PSYCHOLOGY OF SPORT

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locus of control in specific sports situations in beginner wrestlers

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Abstract:
Psychology treats locus of control (LOC) as a dimension of personality. LOC is usually analysed as a generalised variable. However, there have occurred suggestions to diagnose specific dimensions of the LOC. This kind of diagnosis will facilitate designing and implementing educational activities more effectively. The aim of this research was to define specific locus of control in beginner wrestlers. Additionally, the analysis of subjectively perceived influences on the course of their sports career was made.

The research included 131 boys participating in the Polish Cadet Championships in Greco-Roman wrestling. To diagnose locus of control in sports situations the questionnaire “I” and the questionnaire PKSPwS were used. The following two groups of wrestlers were compared: a group of 22 wrestlers who took the podium in the final classification and a group of 22 wrestlers who did not take the podium.

The respondents revealed significantly higher levels of LOC in the situation of success and during training. Wrestlers-winners had more internalised LOC in sports situations in general as well as in sports success and during training. In the control group LOC was more internalised during training than during competitions. According to the examined wrestlers, the course of their career was influenced mostly by themselves and their coaches.

The authors tried to indicate the role of working on real mastery in sport and in life.
Introduction

The locus of control theory (LOC) refers to the social learning theory by Julian B. Rotter [1966]. Human behaviour is determined not necessarily by objective descriptions of events but rather by subjective meanings attributed to them. LOC is one of personality dimensions which is placed in the continuum between internal and external control. Individuals with internal locus of control are accompanied by the conviction that they are able to influence their fate. It facilitates the feeling of life satisfaction and coping with stress. However, individuals with external locus of control to a larger extent depend their life on the influences of independent factors such as other people, luck or coincidence. Unfortunately, such a feeling contributes to the occurrence of problems with various aspects of holistically perceived health. LOC is acquired on the basis of social experiences. It results from subjective interpretation of an individual regarding the relation between behaviour and its consequences, i.e. successes versus failures. According to the social learning theory, convictions formed through various (also specific) social situations become generalised [Rotter 1966; Lawrence, Winschel 1975; Khan et al. 2012].

In general, locus of control is analysed as a generalised variable – as a dimension of personality. However, suggestions to measure locus of control in specific situations, e.g. in a professional career, have been made [Spector 1988; Chung, Ding 2002]. Being aware of the specificity of sports activity, it is worth making attempts at diagnosing LOC in the group of athletes and analysing the most detailed aspects of this variable [Rutkowska 2011].

In combat sports (including wrestling), when pursuing victory, athletes apply various technical and tactical actions aiming at defeating an opponent. They are characterised by a quick change of position and a multitude of unexpected changes of situation [Petrov 1987; Hendrix 1996; Shakhmuradov 1996; Takahashi 2001; Sadowski, Gierczuk 2009]. A well-trained wrestler should possess optimal skills of dealing with various difficult situations occurring both in training an during competitions. Without a proper mental preparation (preparation which e.g. includes working on a mental sphere since the early sports career) meets the needs of current training and is consistent with the standards of contemporary sports psychology – it is oriented at optimal and holistic development of a human being and an athlete and it emphasises the significance of LOC and basing solely on the patterns of behaviour practised during training (sometimes imposed by the coach), it is difficult to take proper decisions, perform appropriate actions, notice cause-and-effect correlations or eliminate wrong actions and ways of solving problems [Highlen, Bennett 1979; Gould et al. 1991; Rutkowska, Gierczuk 2012]. It particularly refers to a specific situation of competitions during which, with increased pressure (the importance of competition, an opponent, etc.) and with insufficient psychosocial competence as well as the lack of sports routine, a subjective perception of stress-inducing situations is much higher [Gould 1981; Shi, Ma 2007; Rutkowska 2012]. The conviction that the course of sports competition depends on external factors, i.e. on luck or other people, may prove deceptive.

