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The impact of the level of focus on a change in the level of fear of falling during leading in competition climbing

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Abstract

Background & Aim: The aim of this study was to determine whether the level of focus affects a person's ability to overcome the fear of falling during leading in competition climbing. **Matherial and Method:** The subjects were members of the Polish competition climbing national team. The sample consisted of 30 climbers aged between 16 and 52 years. The study was conducted on the Eiger artificial climbing wall in Wrocław. The test methods used were Brickenkamp's d2 Test of Attention and the authors' original Scale of Fear of

Falling Assessment. **Results:** An analysis of the data obtained demonstrated that the majority of men (66%) and women (66%) scored positively. At the same time, a minority (33%) of men scored above average on the d2 test and the same tendency was observed in women (25%). Across the whole group studied this results in 30% of persons who successfully dealt with fear and, simultaneously, demonstrated a high level of focus. **Conclusions:** It has been shown that there is no significant link between the level of focus and the ability to overcome the fear of falling during leading in competition climbing. The level of focus demonstrated may be directly related to how well a climber copes while tackling difficult routes, but it has no direct effect on overcoming his or her fear of falling.

Key words: sport psychology, focus, fear, competition climbing

Introduction

Competition climbing is the only sport discipline in which an error results in falling off the wall and an uncontrolled flight towards the ground – a flight that may end in a tragedy in the case of an error made by the belayer. Fortunately, such cases are rare and the vast majority of so-called flights end in safely catching the climber, who is calmly hanging on a dynamic rope. Naturally, there are forms of climbing that are far more dangerous, in which equipment fixed to a rock or, perhaps, the climber's skills regarding the use of such equipment may fail [1-4] e.g. traditional climbing, during which so many belaying elements fall out of rock clefts that a fall ends in the climber hitting the ground, or unprotected climbing, where an error results in a fall that no one is able to stop [5-8].

A climber undertaking the task of leading a climbing route with the level of difficulty

selected by him or her in a protected area does not take a large risk, similarly as when leading a route on an artificial climbing wall. Although with the right level of the route's difficulty falling is inevitable, the belay elements mounted on the wall, together with proper work of the belayer and the use of proper safety equipment, ensure that a flight is correctly caught and is not dangerous.

There remains, however, the issue of the fear of flying – being unreasonably afraid that falling off the wall will end in suddenly hitting the ground or a sense of fear of the flight itself [9, 10]. Such fear may, naturally, be justified, if a climber lacks experience with regard to the technical nuances of climbing and has no idea about his or her equipment and the forces acting on him or her during a fall or if the equipment used has been damaged in some way. This fear is, however, unjustified, when a climber is aware of how foolproof the climbing equipment is and when all the elements of the belaying system are functioning properly. In that case only imaginary fear remains, which, in the case of falling off the wall, is an element found in most climbers [11, 12]. In other words, one may say that every climber is afraid of falling off the wall, but some seem to deal with that fear better than others.

Overcoming the fear of flying is a tedious and long process. There have been many climbers who, because of this fear, lost their desire for further training and never reached their potential. It is a known fact that motivation is the key to combating the fear of flying. Nothing eliminates fear as effectively as establishing one's personal record in climbing or competing against others. People do not, however, participate in competitions or try to beat their personal records in everyday life. They do, however, experience fear with every instance of leading that may potentially end in a fall [13, 14].

In view of the above the following question was asked: what state may be conducive to overcoming the fear of falling? Motivation cannot be created in an athlete on demand. Focus, on the other hand, is a state that a person can learn to trigger through specific exercises

[15-17]. But does focus really contribute to overcoming fear? During various events one can observe many situations in which a contestant who is very well prepared to lead a difficult route, focusing his or her attention on each detail of it, succumbs to fear before falling at a moment of great fatigue. Are those athletes insufficiently focused? Therefore, the aim of this study was to determine whether the level of focus affects the ability to overcome the fear of falling during leading in competition climbing.

Material and Method

The group studied was the Polish National Team in competition climbing. The study sample was composed of 30 climbers, including 12 women and 18 men, aged between 16 and 52. The study was conducted on the Eiger artificial climbing wall in Wrocław.

