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Self-Compassion, Flow, and Strategies in Judokas

Abstract

In the last decades, studies on sport practice have shown positive relations of both self-compassion and flow with sport enjoyment, satisfaction, and performance. Despite this, little research focused on the relation between self-compassion and flow in martial arts. In particular, these relations were not examined for judo. The main aim of this study therefore was to examine the role of flow and self-compassion in judo practice. In addition, we assessed the strategies judokas employ before and during combat and examined their relations with these psychological constructs. A total of 52 judokas with different degrees of experience participated in the study and answered questionnaires on flow state during combat, personal self-compassion, and judo strategies. The results showed no correlation between the participants' experience levels and their flow and self-compassion scores. However, we found a positive relation between the use of judo strategies and flow during combat. In conclusion, even though we found no relation between self-compassion and any of the variables considered we speculate that learning and using judo strategies may be important for developing flow states.

Keywords

judo, martial arts, flow, self-compassion, sport

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1 Introduction

Judo is a Japanese martial arts sport which integrates physical, mental, and moral elements. Two judo athletes combat each other with the goal of either throwing their opponent to the ground or taking them down to immobilize them or to force them to submit (Fortes et al., 2017). The degree of expertise of judokas can be expressed by the colour of their belts (Faro et al., 2020). In the Italian context, the colours are ordered from white for novices to black, indicating the maximum level, with five intermediate levels (i.e., yellow, orange, green, blue, and brown). Research on judo focused mainly on the physical (Detanico et al., 2016) and cognitive benefits (Faro et al., 2020; Supiński et al., 2014) of its practice. However, the "emotional or moral" elements have been neglected, especially the "positive emotional elements", for example the experience of a flow state or the existence of self-compassion. Starting by this lack of evidence, the current study aims at investigating the experience of flow and self-compassion in judo athletes with different degrees of experience.

Flow and Self-Compassion in Sport

Flow is described as an intrinsic harmonious state which involves the high absorption of one activity and leads to considerable enjoyment (Csikszentmihalyi, 2002). For almost 30 years researchers have investigated the concept of flow in sport psychology (e.g., Jackson, 1992, 1995), and its challenges and limitations are being increasingly discussed (Swann et al., 2017).

Self-compassion describes the disposition to be kind to oneself when confronted with personal failures. The three important elements of self-compassion are self-kindness instead of self-judgment, mindfulness instead of overidentification, and common humanity instead of isolation (Neff, 2003). If people are compassionate to themselves, they express themselves with warmth and understanding during difficult moments. In the last decade, the concept of self-compassion has been investigated in sports science. Killham et al. (2018), for example, demonstrated that in young female athletes self-compassion is negatively correlated with self-criticism and positively correlated with sport performance, nurturing the idea that self-compassion is important for sport performance as opposed to self-criticism.

Even if both flow and self-compassion seem to be important in sport, their relation has not been investigated in sport athletes. However, in one study it has been demonstrated that mindfulness, that is a component of self-compassion, was related to flow, and sport confidence in rovers (Pineau et al., 2014). In addition, a mindfulness intervention showed to also enhance flow experiences (Scott-Hamilton et al., 2016). These studies suggest that self-compassion, which includes mindfulness, is related to flow experience in athletes.

Flow and Self-Compassion in Martial Arts

The practice of judo includes philosophical aspects requiring finding an inner state of profound balance to approach the opponent (Fernández et al., 2020). Therefore, emotional states in martial arts can play a central role in the best practice.

Some researchers have proposed that martial arts in general can be seen as one form of mindfulness training and can be classified as mindful movements because they are practiced with a high level of concentration. In fact, attention must be constantly shared between many targets such as muscles, breath, and movements (Abbott & Lavretsky, 2013; Naves-Bittencourt et al., 2015). Little is known about self-compassion and flow in martial arts. However, one unpublished thesis reported that the perception of flow, the accomplishment of a higher fitness, and joy are the three main motives for engaging in martial arts (Poschner, 2017). One study compared the effects of karate training to those of mindfulness training in healthy older adults between 52 and 81 years. The results showed improvements for the karate training group but not for the mindfulness group in subjective mental health, anxiety, and cognitive processing speed (Jansen et al., 2017). One reason for this might be that completion of the difficult cognitive and physical tasks enhanced the older people's self-esteem.

