

MARTIAL ARTS, HEALTH, AND SOCIETY

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MARTIAL ARTS, HEALTH, AND SOCIETY

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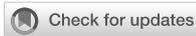
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Editorial: Martial arts, health, and society

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Editorial on the Research Topic Martial arts, health, and society

Martial arts have become the center of academic attention this century. Along with groundbreaking monographs, to date, scholars have developed edited books on women in combat sports (Channon and Matthews, 2015) and on theoretical topics pertaining to habitus (Sánchez-García and Spencer, 2013). Collections have focused on the martial arts of specific regions, cultures, and intangible cultural heritage (Farrer and Whalen-Bridge, 2011; Park and Ryu, 2020). Meanwhile, special issues in journals have focused on the relationship between martial arts and society from a qualitative sociological perspective (Spencer and Hogeveen, 2014), and more recently, quantitative and biomedical perspectives on the impact of martial arts and combat sports on health (Dopico et al., 2022).

However, how martial activities might be health giving, dangerous or healing, therapeutic and rehabilitative, and how they connect with specific ideas on body and medicine remain underexplored. This Research Topic includes articles aiming at addressing themes such as revised mind-body relationships, the resurgence of mass media health messages, and the revival of specific knowledge on health and healing.

Os Joelhos! Os Joelhos! Protective Embodiment and Occasional Injury in Capoeira, authored by Delamont et al., draws on a long-term ethnography and 32 open-ended interviews. The paper analyses the experiences of advanced capoeira students in Britain. The students' narratives show that being a *capoeirista* means having acquired a range of strategies to prevent knee injuries as well as to adopt therapies—orthodox and alternative—necessary to ameliorate physical conditions. Significantly, this tacit shared skill is a fundamental aspect of capoeira embodiment, which previous studies on this martial activity have neglected.

Sport Karate and the Pursuit of Wellness, authored by Turelli et al., presents a participant-observation study about *karateka's* representation of wellness. According to the analysis, five themes are elaborated, namely, fitness, aesthetics of combat, embracing fear, aggressiveness as life posture, superiority given by control. The findings leads the authors to identify the achievement of wellness by excitement, tiredness, euphoria and body punishment. This raises important reflections regarding why and how (competitive) martial groups find wellness overflowing and where to draw the line between wellbeing and masochism.

Blending Martial Arts and Yoga for Health, authored by Di Placido, presents a multimodal ethnography into the Italian style of Odaka; a commodified activity which combines postural yoga with Japanese martial arts training. By considering the Odaka founders' trajectory, Di Placido argues that their background in yoga and combat sports strongly influences how health is conceived. In Odaka, the biomechanical understanding of the body, inspired by Western medical gaze, intertwines with the subtle body model of Asian traditions. Meaningfully, this interpretation shows that the commodified martial activity of Odaka does not merely express the self-centered ethos characterizing contemporary neoliberal society.

Cultivating Health in Martial Arts and Combat Sports Pedagogies, authored by Pedrini and Jennings, presents a framework to address the question "how might martial arts and combat sports be good/bad for health?" The authors conceptualize health pedagogies moving beyond a biomedical paradigm to a broader one focused on subjectivity. The Foucauldian concept of "the care of the self" helps to develop four forms of "cultivation" ("self," "shared," "social," "ecological"). The paper ends with methodological consideration to foster inquiries on what and how martial arts could improve personal and collective health.

In *Evidence-Based Medicine and the Potential for Inclusion of Non-Biomedical Health Systems*, authored by Langweiler, Taijiquan martial art is presented as a popular case for considering alternative medical epistemologies. The author examines the rise of Western evidence-based medicine (EBM) and contrasts it with Taoist views of evidence. EBM research protocols, with limiting timeframe and small number of movements, seems to ignore the potential beneficial properties found in Taijiquan with both long-term practice. In conclusion, Langweiler highlights the importance to face tensions between the safe public use of Taijiquan and the government accreditation to improve and ameliorate their use.

Multilevel Evaluation of Rapid Weight Loss in Wrestling and Taekwondo, authored by Castor-Praga et al., examines rapid weight loss (RWL) in wrestling and Taekwondo in Mexico through a cross-sectional survey. The survey reveals that 96% of the respondents use RWL, losing more than 5% of their body mass without improving sporting performances. Findings also show that the greater the relative weight loss, the greater the presence of physiological, psychological and emotional symptoms. Coaches, nutritionist and parents are those ones who play a crucial role in influencing the adoption of RWL. This call for a re-design and implementation of socio-educational interventions for preventing RWL.

"*I don't Teach Violence, I Teach Self-Control*," authored by Domaneschi and Ricci, analyzes media representations of the MMA "right" after the murder of a boy by a gang of young men, two of whom frequented a MMA gym in center Italy. The authors focus on the most popular Italian newspaper and the Facebook group "UFC Italia." Interestingly, MMA is

not represented as an uncivilized and anti-social activity on traditional media. At the same time, traces of a "medicalization frame" appears only on UFC group. Particularly, the "healthy" features of MMA seem to rely on the coaches' ability to move the boys away from the dimension of physical danger and lack of mental self-control.

Finally, *Book Review: Martial Arts and Well-Being*, authored by Contiero, reviews one of the first academic texts on the topic by Fuller and Lloyd (2020), who offered a mixed method design using a questionnaire and in-depth interviews with martial arts instructors and athletes. The book discusses the ability of martial arts to improve balance, cognitive functions, quality of life, psychological health, and community belonging. Contiero's review proposes relevant critiques. Above everything, the exclusive attention given to some eastern martial arts raises a series of meaningful interrogatives regarding the definition of martial arts, as well as the medical philosophies and spirituality nexus underlying many martial activities. We hope that future inquiries will address these and further questions.

Author contributions

GJ wrote the first draft as lead editor of the project. LP offered comments and corrections to form a second draft while XM provided a perspective as a critical friend for the project. All authors contributed to editing and reviewing articles for the special issue as well as seeking authors and reviewers.

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Sport Karate and the Pursuit of Wellness: A Participant Observation Study of a *dojo* in Scotland

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Health problems in society are numerous, not least stress and stress-related illness. Physical activities, including martial arts, are increasingly viewed as a means of managing such risks to health. While there are forms of karate that have a philosophical and meditative character that is related to spiritual wellness, karate as a competitive sport is less likely to be thought of in this light. The purpose of this paper is to present through a participant observation study the representations that *karateka* of the *dojo*, make of sportive karate as a resource to achieve wellness. Drawing on an eight months' immersion in the *dojo*, we identify five themes that express these *karateka*'s views of sport karate and wellness, the importance of fitness, beauty in punches and kicks, how to embrace fear, the aggressive attitude as a posture in life, and the superiority given by control. The findings lead us to reflect on the need for further research to see if they are repeated in other martial arts, and if many more groups find wellness as a primary motivation for their participation.

Keywords: wellness/well-being, karate-sport, martial art, ethnography, participant observation

INTRODUCTION

If we take into account the increasingly intense pace of life that society adopts, the health problems that emerge are numerous, and stress is one of the leaders on the list (Tapley, 2007; Fuller and Lloyd, 2020). To deal with these problems, there appears to be a growing social consensus that the practice of physical activities, including martial arts, is an extremely pertinent option (Rios et al., 2018). Martial arts are traditionally practiced as an alternative to dealing with violence, often as a form of self-defense (McCaughey, 1997, 1998; Hollander, 2004; Matthews and Channon, 2016) or as a way of finding spiritual and bodily harmony and serenity. In the latter case, some martial arts are often associated with meditative and spiritual practices, coming to be related to a religious basis (Brown et al., 2009; Mainland, 2010; Cushing, 2013; Contiero et al., 2018; Kumpf, 2018).

The martial modalities best known for promoting a state of inner peace and balance are Tai Chi Chuan, Aikido, Kendo, and from a certain point of view, Yoga (Mainland, 2010; Wang et al., 2013; Kumpf, 2018). The concept of wellness has been repeatedly associated with these practices, since its followers seem to find physical and psychological relaxation through them and a certain inner connection associated with their spirituality (Draxler et al., 2010; Cushing, 2013; Turelli Thume and Vaz, 2018). In this context of the achievement of wellness, karate possesses, as we will show, certain

peculiar characteristics. On the one hand, karate is a martial art that has this traditional aspect, that is, the philosophical and meditative character (Kumpf, 2018; Cavalcante and Potiguar, 2019). However, on the other hand, it has also developed as a sport, with an explicit focus on competition, on the effectiveness of techniques, on the rules to achieve the best results and, ultimately, it has now achieved the status of Olympic sport (www.wkf.net, accessed on 10/04/2020; see also Chan, 2000 and Bowman, 2010 for further depth). *Karate-do* is a martial art of Japanese origin that translates as the *path of empty hands*. It was developed in Okinawa so that the people, devoid of fighting weapons, could defend themselves using their own bodies (Krug, 2001; Lautert et al., 2004). Over time, karate's goal became the improvement of character through mental and physical discipline obtained with arduous training (Cavalcante and Potiguar, 2019). It seems that the transition to the West was responsible for the conversion of the martial art into sport (Macedo, 2006; see also James and Jones, 1982 on the introduction of karate specifically in Britain and Maclean, 2015 about karate in Scotland). In different practice environments today, the tradition of martial art is mixed with modern aspects of sport.

Our study reported here is focused on a *dojo*¹ in which its practitioners mixed or united two initially and apparently opposite things. They practiced a strictly sporting form of karate which stimulated extreme excitement and fatigue with the aim of achieving wellness. This was in contrast to forms of karate and other martial arts that seek to achieve a meditative state for wellness. More than anything, they wanted to reach different levels of being well through controlled aggression, the intensity of spilling something contained internally. Perhaps we can say that it is a question of achieving some balance through an apparently unbalanced path. We say this because we participated in this process by immersing the first author of this paper in the field, in the practices and in the social life of the club. Thus, we were able to live intimately the experience of a certain imbalance, euphoria and, perhaps, ecstasy, which is generated in the midst of the stimuli to be aggressive, the strident *kiais*,² the sweat, the panting, the burning muscles and the punches and kicks. Somehow, it seems that these *karateka*³ need more than to recharge their energies, they need to empty themselves through exhaustion. Finding pleasure is perhaps achieved by punishing the body.

We did an eight-month immersion in a karate club in the Glasgow area, Scotland. Initially, our goal was to see how this conversion from karate to Olympic sport was impacting the club's practitioners. Such a club was dedicated to the competitive scenario, having affiliation with the World Karate Federation, the body responsible for karate approved as an Olympic sport. However, to our surprise, the practitioners appeared quite nonchalant about karate's new Olympic sport status and the data indicated another main motivation for them to dedicate themselves to karate. They focused on achieving personal

wellness goals, in a very broad sense, using intense karate training. As we said, the *dojo* is dedicated to the competitive scenario, so the training focuses on preparing for competitions, in an intense way.

We know that a certain pedagogy of pain and suffering (Vaz, 2000, 2005) or even the pedagogy inherent in bodily fights (Turelli, 2008) is not exclusive to karate. Fights, in general, forge the body of the fighter (Wacquand, 2002). And there are several sports that, by promoting a certain degree of agony and punishment of the body, also generate some satisfaction in their practitioners. This is found in athletics, ballet and karate in a comparative way, for example (Gonçalves et al., 2012), in addition to performing in other modalities such as CrossFit, judo, among others (Howe, 2004; Parry, 2006; Green, 2011). We understand that karate fits among sports that inflict a certain degree of pain and suffering on the body, but not danger or any risk to life, as can occur in extreme sports (Brymer and Mackenzie, 2017). Perhaps they all generate adrenaline or even other elements in common, however, they definitely seem to be different categories. There are painful sports and dangerous sports as different things (Brymer and Schweitzer, 2017). We will not enter the field of extreme sports because we understand that karate is not contained there.

However, what emerges as an element of distinction in this investigated group is the high level of elaboration of the criteria for the submission of their bodies there, in that environment. In other words, it is not simply a matter of massacring one's own body to exhaustion on the dirty mat—which can be quite recurrent in the sport martial context, even having a peculiar unpleasant smell that characterizes the environment—it is necessary to find beauty in practice. It is not just a matter of being effective and decisive in blows, but it is necessary to master the art of control. Furthermore, more than achieving technical perfection, it is expected that the technique is dosed in combination with an aggressive attitude. Perhaps we can say that the use of the body until exhaustion is no longer a matter of just the infringed requirement, for this group, even if scientifically calculated. In addition to science, art is added here, with a number of criteria required by practitioners to choose karate as a practice that leads them to wellness, which is such a complete and even complex concept.

We consider that it is of great relevance to take into account the significance that this particular group attributed to martial practices. Because this meaning responds to the needs of the members of this *dojo*, respecting the peculiarities of karate in Scotland and perhaps in the United Kingdom, but also possibly may represent other *dojos*, although not studied yet. Thus, the purpose of this paper is to present the representations that *karateka* of the *dojo* investigated by us make of sportive karate as a resource to achieve wellness. In addition, our methodology involved the ethnographic immersion of the first author of the study in the investigated context, participating in training, competitions and, to a large extent, in the life of the *dojo*. Before entering the field of representations that karate acquires for the achievement of wellness, however, we will briefly focus on the presentation of conceptual differences between well-being and wellness, to clarify the concept to which we refer here.

¹Name in Japanese to the martial practice location.

²*Kiai* is the scream accompanying the blows. It is understood as a *cry of power*, not just a cry from the vocal cords.

³The term used for karate practitioners.

WELL-BEING AND WELLNESS

Well-being has long been associated with quality of life. However, after a series of arguments from different researchers on the topic, Dodge et al. (2012) concluded that quality of life is just a dimension of well-being among other important ones. For the authors (Dodge et al., 2012), well-being needs to take into account the physical, psychological, and social aspects of life. Thorburn (2015), on studying the implications of well-being for education, performed an important review of the theoretical constructs associated with well-being. He presented different authors considering varied elements in the composition of the concept, and worked on the idea of authenticity, for example, to achieve fulfillment and life-satisfaction. He reported how teachers felt insecure about working ‘values’ with students to develop well-being. And so, along with other arguments, Thorburn (2015, p. 658) exposes how education systems in New Zealand and Scotland, for example, have ‘a lack of consensus across disciplines and sectors about what well-being means’.

