

Mental Toughness, the lifesaver?

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Mental toughness has been described as one of the most used, but least understood terms in applied sport psychology (Jones, Hanton, &Connaughton, 2007). Mental toughness is seen by athletes, coaches and researchers as one of the most important mental skills for an athlete to be successful (Bull, Shambrook, James, & Brooks, 2005; Jones, Hanton, &Connaughton, 2002; 2007). It is also one of the most distinguishing characteristic between highly skilled and lesser skilled athletes(Weissensteiner, Abernethy, Farrow, & Gross, 2012).

Although the understanding of mental toughness has improved much in the past twelve years, most literature has focused on understanding and developing mental toughness (Gucciardi& Gordon, 2011). There has been little to no research into the link between mental toughness and objective indicators of behavior or performance. This means that there has been talked a lot about mental toughness and the importance of this concept, yet little is known about the exact influence of mental toughness on behavior. Therefore, the purpose of this research is to investigate the relationship between mental toughness and objective indicators of performance and behavior. This relationship is examined in games with pressure and games without pressure and with different scores (after all, in sports there are different scores to cope with).

Eleven judokas have each played six games without pressure and six games with pressure. In the series without pressure there was no consequence when losing a game. The games with pressure were simulated with a heavy physical task when losing a game. In both game situations (pressure or no pressure) the athletes started two games with a yuko advantage, two games with a tie and two games with a disadvantage of a yuko. The observed objective indicators of performance and behavior were the amount of attacking actions, the effectiveness of attack and defense, the efficiency, and the number of matches that were won or lost. The mental toughness of the athletes was measured using the Mental Toughness Questionnaire 48 (MTQ-48; Clough, Earle, & Sewell, 2002).

Based on the results of the MTQ-48, the athletes were divided in two groups. A group of athletes with high scores on the MTQ-48 and an group of athletes with a low score on the MTQ-48. Afterwards, the performance of the both groups in the games with pressure, the games without pressure, the games with an advantage, tie and disadvantage were compared.

The results show that, on average, the mentally tough athletes were making more attacking actions, were more effective in both attack and defense, and were more efficient - in the series without pressure and starting with a disadvantage – than the mentally less tough athletes. In the series with pressure, the mentally tough athletes made more attack actions, showed better effectiveness of attack and defense, and showed more efficiency than the mentally less tough athletes. These results were found in the games with an advantage, tie and disadvantage. Furthermore, only two significant differences were found between both groups. In the games without pressure and starting with a disadvantage, the mentally tough athletes defended significantly more effectively and the mentally tough athletes attacked significantly more efficiently.

Although the differences in performance between the mentally tough athletes and the mentally less tough athletes were small, these differences can be very valuable. In a sporting context, and especially an elite-level sporting context, a small margin in performance can lead to a big difference in result. This small margin can be the deciding factor between winning and losing a match that coaches talk about. Thus mental toughness seems to be correlating with better judo performance under pressure and can therefore be the lifesaver in need.

References

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This table shows the means and standard deviations of the athletes with a high score on the MTQ-48 and a low score on the MTQ-48. The results in general are calculated over the six games without pressure and the six games with pressure. The results in the different scores are calculated over two games.

The duration of the games is shown in seconds. The bold results are the significant differences between.

Table 1: means and standard deviations in the games with pressure and the games without pressure of the athletes with a high score on the MTQ-48 and a low score on the MTQ-48.

Variables	No pressure				Pressure			
	#MW (n=3)		MW (N=8)		#MW (n=3)		MW (N=8)	
	M	SD	M	SD	M	SD	M	SD
General								
Activity	.2	1	.2	.9	-.2	.6	-.5	.7
Effect. attack	35	25	41	15	16	18	53	30
Effect. defense	65	2	71	20	52	31	52	27
Efficiency	4.9	3.6	2.8	2.3	1.6	1.9	3.7	2.2
RPE	14	0	15	2	15	2	15	2
Duration	97	5	98	9	103	8	94	17
Win	4	1	4	1	3	1	3	2
Lose	2	1	2	1	3	1	3	2
Advantage								
Activity	.7	.6	-.3	1.2	-.5	.5	-1.2	1
Effect. attack	34	29	30	22	33	58	50	46
Effect. defense	100	0	76	26	58	52	50	32
Efficiency	4.2	2.9	4.4	3	2	3.5	2.6	2.4
RPE	15	1	16	3	14	4	16	2
Duration	116	8	106	20	98	21	98	26
Win	2	0	2	1	1	1	1	1
Lose	0	0	0	1	1	1	1	1
Tie								
Activity	.8	1.5	.6	1.4	.2	2.1	-1.1	1.1
Effect. attack	54	24	38	30	11	19	23	25
Effect. defense	64	34	76	18	77	25	61	34
Efficiency	9.3	5.9	5.3	4	1.7	2.9	3.2	4.5
RPE	14	1	14	3	13	4	14	4
Duration	86	30	104	20	93	27	88	23
Win	1	1	1	1	1	1	1	0
Lose	1	1	1	1	1	1	1	0
Disadvantage								
Activity	-.8	1.5	.4	1.2	-.2	.3	.7	1.4
Effect. attack	11	19	48	21	6	10	46	40
Effect. defense	28	25	58	42	50	50	51	47
Efficiency	1.2	2	7.6	4.2	1.2	2	4.9	3.6
RPE	15	2	15	3	18	1	15	2
Duration	91	19	84	25	117	4	96	25
Win	0	1	1	1	0	0	1	1
Lose	2	1	1	1	2	0	1	1

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