To conclude, no study has investigated self-compassion and flow in judokas.

Strategies in Martial Arts

Martial arts present specific training that not only fosters combat techniques but also often focuses on the fighters' emotional, relational, and self-regulative abilities. For instance, trainings using martial arts techniques – through physical stimulation and adapting instructions – showed to increase communication abilities of children with autism spectrum disorders (Bahrami et al., 2016) as well as their self-awareness, tolerance, acceptance of distress, and self-understanding (Milligan et al., 2015), showing the positive role that martial arts techniques could have on personal psychological resources and the easy integration of mindfulness and meditation practices during training. Moreover, evidence on Brazilian jiu-jitsu practice showed its positive impact on interpersonal aspects such as prosocial behaviours and sense of identity with a group (Kavanagh et al., 2019). A qualitative study on mixed martial arts (Massey et al., 2015) also suggested that elite fighters who use strategies such as meditation and emotion simulation to prepare for competitions seem to have higher self-regulation during combat, thus favouring better results. As we will examine in this paper, it is plausible that learning and using martial arts strategies could benefit practitioners' physical performance and psychological feelings and emotions, facilitating higher levels of flow during combat and favouring a higher level of self-compassion.

Main Goal of the Study

Due to the lack of research in this area, the first goal of the study was to explore whether judo experience (measured with belt level) was related to self-compassion and flow. The second goal of the study was to investigate self-reported strategies of judokas before and during randori as an index of functional states and actions for approaching combat. To this aim, we developed a questionnaire to assess the use of strategies used in judo and examined their relation with self-compassion and flow.

2 Method

Participants

A total of 52 judokas (34 males, 18 females) between 13 and 33 years (*M* = 19.13 years, *SD* = 5.57) voluntarily participated in the study. They were all members of Italian federations for judo and sport and at the time of the questionnaire's administration they all practiced judo weekly (*M* = 3.86 hours/week, *SD* = 1.17) for a minimum of 2 years to a maximum of 27 years (*M* = 9.92 years, *SD* = 4.98). Most of them (21) had obtained a brown belt, 13 a black belt, 11 a blue belt, five a green belt, and two an orange belt. The study was approved by the Ethics Committee for Research in Psychology (University of Padua; Number: 2935).

Materials

The Self-Compassion Scale (SCS; Neff, 2003; Italian version: Veneziani et al., 2017) uses 26 items to measure the following six aspects of self-compassion: self-kindness (five items), reduced self-judgment (five items), common humanity (four items), reduced isolation (four items), mindfulness (four items), and reduced overidentification (four items). Responses had to be given on a scale from 1 (almost never) to 5 (almost always). The items from self-judgment, isolation, and over-identification were inverted to obtain positive scores of self-compassion. The scale presents good internal consistency (Cronbach's alpha = .90, and the Cronbach's alpha of the six subscales varied between .69 and .78; Veneziani et al., 2017). New results support the possible use of one total score as well as the six subscale scores (Neff et al., 2018).

The Dispositional Flow State Scale 2 (DFSS-2; Jackson et al., 2008; Italian version: Riva et al., 2017). This scale includes 36 items measuring the following nine aspects of flow (four items for each aspect): challenge–skill balance, merging of action and awareness, clear goals, unambiguous feedback, concentration on the task at hand, sense of control, loss of self-consciousness, transformation of time, and autotelic experience (feeling a sense of purpose and curiosity). Responses had to be given on a scale from 1 (strongly disagree) to 5 (strongly agree). The scale presents good internal consistency (Cronbach's alpha = .94, and the Cronbach's alpha of the nine subscales varied between .73 and .85; Riva et al., 2017).

The Judo Strategies Scale (JSS) is an ad hoc questionnaire developed in cooperation with a judo master (i.e., IV dan sensei of the Italian association of judo, Fijlkam) to assess self-perception (feeling) related to the body, actions, and emotions at the beginning of and during randoris for which the master is expert. It is composed of 10 items (see table 1), and responses had to be given on a scale from 1 = *never* to 5 = *often*. The scale had a good internal consistency (Cronbach's alpha = .83). At a first step, the master was interviewed, and the different feelings, states, and strategies were collected and transposed in items by the psychologists. Finally, a pilot group of judokas evaluated the clarity of the sentences.