On the other hand, the Global Wellness Institute defines wellness as ‘the active pursuit of activities, choices and lifestyles that lead to a state of holistic health’ (<https://globalwellnessinstitute.org/>, accessed in 01/02/2020). An important element of this definition is to actively position oneself in the search for this state, in intentions, actions and choices, and not passively wait for something to happen. Wellness is an individual search, however, it relates to the environment where a person lives, physically, socially, and culturally.

There is undeniably some confusion between the terms wellness and well-being. However, well-being—and a certain ability to feel happy—seems to be something that is found as a subsection of wellness (Kirsten et al., 2009). In other words, wellness encompasses six dimensions: physical, mental, emotional, spiritual, social and environmental. These dimensions range from very concrete things, such as nutrition, exercise and social interaction, to finding meaning in life (<https://globalwellnessinstitute.org/>, accessed in 01/02/2020).

Thus, although the *karateka* in this study sometimes use the word well-being—and even just ‘fitness’—we conclude that they are referring to the complete and broad state of wellness. As noted above, we recognize that there is a confusion between the terms and, following Kirsten et al. (2009), we decided to adopt the term wellness because we understand that it is the broadest and most comprehensive of them. The *karateka* referred not to a simplistic conception, but rather an elaborate one. Actually, the place where the *dojo* is located is a municipal leisure center, a place that offers activities that aim to promote health associated with leisure and pleasure. This place seems to be about reaching the state of psychosomatic harmony without making use of painful treatments and, on the contrary, providing enjoyment. Leisure and pleasure are closely related to this context. So it is absolutely understandable that people go to such centers to be healthy, but also to feel good, to enjoy themselves, make friends, have

coffee together, share banter humour⁴ and laugh (Mainland, 2010).

For the *karateka*, the state they seek to achieve ranges from basic physical skills and feeling good about their own bodies, to a noble sense of accomplishment with their own lives. The good feelings that the hormones produced by practicing karate as a sport generates is an evident fact. However, the *karateka* also wanted to meet subtler elements, which reveals a high demand and expectation that they have in relation to martial practices. In order to find the state of deep satisfaction, some people aimed to deal well with fear, perceive beauty, develop an aggressive attitude and also be in control. That is, they referred to a very complete concept of wellness. They enjoyed their lives in the *dojo*, they found their leisure and their peculiar dose of pleasure there. We wrote in the introduction this is peculiar because practicing karate as a sport is certainly not a common or simple way, at face value, of finding pleasure. On the contrary, it is quite complex, wide and comprehensive. For this reason, in order to cover all aspects that may be contained in the sense that they intended to express, we will adopt in this paper the term wellness as mentioned, unless it is a direct quote from the *karateka*'s interviews where they used well-being or fitness.

METHODOLOGY

We conducted this study in Glasgow, Scotland for 8 months, from April to December 2019. The period comprised two phases. The first of these, lasting 4 months, was the approach period. It consisted of observations, participating in karate training three times a week, totalling 6 h a week, as well as participation in competitions. The first author kept a field diary of these observations and also wrote a weekly blog reflecting on her experience, which served as the focus of a weekly debrief process with the last author, who commented on and discussed the blogs with the first author. The second phase, while the participant observations and competitions continued, was mainly characterized by the first author carrying out semi-structured interviews with members of the *dojo*. In total, there were 10 interviews with nine *dojo karateka*. We requested the tenth interview with the *sensei*⁵ to clarify and deepen some points that emerged in the initial analysis of the data, meaning that the *sensei* was interviewed twice. The interviews lasted an average of 1 h and followed a standard guide drawn up with open questions, taking into account points that emerged in the written reports from the participant observations of the first author. All interviews followed the same guide, but, as is normal, some points had more or less relevance according to the interpretation of each *karateka*. We will use in this paper the data from nine interviews due their relevance to the topic, since one of the interviewees did not emphasize the importance of wellness or even fitness as the other eight interviewees did. As we will highlight later, the theme of wellness was something that emerged

⁴Category of traditional Scottish humor, similar to black humor. It can be quite heavy and, according to *karateka*, it can help to strengthen the psyche, making people not easily offended.

⁵Is the graduated teacher, sometimes more than that, a kind of master.

from the field, that is, we were not looking specifically for it. However, when pointed out by eight of the nine respondents, it evidently attracted our attention.

Trustworthiness of Data Analysis

Trustworthiness was achieved by the following processes. Reports were prepared for 65 training sessions carried out in the period and also for the four competitions attended by the first author. In addition, we deepened our reflections on what we saw and experienced in 33 weekly blogs. The blogs were a space for reflection, open and of free choice, which were written weekly by the first author, and then shared with the last author and discussed in meetings between them. This is a very relevant point to mention, since these meetings served to triangulate the analysis of data. This process carried out with blogs, field notes, and debrief meetings, allowed the elaboration of the ideas and new concepts to be generated. In this paper specifically, however, we will focus on the data collected through the interviews. All were recorded and transcribed using the free software *Otter*, version 2.1.4-1518, as support. Once the transcription was completed, we proceed to categorizing the data. The data presented here are the part of the analysis that refers to the motivations of the practitioners, why they dedicated themselves to karate.

Participants

The criteria used for the selection of the interviewees was especially their degree of integration in the *dojo*, their very frequent participation in training, and a certain influence that they seemed to have in the group as a whole. We interviewed two *sensei*, both men, and six students, three of whom were women. Among the *sensei*, one of them is the owner of the *dojo* and responsible for the karate training of all the others, including the second *sensei*. He is dedicated to being an instructor at the club he created in Glasgow 14 years ago, and before that he was instructing elsewhere, doing so for more than 20 years in total. The second *sensei* has been training in karate for 10 years. Among the students, there were people who had degrees in karate from fourth *kyu* to first *dan*,⁶ with a minimum of 2 years of training in this *dojo*. Among those interviewed, four people had experiences in different martial arts or different karate *dojos* before choosing this *dojo*. Four of the eight participated in competitions, one had already retired from competition, one was terrified of competing and two were considering the possibility of starting to compete. Their ages range from 31 to 55 years, with an average of 41 years.

These members of the study have very varied personal backgrounds, which seems to be a characteristic of the group as a whole. Among them there was a PhD, four people with university degrees in different areas, one person studying at undergraduate level and two people without university degrees. Only one of the interviewees identified as 'foreign', even though this person had lived in Glasgow for 13 years. The rest are British, although two people were born in or spent parts of their lives in other countries. The competitive landscape in which these people move and even

the *dojo* as a whole is, however, Scottish. In other words, only the main *sensei* has dedicated himself in the past to participating in international competitions.

These people represent the age group of the adults that make up the club. In addition to this age group, many children and adolescents are present in the *dojo*. However, the people that could be in the 20 to 30s, for some reason unknown to us, are not present in this *dojo*. Unfortunately, this data did not attract our attention during the period of immersion in the field, which would have led us to its timely investigation. Anyway, we find that this is the reality of this club and we are not generalizing it or forcing its extension to all other *dojos* that are dedicated to the practice of sports karate. Some results may be transferable, in fact, but further investigation would be necessary to prove or deny such transferability.

Ethics

We obtained written authorization from the owner/*sensei* of the *dojo* to proceed with the research. All the interviews we did had an oral and written presentation of the research objectives, its justification, the researchers' data and that the study was part of a doctoral project. All respondents were left with a copy of the document signed by us and we also had copies signed by them giving consent. The study was approved by the Ethics Committee of the Universidad Autónoma de Madrid. In order to preserve the participants' identities, we will not mention their names at any time, just using random letters to designate their interviews' quotes.

Monist and Dualist View

We want to point out that a very recurrent and dichotomous view of body and mind exists between martial artists of different modalities (Burt and Butler, 2011; Ongpoy et al., 2017; Tadesse, 2017; Rios et al., 2018). Perhaps we can suppose that in some cases it is a philosophical heritage with a dualistic orientation. However, in other cases, there could be a tendency to use the dualistic language while at the same time trying to express a monist experience. We consider this possibility once we know that we learn from the body, that it is not the mere executor of commands (Contiero et al., 2018). But the fact is that looking at body and mind separately has become something widely accepted and, more than that, almost consensual. So, the view that *dojo* practitioners present is not a rarity, but a psycho-social reflex. However, our proposal is more holistic, a monist view. We highlight our position and, taking this into account, we will keep the literal quotations with the dualist language that sometimes was used by the participants.

Authorship, I and We

Before moving on to the narrative of the investigative process, we clarify that the parts that directly refer to the collected data will be presented in first person singular. We decided on this way of reporting since the immersion in the field took place with the participation of the first author of the study, as we already said. The intimate character that the reports acquire with writing in the singular seems to be maintained with greater fidelity, from our point of view.

⁶*Kyu* and *dan* are the Japanese terms used to designate grades in karate. The colored belts are the *kyus* and count down. When the first *kyu* is reached, the next degree is *dan*, the black belt. From then on, the count is increasing.

We consider it important to point out some things in relation to the immersion in the field made by the first author, who will speak in the first person, since the researcher participating in the environment becomes the main instrument of data generation. The fact of conducting research from inside, as a participant in the *dojo* as well as a researcher, is a factor that has the potential to distinguish our study from others. Because it is not just talking about something that is seen from the outside, but something that is felt on the skin, with which one has intimate contact. It is not a matter of presenting the views of those involved only, but also of including the experience itself, lived, felt, attested by self-submission to what others also do.

Perhaps the first thing to say is that the investigated environment was both known and unknown to the first author. I have known karate for a long time, and this joined me to the group as a *karateka* companion. However, this was in my first contact with the country (Scotland), with a new language for me and a different culture, elements that I found strange. Perhaps something similar happened with Delamont (2009) when studying capoeira in the United Kingdom. I was a strange stranger, playing with words a little, using karate as a familiar language. Whenever anthropologists write about ethnography, they speak of the importance of making the everyday object of study strange. Undeniably, I went through this process. And even the object of study, karate, familiar to me, became strange, because it was adapted to the local culture. For example the names of the blows, traditionally spoken in Japanese, were in this *dojo* translated into English.

Besides that, participant observation is very rich and complex. While observing others, their actions and reactions, it is also necessary to be attentive to one's own actions and reactions. I sought to do everything naturally and at the same time with intention. Naturally so that the experience is authentic and not simulated, but with care so that the experience is not totally spontaneous to the point of forgetting that you are investigating, not *going native*, as risk in anthropology. And with intentionality because of thoughtful interaction, nimbly thought out, can trigger expressions, manifestations, behaviors of extreme richness for research. Anyway, I see that there is no ready recipe for this. Just being 'on the inside' seems to predispose people to cooperate and share what they know since they suppose I live the same way as them. I believe that my posture naturally followed this line, even though some things turned out to be truly strange for me.⁷

I am aware that my position in the field and my social condition may have had some influence on the material collected and its analysis. It was not the first time that I had the experience of arriving at a *dojo* as a novice and experienced at the same time. Novice because I just arrived, and experienced because I am a black belt. In this situation, everyone watches you and makes their assessments. In addition, I was a foreigner in the environment, needing help with the language often, something

I was never denied and seemed to challenge and amuse *karateka*. They also reacted respectfully to my status as a researcher and, in time, absorbed it and, perhaps, forgot it. Finally, my social condition as a woman, perhaps more than impacting the field, continually directed my gaze toward reading the situations, recording the most relevant to me and being present in the data analysis. I consider that my position as a woman cannot be abandoned. And I think that if the analysis were performed by the men in the *dojo*, it would take other directions. However, the theme we developed in this article is not controversial and came as a novelty to me.

Amidst the scenery of some strange elements was the conception and search of *karateka* for elaborated wellness. I admit that it was the first time that I looked at the sport, in its hard version, from this point of view. Since finding something like serenity and completeness amid punches, kicks and *kiais* of the sport, and not in Zen practice that martial art could assume, was not something that I expected to find.

Discovering the Wellness Construct

'Your mind and your body are doing the same thing at the same time, in the moment. (...) You are just absolutely in the moment. And everything... is just... your body is just responding really, really well. Has a huge beauty to that, mentally, it makes you feel very, very well; and physically makes you feel well. It's a feeling of absolute well-being, I think.' ("V", Interview 9, 11/10/2019)

This quote from one of the *karateka* helped to indicate the path, a little confusing at first, to what the practitioners were referring to, to what they sought with their practice. Because many people started their practice seeking to be fit, whether it was losing weight, keeping in shape, or managing stress. So they said that when they feel healthy, they had found a pleasant physical, psychological or mental state. Besides, they were happy with the relationships they established in the context of the *dojo*. All of this, for them, seemed to be their self-perception of being fit. They appreciated this condition, because in karate this conception of being fit adds to the acquisition of skills by making them feel more confident. Perhaps I can say that they used to receive important help in this direction from the main *sensei*. He was remarkably skilled in different aspects of karate. Usually he did not put himself as extreme authority in karate or even other subjects, he adopted an open posture and, at first sight, appeared democratic in his running of the *dojo*. However, the fact that he was/is undeniably skilled makes everyone respect him and naturally gives him the position of highest authority, the first place in the hierarchy.

Sensei often made comments to students as feedback on their performance and such comments were often positive. That is, he, from the height of his magnificent performance, recognized that the students were progressing, that they were advancing very well. From my own experience, this generates a sense of wellness with oneself. People crave it. And I think it contributes to building self-confidence and even self-esteem. This all translates into the language used in the *dojo* as an aggressive attitude. It is necessary

⁷I have realized that many things that I perceive as strange in the countries where I am a foreigner or stranger, in this case Spain and the United Kingdom, have more similarities to each other than my country of origin, Brazil. They are similarities, not identical correspondences, but they still lead me to reflect that, perhaps, what is strangest is the culture of my country of origin.

to be confident of oneself to present the posture that does not hesitate, to have attitude and determination.