For the purpose of this study an experiment was conducted in natural conditions. The subjects were climbers and the subject matter was their behaviour while tackling a difficult climbing route. The research was carried out in two stages. In the first stage the climbers, after doing the warm-up including the climbing of easier routes, were subjected to a d2 Test of Attention [18].

The d2 Test of Attention is a reliable and proven diagnostic tool, used by psychologists involved with the fields of experimental and clinical psychology as well as labour and sport psychology. This test is intended for examining individuals and groups. A test sheet includes fourteen lines with forty-seven characters in each of them. The subject is asked to mark the biggest possible number of instances of letter “d” with two dashes placed at the top, at the bottom or one at the top and the other at the bottom of the character. The subject starts the test by becoming familiar with the combination of the characters searched for in the example given on the back of the test sheet. Then, when the person conducting the test is satisfied that he or she has understood the task, the subject, after being prompted to do so, starts the test

from the black arrow placed at the beginning of the first line of characters. The time available for completing the test is limited and amounts to twenty seconds for each of the fourteen lines. After the time set has elapsed, the person tested has to leave the line on which he or she is currently working, regardless of whether he or she has finished it, and proceeds to the next line.

The following indicators may be obtained on the basis of the test:

- **WZ** – the sum of the characters marked by the subject in the entire test, regardless of whether they are correctly or incorrectly crossed-out letters. It indicates the quantitative speed of perception.
- **B** – the number of all errors. It is the sum of omission errors (B1) and incorrectly crossed-out characters (B2). It makes it possible to perform calculations for the following indicators: %B and WZ – B.
- **%B** – the percentage share of errors in the processed portion of the test. It provides a qualitative assessment of the test processing. The smaller the share of errors the more accurate the perception.
- **WZ-B** – this indicator shows the general perception ability. It measures the speed with which characters are processed, adjusted by the number of errors made. It is characterised by high reliability and significantly correlates with the actual total speed of perception score.

In the second stage of the study the subjects attempted to complete a climbing wall route with a difficulty that was adequate to the climbing skill demonstrated by a given person, i.e. a route sufficiently hard to present the climber with considerable difficulty, but not so hard as to make it unrealistic to complete it. During the climb a subject was protected by an experienced belayer, whom he or she trusted. A subject was also informed that he or she would remain under observation while attempting to complete the route, without, however,

being told on what exactly the observer's attention would be focused. Subjects did not have to follow a specific climbing style. They could use OS (On Sight – completing the route from the first attempt, having no prior information about it except for an estimation of the scale of its difficulty), FL (Flash – completing the route from the first attempt, but having information about it based on another climber's account or observations of a climber completing that route) or RP (Redpoint – where a climber completes, at one go and with belay from below, a route known to him or her from previous attempts), with protection in the form of belay from below. It is the type of belay during which the climber attaches the safety rope to successive anchors along a protected route; leading is effected on protected routes, along which professional equippers have placed permanent anchors in the form of metal bolts fixed to a wall, with a hanger at the end, through which a quickdraw may be run. No TP style climbing attempts (Top Rope – completing a route at one go with overhead belay) have been studied due to a small stimulus that produced by this style, in which there is practically no free fall phase after falling off the wall, with the climber almost immediately hanging on the tightened rope.

All the subjects made their attempts using the RP style. What was being observed was the subject's behaviour while overcoming the difficulties of the route or at a moment of progressing fatigue. The climber was observed from the moment of setting off on the route until his or her falling off the wall for the first time or until the whole climb was completed. What was assessed was the climber's behaviour at the critical moment by means of a questionnaire specially prepared for the purpose of this study, i.e. the Scale of Fear of Falling Assessment. Based on the questionnaire an assessment of the climber's behaviour was made, with particular attention being paid to all those behaviours that suggest uncertainty or fear in the face of the possibility of falling. The assessment used a five-point scale from 5 – where the climber showed no signs of fear – to 1 – where the fear prevented him or her completely

from proceeding with the attempt and caused him or her to ask for the rope to be tightened. The table below (see Table 1) presents the authors' description of the scale of fear of falling assessment during leading in competition climbing.