Diagnosing and analysing locus of control in beginner athletes (especially in the context where a sports result is one of significant prognostics of a favourable course of a further sports career) may provide significant information and serve as a basis for elaborating guidelines for modifying and enriching sports training as far as mental preparation is concerned. According to the aforementioned conclusions occurring in the literature of the subject, reinforcing LOC will exert a positive influence on an athlete.

The aim of this research was to diagnose and analyse specific LOC in beginner wrestlers. Simultaneously the scope of the research was broadened by an in-depth analysis of subjectively perceived influence (exerted by the wrestlers themselves and by other people) on the course of a sports career of beginner wrestlers.

Materials/methods

The research included 131 male wrestlers. All of them participated in the Polish Cadet Championships in Greco-Roman wrestling. During the championships 22 wrestlers took the podium (in the final classification they took 1st, 2nd and 3rd places in their weight categories). The authors included them in the group of wrestlers-winners (W). For the analyses presented in the further part of this work an equinumerous control group (C) was selected. Applying the procedure of purposive sampling and controlling such variables as age and the length of training experience, 22 wrestlers who did not take the podium were selected. All of the subjects were aged 14-16 (M=15.06, SD=0.79) and they had training experience not shorter than a year and not longer than 9 years (M=4.33, SD=1.89).

The survey was conducted directly after the technical briefing and one day before the competition. Such a procedure excluded the influence of the success or failure on the way the answers were given and on the answers themselves. The wrestlers completed the
Set of questionnaires individually, voluntarily and in identical conditions. The subjects were asked to sign the questionnaires with their names and surnames in order to allow further verification of the place taken in the final classification in the competition. Simultaneously they were ensured that the results of the survey would be used solely for scientific purposes and individual diagnoses would not be made accessible to third parties.

The following two methods were used in the research:

- questionnaire "I" (the authors’ own questionnaire) including items that made it possible to gather respondents’ particulars and to estimate the influence which wrestlers feel other people/institutions exert on their sports careers; the wrestlers defined who from among the listed influences influence their sports career and what kind of influence it is; they could select from among 8 suggested items and/or add other people and then assess this influence; however, the sum of the points given to different items had to be equal to 100%;

- questionnaire PKSPwS for examining LOC in such sports situations as success (S), failure (F), competitions (C), training (T) and interpersonal relations with other people engaged in sports activity (R); the questionnaire also made it possible to measure the generalised locus of control of the wrestler in sport (Gen). It is worth highlighting that a higher result obtained by the subject within the particular scale points to a more internalised LOC [Rutkowska 2011].

Results

The results obtained by the subjects (N=131) in the PKSPwS questionnaire were analysed statistically (grey column, table 1). Mean raw results calculated within each of the scales were referred to temporary (approximate) norms [Rutkowska 2011]. In the majority of the examined areas the level of LOC in beginner wrestlers may be treated as average (6th sthène) while only the level of LOC during training may be included in the group of high results (mean raw result is equal to the 7th sthène).

The comparison of the levels of locus of control between wrestlers-winners and wrestlers from the control group revealed significant differences (in table 1 these differences are marked in bold). Wrestlers taking the podium have a more internalised locus of control in the situation of sports success and during training. Also, their general level of LOC in sport is higher. It is worth highlighting that no significant differences concerning age (Group W: 15.50, SD=0.74, Group C: 15.50 SD=0.60; t=0.00, p=1.00) or the length of training experience (Group W: 5.70 SD=2.01, Group C: 5.72 SD=1.35; t=-0.04, p=0.96) were noted between wrestlers from the compared groups.

In order to obtain a fuller image of the analyses, the results obtained in all scales were calculated according to the same rules. The result of each person in a given scale was divided by the number of items included in this scale and, additionally, by the maximal number of points given for a reply in the questionnaire. Such a procedure made it possible to make intra-group comparisons. Figure 1 illustrates the effects of these modifications.