I think this set of elements conforms to the meaning of wellness for this group. In this great ‘umbrella’ called wellness there is space for different facets of karate. The first facet is the fitness itself related to losing weight or keeping in shape. There are four other subcategories. One is about beauty as a broad concept, containing aesthetics, embodied aesthetics as well, but not limited to it. A second is about fear, presenting itself under different aspects. A third is the aggressive attitude, an important and desired posture among the *karateka*. Then control, fourth, other central concept in this environment.

FINDINGS AND DISCUSSION

‘I want to be fit enough to be prepared to deal with whatever comes along’ – The Importance of Fitness

Regarding fitness related to losing weight or keeping in shape, all respondents attached some value to this theme.

‘I wanted to get fit, and I plan to get fit alongside doing karate and put my own fitness efforts in.’ (“Q”, Interview 2, 24/09/2019)

When I began to hear the discourse about fitness repeatedly in interviews, I started to wonder about its importance. Whether it would be someone’s obsession, a cultural issue, or if there would be some strong public policy related to health, nutrition and exercise. Anyway, I noticed that there was a consensus about the use of this term fitness, that is, everyone considered that seeking fitness is appropriate. In fact, after carrying out a systematic review of the health benefits of adults who practice hard martial arts, Rios et al. (2018) highlighted the reports of positive effects for physical and mental health. Initially I understood that *karateka* referred only to these aspects when using the term.

For three of the interviewees, becoming fit was the reason for starting karate and two of those talked about a striking change in their bodies for weight loss. They said that it is important to continue with the practice so as not to change again in a negative way, gaining weight in this case.

‘Now I feel as if it’s in my head, if I don’t go I’m going to put all the weight I’ve lost. I’ve lost six stones. Maybe more. I was really, really overweight. (...) I’m terrified my fitness is going to go, not so much the weight, it’s more of the fitness. So, and I feel so much better, you know.’ (“N”, Interview 7, 03/10/2019)

Five people are added to this observation of shape improvement or maintenance, even saying that they are now better than in their 20 s.

‘I’m physically better now than in my 20’s. Stronger and more capable. It’s addictive!’ (“Z”, Interview 1, 23/09/2019)

‘I am able to have the same performance now that I had in my 22 years old.’ (“X”, Interview 3, 25/09/2019)

‘I’m good, I move as a 20-year-old.’ (“H”, Interview 6, 03/10/2019)

‘I don’t feel it, but the fact is that I am 55!’ (“W”, Interview 8, 06/10/2019)

They also attached value to the fact that in addition to being well physically, they enjoyed this type of exercise more than in activities such as weight training or gymnastics, generally more monotone activities. For Draxler et al. (2010) the main benefits of practicing martial arts are observed physically. In this *dojo* though, practitioners also developed a social life and seemed to feel active at different levels, prepared to deal with different situations that arise in their lives.

‘It’s a great way to keep your mind and body active and fit.’ (“X”, Interview 3, 25/09/2019)

‘I want to be fit enough to be prepared to deal with whatever comes along.’ (“Q”, Interview 2, 24/09/2019)

To be fit seemed to be a state that contains movement, displacement, some agility, strength and flexibility. But more than that, it relates to some degree of self-defense ability, which is developed through the individual appropriation of karate techniques. I found it extremely interesting to note that as this ability develops, people became self-satisfied with their overall performance. And then, something like a cycle is created, where people find a certain accomplishment and keep practicing what generates in them pleasure, besides meeting initially-set goals for physical fitness.

Perhaps we can say that the initial objective gains more depth, that is, it could no longer be enough, after a certain time, just achieve a desired physical shape or keep fit. More complex concepts began to appear, such as beauty, not only in the visible forms of movement, but in the perception and sensation that beauty produces in the whole body.

‘I think I find quite beautiful, I find the moves quite beautiful, I like the way my body feels doing it’ – Beauty in Punches and Kicks?

It is hard to find beauty in the midst of violence. Perhaps it is not impossible when one thinks for example of nature in action, storms and other natural phenomena. However, in my opinion as a *karateka*, physical violence is devoid of beauty. I am not able to appreciate self-defense aesthetically, with its hard, dry blows in the pursuit of effectiveness. It is different from the aggressive attitude, discussed below. Already in those blows, although they are punches and kicks that could previously seem violent, when they are performed with technical precision, fluid, controlled and fast, as required by the sportive aspect of karate, I can identify tremendous beauty. Allen (2015) asks in his book *Striking Beauty: A Philosophical Look at the Asian Martial Arts* ‘where is the beauty in something so vested in violence?’ In order to find a balance between beauty and violence he says that ‘movement tends to become aesthetically interesting as it becomes fluid, flowing, efficient, visibly, energetic, and seemingly effortless’ (2015, p. 158). To some extent “V” also identifies this feature:

'I can see some beauty (in *kumite*⁸) when I watch two people who are very good, hitting together.' ("V", Interview 9, 11/10/2019)

This view is in line with what *karateka* present especially when they talked about how they feel performing the movements. The state of wellness was attained as the experience of sensations occurring in the body.

'I love the discipline of it (*kata*⁹) and I love, I think I find quite beautiful, I find the moves quite beautiful, I like the way my body feels doing it.' ("V", Interview 9, 11/10/2019)

I believe this feature of karate relates to the lived experience of the body, that which is already embodied (Downey, 2010; Velija et al., 2012; Downey et al., 2014), which comes to fruition and produces pleasure when put into practice. When something new is started, some degree of discomfort is usually experienced. But when it becomes practiced, it belongs to the body in some way, it becomes comfortable to perform, and more than that, the experience of performing such movements generates delight. As the body is shaped in the karate environment, movements practiced repetitiously become internalized and therefore comfortable to perform.

'It's how to introduce repetition without being too boring. But at the same time that becomes your body, your body. It's like practicing piano and I play the same thing over and over again. And because it's your... in your fingers.' ("Z", Interview 1, 23/09/2019)

When the body is able to work autonomously, and sometimes a little automatically, the *karateka* can try other things, develop new actions. That is, it is possible to be aware of other elements and explore them more. Schmidt (2004) did a reevaluation about his own schema theory first published in 1975, related to motor skill learning. The proprioceptors in the muscles and kinesthesia permits the *karateka* a degree of freedom and they can at the same time as acting, create opportunities, explore possibilities, observe the opponent, think ahead. And that undeniably produces self-satisfaction, wellness. Allen (2013, p. 251) says that 'true speed and power come with eloquence, when the many movements become one beat, one corporeal melody beautifully performed—if, that is, something so violent can be beautiful at all.'

'Kumite is creative, very creative. You take the techniques and then you have to have the speed, and the meta agility to put all together.' ("V", Interview 9, 11/10/2019)

Thus, it seems that beauty is not so much seen, that is, it is not perceived with the commonly used sense for that, vision. It, the beauty, is, indeed, felt. It is an aesthetic experience (Kirk, 1996; Maivorsdotter and Lundvall, 2009; Maivorsdotter and Quennerstedt, 2012) that includes some degree of satisfaction with one's own body. It is the experience

of flow (Csikszentmihalyi, 2000), a certain possession of one's own body, in the sense that there is power over it, which works and responds according to the commands it receives/feels exactly in time. It is the body present and flowing, without deviating from what it needs to do. The *karateka* is present, concentrated, attentive, active.

'Your mind and your body are doing the same thing at the same time, in the moment. (...) You are just absolutely in the moment. And everything... is just... your body is just responding really, really well. Has a huge beauty to that.' ("V", Interview 9, 11/10/2019)

Perhaps I can synthesize the perception of beauty in this environment, not for all participants, at least consciously, but for some of them, as a state and a feeling (Van Deventer et al., 2007). It is possible to see and appreciate beauty in perfectly performed techniques, for example, but it is also possible to feel. At times, I heard participants telling me that this or that experience was "addictive." It impacted me at first. But now I think I can understand a little better. Maybe they only refer to this state that they find in different forms that karate can take, more or less appreciated according to the taste of each person. Notwithstanding they get addicted to the state, the feeling, the sensations. And they want more. They wanted to feel more of it.

Wellness is found in something beautiful, pleasant. But the way to reach it can be hard. The next theme is about this, about a certain discomfort with which it is necessary to learn to deal and live with.

'Be comfortable in being uncomfortable'—How to Embrace Fear

There are different forms of fear present among *karateka* in this context. A very strong form is the fear of failure. This is probably central here. Failure can be presented as defeat in competition, as not performing to one's potential, including in training. There is a fear of taking risks and receiving penalty points from the opponent. This is not about fear of being beaten by the opponent, but of being caught, that she or he scores on you.

'In competition is so little room for error. And not always the better person wins.' ("X", Interview 3, 25/09/2019)

There is also a certain fear of the sensations that come with competition, the suffering of when there is a desire to escape, the discomfort, the pressure. Sagar and Stoeber (2009) establish a relationship between the fear of failure and perfectionism and also say that these concepts are usually associated with shame and embarrassment.

'I am quite good and people know that I'm quite good. That puts pressure on me. I don't know. But I'm good.' ("H", Interview 6, 03/10/2019)

Some thoughts are also feared. So it turns out that *karateka* her/himself feeds the fear.

⁸*Kumite* is the fight itself within karate, structured by weight categories.

⁹*Kata* is the Japanese name for the fight against an imaginary opponent. It is performed as a choreography of blows, in synthesis.

'If you put your mind into it, you know, you can't. You can't think too much. Just think about like dancing now, when you dance you don't really start thinking, "I'm gonna move my body here and there". Yes, just kind of internalize, okay, this is a pattern you have to do. Just relaxing your body and then just start doing this. Yes. So in those cases, yes, like the body working alone without the mind.' ("Z", Interview 1, 23/09/2019)

A second form of fear is associated with injury. This type of fear most often appears in people a little older. This is the fear of heavy blows and a certain request for control, which I approach in the last section. There is a certain fear of pain apparently, perhaps because pain has previously been experienced.

'I would like just five minutes in the end (of kumite), not more, to avoid an injury.' ("W", Interview 8, 06/10/2019)

De Pero et al. (2013) point to the relationship between anxiety and injuries in a study they conducted with 14 Italian gymnasts. It is interesting to observe this, because "W" told me that he always feels anxious on his way to the *dojo*. Likewise, he fears *kumite*, because with contact with the opponent in the fight he thinks he can get hurt. So he would like just 5 min of *kumite* at the end of training, being completely warm.

The next type of fear is related to that, training itself and what one can experience in it, the pain that the training sessions can bring. The *sensei* used the expression 'sweet pain' a lot. It is supposedly sweet and should be appreciated because it brings progress to people's performance. Nevertheless, the *karateka* kept coming to practice. They feared and respected at the same time other *karateka* who caused them pain and progress, ultimately *sensei*. Perhaps there is some kind of love-hate relationship with the practice and among people, in this environment.

'The pain comes according "X"'s mood.' ("H", Interview 6, 03/10/2019)

"X" is very bad. He doesn't know when stop.' ("H", Interview 6, 03/10/2019)

Practitioners recognized the *sensei*'s skills, respected and admired him. However, they repeatedly pointed out, in moments of relaxation, how the *sensei* enjoys hard training and, supposedly, seeing his students suffering in training. The *sensei* says he does that for the sake of *karateka*. That is why "H" said that the measure or the moment to stop is unknown to the instructor, or that according to his mood the training hurts more or less. Anyway, even though *karateka* suffer during the execution of routines, they seem to like and want more of it.

In that context, *karateka* were guided to taste and enjoy the pain. Analogously it was being said that pain and fear must be accepted. Fear and pain should not be repudiated. Spencer (2012) presents an interesting study on this topic, especially related to pain in mixed martial arts. The author comments that there is an intimate relationship between the way athletes express their feelings of pain and masculinity. Surely this also occurs among *karateka*, who needed to learn to deal with pain and fear and live with them. Perhaps over time these elements may decrease, but possibly they will not be completely overcome.

'Be comfortable in being uncomfortable. Know you will be uncomfortable and just be okay with that.' ("V", Interview 9, 11/10/2019)

As a researcher, I consider this to be an excellent phrase, while as a *karateka* I hate it. I think this because I have very clear and present sensations and feelings that make me uncomfortable, especially fear in some situations. I hate this feeling. But I always face it again—and this seems to be exactly the same for the other *karateka* in the *dojo*—I don't get over it, it's always there. Nor does it seem to diminish. I see how easy it is to understand and agree with that phrase, but I also see it as almost an attack simply to be okay with the discomfort. The discomfort is intense, continuous, visceral. And yet we get back to that. Bolelli (2008) works very well with the idea of using martial arts as a tool to lose fear in life, especially fear from different forms of conflict. He says that 'through practice of the fighting arts, the martial artist stares his [or her] own fears in the eyes. He [or she] challenges them every time when facing an opponent. Every fight is a battle against our own limits and weaknesses.' (p. 5) "Z" captured this in her comment that

'Karate is experience of facing your fears, being uncomfortable.' ("Z", Interview 1, 23/09/2019)

Where is the relationship between feelings of fear and wellness? This is a very interesting question and exposes a little of the peculiarity of this group that finds leisure and pleasure in uncomfortable activities. It seems that *karateka* use their experiences on the mat as a laboratory for life. They feel stronger in the *dojo* for overcoming or at least facing the situations that present themselves and this strengthens them in a way, generates in them a certain feeling of comfort, however controversial it may seem, of pleasure and even of a certain superiority. In this context, they learn elements that shape the posture they choose for their lives. Another of these elements is the aggressive attitude.

'I've learned how (...) to be aggressive in the right way. Aggressive without losing your temper'—The Aggressive Attitude as a Posture in Life

Possessing the right level of aggressive attitude is a serious goal among *karateka*. In fact, I think I can say that it is better to have something like an abundance of that attitude than to lack it.