Table 1: *Judo Strategies Scale and skew, kurtosis, and factor loadings of each item*

Imagine being at the beginning of or during combat and express how often you feel the following ways, from 1 (*never*) to 5 (*often*).	*Skew*	*Kurtosis*	*Loading*
1. I feel in a non-mind state ("mushin").	.35	-.48	.45
2. I'm not worried about losing or winning.	.30	-.63	.26
3. I feel my action is driven by instinct.	-.01	-1.29	.37
4. I feel my action proceeds effortlessly, using my opponent's force.	.28	-.45	.67
5. I feel my body and my opponent's body as one.	.83	.24	.61
6. I feel my body, my mind, and my spirit are in perfect harmony.	-.11	-.88	.77
7. I feel I am in a good position from head to feet.	-.15	-.50	.60
8. I see myself in everything.	-.01	-.92	.83
9. I feel an expanded consciousness.	.01	-.88	.88
10. I feel my vital energy ("ki") is employed in the best way.	-.20	-.65	.55

Note. The items are translated from Italian.

Procedure

We contacted different judo centres, and for those that accepted the proposal, a small group session was organized. During the session, after participants gave their consent to participate in the study, they were reunited in a quiet room at their sports centres and responded to the three questionnaires in balanced order. The session lasted less than 1 hour.

3 Results

Preliminarily, given the possible differences between men and women in the scales considered (Killham et al., 2018), we ran a series of *t*-tests to control whether there could be any influential gender differences. None of the scales showed statistically significant differences between males and females ($p_s > .05$).

Mean and standard deviation of measures of interest are reported in table 2. To verify our first aim, we calculated Pearson's correlations between judo experience and self-compassion and flow. Regarding our second aim, we examined self-reported judo strategies; in particular, we evaluated (a) the reliability of the judo questionnaire with a confirmatory factor analysis and (b) its correlations with self-compassion and flow. Given the high number of correlations, we adjusted the alpha level according to Bonferroni correction to avoid inflating the possibility of

type-1 errors. We calculated 23 correlations in total; thus we will consider significant only those correlations with an associated *p*-value < .002.

Judo Experience, Self-Compassion, and Flow

Pearson correlations between experience and the total score of SCS and the DFSS-2 were not significant (r = .10, p = .495, and r = .03, p = .854) as shown in table 2. The only exceptions are represented by the negative correlation between experience and isolation (r = −.32, p = .021; SCS) and the positive correlation with concentration on the task at hand (r = .29, p = .037; DFSS-2).

Table 2: *Mean, Standard Deviation, and Correlation Between SCS, DFSS-2, JSS, and Experience (Belt)*

	M	SD	1.	2.	3.	4.
1. SCS	75.98	12.58	1			
2. DFSS-2	126.13	23.18	.11	1		
3. JSS	29.40	6.93	.15	.63*	1	
4. Experience (Belt)	4.73	1.07	.10	.03	−.06	1

*Note. SCS = Self-Compassion Scale; DFSS-2 = Dispositional Flow State Scale-2; JSS = Judo Strategies Scale. * = p < .002*

Judo Strategies

Reliability of the Judo Strategies Scale

Using diagonally-weighted least squares, a confirmatory factor analysis for ordinal variables was run given the non-normal distribution of answers for the different items (see table 1), which is typical of Likert scales. Goodness of fit was evaluated using multiple fit indices, which showed to be satisfactory: χ^2 (35, N = 52) = 41, 97, p = .194, CFI = .99, NNFI = .99, RMSEA = .06, 90% CI for RMSEA [.00, -.12] (Schermelleh-Engel et al., 2003). All factor loadings (see table 1) for the 10 items were significant (p < .001), except for item 2 ("I'm not worried about losing or winning", factor loading = .26, p = .043). All other standardized loadings were higher than .37, and the mean of the factor loadings resulted equal to .60.

Relation of Judo Strategies with Self-Compassion and Flow

Results of Pearson correlations showed that the total score on judo strategies (a) was not significantly correlated with self-compassion (r_s < .19) and (b) was significantly correlated with the total score of the DFSS-2 (r = .63; p < .001; see table 3) and with most of its subscales (see table 3).