Taking into account data presented in figure 1, it may be concluded that beginner wrestlers (N=131) reveal a significantly higher level of locus of control in the situation of success than in the situation of failure (t=4.86, p≤0.01) as well as in training than in competitions (t=4.17, p≤0.01) and relations (t=4.77, p≤0.01). However, in the group of wrestlers-winners there occurred one significant difference – the level of the locus of control was higher in the situation of success than failure (K-S=-2.40, p≤0.05). In the group of wrestlers from the control group more internalised locus of control was revealed during training than during competitions (K-S=-2.40, p≤0.05).

According to the wrestlers, the course of their sports career is mostly influenced by themselves (this answer was indicated most frequently) and by their coaches (this answer had the highest mean value). The distribution of all the answers is presented in figure 2.

In the category “others” the wrestlers mentioned friends, a grandfather, a girlfriend, acquaintances, neighbours.

Analogically, influences subjectively perceived by the wrestlers from the group of wrestlers-winners and control group were analysed (figure 3).

No differences between the number of answers given by the wrestlers from the two compared groups, i.e. Group W and Group C, were noted. The only significant difference was observed in the subjectively perceived value of the influence of sports officials. Wrestlers from the control group feel a significantly higher influence of this group than wrestlers-winners (U=0.50, p≤0.05).

Discussion

The aim of the research was to diagnose specific LOC in sport-related areas. The authors are aware...
### Table 1. The level of locus of control in sport – measurement with the use of PKSPwS questionnaire (raw results)

<table>
<thead>
<tr>
<th>Subscale PKSPwS</th>
<th>N=131</th>
<th>Group W N=22</th>
<th>Group C N=22</th>
<th>Inter-group comparison Group W – Group C (U, p)</th>
</tr>
</thead>
<tbody>
<tr>
<td>S</td>
<td></td>
<td>39.36</td>
<td>4.15</td>
<td>38.68</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3.24</td>
<td>3.6058</td>
<td></td>
</tr>
<tr>
<td>F</td>
<td>37.75</td>
<td>3.51</td>
<td>3.81</td>
<td>3.21</td>
</tr>
<tr>
<td></td>
<td>3.41</td>
<td>3.80</td>
<td></td>
<td></td>
</tr>
<tr>
<td>C</td>
<td>28.63</td>
<td>2.87</td>
<td>3.05</td>
<td>2.11</td>
</tr>
<tr>
<td></td>
<td>31.18</td>
<td>3.05</td>
<td>2.11</td>
<td></td>
</tr>
<tr>
<td>T</td>
<td>26.45</td>
<td>2.51</td>
<td>2.29</td>
<td>2.38</td>
</tr>
<tr>
<td></td>
<td>27.00</td>
<td>2.29</td>
<td>2.38</td>
<td></td>
</tr>
<tr>
<td>R</td>
<td>22.04</td>
<td>3.05</td>
<td>3.02</td>
<td>3.09</td>
</tr>
<tr>
<td></td>
<td>22.91</td>
<td>3.02</td>
<td>3.09</td>
<td></td>
</tr>
<tr>
<td>Gen</td>
<td>77.11</td>
<td>6.68</td>
<td>5.72</td>
<td>5.63</td>
</tr>
</tbody>
</table>

Key to table 1:
- **Group W** – a group of wrestlers “winners” who took the podium in the competition (I-III);
- **Group C** – control group – wrestlers from purposive sampling (controlled variables: age and training experience);
- **S** – locus of control in the situation of success;
- **F** – locus of control in the situation of failure;
- **R** – locus of control in interpersonal relations with other wrestlers/the coach;
- **C** – locus of control during competitions;
- **T** – locus of control during training;
- **Gen** – generalised LOC in sport;
- **s.i.** - statistically insignificant.