'Not at all, I'm not aggressive. As I'm... "X" tells me I say "sorry" too much. I always say "sorry". "Sorry". He says the next time I say "sorry", he used to say the class... "The next time "N" says 'sorry', we're doing 10 push ups'.' ("N", Interview 7, 03/10/2019)

In general understanding with karate, it is a posture, a position to face life. According to the reading the *karateka* do, it is not possible to present a *kata* without power or to enter the *kumite* as a coward, and outside the *dojo*, in ordinary life, to be an extremely brave person. The posture that people adopt in the *dojo* is one that they have in their everyday lives, in short. So everyone longs

to exhibit this attitude-laden posture. It is frustrating not to own it, as “W” said:

‘I’m aggressive, but I’m not over the top. Definitely, I’m not over the top. (...) I just don’t have greatest offensive techniques, so it’s almost frustrating, is like “okay, you hit me, I can’t do the same back”, you know what the mean?’ (“W”, Interview 8, 06/10/2019)

Some people naturally and innately have a certain level of aggression (Lim et al., 2010). Other people need to develop it, to cultivate it, build in themselves. In the current view in the *dojo*, if one does not have this posture, unless there is a commitment to build it, there is a gap, a lack, a void. The *sensei* commented in this respect that

‘Technique is pretty easy to fix; attitude is so difficult.’ (“X”, Interview 10, 01/11/2019)

Countless times in interviews and training sessions *karateka* talk about this attitude as a kind of passion. This posture is identified with a strong and intense charge of energy, of a kind of enthusiasm, of passion in synthesis. That is an important word, passion. Adopting a passive posture is something that is to be avoided, repudiated in some cases and quietly despised.

‘You cannot win on defensive.’ (“Z”, Interview 1, 23/09/2019)

The active and intense posture is instead sought and praised (Daniels and Thornton, 2008). This is also emphasized in the competitive environment, which rewards this attitude. The introduction of *senshu*,¹⁰ for example, presents itself as a stimulus for athletes to attack. The defensive posture may, in a way, be punished. The points system is aimed at making the sport attractive to the public, certainly, and forces athletes to pursue an aggressive stance and attitude.

‘My style is going to be more aggressive, because I think I am a bit more aggressive than probably I realize perhaps.’ (“Z”, Interview 1, 23/09/2019)

It draws attention as “Z” presents hesitations in her speech: ‘I think’, ‘probably’, ‘perhaps’. The environment fosters the aggressive attitude and commonly people, at least those who remain, tend to adapt to the context. Thus, it is possible that they develop—or want to develop—what they did not initially bring, or even discover something that was a little hidden even for themselves and now can/should come up.

Attitude, posture, passion, are superior aspects even to the results in competitions. It is possible to lose and have great honor if everything was done intensely, giving yourself completely, without hesitation.

‘I’m an attacker fighter. It’s about intimidating sometimes, I think.’ (“H”, Interview 6, 03/10/2019)

Being unpredictable in the fight also seems to be quite positive, because it is an active attitude. There is no limit to strategies, you can use whatever you want if it helps to present the aggressive attitude.

‘That’s the aim, to be predictably unpredictable.’ (“X”, Interview 3, 25/09/2019)

‘When I step on the mat and I look that person I just think terrible things. It makes me fight better. You don’t do that?’ (“H”, Interview 6, 03/10/2019)

“H” asked me that question as if to say that such an attitude is the normal and correct one. I replied to him that I don’t have such thoughts and maybe that explains a little bit why I am able to see the environment really as strange often. However, it is essential to always maintain a certain degree of control. If the aggressive attitude, especially the aggression, goes beyond the tolerated level and becomes something like out of control, there is also some repudiation for that. Thus, it is necessary to be aggressive, but there is a right way to express it. A good *karateka* can never afford to lose one’s mind. As “K” put it succinctly

‘I’ve learned how to do that and how to be aggressive in the right way. Aggressive without losing your temper.’ (“K”, Interview 4, 26/09/2019)

So, it is important to find the right balance between aggressive attitude and control, something very appreciated in the *dojo*. And reaching the exact measure or approaching it is something that delights practitioners. It is necessary to work to achieve this, to submit, and they do it, again because every time they see their goal, of someone strong, aggressive and controlled, like an archetype, such a vision stimulates and pleases them. They pay the price for this satisfying feeling. It means to say that the effort for wellness, as a goal and also in the small conquests of the way, is justified.

‘Control is a massive thing in karate for me. You know, the ability to be aggressive but controlled’ – The Superiority Given by Control

Control is a fundamental criterion for competitions and also for a respected *karateka*. Developing control generates wellness because people feel capable to do karate well, they feel competent. According to Madden (1995), the perception of increased control makes people feel less vulnerable.

The rules in competition and in the *dojo* dictate that you need to score while respecting your opponent’s physical integrity. In competitions for juniors this criterion is more strictly enforced. Already for adults there is a measure between the control and the ‘touch’, that is, tapping a little, “marking the point.” Scoring the point objectively means hitting a little. It is not to hit with violence, but to hit with aggressive attitude, with determination. Especially in the abdominal region this is allowed as it is mandatory to wear chest and rib protection under the *gi*.¹¹ The

¹⁰It is the *advantage* obtained by scoring the first point in *kumite*. If the fight ends in a draw, the athlete holding the *senshu* will be the winner.

¹¹The karate uniform, sometimes incorrectly called *kimono*.

abdominal themselves, on the other hand, is out of protection, and all of this can be ‘touched’ if there is no effective defense. It is a region that is the responsibility of each athlete to keep trained and strong to withstand certain strikes. A *karateka* will only be penalized for hitting this region if she or he does so in an open manner with the intention of hurting. If the blows are on the head and face, the criteria are stricter and much more control is required.

Thus, there is contact and some apology for it. At times this is not so fair, that is, it is common in fights to use strong blows to intimidate the opponent. Even if you receive a penalty for this, the rules allow for a number of penalties, and sometimes the impact on your opponent may, in the opinion of some coaches, make up for it. For they may react with fear, retreat, be intimidated. Even in training the *sensei* emphasizes that it is necessary to ‘touch’, have some aggression. After all, this also needs to be trained.

‘It doesn’t sound good, but that absolute manipulation on the mat, on the tatami. I’m going to manipulate you to where exactly I want you. (...) I call like a shepherd with the sheep. Sheep dog, “come on, in the corner”. I love that.’ (“X”, Interview 10, 01/11/2019)

But sometimes people don’t react well. And this aspect is a bit intriguing because while *karateka* want to be physically challenged in training, they care very much not to receive blows. This seems to have a slightly offensive facet, the person who received the blow feels somewhat assaulted (Wojdat and Ossowski, 2019). As “Z” put it,

‘I don’t like the stress of being hurt.’ (“Z”, Interview 1, 23/09/2019)

There are opinions that are contradictory. Because at the same time that it is necessary to fight with control, not to be exceeded, not to hurt the training companion, especially, one has to ‘touch’. “X” raised the question,

‘Why would somebody who doesn’t want to get hit come to karate?’ (“X”, Interview 10, 01/11/2019)

And so people start to develop this ability to ‘hit a little’, something that is not contrary to the spirit of the sport. For many, it is not natural, like the aggressive attitude. In fact, this skill is part of the aggressive attitude that is often built in the *dojo*. For some, the idea of hitting another *karateka* clearly does not come naturally.

‘I took a while to actually become comfortable with actually hitting somebody.’ (“K”, Interview 4, 26/09/2019)

In fact, training with someone who never gets close enough to ‘score the point’ on you doesn’t help you get better. You stop defending and the fight becomes something like a game between two nice people, but it is not mutually challenging. On the other hand, if the person does not allow you to approach for some kind of fear and so your blows are always far away, neither is this positive. Because your body does not have the actual experience of reaching the head or the area in focus. Everything becomes

a joke. When you find a training mate who is willing to train closer to the reality of competition, it is highly valued. But it does require a measure of control, as I commented before. Aggressive attitude cannot become violence (Twemlow and Sacco, 1998). If there is loss of control, there is loss of respect. It is a sign of superiority not to use the same language or to pay in the same currency what is negligible. As “K” commented,

‘I wouldn’t feel that I have to fight fire with fire.’ (“K”, Interview 4, 26/09/2019)

On the contrary, there is great admiration for those *karateka* who are able to exert control of their blows. Practitioners want to train with those with the highest belts for two main reasons, supposedly that belts are able to challenge them to give their maximum, and they have enough control in general not to harm them.

‘Control is a massive thing in karate for me. You know, the ability to be aggressive but controlled is so important.’ (“K”, Interview 4, 26/09/2019)

‘I’m looking up we’re you know, the higher belts and I’m thinking I wish I was in that group because it pushes me more you know, and I feel as a failure and more like I love going with “K” I love going with you, even with “Q”, you know.’ (“N”, Interview 7, 03/10/2019)

Achieving the level of mastery of the technique necessary to develop exquisite control, situated between ‘touching’ and teaching is something that challenges and attracts *karateka*. They aimed for a degree of challenge that will make them progress and everyone, without exception, has the view that being challenged is positive, everyone wants to go beyond their comfortable limit. The challenge of achieving control, something that few obtain with true mastery, is a differential that places its holder in a position of a certain symbolic superiority. This social place is, therefore, another exotic ingredient of wellness for this group.

CONCLUSION

‘It (karate) pushed me so hard and I love that feeling of being pushed in having to train harder and get better and all that type of thing.’ (“K”, Interview 4, 26/09/2019)

In this paper we wanted to present the reasons why a Glasgow *karateka* group practice the sport. Thus, we relate hard-trained sportive karate to some unconventional conceptions that practitioners develop about wellness. In addition, we added to the two previous elements, karate-sport and wellness, the participant observation carried out by the first author. We highlight the conventional and typically accepted relationship between traditional martial arts and the meanings of wellness. Such a relationship occurs succinctly by the search and achievement for inner peace, harmony and balance through meditative, protocol following, philosophical and, in some cases, spiritualistic martial practices (Draxler et al., 2010; Mainland, 2010; Cushing, 2013; Wang et al., 2013; Kumpf, 2018). And we also present peculiar

aspects of sportive karate that do not fit the well-known martial arts standards that usually promote wellness, but which for the investigated group, has shown to provide deep and quite elaborate levels of wellness.

Through thematic analysis, the data led us to identify the achievement of wellness by excess, excitement, tiredness, euphoria, fatigue, punishment of the body, challenge, (self)demand, discomfort and feeling of superiority. The *karateka* achieve wellness using body work, working on their physical shape, the first reading of fitness, as perhaps the most superficial level of their conception of wellness. This is something consensually important. Then they develop elaborate levels of this conception. The pleasure that gives them the appreciation of the beauty seen, but especially felt in themselves, when performing. They enjoyed the aesthetic experience from punches, kicks, *kiais*, carrying out complex and energetic techniques. They also lived their leisure experience when facing fear and seeking to accept the discomfort present in some moments. This decision to submit to the unpleasant builds, in their view, a strong posture for life. Also, it contributes to the solidification of this posture the development, whether by channeling something innate, awakening something that slept, or building something that does not exist, of the aggressive attitude. The possession of this attitude is a distinguishing factor (Bourdieu, 2007) among practitioners and gives them positions of a certain superiority in the internal hierarchy of the *dojo*, especially when accompanied by control. If control is an absent characteristic, it is possible to lose that position. However, if it is present, with all the challenge that control conquest entails, it guarantees extreme—perhaps cathartic (Hollanda, 2009)—sensations of wellness. Although we find in the literature a vast number of sports in which the punishment of the body as a sports pedagogy (Vaz, 2000) is also present, we identified in this group certain differences. Perhaps the main difference is the elaboration and possible refinement of the criteria adopted by the *dojo* to achieve wellness. Demanding and extremely strenuous elements are there, combined with

tradition, hierarchy, discipline, creativity, beauty, aggressive attitude, control, discomfort, fear, flow. Elements that, if not combined, perhaps with something of science and art, would only be contradictions.

In this sense, this group showed us an atypical way to achieve wellness. They provoke us to think that they don't want to feel full, filling in the gaps that people usually say they have, figuratively, internally. These *karateka* aim instead to empty themselves, *spending/using* themselves through practices, perhaps through a somewhat tortuous and impactful path. This is the sensation felt in the flesh itself when participating in the training and living the social life of the *dojo*. And this leads us to reflect on the importance and need for new investigations to see if this is repeated in other martial arts, if many more groups find wellness overflowing and experiencing situations of (self)confrontation in the same way. Was there, for example, some degree of sadism/masochism involved in these *karateka's* experiences? Why do they need to find wellness through a hard and demanding path and do not feel served by the traditional meditative and relaxing? Why do they elaborate their practice in a peculiar way, combining apparently antagonistic elements? We therefore provisionally close this study, given the need for its continuity.

AUTHOR CONTRIBUTIONS

This article is the result of a collaborative common research work. We declare that FCT undertook the data collection through fieldwork, analyzed the data, led on the writing of the paper. DK assisted with analysis of data, supported the writing of the paper correcting English, wrote the abstract and coordinated the writing of the introduction and conclusion. CT-G and AV reviewed the material and gave feedback with suggestions for writing. All authors contributed to the article and approved the submitted version.

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Blending Martial Arts and Yoga for Health: From the Last Samurai to the First Odaka Yoga Warrior

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This paper introduces the case study of Odaka Yoga, an innovative style of postural yoga blended with martial arts elements which emphasizes the importance of practitioners' health and processes of self-transformation as pivotal to the school's ethos. More specifically, the paper explores how Odaka Yoga's philosophical backdrops and practical repertoire, composed by a mixture of "exotic" resources such as Bushido, zen, yoga, and a constant reference to the ocean waves and biomechanics, constitute a very specific vision of *health* at the intersection of Western science and esoteric knowledge. Theoretically, the paper borrows from Jennings' theory of *martial creation* and enriches it with some of the central analytical tools proposed by theorists such as Bourdieu and Foucault. Methodologically, it relies on a *multimodal approach* including *discursive analysis* of the school's promotional materials, *interviews* with the founders and other key teachers, and *observant participation* of practitioners' apprenticeship processes. More specifically, this paper discusses the birth of Odaka Yoga as occurring at the intersection of Asian martial arts and yoga, as well as the founders' biographical trajectories from the world of competitive martial arts and fitness, to yoga; it then turns to an examination of Odaka Yoga's conception of health as a mixture of the Western biomedical model and the subtle body model of Asian traditions such as yoga and martial arts. It argues that the conception of health promoted by this school gives rise to the Odaka Yoga Warrior, the ideal-typical practitioner whose body is simultaneously exposed to the medical gaze and its imperatives of control, knowledge, and manipulation; while it also defies it, as it is animated by the elusive flows of energy (*qi* or *prana*) that prolonged practice aims to master. The paper concludes with a reflection on hybrid conceptions of health and the ubiquitous role of health discourses and narratives across sociocultural domains.

