorexia. The syndrome is recognized as a separate and independent unit, characterized by indefinable set of symptoms as well as specific conditioning. SGA is not enclosed in DSM-IV TR [2] classification or ICD-10 [3] clinical research unit, therefore do not have diagnostic parameters necessary for its identification. It reveals itself by anorexic behavior, which concern specific attitude or tendency towards food or own body. The symptoms are less intensive than in anorexia, appearing periodically and in benevolent form.

Anorexia as well as SGA can be considered as a result of losing control over own life. The sense of control is treated as a unspecific factor of SGA progress.

The concept of sense of control (*locus of control* – LOC) have its basic in theory of society learning by J.B. Rottera [4]. It is relatively constant human characteristic that poses generalized expectation as occurrence of specific potentiating in response to its action. Inner-directed people believe that the effect of their actions depends on them, while outer-directed people believe, it's determined by outside factors (luck, fate). LOC is mainly preconditioned by parental attitude and independence practice. It is an important moderator of approaching stress. Generally, inner-directed people use more constructive methods of approaching stress than outer-directed LOC [5, 6]. Problematic aspects of locus of control play role in genesis and pathomechanism of anorexia and SGA. Girls who display this disorder, are growing up in environment of great pressure on fulfilling family and society's standards, with little support to their own actions. A feeling of losing control over their own lives appears before them (understood as outer LOC), as well as vulnerability to cultural influence. Anorexia is treated as an attempt on retrieving lost control, or disturbed self-control – narrowed down to sphere of dieting, unadjusted to requirement and preset on incorrect, short-term

purpose [7]. It can be suspected that SGA comprises of answer to less intensive than in anorexia sense of lost control, which increases result of arising in difficult situation and reduced by progress of anorexic behaviors [8-10].

Materials and the method

The aim and explanation based on own research. The anorexia issues' analysis, which surveillance began one hundred years ago, is based on study of medicine and society examination. This analysis has given a wide description of the syndrome. Nowadays, in scientific community, polietyology is recognised to have its grounds in dieting disorder (11, 12). Anorexia readiness syndrome is, however, a new and feebly known disorder. On grounds of study literature reviews, a test was undertaken to try and answer a question, if differences in localization of locus of control appears between a group of girls that has showed symptoms of SGA and a group of girls who do not manifest characteristics of the syndrome. Also, a question was asked about a relationship between tendency to abnormal reactions and attitude to food and own body in stressful situations, as well as subjective localization of locus of control.

Issues and research hypothesis

In research following issues were laid down:

1. Has a localization of locus of control differ between criterion group and control group?
2. Has a dependency exist between a tendency to improper reactions towards food and own body in stressful environment and a locus of control?

Two hypothesis are attempting to answer such formulated questions and their accuracy was rated on empirical analysis of problem:

H1. A localization of locus of control differ between criterion group and control group.

H2. A dependency does exist between a tendency to improper reactions towards food and own body in stressful environment and a locus of control.

Variables. Main independent variable is a syndrome of anorexic readiness, which can be described as a tendency to incorrect reaction towards food and own body in stressful situations. An indicator of this variable is the result mentioned in *Eating Attitudes Questionnaire (EAQ)* B. Ziółkowskiej [1]. The variable has two levels [13] – SGA occurrence is indicated by high results while when the syndrome do not occur, the results are low. Those levels can also be interpreted as a high and low tendency for incorrect attitude towards food and own body in stressful situations.

Dependent variable is a locus of control. This variable takes three levels: 1) inner LOC, 2) determined LOC and 3) outer LOC.

Research tools. In research two methods were used to measure higher-mentioned variables: 1) *Eating Attitudes Questionnaire (EAQ)* B. Ziółkowskiej [1]; 2) *Locus of Control Questionnaire (LOCQ)* G. Krasowicz, A. Kurzyp-Wojnarskiej [4]

1) *Eating Attitudes Questionnaire (EAQ)* B. Ziółkowskiej [1]. This diagnostic method was created for screening purpose and helps in selecting young women displaying incorrect attitude towards food and own body. High results in questionnaire indicate of SGA occurrence, where low meant the lack of the syndrome.