Key to figure 1: cr – calculated result; other explanations as in table 1.
**Fig. 1.** The level of locus of control in sport – measurement with the use of PKSPwS (calculated results)
Fig. 2. Subjectively perceived influence exerted by wrestlers themselves and by other people/institutions on the course of a career – measurement with the use of questionnaire “I”

Fig. 3. Subjectively perceived influence exerted by wrestlers themselves and by other people/institutions on the course of a career (in the two compared groups) – measurement with the use of questionnaire “I”
of the fact that at the level of children's and youth's sport the influence of other people/institutions has a significant meaning; simultaneously, influence subjectively perceived by young wrestlers was analysed. According to the subjects, a coach as well as parents/guardians play a significant role, and so do the subjects themselves.

In the literature of the subject locus of control is a variable associated with the feeling of happiness, success, higher achievements in various fields and a higher sociometric position. Even if the influence is not direct, LOC is regarded as a significant factor moderating correlations between dimensions beneficial for a human being [Cebi 2007; Kaya 2007; Denny, Steiner 2009]. The schedule and scope of the research did not include a thorough analysis of relations between sports success and the level of control internalisation. A higher level of LOC in sports situations, especially in the area of success and during competitions, was only diagnosed in wrestlers-winners. It is worth adding that in this particular group locus of control during competitions was higher than during training. A reverse situation takes place in the case of wrestlers taking further places in competitions. Taking into account the aforementioned correlation between the feeling of happiness and locus of control, it is noteworthy that the results of research carried out among beginner judokas (also combat sports athletes) revealed that adolescents experience significantly lower satisfaction from competitions than from training. Competitions are more stress-inducing for them [Rutkowska 2012]. It is worth pointing out that an inadequate perception of the competition atmosphere is the reason why adolescents resign from sports (it refers especially to individual sports) [Molinero et al. 2006]. Perceiving the atmosphere of a competition as a difficult situation is enhanced by the fact that there is a limited range of strategies of coping with stress [Rutkowska 2012]. While analysing the results of research, it may be assumed that it is also influenced by less internalised locus of control (referring especially to this area). However, the influence of another correlation should be taken into consideration. LOC is correlated with the feeling of competence and with the awareness of one's own sports skills [Rutkowska, Klimczak 2012]. Our findings allow us to conclude that it is also influenced by less internalised locus of control during training or competitions [Nicholls et al. 2009; Rutkowska 2011; Van de Pol 2012].

It seems that at the level of youth sports (including wrestling) it is worth undertaking interdisciplinary discussion, inter alia, on the problem of managing the system of training and competitions. It is significant for this discussion to have scientific fundamentals, including scientific research results [Capranica et al. 2011]. Therefore, it is worth conducting longitudinal research on the broadly understood, holistic model of mastery [Blecharz 2007].

The schedule and range of research presented in this work has its limitations. A group of participants was relatively big; however, they were wrestlers from one age group. They had a relatively short training experience (M=4.3 years) and it was their debut in sports competitions of such a high rank. It must be pointed out that the specificity of wrestling does not make it possible for younger wrestlers at the first stages of sports training to participate in the proper (strong) competition. Trying to reach peak performance earlier in training and participating in important competitions more frequently would most probably make it possible to select more talented athletes. Perhaps a more intensive training of psychosocial skills deliberately realised in cooperation with a sports psychologist or based on sports experiences would result in earlier development and reinforcement of various aspects of mental strength including internal control. However, it must be remembered that the change in the training structure in which more attention is paid to taking part in competitions rather than to training may lead to reaching peak performance earlier. On the other hand, the increase in physical and emotional load may lead to a negative phenomenon called early specialisation, and therefore, may influence an athlete's health in a negative way [Capranica, Millard-Stafford 2011].

Taking into account the issue of early specialisation, it should be pointed out that sport of children and youth often promotes and supports champions, i.e. in numerous cases these are children and youth who are relatively more mature, both physically and mentally [Vaeyens 2008]. Nevertheless, it should be taken into account that specialist actions directed at developing body and mind may lead to the fact that also beginners who do not achieve the highest results at present may be champions one day. It requires creating a model adequate to support children and youth that would also take into account psychopedagogical impact. There have already appeared interesting solutions which highlight not only the development of sports skills but also an effective combination of sports and education [Bretschneider 1999]. For instance, in such countries as the USA, Russia,
Germany or Sweden wrestling was included in the physical education curriculum. Such a solution has numerous advantages, e.g. it propagates wrestling, creates proper fundamentals for other sports and also shapes many mental qualities including locus of control in a young wrestler [Hirtz 1985; Kühn 1985].