Keywords: martial arts, yoga, Odaka yoga, health, subtle body

INTRODUCTION

Martial arts, defined as the combat arts that have developed—and continue to develop—across geographies and cultural contexts all over the globe, are, in the public and popular imagination, tightly connected with spectacular flying kicks, violence, and superhuman powers. Nevertheless, a significant number of martial arts and "martial activities" (Martínková and Parry, 2016) more in general (e.g., Aikido, Karate, Yoga, Taijiquan, Wing Chun Kung and Qigong, among others), are also substantially dedicated to the maintenance, improvement, and restoration of the practitioner's

health from both a philosophical/discursive standpoint, and a practical/experiential level of consideration. Social science literature, however, especially those studies produced within the disciplinary interests of “martial arts and combat sports (MACS)” (e.g., Farrer and Whalen-Bridge, 2011; Sánchez-García and Spencer, 2013; Channon and Jennings, 2014), and “martial arts studies” (Bowman, 2014, 2015, 2017, 2018), have so far contributed to provide a picture of martial arts as first and foremost a fearsome activity dominated by action, physical confrontation and violence. This literature has extensively inquired into the history, developments and deployments of many martial arts (e.g., Green and Svinth, 2003) and their deconstruction (e.g., Bowman, 2019a), focusing especially on their “culture of combats” (e.g., Sánchez-García and Spencer, 2013; Brown et al., 2019), pedagogical environments, processes of apprenticeship, and knowledge transmission (e.g., Wacquant, 2004; Brown, 2005, 2011; Downey, 2005, 2008; Spencer, 2009, 2014; Brown and Jennings, 2011; Downey et al., 2015; Jennings et al., 2020), embodiment and sensuous involvement (e.g., Stephens and Delamont, 2006; Samudra, 2008; Farrer and Whalen-Bridge, 2011; Spencer, 2011, 2012; Jennings, 2013; Channon and Jennings, 2014; Southwood and Delamont, 2018; Telles et al., 2018), religious and spiritual bearings (e.g., Maliszewski, 1996; Brown et al., 2009, 2014; Jennings et al., 2010; Brown, 2013; Tuckett, 2016; Pedrini, 2020), and media representations (e.g., Brown et al., 2008; Jakubowska et al., 2016; Yip, 2017; Bowman, 2019b,c,d, 2020a,b; Trausch, 2019). Moreover, as this body of work increases, specializes and further develops, also its attention to conceptual clarity and theoretical developments intensifies, with the consequent introduction of a host of new concepts and theoretical perspectives (e.g., Brown and Jennings, 2013; Sánchez-García and Spencer, 2013; Cynarski and Skowron, 2014; Martínková and Parry, 2016; Bowman, 2017; Cynarski, 2017, 2019a; Jennings, 2019; Pedrini et al., 2019) oriented to the creation, maintenance, and re-invention of the disciplinary boundaries of martial arts and combat sports and martial arts studies and to their legitimacy as autonomous fields of study. However, as rightly underlined in the journal’s description of this special issue on ‘*Martial Arts, Health and Society*’, “[h]ow martial activities might be health-giving, dangerous or healing, therapeutic, and rehabilitative activities connected to ideas on the body and medicine remain largely unaddressed”¹. I contend that this lack of research on health and related issues in the martial arts is largely due to their popular representations and academic renditions as first and foremost arts devoted to combat. Emerging categories such as “martial activities” (Martínková and Parry, 2016) and “martialité” (martiality in English) (De Grave, 2019), on the other hand, show the capacity to bridge the study of martial arts with the study of an array of other physical and non-physical practices oriented to the disciplined cultivation of the practitioner’s mind, body and soul, and because of this, are useful in accounting for how health is theorized, transmitted, and cultivated in specific martial arts and martial activities. This paper, therefore, together

with those studies that have already begun to competently inquire into the relationships between martial activities and health in contemporary societies (e.g., Alter, 2004; Brown and Leledaki, 2005, 2010; Burke et al., 2007; Newcombe, 2007, 2019; Croom, 2014; Fong, 2014; Jain, 2014, 2020; Jennings, 2014, 2017; Leledaki, 2014; Cynarski and Sieber, 2015; Markula and Chikinda, 2017; Smith and Atencio, 2017; Cynarski, 2018, 2019b), attempts to be a contribution in this direction. More specifically, I contribute to the literature with an ethnographic and discursive exploration of Odaka Yoga, an innovative style of postural yoga blended with martial arts elements, which emphasizes the importance of practitioners’ health and processes of self-transformation as pivotal to the school’s ethos. In this way, I explore how Odaka Yoga’s philosophical backdrops and practical repertoire, composed by a mixture of “exotic” resources such as Bushido², zen, yoga, and a constant reference to the ocean waves and biomechanics, constitute a very specific vision of health at the intersection of Western science and esoteric knowledge. It is important to mention, in fact, that this school presents itself as an illustrative case of the changing nature of martial arts, and modern forms of yoga and their adaptation to different sociocultural environments. More specifically, the eclectic philosophical and discursive backdrops of Odaka Yoga are a poignant example of the legitimizing and differentiating strategies that contemporary yoga brands follow in the attempt to conquer a share of the already saturated and highly commodified “spiritual marketplace” (Roof, 1999). Here, Odaka Yoga’s promises for health and self-transformation are central to its image, marketization, and popularity.

This paper is structured as follows: first, I briefly discuss the theoretical and methodological backbones of the paper via a reading of Jennings’ (2019) “theory of martial creation” and a “multimodal approach” (Brown and Leledaki, 2010) inclusive of discursive analysis of the school’s promotional materials, interviews to the founders, and other key teachers and “observant participation” (Wacquant, 2004, 2015) of practitioners’ apprenticeship processes; second, I reconstruct the birth of Odaka Yoga at the intersection of Asian martial arts and yoga, presenting the biographical trajectories of the founders Roberto Milletti and Francesca Cassia, from the world of competitive martial arts and fitness, to yoga; third, I delve deeper into an exploration of Odaka Yoga’s conception of health, as chiefly the mixture of a Western biomedical view with the subtle body model of Asian traditions. In so doing, I argue that the conception of health promoted by this school gives rise to the Odaka Yoga Warrior, the ideal-typical practitioner whose body is simultaneously exposed to the “medical gaze” (Foucault, 1977) and its imperatives of control, knowledge and manipulation; while it also defies it, as it is animated by the elusive flows of energy (*qi* or *prana*) that prolonged practice aims to master; fourth, the paper concludes with a reflection on hybrid conceptions of health and the ubiquitous role of health discourses and narratives across sociocultural domains.

¹<https://www.frontiersin.org/research-topics/12183/martial-arts-health-and-society> (accessed in date 28/07/2020).

²Literally translated as “path/moral of the warrior”. It is the code of conduct of the samurai, the Japanese warrior cast.

THEORETICAL AND METHODOLOGICAL SKETCHES

Jennings' Theory of Martial Creation and Other Remarks

Jennings' (2019) "theory of martial creation" emerges at the intersection of Mills's (1959) "sociological imagination" and Shilling (2008) call for a more pragmatist orientation to the study of the body. The former, a reaction to the structural-functionalism of Talcott Parsons' sociology, is primarily concerned with directing scholars' attention to the manners in which macro-sociocultural processes and historical events intertwine with—and could be studied through—individual biographies; the latter, distancing itself from what it perceives to be the limits of "the dominant traditions in sociology" (Shilling, 2008:3), rehabilitates the pragmatist notion of "habit" (Dewey, 1922) and focuses on moments of crises that stimulate social actors' creativity and actions oriented to social change. As Jennings' (2019:62) comments, "[t]aken together, these provide a powerful framework for understanding how and why a person might create a new martial arts system," and I would like to add—in line with the purpose of this paper—also the specific health philosophies and conceptions of health that are informing a given martial arts system.

Jennings develops this innovative framework through a close exploration of three traumatic moments in Bruce Lee's life: first, Lee's attempts to adapt and change his acquired knowledge, mastery of wing chun and training regimes after his geographical separation from his teacher Ip Man; second, Lee's physical crises leading him to develop his training methods in search of a better fitness regime; and third, a severe impairing back injury which forced Lee to adapt *à nouveau* his "martial habitus" (Brown and Jennings, 2013). In a nutshell, Jennings' theory links Lee's personal and biographical elements with social and historical dimensions like US racism, Chinese ethnocentric nationalism and traditional kinship relationships in Chinese martial arts to show how he arrived, through a series of crises, serendipitous happenings, and creative resolves, to the foundation of a new system of martial arts he called *jeet kune do*.

The theory of martial creation proposes "six precise dimensions" that constitute the backbones of the process of creating a new martial art. They are (Jennings, 2019:65, emphasis in original):

1. Founders must have a background as *practitioners* in one or more martial art(s).
2. They must achieve a level of *competence, confidence, and charisma* in order to gather a following.
3. Yet, they will *not* be the top students, official gatekeepers, or lineage holders of their original system.
4. They must identify a *problem* or face a personal, political, or social *crisis* that aggrieves them.
5. They will then devise a *solution* through a revised fighting, human development, and training system.
6. Their passing (whether expected or unexpected) can create added *chaos*, thus fuelling the cycle of *creativity* among future generations of practitioners.

In Jennings' (2019:65) words, "these are some of the crucial dimensions that founders of martial arts can be seen to have possessed and hence constitute dimensions that will be present for all who create fighting systems." As we will see in the course of this paper, the founder's biographies could be equally mobilized in the light of these six points to account for the birth and development of Odaka Yoga. However, contrary to Jennings' focus on the creation of martial arts as fighting systems, I contend that his theory could be also fruitfully adopted and adapted to discuss the health philosophies underpinning specific martial activities. More precisely, as I will unpack in some details in the analytical sections of this paper, Jennings' theory is instrumental in tracing the processes of appropriation, development and re-invention of specific health philosophies and hybrid conceptions of health emerging at the intersection of the Odaka Yoga's founders biographical transformations (epitomized by moments of crises and re-definition of their own martial habitus) and social change (represented by the broader processes of transformation characterizing a particular historical moment and the consequent processes of re-definition of the internal logics of specific fields of action).

The theory of martial creation has its strengths and its weaknesses. Among its main strengths figure: first, its ability to overcome the oversimplistic approach that privileges the production of stringent definitions and taxonomies rather than theories—and I would add theorizing—in both the field of martial arts studies (Bowman, 2017) and in the social sciences more in general; second, Jennings' theory is not merely instrumental in theorizing about the birth, development, adaptation, and change of a number of martial arts, but it could also be applied to the study of other practices and organizational contexts centered around a charismatic leader, such as different yoga schools, New Religious Movements and other spiritual and religious organizations. For instance, this theory could shed light on how contemporary gurus shape their teachings at the intersection of tradition and innovation, or again, on the manners in which New Religious Movements syncretically construct, justify, and transmit their religious and spiritual worldviews; third, it could be used side by side a number of qualitative research methods, such as "ethnographic and media as well as biographical, historical and sociological research methods," as Jennings' (2019:69) himself acknowledges; fourth, it could also be mobilized across a plethora of theoretical frameworks, being itself further developed by a careful integration of other conceptual tools.

As I intend to show in the remaining of this section, Jennings' theory of martial creation could be further developed through a more thorough discussion of Bourdieu concepts of "habitus" (e.g., 1977; 1984; 1990) and "field" (e.g., 1971; 1983; 1996), and Foucault (e.g., 1986; 2005) seminal analysis of "epimeleia heautou" (literally care of oneself). In fact, I believe that among the weaknesses of this theory there is the reproduction of Shilling (2005, 2008) misleading critique of Bourdieu's concept of habitus as substantially deterministic. As Shilling (2008:3, emphasis in original) had expressively argued:

The problem with this [habitus] is that embodied action appears predetermined—it both echoes and replicates existing structures—leaving those who operationalise Bourdieu’s work in their research employing strategies to modify its reproductive logic.

However, the concept of habitus, defined as “systems of durable, transposable *dispositions*, structured structures predisposed to function as structuring structures” (Bourdieu, 1977:72, emphasis in original), is an ingenious account of social action capable of bridging the structure-agency gap while accounting for social change and not merely social reproduction. More specifically, the concept of habitus postulates the manners in which the objective structures of a given social order (e.g., language, culture, economy, laws, and so on) deposit within individuals’ bodies as “schemes of perception, thought, and action” (Bourdieu, 1977:90), which in turn influence the forms and functioning of these very objective structures and individuals’ ability to navigate them. As underlined by Bourdieu (2005:45, emphasis in original), “[t]he habitus is not a fate, not a destiny...the model of the circle, the vicious cycle of structures producing habitus which reproduces structures *ad infinitum* is a product of commentators.” As Bourdieu (2005:46) further comments “habitus is never a mere principle of repetition... It is a principle of invention, a principle of improvisation. The habitus generates inventions and improvisations but within limits.” In this light, the diffuse reading of the habitus as intrinsically deterministic (e.g., Shilling, 2005, 2008; Yang, 2014) appears, to say the least, only partial, and tangential to Bourdieu’s formulation of the concept.