Table 1. Scale of fear of falling assessment.

Score	Climber's behaviour at the critical moment	Effect of climber's actions
5	The climber, without hesitation, aligns him or herself accordingly and makes an attempt to perform another move	The climber performs a move or falls off the wall in an uncontrolled manner, relying on the belayer
4	The climber aligns him or herself accordingly and makes an attempt to perform a move, but without sufficient commitment (as if he or she did not believe in being able to succeed)	The climber falls off the wall, being, to a large extent, prepared for the flight and controlling it or performs a move at the last moment
3	The climber has a problem with aligning him or herself for the position from which he or she should perform a move. One can see clear hesitation and "bracing oneself up" for the movement before making a weak attempt to make a move	The climber falls off the wall, controlling his or her body position. The performance of a move, if any, seems to have happened by chance
2	The climber is clearly afraid of approaching the difficult place. He or she stays in place for a long time before making the attempt to perform a move and the attempt itself ends in initiating the movement from the legs or letting him or herself go after having established eye contact with the belayer	The climber falls off the wall in a controlled manner, taking a very short "flight", or hangs on the selected "tightened" rope
1	The climber, while already approaching the difficult place or at the first signs of fatigue, begins to hesitate. He or she does not attempt to perform successive moves, establishes eye contact with the belayer and/or gives the "tighten" command	The climber hangs on the selected "tightened" rope

The questionnaire was presented to the subjects after the observation was performed, in order to minimise the observer's impact on their behaviour while completing the route, especially as far as question No. 5 is concerned, which is obvious in its form and could direct

the subject's actions towards a stronger than normal focus in the context of falling off the wall and make him or her want to prove that he or she, nevertheless, does not experience the fear of falling.

After the test was performed and the assessed attempt on the climbing route was made, the climber was asked to complete a short survey for the purpose of obtaining further information. The survey included questions concerning: age, gender, climbing experience stated in years, an estimation of the most difficult route completed to date on a rock or on an artificial climbing wall and the fear of falling off the wall while leading.

Results

The tables below present the results obtained on the basis of the d2 Test of Attention (WZ, B1, B2, %B and WZ-B), behaviour observations (Scale of Fear of Falling Assessment) and responses given by the climbers (age, climbing experience, RP style, fear).

Table 2. Results obtained by men.

No.	WZ	B1	B2	%B	WZ – B	age	experience	RP style	fear	Score
1	230	76	3	34.3	151	28	4	7b	yes	5
2	249	54	0	21.7	195	35	9	8a	yes	5
3	275	30	4	12.4	241	30	4	7a+	yes	3
4	126	176	0	140	-50	32	7	6c	yes	1
5	176	129	3	75	44	52	12	7b	yes	5
6	200	108	8	58	84	28	3	6b	yes	4
7	238	70	4	31.1	164	26	3	6c	yes	4
8	168	137	5	84.5	26	30	6	7a	yes	5
9	227	77	0	34	150	40	24	7c+	no	5
10	220	82	2	38.1	136	51	8	7a+	no	2
11	137	169	10	130.6	-42	38	23	8b	no	5
12	191	114	6	62.8	71	16	6	8a+	no	5

13	215	82	1	38.6	132	28	12	8b	yes	1
14	208	91	3	45.2	114	26	6	7b+	yes	4
15	210	88	2	42.8	120	22	8	8a	yes	5
16	232	64	0	27.6	168	31	10	7b+	yes	1
17	189	111	4	60.8	74	25	8	7c	yes	4
18	228	69	1	30.7	158	24	7	7c+	no	1
Mean	206.6	99		53.9	107.5	31.2	8.9		13/18	

Table 3. Results obtained by women.