Wrestling belongs to a group of sports with open motor habit pattern where a sports fight is of a non-standard character. The course of the fight depends on numerous factors, including fitness preparation of a wrestler and proper mental attributes. Therefore, mental preparation that focuses, inter alia, on the reinforcement of LOC referring to different sports situations such as training, competitions or relations with others, should play a significant role in a wrestler’s training [Gould 1981; Shi, Ma 2007]. The obtained research results may serve as guidelines for training. During training it would be recommended to increase the amount of competition forms such as task-oriented fights or proper fights without the coach’s (or parents'/guardians') interference in tactics before the fight.

The results of the research can certainly serve as a significant indication for “influential” people, such as coaches and parents to support beginner wrestlers especially in their pursuit of internalised LOC, particularly during training and competitions as well as in the situations of success. It is really beneficial to reinforce young people’s independence and self-reliance, self-conscience, responsibility and various psychosocial skills (particularly useful in the process of coping with stress) as well as active and pro-health patterns of behaviour significant for a broadly understood physical, mental and social health [Krasowicz, Kurzyp-Wojnarska 1990; Sinclair C., Sinclair D. 1994; Kaya 2007; Kristiansen, Roberts 2010; Edginton 2011]. The training of psychological skills and training of social skills realised in specific sports situations may prove effective not only in terms of sports [Zdebski, Blecharz 2004]. According to the theory of J. B. Rotter [1966], beliefs gained in sport will be generalised and in the future may prove helpful to contemporary athletes in other areas of life, after finishing a sports career, when social roles change [Krasowicz, Kurzyp-Wojnarska 1990; Pettipas et al. 1997].

When discussing the issue of directional reinforcement of locus of control, it should be pointed out that the wrestlers under investigation are currently in a special developmental period, i.e. adolescence. This is the time of intensive changes which also refer to locus of control both in general and in specific situations such as moments of success versus failure. An interesting thing regarding this issue is the fact that a developmental tendency to internalise locus of control is connected firstly with the area of success and then with failure [Lawrence, Winschel 1975; Oppenheimer et al. 1986]. It might suggest that wrestlers-winners are (at the time of research) at a higher developmental level.

To sum up, it can be concluded that:

1. The respondents revealed a significantly higher level of locus of control in the situation of success than failure and during training than in competitions or relations with others.
2. Wrestlers-winners (compared to wrestlers who did not take the podium) had more internalised locus of control in sports situations in general as well as in sports success and during training.
3. In wrestlers-winners a higher level of LOC was noted in the situation of success than failure. However, in the control group locus of control was more internalised during training than during competitions.
4. According to the examined wrestlers, the course of their career was influenced mostly by themselves and their coaches. Parents/guardians, other athletes, other relatives and officials were further on the list.

Conclusions

The locus of control theory is discussed relatively often. However, usually it is generalised LOC that is diagnosed. In the context of challenges which athletes encounter, especially at the level of sport of children and youth, it is reasonable to analyse specific LOC in sport. Additionally, taking into consideration the specificity of sport and various forms of activity, it is worth trying to diagnose detailed dimensions of specific LOC. The questionnaire PKSPwS makes it possible to carry out a multidimensional analysis of the locus of control, i.e. to analyse LOC in sport but also in the situation of success and failure, during competitions, training and in the context of relations with others.