Table 3: *Correlations of JSS With SCS and DFSS-2*

	SCS							DFSS-2									
	SK	SJ	CH	I	Mi	OI	SCS	CSB	MAA	CG	UF	CTH	SC	LSC	TT	AE	DFSS-2
JSS total	.19	.01	.04	-.18	.16	.01	.15	.57*	.49*	.66*	.46*	.28	.56*	.37	.15	.55*	.63*

*Note. SK = self -kindness; SJ = self-judgment; CH = common humanity; I = isolation; Mi = mindfulness; OI = overidentification; CSB = challenge-skill balance; MAA = merging of action and awareness; CG = clear goals; UF = unambiguous feedback; CTH = concentration on the task at hand; SC = sense of control; LSC = loss of self-consciousness; TT = transformation of time; AE = autotelic experience; JSS = Judo Strategies Scale. * p < .002*

4 Discussion

The main goal of this study was to investigate self-compassion and flow in judokas. Given the relevance of being more self-compassionate, that is, being kind to oneself in the face of personal failures, and experiencing a flow state, defined as high absorption in one activity leading to great enjoyment (Killham et al., 2018; Schüler et al., 2014) in a certain sport, we explored the relation between judo experience and these psychological constructs. Judokas' degree of experience was measured in terms of belt level. In addition, we introduced a new measure devoted to noticing the strategies related to judo practice and in particular, the degree of awareness and feelings related to body, actions, and emotions at the beginning of and during fights.

The results showed that the degree of experience did not significantly correlate with the total score of self-compassion and flow measures, with some exceptions for the negative correlation with isolation (SCS) and the positive one with concentration on the task at hand (DFSS-2). The negative correlation between isolation and level of performance (belt) hints that more experienced judokas feel less isolated and maybe more connected to other human beings, in line with the relation of martial art practice with prosocial behaviour (Kavanagh et al., 2019). However, there was no significant correlation between level of performance and common humanity; for this, judo training might ease the negative sides of common humanity but not ameliorate the positive ones. This easing effect did not appear for the other two aspects of common self-compassion: self-kindness and mindfulness. Among different explanations, it is possible that because judokas need a lot of attention to have a perfect performance, the positive correlation between a high level of performance and concentration on the task at hand is evident, and more experienced judokas learnt how to keep their concentration higher. Moreover, participants in this study were similar in their level of performance because most of them had a black, brown, or blue belt.

The results concerning self-reported strategies offer new insights. The self-reported judo strategies, based on feelings before and during combat, showed significant positive correlations with flow scores (in most of the subscales) but not with the self-compassion score. This supported elite judokas use strategies (Massey et al., 2015), and those strategies regarding feelings immediately before and during the randori resulted more related to flow experience. A wider use of desired judo strategies in combat seem fundamental to acquire a flow state. The judokas who are better able to use strategies immediately before and during combat probably reach higher levels of satisfaction during their sport practice (Csikszentmihalyi, 2002). The fact that the use of strategies is related to flow experience could be seen as an incentive for people who want to start practicing martial arts—and judo in particular. In fact, given that reaching a flow state has been showed to be related to the interest in practicing this kind of sport (Poschner, 2017), it is possible that people should be more motivated to learn judo to reach flow experience. However, studies using an experimental design have to better examine such a relation. In addition, the use of these practices seems to be unrelated to the degree of objective experience, suggesting that a flow state also could be reached with little experience. Although this explanation is plausible, further studies should consider a larger population spread in terms of experience to better examine the relation of flow and self-compassion to objective (belt) and qualitative (self-perception) levels of judokas.

Furthermore, flow and self-compassion might not be the only two personal and motivational constructs worth investigating in relation to the use of strategies. In fact, other emotional states and traits (Fernández et al., 2020) or motivational constructs (as self-efficacy; Pineau et al., 2014) might contribute to better approach strategies use and maybe strengthen combat performance. This should be better considered in further studies. In addition, further studies should better control gender and experience distributions. Our study, in fact, showed some limitations: due to the correlational design of the study, no causal relation could be drawn, and the sample was not well balanced for gender and level of experience, possibly influencing the reliability of the results.

5 Conclusion

Our results show that judokas with different levels of performance have similar self-compassion and flow states, but within them, those who are more prone and able to use judo strategies referred to feelings related to themselves (body, actions, and emotions) before or during combat and had higher levels of flow during combat. These results, that need to be better examined, could be the first evidence favouring judo practice to augment people's flow states and physical and mental states.

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