Moreover, next to a dismissal of habitus (more radical in Shilling than in Jennings), what I contend is missing from Shilling’s as much as from Jennings’s respective theoretical projects, is the recognition that Bourdieu’s concept of “field” (e.g., Bourdieu, 1971, 1983, 1996) is central to fully understand—and in turn mobilize—his concept of habitus. As succinctly suggested by Bourdieu and Wacquant (1992:97), “a field may be defined as a network, or a configuration, of objective relations between positions” which shape—and is, respectively, shaped—by social actors’ habitus. Bourdieu discusses at length the inextricable relationships between “positions” in a given field, determined by the amount and types of “capital” (e.g., Bourdieu, 1986) held by social actors, and “dispositions.” The former, “contrary to a Marxist understanding is defined as a form of accumulated labor composed of both material and symbolic resources” (Di Placido, 2018:7), while the latter are the constituting elements of the habitus (e.g., Bourdieu, 1983). For instance, in his seminal articles ‘*Genèse et Structure du Champ Religieux*’ (1971) and ‘*The Field of Cultural Production*’ (1983), and in his books ‘*Homo Academicus*’ (1988) and ‘*The Rules of Art: Genesis and Structure of the Literary Field*’ (1996), Bourdieu applies his concepts of habitus, capital, and field, to discuss the genesis, internal articulation, and struggles over different positions, in the religious, cultural academic, and literary fields. Here, as elsewhere, Bourdieu meticulously traces the manners in which the field and the habitus—of course always determined by the types and amounts of capital held by social actors—shape one

another. More specifically, Bourdieu and Wacquant (1992:127, emphasis in original) argue that:

The relation between habitus and field operates in two ways. On one side, it is a relation of *conditioning*: the field structures the habitus, which is the product of the embodiment of the immanent necessity of a field (or of a set of intersecting fields, the extent of their intersection or discrepancy being at the root of a divided or even torn habitus). On the other side, it is a relation of knowledge or *cognitive construction*. Habitus contributes to constituting the field as a meaningful world, a world endowed with sense and value, in which it is worth investing one’s energy.

In this sense, I argue that Jennings’ theory could be further strengthened if equipped with the theoretical tools to competently inquire into these relationships of conditioning and of knowledge between the field of martial arts and the “habit(us)”³ (Jennings, 2019:64) of martial artists.

Another central element of Bourdieu’s concept of field is the relationships of “homology” (e.g., Bourdieu, 1983) that he identifies between social actors’ positioning in a given field and in the broader field of power. According to this principle, although each field (e.g., religious, cultural, academic, literary, sporting, martial arts, and so on) is first and foremost an independent and autonomous field from the broader social field, social actors’ capital, and habitus tend to shape it, reproducing within it—at least partially—the same schemata of positions and relationships of domination and submission that characterize the general field of power. Therefore, as I will preliminary argue in the analytical part of this paper, when studying the genesis of a new martial activity such as Odaka Yoga, it is important to not only understand the founders’ habitus and their positioning within the fields of martial arts, fitness, and well-ness industry, but also their positioning within the broader field of power. This extended focus equips us to more competently inquire into the links between individuals’ biographies and historical events, as well as the manners in which the habitus is challenged by unexpected changes and reconfiguration in the field in which social actors are positioned. This, in turn, stimulates social actors’ adaptation, drive to change, and creative resolve.

Additionally, I would like to discuss Foucault’s (1986, 2005) analysis of “*epimeleia heautou*” as instrumental to further develop and enrich Jennings’ theory of martial creation. With this expression, Foucault addresses all those processes and practices of constitution of the individual as an ethical subject of reason that he studied in relation to ancient Greece, Hellenism and the early Roman Empire. However, leaving aside the differences between the various systems of care of the self-put forward by Platonists, Epicureans, Stoics and early Christians, Foucault’s framework of care of the self proposes: first, a general moral framework, or as he says, “...an attitude toward the self, others, and the world” (Foucault, 2005:10) represented by the doctrines and the principles of the philosophical schools in question (e.g., Platonism etc.); second, an experience of conversion “...from the outside, from others and the world etc., toward “one self”

³Jennings proposes the concept of habit(us) in the attempt to compromise between the pragmatist notion of habit and the classical sociological concept of habitus.

(Foucault, 2005:11), whereby individuals are encouraged to cultivate a specific introspective relationship to “what we think and what takes place in our thought” (ibidem); and third, those specific practices, or “technologies of the self,” “exercised on the self by the self” whose primary aim is to allow the individual to “take responsibility for oneself and by which one changes, purifies, transforms, and transfigures oneself” (ibidem). As I will show in the analytical part of this paper, these three elements of Foucault’s care of the self, that is, the moral universe of a specific martial activity, the experiences of conversion that it fosters, and its practices, or technologies of the self, can be fruitfully mobilized to study the birth, development and evolution of different martial activities alongside Jennings’s theory of martial creation. More specifically, the first element of Foucault’s formulation could be used to understand the specific worldview, desire, need, and/or possibility to change that martial arts’ founders possess; the second element of conversion could be read as an epiphany, or a moment of crises, that further strengthens the martial artist’s resolve to change, reinforcing his or her conviction in a new moral universe and/or creative resolve; and finally, the third element, technologies of the self, could be understood as the practical means that grant martial artists the opportunity to work on themselves, transforming and changing their habitus in the process of creating a new martial art.

To conclude, Jennings’ theory of martial creation, enriched by a closer exploration of Bourdieu’s and Foucault’s conceptual tools, becomes particularly suitable to the study of those health philosophies and conceptions of health that are simultaneously: internalized, transformed and reproduced—in practice—through the cultivation of a specific habitus and its process of transformations, adaptation, and change to new biographical and historical events; determined by the internal logics of certain fields, organized around the centrality of the construct of health (e.g., the well-ness industry); and finally, advocated for as an integral part of a specific practice of care of the self-instrumental to martial artists’ processes of self-cultivation.

A Multimodal Approach

A “multimodal approach” to qualitative research considers simultaneously the macro (e.g., large scale changes in society), the meso (specific fields, organizational, and social contexts) and micro (practitioners’ experiences and biographies) levels of society (e.g., Brown and Leledaki, 2010; Jennings, 2014). As I apply it to my study of Odaka Yoga, a multimodal approach is constituted by a number of different research methods, such as *discursive analysis* of Odaka Yoga’s promotional materials, *biographical interviews* of founders and key teachers, and to a lesser degree, *observant participation* of practitioners’ apprenticeship processes.

To put it briefly, I rely on discursive analysis as the study of “discourse,” understood with Foucault (1972:49) as a historically contingent social system that produces knowledge and meaning through “practices that systematically form the objects of which they speak.” In this light, discourse transcends an understanding of mere textual and/or spoken words. More specifically, “...discourses are composed of signs; but what they do is more than use these signs to designate things. It

is this *more* that renders them irreducible to the language (*langue*) and to speech” (Foucault, 1972:49, emphasis in original). Discourses are inherently related to a variety of social practices, to the consequent constitution of their object of analysis as a “real entity,” and being historically contingent, are always structurally related to the broader structures of knowledge that characterize the historical period they arise in, that is its “episteme”⁴. Therefore, through a discursive analysis of Odaka Yoga’s promotional materials, I aim to bring to the forth the social and discursive construction of the Asian traditions and systems of knowledge the school mobilizes, to produce health-based, therapeutic, and self-transformative resources.

Continuing, I discuss practitioners’ narratives and experiences via “biographical interviews.” More specifically, the biographical interview method here used situates itself at the intersection of a “contextual approach” to biographical interviews, that is primarily concerned with the “realism” of the narrative gathered; and an “interpretative approach” which poses its emphasis on the socially constructed nature of the narratives and their fictional character (e.g., Roberts, 2002; Nilsen and Brannen, 2010; Gomensoro and Burgos Paredes, 2017:157). As the “contextual approach” it is concerned with the “lived life,” the “told story,” and the “self-interpretation” of social actors’ life, although it is critical of its realist epistemology and of any naïve reading of social actors’ narratives of self-determination. While in agreement with the “interpretative approach” it recognizes the importance of the researchers’ own interpretation of the narratives gathered, their socially constructed nature, and their fictional character.

Theorizing at the intersection of the social actors’ point of view and the broader sociocultural context in which they are located, I follow Mills’s (1959) interpretative sociology and his invitation to study society through a close scrutiny of social actors’ biographical experiences, that is, I inquire into the manners in which the discourses explored through my discursive analysis are then embodied, internalized, and reproduced by the social actors’ narratives. Importantly, in this paper, I only use two out of the twenty-five biographical interviews conducted within my larger sociological project on modern forms of yoga, exclusively presenting extracts from the “joint” (e.g., Arksey, 1996; Polak and Green, 2015), or “couple interview” (Bjørnholt and Farstad, 2012) conducted with the founders (in date 22/05/2019), and the single interview conducted with the main teacher of the Milanese branch (in date 16/12/2018).

A residual part of the data presented and discussed in this paper are collected through what Wacquant (e.g., 2004; 2015) has famously labeled “observant participation,” namely the attempt to explore specific relationships, practices, and social processes as unfolding in social actors’ “natural habitat,” thus avoiding the danger of gathering “dramatized and highly codified

⁴“By *episteme*, we mean, in fact, the total set of relations that unite, at a given period, the discursive practices that give rise to epistemological figures, sciences, and possibly formalized systems...The episteme is not a form of knowledge (*connaissance*) or type of rationality which, crossing the boundaries of the most varied sciences, manifests the sovereign unity of a subject, a spirit, or a period; it is the totality of relations that can be discovered, for a given period, between the sciences when one analyses them at the level of discursive regularities” (Foucault (1972:191, emphasis in original).

(re)presentation” (Wacquant, 2004:6) of the phenomenon studied. A presupposition of Wacquant’s observant participation is his reliance on Bourdieu’s concept of habitus, as both a “topic and tool” (e.g., Wacquant, 2004, 2013). Habitus, is here used as a topic of investigation in itself as it allows to inquire into: first, how Odaka Yoga’s founders and practitioners acquire, transmit and modify the specific habitus that characterizes the ethos of their school; second, how the relationships between their habitus and the field in which they are positioned can be accounted for, that is, the homology between practitioners’ positioning in the martial arts field and the broader sociocultural field; and third, the permeability and circular relationship between discourses (about health and self-transformation) and pedagogical practices. Habitus is also used as a research tool, that is, a privileged instrument “to decipher action and meaning from the body and with the body” (Sánchez-García and Spencer, 2013:5). More specifically, the use of habitus, which allows the researcher to approach the “social nature of [the] epistemic, affective, and moral dimension of embodied practice” (Sánchez-García and Spencer, 2013:1) as a tool, is pivotal to the observant participation of the apprenticeship process. Here, “the apprenticeship of the researcher can be adopted as a mirror of the apprenticeship undergone by the empirical subjects of the study” (Wacquant, 2011:81).

Summarizing, these methodological sketches of the multimodal approach and my reading of Jennings’ theory of martial creation, share a commitment to inquire into the processes of constitution of a specific martial activity, taking into account its discursive references, practitioner’s narratives, and biographies and processes of apprenticeship. Moreover, it is also important to mention that throughout the data collection and writing phases of this paper I followed a “situated ethics approach” (Roulet et al., 2017), that is, I tackled the ethical considerations related to research praxis as an ongoing social practice highly shaped by contextual factors rather than by universal codes of conduct (Nyberg, 2008). More specifically, at the outset of my research in the Spring of 2018 I was introduced to the Milanese branch of Odaka Yoga by Beatrice (studio owner and senior Odaka Yoga teacher) as a “researcher-practitioner.” Naturally, this overt positioning influenced my positionality within the field in a number of ways, also partly determining the relationships and interactions that I had a chance to develop, attend to and witness during these nearly 3 years of immersion into the field. Most notably, this overt positioning granted an exemplary level of transparency and a balanced power relation between the researcher and the participants. For instance, all the participants interviewed were informed beforehand that our conversations would be used for academic publications; were asked if they preferred their voices to be represented anonymously or otherwise; and were reassured that I would share with them an advanced pre-publication manuscript draft in order to receive their feedbacks, comments, and corrections on my interpretation and analysis of what we discussed together during our interviews. Roberto, Francesca and Beatrice consented to the publication of a number of extracts taken from our interviews and agreed to be openly named in my work. Moreover, as previously agreed, I contacted

them in date 12/08/2020 to notify that I was about to submit for publication a manuscript whose empirics were largely based on our interviews and practice together (this paper) and required their feedbacks, comments and corrections to the manuscript. Tellingly, Francesca and Roberto replied positively, stating that “we really like what you wrote, important work and well-executed” (personal communication in date 02/09/2020); while Beatrice suggested that I could possibly participate in a formal Odaka Yoga teacher training to discuss the findings of my work with the broader community of training teachers. As a final note, I also further agreed with Francesca, Roberto and Beatrice that I will send them the final version of the manuscript, once published.

The remaining of the paper is dedicated to a dissection of Odaka Yoga and its conception of health, starting with a discussion of the birth of this style as recalled through its founders’ biographies.

BLENDING MARTIAL ARTS AND YOGA FOR HEALTH

The Birth of Odaka Yoga

Odaka Yoga is a relatively recent style of postural yoga blended with martial arts elements. It was founded in Rome by the Italian teachers and entrepreneurs Roberto Milletti (also known as *Sensei*⁵) and Francesca Cassia (*Niji*⁶), in 1993. Roberto and Francesca do not only teach and run their business together, but they are also a life couple, as it is often the case in the martial arts field (e.g., Jennings, 2016). The official website of the school introduces Odaka Yoga as:

an innovative style of yoga with over thirty years of experimental research. Roberto Milletti and Francesca Cassia give life to a new concept: “Live Centered, Liquefy Your Limits, Embrace The Power,” which finds inspiration by observing the movement of the ocean and its waves. This is where in bringing together the idea of Bushido (the way of the warrior), zen and yoga, the principles of transformation, adaptability and interior strength are expressed physically and emotionally.