2) *Locus of Control Questionnaire (LOCQ)* G. Krasowicz, A. Kurzyp-Wojnarskiej [4]. This method measures generalized locus of control. An generalized result indicates an outer LOC, moderate result – determined LOC, and high result has meant inner LOC.

Characteristic of examined people

The examined people are student girls selected from five public Polish middle and high schools.. The girls are aged between 13-18 years old, thus form groups responsible for incorrect attitude towards food and own body. A criterion group (23 members) was formed of girls that in I stage of research achieved a high result in *Eating Attitudes Questionnaire (EAQ)* B. Ziółkowskiej [1], therefore they exhibit SGA. To control group (23 members) has qualified girls who had low results, hence did not display anorexia readiness' symptoms.

The criterion and control group are closely related in terms of number of girls in each age group, which result from an assortment of the people examined in these groups. Pair assortment was applied according to schools and girls were grouped according to attendance to middle and high school. In both groups high school students are dominating (69,6%).

Course and organisation of research

The research was two-staged. I stage composed of screening research with aim to select people for criterion and control groups by choosing girls who in this stage of research obtained low and high results. A used method was *EAQ* B. Ziółkowskiej [1]. The questionnaire do not show statistic norms, hence decision to make a division between low, moderate and high results. An average was reckoned ($M=8,25$) and standard deviation ($SD=3,51$) for raw results of I stage has been obtained in a group of 189 girls. A next step was distinguishing obtained in research results in form of standard inclination from average and presuppose the low results fit into interval below first standard inclination (0-4 pkt), where high results enfold intervals over first standard inclination (12-20 pt). This procedure allowed to show girls who got low (≤ 4) or high results (≥ 12), and as follow, using the pair assortment by schools

and as much as it allowed, according to age and grade to place the girls into criterion or control group.

II stage (analysis) was performed among girls who in I stage qualified to criterion and control groups. The aim of research was to measure locus of control in both groups. A used tool was *LOCQ* G. Krasowicz, A. Kurzyp-Wojnarskiej [4].

Results

Locus of control among girls with SGA and among girls from control group

The method of analysing differences between locus of control in a group of girls with SGA and a group of girls without this syndrome was chosen on basis on the rating of variable decomposition of norm in those groups with help of Shapiro-Wilk's nonparametric normality test. The achieved results confirmed variable decomposition of norms in subjected groups, thus in course of further analysis, a nonparametric t-Student test was applied for independent trials [13,14].

Chart 1. **Criterion and control group characteristic considering locus of control**

Group	LOC	Frequency	Percent
Criterion	outer LOC	12	52,2
	undetermined LOC	10	43,5
	inner LOC	1	4,3
Control	outer LOC	6	26,1
	undetermined LOC	10	43,5
	inner LOC	7	30,4

According to a chart, the majority of girls from criterion group is characterized with outer LOC. The same number of examined girls in both groups showed to have undetermined LOC, however in control group it is mostly the sense of control. What's more, in this group relatively many girls display sights of also having inner LOC, where in criterion group, locus of control is recognised only in one examined girl.

Chart 2. **Locus of control (the questionnaire results LOCQ) In criterion and control group – a descriptive statistics.**

LOCQ	Interval	M	SD	Data skew		Kurtosis	
				Statistic	Standard error		
Criterion group	17	21,74	4,535	-0,445	0,481	Criterion group	17
Control group	20	25,61	4,520	-0,192	0,481	Control group	20

The average LOCQ result of locus of control in criterion group is lower than in control group. Both groups however, shows similarity in variable results as revealed adjoining interval values (a little lower in criterion group) and standard variation in those groups. Result layout in group of girls without SGA is leptokurtosis – as most of results cumulate around average value. On the other hand, in group of girls with anorexia readiness syndrome, result layout is kurtosis, which supervene many abject results that are further apart from average. The results layout in both groups are skewed left, with high results overbalancing.