No.	**WZ**	**B1**	**B2**	**%B**	**WZ – B**	**age**	**experience**	**RP style**	**fear**	**Score**
1	183	121	2	67.2	60	26	6	7b	yes	5
2	252	49	2	20.2	201	27	8	6c+	yes	5
3	264	40	3	16.2	221	26	5	7b+	no	4
4	153	150	1	98.7	2	20	5	6c+	yes	5
5	227	71	0	31.3	156	27	11	7b	yes	4
6	213	77	2	37.1	134	26	2	6b+	yes	2
7	198	95	8	52	96	28	2	6c	yes	5
8	148	152	1	103.4	-5	22	6	7c	yes	5
9	221	71	0	32.1	150	18	5	7a	yes	3
10	178	120	2	68.5	56	24	7	7c	yes	4
11	156	140	0	89.7	16	20	4	6c	yes	2
12	200	94	2	48	104	32	11	7a	yes	2
Mean	199.4	100.2		55.4	99	24.6	6		11/12	

When analysing the data collected, one may notice a large discrepancy in the results on the d2 Test of Attention. Men processed an average of 206.6 characters, with the highest score being 275 characters processed and the lowest one – only 126. It was similar with women, who processed an average of 199.4 characters, with the best score of 264 and the lowest score of 153.

When attempting to answer the question of whether the more focused persons were better at copying with their fear, one must specify what score obtained during the observation

should be considered as positive. Therefore, a further analysis was carried out with the assumption that persons with scores of 5 and 4 on the scale of fear of falling assessment positively coped with the task (colour green in the table), while subjects with scores of 2 and 1 were assessed negatively (colour red). Subjects with the score of 3 were not taken into account due to their low statistical value (with only 6% of the persons obtaining the score of 3, no colour in the table).

Most men (66%) and women (66%) obtained a positive score. At the same time, a minority (33%) of men scored above average on the d2 test and this tendency was also observed in women (25%). Across the whole group studied this results in 30% of persons who successfully dealt with fear and, simultaneously, demonstrated a high level of focus.

It should also be borne in mind that 20% of the respondents declared that they did not experience the fear of falling while climbing. Half of them had a high score with regard to focus and only one did not cope with fear while leading.

Another issue that needs to be considered is the connection between climbing experience and the level of focus as well as the assessment of the fear of falling. Among the men surveyed the average climbing experience was 8.9 years, with the longest one amounting to 24 years and the shortest one – to 3 years. Among the women that average was 6 years, with the longest experience amounting to 11 years and the shortest one – to 2 years. For the purpose of further analysis an assumption was made according to which persons with experience that was above average in their group were treated as those with extensive climbing experience, while the others as having relatively low climbing experience.

Among the men a minority (33%) of those tested had extensive climbing experience, while the majority of them (66%) demonstrated a high level of focus and 33% obtained a negative score on the assessment of the level of fear of falling (at the same time scoring high with regard to the level of focus). Among the men with low climbing experience 7

demonstrated a high level of focus, of which 2 also scored negatively on the fear of falling assessment.

Among the women the results are were follows: 50% had extensive climbing experience, of which 25% showed a high level of focus, but only one obtained a negative score on the fear of falling assessment. Among the remaining women – those with less extensive climbing experience – 50% showed a high degree of focus and only one scored negatively with regard to the fear of falling (1 out of 6 women obtained a neutral score).

Finally, it was necessary to look at the connection between the level of sport performance and the level of focus demonstrated. At first glance we see two men who have completed the most difficult routes when compared to the rest of the group (8b); one of them demonstrated a low level of focus and, at the same time, scored positively with regard to the fear of falling, while the other's results were the exact opposite – he showed a high level of focus and obtained a negative score for the fear of falling. Those were, however, isolated cases. Therefore, in order to look at that relationship in the context of the whole group, an assumption was made according to which the completion of a route graded at 7b or above would be considered as a high-level sport achievement for men, while those graded at 7a+ or below – as a low-level achievement. Among women a high level of performance was set at grade 7a and above (the lower grade for women results from trends observed worldwide, where the most difficult climbing routes completed by women are graded at one level less on the scale of climbing difficulty).

In the male group a high level of sport performance was declared by the majority of the subjects (66%), similarly as in the female group (58%). In the case of both the male and the female group, the majority demonstrated a high level of focus. When looking at the group with the lower declared level of sport performance, one sees a similar distribution pattern – in both groups persons with a high level of focus were a small minority.