In other words, the philosophical and practical backbones of Odaka Yoga are predominantly concerned with a strategic rendition of a variety of Asian practices and traditions that are seen as vital to the practitioner’s ability to embody and reproduce a centered, limitless, and empowered life through principles of transformation, adaptability, and interior strength. As such, Odaka Yoga can be mainly understood as a particular expression of the individualizing, self-transforming, and self-actualizing ethos of contemporary societies and the progressive role that the commodification of Asian spiritual and religious resources play in shaping these socio-cultural processes (e.g., Carrette and

⁵Sensei is a Japanese word often translated as ‘master’ or ‘teacher’, the corresponding of the Sanskrit guru. The term sensei does not refer to somebody that transmits mere technical knowledge but to an individual imbued with actual wisdom.

⁶Niji is an archaic Chinese term that addresses the recognition of time, or better the awareness that time has come for a specific action to be undertaken.

King, 2005; Altglas, 2014; Banesch, 2014; Jain, 2014, 2020). I will come back to this analysis, but for the moment, it is important to underline that Odaka Yoga is the outcome of decades of personal practice, as well as professional engagement and experimentation at the intersection of the martial arts, fitness, and yoga. In the following fragment, Roberto recalls his progressive involvement with martial arts and yoga:

I started very young with martial arts. At the age of seven. I approached martial arts because I was, in between brackets, a little bit bullied, at school, in the courtyard and so I was looking for self-confidence, I was trying to win my fears, my shyness. So, my grandpa suggested me martial arts, and from there, in short, all my path. Martial arts became an integral part of my existence, and then I met yoga when I was twelve, thirteen years old. And so, two great loves that I cultivated until they merged one with the other. So martial arts elements with the traditional poses of yoga, and then the meeting with Francesca, that comes, in short, from the world of fitness.

Francesca is the co-founder of Odaka Yoga. As Roberto, she is one of the 14th Yoga Alliance International Australia Master Yoga Platinum, the highest recognition issued by the yoga industry⁷. Moreover, Francesca has recently become the chief editor of “the world’s largest and most influential yoga brand”⁸ the Yoga Alliance International online Journal (see text footnote 7, respectively). As she summons up:

I take a slightly different route. I am the generation of Jane Fonda. I did not have any intention whatsoever to do yoga. I love movement, I come from aerobics and suits, you know those eighties style, in lurex and when I was studying at university I also started to teach aerobics and then there was this gym in Rome where they were doing some yoga courses, and my sister who was studying psychology told me: “Look, let’s go, I want you to have this experience,” [she said it] once, twice, three times, and in the end I said: “Ok, let’s go.” It has been really like a revelation for me. From there on I have never abandoned the yoga mat. This incredible contact with the body, that was not only a tool for movement but that really talked to you, it was really like, oh yeah, I found my way, so to say. I found what I wanted to do in the world. And with Roberto we have, I love anatomy, all that more structured part that concerns movement that married very well with Roby’s [an affectionate term for Roberto] creativity and this fusion with martial arts and yoga. And so slowly, slowly everything gained structure.

As Francesca approached the practice of yoga she was struggling with anorexia. Luckily, thanks to her dedication to the practice and “the physical realization of certain things,” as she says in our interview, she managed “to overcome it.”

Simplifying, Odaka Yoga is then the expression of Roberto’s and Francesca’s respective experience and proficiency with martial arts and fitness. More precisely, it is the outcome of the merging and complementing of their different expertise in the development of an innovative style of postural yoga characterized

by a simultaneous reliance on Asian and Western systems of knowledge. However, when Roberto and Francesca met and began their lifelong journey together, Odaka Yoga, as we know and practice it today, was not yet formalized. It was only in 1993 that the word “Odaka,” as much as Odaka Yoga’s teachings, were subjected to copyright. However, “Odaka” was already used as an acronym of the martial art and yoga studio founded in Rome and run by Roberto since 1984 (later also in partnership with Francesca) which was called Oriental Disciplines Arashi Kyo Academy (O.D.A.K.A.). As Francesca further explains:

Arashi Kyo is the name of Sensei, of Roby, when he was European champion of Karate. I mean [we taught] many styles but the acronym adopted was Odaka, and so everyone [said]: “I am going to Odaka,” “I am going to Odaka,” “Odaka,” “Odaka.”

O.D.A.K.A. functioned as a hub, a place for practical experimentation and philosophical discussion over the meaning and purpose of martial arts. Its main goal was the diffusion of specific disciplines as means of inner knowledge and spiritual search to favor the perfect mind and body harmony development of each individual⁹. Most Notably, Roberto was teaching two martial arts systems he had created: *Shin Jitsu Ryu* and *Wi Yoga Wakan*. These martial systems emerged at the intersection of Roberto’s experience and experimentation with Karate Shotokan, Ju Jitsu, zen, Hatha and Raja yoga and offered already the philosophical and practical bases for what later on would develop and evolve as Odaka Yoga. Of course, Francesca was also instrumental to the development of Odaka Yoga through her extensive experience in the world of fitness and yoga and her martial arts apprenticeship under Roberto’s guidance.

Today, Roberto and Francesca travel the world to share their hybrid style of yoga and are considered among the most influential contemporary teachers. For instance, Roberto has also been featured in ‘*Om Yoga Magazine UK*’ as one of the three world leaders in new, contemporary forms of yoga¹⁰. Their style has evolved into a transnational organization with centers across four different continents and a hectic calendar of events such as festivals, workshops, and teacher trainings that take place continuously all over the world and whose online diffusion has been further fostered by the current Covid-19 pandemic. Summarizing, Odaka Yoga is constituted by two different but parallel pillars: one is the discursive and practical reference to Asian systems of knowledge such as yoga, zen, and martial arts, whose main influence comes from Roberto’s experience, experimentations and creativity; the other, is a focus on Western science and medicine, and more specifically on anatomy and biomechanics, primarily inspired by Francesca’s background in the fitness world.

Odaka Yoga further developed internationally because of a serendipitous happening, or more specifically an epiphany, that brought Roberto and Francesca to drastically re-imagine their life. After their martial academy shook due to internal conflicts,

⁷<https://odakayoga.com/en/francesca-cassia/> (accessed in date 14/02/2020).

⁸<https://www.yogajournal.com/page/about-us> (accessed in date 06/10/2018).

⁹<http://web.tiscali.it/odaka/odaka.htm> (accessed in date 08/08/2020).

¹⁰<https://odakayoga.com/en/odaka/roberto-milletti/> (accessed in date 05/08/2020).

its key members took different routes, and Roberto and Francesca moved to Australia where they were planning to open a new studio and continue their work of dissemination and martial explorations. As discussed by Francesca, watching the *'The Last Samurai'* (2003)¹¹. at the cinema represented a turning point in their life:

Everything started because 1 day we were living in Australia, in a beautiful place where we practiced with joy, and "The Last Samurai" came out in the cinema, and we went to watch it... we were in Melbourne and we had just rented a beautiful place for a new yoga studio. We left [the cinema] and Roby did not talk for a couple of days. I said to him "What's happening? How are you feeling?" He replied, "Look, I touched the soul, deeply, and I feel I need to go to Japan." And in that moment, I thought "Give him a couple of days and he will be over it." But it did not happen. Instead we terminated the contract [of the yoga studio] and we sold everything we had in Australia [where] we were only a step away from the permanent visa. There was our best friend that was saying "I mean, you don't speak a word in Japanese, you know nobody, but where do you want to go?" But instead his soul had launched this message, such an intense message that we moved there. The first year, the first few months in Japan were rather difficult, but then the local community began to open up.

Watching *'The Last Samurai'* prompted Roberto to silently question his current life and ongoing projects, further challenging his long-standing, and ever evolving "martial habitus" (Brown and Jennings, 2013) which, in all fairness, was already shaken by and re-adapting to the recent disruption of his academy. Because of these crises Roberto and Francesca re-located to Japan, where they creatively managed to further innovate their martial style and finally obtained international recognition. Recalling Jennings' (2019:69) six stages of his theory of martial creation in the light of the biographical remarks here discussed it is possible to provide the following analysis of the birth and development of Odaka Yoga:

1. Roberto and Francesca have a background as *practitioners* in one or more martial art(s). More precisely Roberto practiced Karate Shotokan and Ju Jitsu (in both of which he hold a Fourth Dan Black Belt) next to zen, Hatha and Raja yoga; while Francesca practiced Karate (earning a First Dan Black Belt under Roberto's tutelage) next to a lifelong practice with different styles of yoga and fitness.
2. Both Roberto and Francesca reached a level of *competence, confidence, and charisma* that did not only allow them to gather a following, but also to transform a local martial arts academy into a transnational organization praised for its innovative character by some of the most influential voices of the contemporary yoga industry (e.g., Yoga Alliance).
3. Roberto and Francesca were *not* the official gatekeepers or lineage holders of their original system (e.g., Karate Shotokan, Ju Jitsu, Hatha or Raja Yoga). However, Roberto was the

founder of two different martial arts (e.g., Shin Jitsu Ryu and Wi Yoga Wakan) that in due time, and with the contribution of Francesca, morphed into Odaka Yoga.

4. Roberto and Francesca started to practice martial arts and yoga as an answer to a personal *crisis* that aggravated them. More specifically, when still a child Roberto was bullied and attempted to exorcize his fears through the martial arts, as suggested by his grandfather; while Francesca, already familiar with the fitness world as she was teaching aerobics as a side job to her study in business administration, found in yoga an effective tool to cope with and resolve her anorexia. A Further moment of crisis was represented by the disruption of their Oriental Disciplines Academy in Rome, which brought the two teachers to Australia where they continued their martial explorations. Finally, Roberto's conversion following the vision of *'The Last Samurai'* functioned as an epiphany that proved instrumental in the further internationalization and popularization of Odaka Yoga.
5. Roberto and Francesca, each of them through their own expertise, devised a *solution* for their personal problems through a revised martial and human development system, in this case Odaka Yoga. More specifically, through the formulation of their "new concept," "Live Centered, Liquefy Your Limits, Embrace The Power" and its "principles of transformation, adaptability and interior strength," Roberto and Francesca provided an existential answer to the fears and health challenges encountered in their youth while also offering a seductive path cable to equip its practitioners to face the flexibility demands, performative requests, and uncertainties of contemporary neoliberal societies.
6. Although Roberto and Francesca are still alive and well, there are preliminary elements to postulate that their death will eventually create added *chaos*, thus fuelling the cycle of *creativity* among future generations of practitioners and possible lineage holders, a fascinating topic in itself that here cannot be competently explored.

As Jennings' (2019:66, emphasis in original) comments, these six stages can be summarized in the following declaration: "A martial art is founded by a disciplined, habitual martial artist who creatively transcends personal and social crises." Here, Roberto and Francesca learned from their teachers (of whom unfortunately I know very little if not nothing), practiced extensively and creatively, achieved a status within their respective fields and finally were able "to create something new and create a new method of achieving it" (Jennings, 2019:66). As testified by the biographical sketches here provided "[t]he overall process of creativity is a potentially lifelong process, but it also comes with fleeting and intensive moments of (sometimes epiphanous) creation" (ibidem).

Enriching Jennings' theory of martial creation with a closer look at Roberto's and Francesca's habitus and positions within the martial arts, yoga, and fitness fields, may further help focusing on important elements in the birth and development of Odaka Yoga. First, Roberto and Francesca managed to adapt and transform their respective "martial" (Brown and Jennings, 2013) and "fitness" habitus (Sassatelli, 2002) into a specific declination

¹¹In a word, *'The Last Samurai'* narrates the story of Nathan Algren (Tom Cruise) an ex-American soldier in charge of the training of the Japanese Imperial army. Eventually Nathan Algren, captured in battle by the rebellious samurai, joins their cause in a romantic and deadly confrontation over two ways of life and ethics of war.

of “yogic habitus” (Di Placido, 2018) hybridized with martial arts and fitness elements. This signifies that their old-habitus and its schemes of dispositions, developed at the intersection of the martial arts, fitness, and yoga fields, progressively changed as they moved away from the center of the martial arts and fitness fields, and toward the center of the yoga field. In other words, we may say that Roberto and Francesca successfully managed to exploit and convert certain types of capitals that granted them their previous positioning in the martial arts and fitness fields, into useful resources to acquire an ever more central positioning within the yoga field. For instance, next to their previous teaching expertise and pedagogical know-how—including in the martial arts founded by Roberto, yoga, and aerobics—they exploited the “bodily” (Wacquant, 1995) or “physical capital” (Shilling, 1991, 2004, 2012) developed, acquired, and secured through their lifelong involvement with different martial activities and fitness practices, to build an image of successful, competent, and innovative teachers. In so doing, as they skillfully converted their proficiency in the martial arts and fitness worlds to create an innovative hybrid style of yoga, they also contributed to the reproduction of the relationship of homology between the broader field of power, and the martial arts and fitness field. Simplifying, via their capitals (e.g., economic, cultural, physical, and so on), Francesca and Roberto secured a dominant position within the martial arts and fitness fields, while also managing to remain in a dominant position in their successive and progressive involvement within the yoga field.

Finally, I would like to conclude this section with a short analysis of the manners in which Roberto’s and Francesca’s biographical remarks could be effectively accounted for through the lenses of Foucault’s (1986, 2005) “epimeleia heautou.” First, Odaka Yoga functions as a moral framework that guides practitioners’ conduct and teleological orientation in the world, more specifically through its concerns for practitioners’ health and processes of self-transformation as filtered through the concept of “Live Centered, Liquefy Your Limits, Embrace The Power”; second, it offers the possibility to convert one’s attention from the outside world toward one’s own interiority, thus promoting a specific ethic of self-care, self-actualization, and self-transformation that is already well-established in Western renditions and interpretations of Asian religious and spiritual resources; and third, it offers an array of practices, or technologies of the self, through which practitioners are invited to cultivate, interiorize, and master the specific worldview advocated by the school and deepening further their self-transformative experiences of conversion in the light of the discourses and practices advocated by the founders. Interestingly enough, it is also as a consequence of a dedicated engagement with martial activities as care of the self, that Roberto and Francesca managed to successfully adapt and change their martial and fitness habitus, and progressively translate their capitals, skills, and expertise from the martial arts and fitness fields into the yoga field.