The analysis of the research results is one of the first attempts at addressing this issue from this perspective. The authors tried to indicate the directions of the work on real mastery in sport and other areas, taking into consideration the specificity of training in wrestling, the characteristics of the development period of the subjects and the aspect of holistically perceived health. However, above all, by suggesting this new research concept, they want to draw attention to specific psychosocial problems and needs of beginner athletes and encourage an interdisciplinary discussion aiming at the improvement of the system of children and youth training so that sports results of future champions
will correlate with competences predisposing them to achieving success also in other spheres of life.

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Rutkowska K., Gierczuk D. — Locus of Control in Specific Sports Situations in Beginner Wrestlers


Poczucie kontroli w specyficznych sytuacjach sportowych adeptów zapasów

Słowa kluczowe: zapasy, młodzież, mistrzostwo, LOC, psychologia

Streszczenie

Poczucie umiejscowienia kontroli nierzadko traktowane jest w psychologii jako wymiar osobowości. W literaturze przedmiot LOC najczęściej analizowane jest jako zmieniona gzeranalizowana. Tymczasem pojawiają się wskazania, aby diagnozie poddawać specyficzne jego wymiary. Umożliwi to efektywniejsze projektowanie i wdrażanie oddziaływania edukacyjnych. Celem badań było poznanie specyficznego LOC na gruncie sportu w grupie młodych zapaśników. Przeprowadzono również analizy subiektywne odczuwanych wpływów na przebieg ich kariery sportowej.

W badaniach wzięło udział 131 chłopców uczestniczących w Mistrzostwach Polski Kadetów w zapasach klasycznych. Badani byli w wieku 14-16 lat i posiadałi staż treniowy 1-9 lat.

W ramach analiz opracowano, a w pracy przedstawiono rezultaty badań wszystkich uczestniczących w badaniach adeptów zapasów. Ponadto dokonano porównania pomiędzy dwoma grupami zawodników „zwycięzcami” i „przegranymi” zawodów: 22 zapaśników, którzy w klasyfikacji końcowej zajęli miejsca na podium z grupą 22 zawodników, którzy zajęli dalsze miejsca.

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Celem badań było poznanie specyficznego LOC na gruncie sportu w grupie młodych zapaśników. Przeprowadzono również analizy subiektywne odczuwanych wpływów na przebieg ich kariery sportowej.

W badaniach wzięło udział 131 chłopców uczestniczących w Mistrzostwach Polski Kadetów w zapasach klasycznych. Badani byli w wieku 14-16 lat i posiadałi staż treniowy 1-9 lat. Wykorzystano kwestionariusz ankiety „W” (dotyczący wpływów, jakich doświadczają młodzi zawodnicy) oraz kwestionariusz PKSPwS do diagnozy poczucia kontroli w sportowych sytuacjach (autorskie opracowanie – Rutkowska 2011).

W ramach analiz opracowano, a w pracy przedstawiono rezultaty badań wszystkich uczestniczących w badaniach adeptów zapasów. Ponadto dokonano porównania pomiędzy dwoma grupami zawodników „zwycięzcami” i „przegranymi” zawodów: 22 zapaśników, którzy w klasyfikacji końcowej zajęli miejsca na podium z grupą 22 zawodników, którzy zajęli dalsze miejsca.

Poziom LOC odnoszącego się do specyficznych sytuacji sportowych badanych jest przeciętny. Prezentują oni wyższy poziom poczucia kontroli w zakresie sukcesu niż porażki, treningów niż startów i niż relacji. Ponadto stosowne porównania pozwalają na stwierdzenie, że zwycięzcy posiadają bardziej uwewnętrznione ogólne sportowe poczucie kontroli, a także LOC w okolicznościach sportowego sukcesu i w sytuacji treningu. Zdiagnozowano u nich również wyższy poziom LOC w sytuacji sukcesów niż porażki. Tymczasem w grupie zawodników z grupy porównawczej odnotowano bardziej uwewnętrznione poczucie kontroli w sytuacji treningów niż startów. Zdaniem badanych zawodników na przebieg ich kariery sportowej największy wpływ mają oni sami oraz ich trenerzy.