Discussion

Climbing is an extremely diverse sport, where a person practising it must combine physical, technical and mental skills at a very high level and none of these elements may be considered as more important than the others. Even a climber with incredible endurance will do nothing in the face of a move on a route that he or she simply has no strength to perform as the hold is too small. The same holds true for the mind. A climber who has excellent physical and technical skills, but is afraid, will never achieve his or her full potential, at least physically [19-22].

A proper mindset allows one not only to overcome the fear of falling. Climbing is largely dependent on self-confidence. If it is missing, our movements become stiff and uncoordinated, we lose our focus and our muscles do their work in a suboptimal manner, which causes them to get tired. On the other hand, when our movements are confident, the so-called swimming on the wall phenomenon occurs, when the climber performs his or her movements in a manner that suggests lightness and lack of fatigue [23, 24]. Climbers who reach this level are often asked – after having fallen off the wall – why they fell off. After all, it looked as if he or she could continue their climb. They usually reply that they were so tired that they were not able to manage another hold and that the apparent lightness of movement was an acquired thing. Focus certainly helps to achieve a proper interplay of all these elements [25, 26]. However, as shown by the analysis of the study conducted, focus does not translate automatically into the ability to cope with the fear of falling. On the other hand, it is evident that the majority of athletes performing at a high level also exhibit a high level of focus. As mentioned earlier, it is possible to overcome fear thanks to a high degree of focus [27, 28]. Focus is an indispensable component of sport performance. Without it, we are never mentally ready to compete. What athletes need is to discover the possibility to open up their focus reserve; such unlocking helps them achieve their potential [29-32].

Sometimes such a reserve may help a climber to beat his or her best result on a rock or during a competition, e.g. when a climber attempts to complete a route that is extremely difficult for him or her during a climbing trip, which, as such, has a limited time frame. For the first few days the climber will be becoming acquainted with that route. He or she will be looking for the optimal solutions regarding the execution of individual movements, selecting the right tactics, etc. In the end, however, the time comes for making serious attempts to complete the route. At first it may turn out that the fear of falling is overwhelming, as, for example, attaching a rope to one of the anchors is too difficult while leading the route and should be omitted. However, even if such fear arises, the time pressure associated with a short stay on a ledge intensifies the climber's motivation, who, after several attempts, is able to overcome his or her fear. Naturally, this does not mean that he or she will necessarily manage to complete the route. There is a saying in climbing that "if you ain't flying, you ain't trying". It implies that failure on a route only means that, in order to complete it, one needs to overcome certain personal boundaries.

The study was intended to determine whether there is another way of increasing the possibility for a climber who is afraid of flying to begin to better cope with this fear. All the methods known to date were based on forcing flights on a climber [33]. Such methods, albeit effective, are often very difficult to implement. There was, therefore, a desire to propose something else that could help cross this threshold between enjoying the climb and the irrational fear and constant struggle with oneself. Focus increasing exercises may be performed in the privacy of one's own home and do not require adrenaline jumps and forcing oneself to cross the boundaries of one's own fear. They are, therefore, less stressful and are not such a great burden on the nervous system. However, although they can certainly be useful as an element improving one's climbing skills, they should not be the primary goal when overcoming the fear of flying.

Results

There is no significant link between the level of focus and the ability to overcome the fear of falling while leading in competition climbing. The majority of the subjects who were able to cope with their fear showed, at the same time, a level of focus that was below the group average.

Climbers with more extensive climbing experience do not exhibit a greater degree of focus prior to leading the route than their less experienced colleagues. More experienced climbers do, however, exhibit a greater ability to overcome their fear of falling.

In addition, it was revealed that there is a high correlation between the level of focus demonstrated and a high level of sport performance and that, at the same time, the majority of the persons with low focus levels had more modest sport achievements.

The level of focus demonstrated may be directly linked to how well a climber copes when tackling difficult routes, but it has no direct effect on overcoming the fear of falling.

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