Chart 3. **The significance of difference between the average LOCQ results in criterion and control groups.**

Locus of control	Criterion group		Control group		t	df	Significance M
	M	SD	M	SD			
	21,74	4,52	25,61	4,52			

** $p < 0,01$

An analysis by t-Student test, showed a significant differences between criterion and control group in range of locus of control ($t = -2,898$; $p < 0,01$). The control group results in questionnaire on locus of control research ($M=25,61$; $SD= 4,52$), are relevantly higher statistically than in criterion group ($M=21,74$; $SD=4,52$). A H2 confirms that locus of control differ criterion group from control group. It means that girls with SGA are characterized more with outer locus of control than girls without the syndrome. The size of effect(d Cohena= 0,87) points to strong relationship between a presence or a lack of SGA and locus of control.

Tendency to reacting with incorrect attitude towards food and own body
in stressful situations and locus of control.

The next stage of analysis is verification hypothesis about relationship between tendency to reacting with incorrect attitude towards food and own body in stressful situations and locus of control. A measurements that was used to measure the strength of relationship between variables was rang Spearman's correlation modulus (unfulfilling assumption of reliance of line dependency and variables).

Chart 4. **Correlation between SGA and LOC In criterion and control groups.**

Group	Tendency to reacting with incorrect attitude towards food and own body in stressful situations and locus of control.	Locus of control	
		Spearman's correlation	
Criterion	High	-0,307	Criterion
Control	Low	-0,065	Control

In group of girls displaying signs of SGA ($rS=-0,31$; $p<0,05$), as well as in control group ($rS=-0,07$; $p<0,05$), any important statistic reliance between high and low intensity of tendency to reacting with incorrect attitude towards food and own body in stressful situations and locus of control, haven't been detected.

Result report

The aim of research was to answer a question: do girls with anorexia readiness syndrome differ from girls who do not show any signs of this disorder in subjective locus of control? Also, a reliance between tendency to reacting with incorrect attitude towards food and own body in stressful situations and locus of control was analyzed in both groups.

The results of presented in this work research confirmed H1 to show difference between location of locus of control in group of girls with anorexia readiness syndrome and a group of girls without the syndrome. Girls with SGA characterize by having a more outer locus of control than girls without the syndrome. A achieved results can correspond to described in literature concept of anorexia as vicarious form of possessing control [14]. Incorrect parent's attitude and personality (low self-esteem, disapproval of own appearance, ineffective methods of dealing with stress, vulnerability to society influence) not only are direct SGA determinants [1,15], but also, as other authors points out [16], contribute to creation of outer locus of control. On the other hand, outer LOC, even though not listed as a conditional variable of SGA, can pose as a risk factor of the disorder akin to other negative personality traits. Perhaps, the syndrome can be a method of retrieving a lost sense of control in stressful situations for girls from SGA control group [17].

An achieved results did not confirm H2 applying to relationship between tendency to reacting with incorrect attitude towards food and own body in stressful situations and locus of control. In criterion group as well as in control group, such dependence was not detected. Although girls with anorexia readiness syndrome shows signs of more outer LOC, this variable do not have a strong effect on SGA. In reality, though, study literature shows that LOC can have an important role in SGA pathomechanism (in which anorexic behavior is a way of retrieving a lost control) and is more a mediated variable than direct determinant of the syndrome [18-20].

Conclusions

The research shows that girls with SGA in comparison to healthy girls, have outer locus of control. Also, no reliance was detected between tendency to reacting with incorrect attitude towards food and own body in stressful situations and locus of control.

A given research material can be helpful in search of answers for a direction of further exploration of anorexia syndrome, as well as a purpose of future prophylactic

works. A source of valuable information could be finding and characterizing other than locus of control (which do not correlate with SGA) variables which simultaneously are determinant of a manner of managing stress and a tendency to reacting with incorrect attitude towards food and own body in stressful situations. An important aim of exploration SGA problematic would be a construction of normalized on Polish population diagnostic tool for recognition of this syndrome.

On basic on data that the research have provided, it can also be said that future prophylactic programs should emphasize teaching teenagers of constructive methods of managing stress and make parents as well as teachers aware of their role in forming proper skills in managing stress in difficult situation and inner LOC in children. The aim should be teaching society in area of preconditions, symptomatology and SGA genesis. Those actions can stop the syndrome development, and halt anorexia exploration among maturing girls.

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