The next section is entirely dedicated to a discussion of Odaka Yoga’s conception of health through an analysis of its understanding of the body as framed at the intersection of Asian and Western systems of knowledge.

The Odaka Yoga Body: Between Medicine and Spirituality

Odaka Yoga presents an understanding of the human body framed at the intersection of Asian and Western systems of knowledge. In other words, the Odaka Yoga body is built on a hybrid conception of health, simultaneously inspired by biomedical/anatomical and esoteric/spiritual principles. In the following I provide two extracts that testify to this hybrid conception of health. The first field note was written right after a teacher training weekend held in Milan in the Winter of 2018. Here, Francesca warns me against hyper-flexing the legs and instructs me about the physical cues to notice in order to know if a movement is more damaging than benefiting:

We are going through a short sequence that involves the stretching of the leg, calf, tight, and quadricep. Each one practices individually, Francesca walks around, looking and giving suggestions. One knee on the floor and the other leg stretched in front, heel, and big toe on the floor. When I try to place the sole of the foot on the mat I feel a burning unease around the knee and on the back of it. I almost lose balance and my back stiffens up too. A perfect yogi! I then do the pose stretching the leg but touching the mat only with my heel and it goes better. As Francesca passes by, I tell her what I felt when I tried to bring the sole to the mat. She then looks at me and says: “You should never hyper-stretch anything. Especially if you feel the stretch behind the knee or at the end of the calf and of the tight, closer to the knee. If the warmth, the stretch is not at the center of the muscle then bend the knee. It means you are working beyond the capacity of your muscle and you are forcing it” (16/12/2018).

In the second field note, taken during a weekly class at JustB, the Milanese headquarter of Odaka Yoga where I undertook the greatest part of my research, Beatrice, Odaka Yoga teacher and studio owner, evokes the energetic constitution of practitioners’ bodies:

After this intense, central part of the practice we move in a standing position. The transition is done from the dog bringing one leg in between the arms and then the other following it. Beatrice says: “Slowly unwind your back, vertebra after vertebra, the arms opening, as large as you can. The palms meet over the head and come down slowly with the elbow open and the finger well-spread. Open again. The hands meet and come down, this time the wrists rotate and the arms are again open, with the elbow at ninety degrees and the palms open.” We repeat this and similar movements a few times [this movement is known as ki flow by Odaka Yoga practitioners] and then we move on to the performance of a warrior sequence. At the end of this sequence while we are again standing at the beginning of the mat, Beatrice says: “Now place your hands a few fingers below your belly button. Here is the tanden, the center. All our own energy comes from this energy center, all movement comes from here. It is known in all Oriental traditions as the most important energy center (31/05/2018).

The first fragment depicts Francesca’s attention for the technical aspects of the practice and more specifically for a practice oriented toward anatomical details and injuries prevention. The

body that emerges from this type of attention is substantially a biomechanical and medicalized body. The Odaka Yoga's website seems to further reproduce this vision:

Odaka Yoga re-educates the body to move in its entirety by reawakening the intelligence of our bodies. Specific sequences are created for different areas of the body while working on postural alignment in order to prevent muscle, skeletal, and tissue injury. During an Odaka Yoga session, muscles are activated with balanced and functional movement that simultaneously strengthen and elongate¹².

Biomechanics, as advocated by Odaka Yoga, is the study of the structure and functioning of the human body in motion. Its two main aims are to enhance performances and prevent injuries. Biomechanics implies a specific idea of the body: an object to be closely scrutinized for the discovery of its most functional (read natural and effective) movement patterns. The result of this reification is that the body, seen through the lenses of biomechanics, becomes a "medicalized body" (Robbins, 2018), understood as that specific body amenable to scientific scrutiny and thus exposed to a certain "medical gaze" (Foucault, 1973).

As Foucault has poignantly shown, between the end of the eighteenth century and then throughout the nineteenth century, the body was substantially re-casted as an object of knowledge at the intersection of science and medicine. From this perspective, biomechanics can then simply be considered as a later development of the epistemic transformation traced by Foucault in his genealogical study of the emergence of modern medicine. The medicalized body is then dissected by the medical gaze which penetrates its secrets, uncovers the mysteries of its functioning and translates them into a visible system of representation where bones, muscles, tendons, and organs are simultaneously: (a) seen as self-standing objects; (b) seen as the parts that form the medicalized body. The pedagogical consequences of this understanding of the body as much as its influences in shaping a specific conception of health based on anatomy and Western medicine, are among the most obvious implications of the Odaka Yoga body as a medicalized body. In fact, the primary consequence of this displayable body is that through the lenses of disciplines such as biomechanics, the body is potentially detached from its experiential dimension to acquire instead a more visual, object-like, anatomical identity (Foucault, 1973; Robbins, 2018). This is precisely what grants the suspension of the body as the locus of personal experience, and promotes the legitimization of different areas of expertise to emerge, where doctors, scientists, coaches, and yoga teachers become the qualified holders of the hidden truths of the body. Here, next to "re-education," "alignment" and "protection from injuries," Odaka Yoga wants to cultivate, this time through the "activation," "balancing," "strengthening" and "elongation" of the muscular band, a very specific declination of the medicalized body¹³.

On the contrary, in the second field note proposed at the beginning of this section, Beatrice depicts a portrait of practitioners' bodies as primarily grounded in their energetic

constitution. Here, the "liquid style approach" of Odaka Yoga, obtained by merging the martial arts flow of inner energy, and the zen spirit of quieting the mind with yoga postures, produces a practice akin to "an unremitting motion, a wave-like movement, a process where no interruption occurs between one pose and another." This type of fluid movement "aims to dissolve physical, mental and emotional tensions, while soothing the mind with immediate action"¹⁴. More specifically:

Once the restraint is transformed, our habitual pattern of movement and thought is dissolved and each position creates space for a dialogue between our deepest fears and the possibility of overcoming them. The Odaka flow allows for us to go deep within ourselves and become "liquid." Odaka Yoga allows you to embrace adaptability while keeping an inner peace. It becomes a complete fluid and transformative body-mind experience...and one you will not forget¹⁵.

At the heart of this conception of the body there is the "subtle body" model, that specific understanding of the body where its energetic structure interacts with and affects the anatomical or physical body of the practitioner (Johnston and Barcan, 2006). This model, first popularized in the West in the nineteenth century by the esoteric writings of the Theosophical Society, has its origins in the 'Upanishads', a collection of Sanskrit sacred texts, more specifically the 'Bṛhadaranyaka Upanishad' (IX-VI B.C.E), the 'Katha Upanishad' (V B.C.E) and the 'Taittiriya Upanishad' (V-VI B.C.E) (Samuel and Johnston, 2013; Mallinson and Singleton, 2017). The 'Taittiriya Upanishad' describes a subtle body model composed of five sheaths (*koshas*). These *koshas* are, in the context of yoga soteriology, a series of interconnected layers that range from gross energy (matter) to progressively more refined subtle qualities, the subtlest of which are the states of dreamless sleep and liberation (*samadhi*). They are, from the grossest to the finest: *anna-maya-kosha* (physical body), *prana-maya-kosha* (energy body), *mano-maya-kosha* (mind body), *vijñāna-maya-kosha* (consciousness body), and finally *ananda-maya-kosha* (bliss body) (Samuel and Johnston, 2013:33).

The subtle body model presented in the Upanishads, and later re-elaborated by the yogic, tantric and other Asian traditions, is constituted by a series of focal points (*chakras*) connected by specific conduits or channels (*nadis*) through which the subtle breath (*prana*) moves. According to this subtle body model, the flow of prana—within and across these sheaths—determines not only the physical and mental state of individuals, that is, their health, but also the plausible acquisition of supernatural powers, immortality or liberation (White, 2009). In other words, according to this theory, when yoga practitioners perform physical postures (*asana*) or breathing exercises (*pranayama*), among other practices, they are not merely engaging or manipulating the physical body, but also the (ephemeral) energetic substrate of their being. As Johnston and Barcan (2006:30) rightly underline:

¹²<https://odakayoga.com/en/> (accessed in date 07/02/2020).

¹³Interview conducted with Francesca Cassia and Roberto Milletti (in date 22/05/2019).

¹⁴<https://odakayoga.com/en/about/concept/> (accessed in date 10/02/2020).

¹⁵<https://odakayoga.com/en/what-is-odaka-yoga/> (accessed in date 04/08/2020).

[i]ntervention in one [sheaths] of necessity means intervention in others. The dominant belief is that changes in this energy (in this subtle body) at any level—mentally, physically, emotionally, spiritually—will bring about changes to all other aspects of the individual.

This is exactly the theory behind Odaka Yoga's reliance on the subtle body model as an integral part of its hybrid conception of health. From this it follows that Odaka Yoga's transformative potentials are entirely based on the healing power of prana as it freely circulates across the different layers of practitioners' subtle bodies, "a union that aims to dissolve physical, mental and emotional tensions" through the "flow of inner energy."

At this point, it is important to note that the subtle body of Odaka Yoga is not purely derived from the yoga tradition just discussed. On the contrary, it presents two main, although interconnected, differences: first, it downplays the importance of the breath as a conduit for prana emphasizing instead the importance of fluid movements; second, it ascribes specific importance to the energetic reservoir known in many Asian martial arts as *tanden* (or *dantian*). In relation to the former, Odaka Yoga subdues yoga's traditional emphasis on the breath to the importance of fluid movements. Here, the "liquid style approach" is obtained by merging (a) martial arts elements, (b) a focus on the inner flow of energies, and (c) the emulation of the yielding nature of the Ocean waves with yoga postures. In fact, it is through this liquid style and its fluid movements that the energy circulates across the different koshas, allowing practitioners to transform their physical, energetic, mental, emotional, and even spiritual makeup. In relation to the latter, Odaka Yoga reframes yoga's traditional subtle body model focused on chakras through the idiom of Asian martial arts. Here, the *tanden*, or more specifically the lower *tanden*¹⁶ (hereafter simply *tanden*), becomes the most prominent energy center of the practitioner's body. The *tanden* corresponds to the first two chakras of yoga's subtle anatomy (*muladhara* and *svadhistana*). According to Asian martial arts it indicates the reservoir of one's own vital energy, what in the yoga tradition is usually known as *kundalini*, a dormant snake coiled in the *muladhara* chakra whose stimulation, awakening and vertical rising across the other six main chakras is seen as bearer of supernatural powers, longevity and/or enlightenment (Eliade, 1973). Partly following this model, the *tanden* is simultaneously understood as an energetic and spiritual center: it is not only the main source of *ki* (the Japanese equivalent of prana) but the center of gravity of

the body itself, the center from which all movements spring from as previously evoked by Beatrice during her class.

Nonetheless, to return to my main argument, the most important aspect of this model, whether we see it as belonging to the traditional model introduced in the '*Upanishads*', or a later re-interpretation imported from Chinese medicine or the martial arts, is that it displays a model of the body that is substantially antithetical to the anatomical and biomechanical conception of the medicalized body previously discussed. This signifies that if the medicalized body—as a whole or in its parts—responds to a meta-narrative where scientific and medical discourses are woven together making the body an object to be closely scrutinized by a plethora of experts; the subtle body is instead regulated by the flows and functioning of energy, which is itself comprised—according to yogic philosophy—by the constant interplay between the grosser and the finest koshas. This specific understanding of the body, then, gives rise to a very particular conception "...of embodied subjectivity in which matter and consciousness are not understood as ontologically distinct but as varieties of 'energy' resonating at different densities" (Johnston and Barcan, 2006:25). Here, the medical gaze described by Foucault loses all its representational and explanatory power and the truth of the body returns to become a mystery which science and modern medicine cannot competently understand just yet. Moreover, where the medical gaze fails to bring into light the invisible, practitioners' direct experiences of this invisible flow of energy, as the following field note demonstrates, become the primary epistemological ground on which the subtle body model can be understood and made sense of. Here, I discuss the sensuous and emotional dimensions of being able to perceive one's own inner flow of energy at the end of an Odaka Yoga practice:

The emotions and the energetic sensations that the practice and the final relaxation induced in me are exhilarating. I feel like walking to Beatrice to tell her that every single lesson I do with her I feel like crying. But I stay put, sitting on my mat, while everybody else is slowly getting up, and going to the changing room. When the traffic is somehow slowing down, I also stand up and go to take the spray and the tissues to clean up my mat. As I walk toward the corner where the cleaning supplies are, literally a few meters away from my mat, I feel my body is light, relaxed, open. I feel happy. I really feel a great amount of vibrations in my belly area, especially in the upper belly part, and flows of relaxed energy all over my limbs (31/05/2018).

At a practical-discursive level the body proposed by Odaka Yoga is simultaneously: (a) a medicalized body understood through the lenses of anatomy and biomechanics; (b) and a subtle body, framed according to traditional yogic and martial arts subtle anatomy. This tension is well-exemplified in the following fragment extracted from an interview with Beatrice:

With this practice modality that is fluid but not too fast we work exactly on prana, on the energetic quality. It is an energetic quality where you are not exhausted, it is tiresome, but never extremely tiresome. You sweat but not too much. The body is always thermoregulated and is never over heated. Also, when you

¹⁶Especially in the context of Japanese martial arts the *tanden* is closely related to another important energetic/anatomical center positioned in the lower abdomen, the *hara*, where the samurai believed their spirit resided. It is important to notice how the *tanden* and the *hara* closely resemble the sheaths model previously discussed as they simultaneously function as a point of intersection between the physical body, one's own psychological and emotional constitution, and the qualities of one's own inner energies. According to a variety of martial arts there are three to five *tanden*. The first and most important is the lower *tanden* discussed in the text. The median *tanden* is located in the upper chest area in the heart region and roughly corresponds – in positioning and functions – to the fourth chakra, *anahata*. The higher *tanden* is in turn located in between the eyebrows and corresponds to the sixth chakra *ajna*. For a more in-depth discussion of the main chakras and their functions see Samuel and Johnston (2013).

sweat a lot, you actually sweat a lot because outside is really hot, so you are self-regulating. [This style] creates a sort of energetic charge. In this way we work a lot on the connective tissue. And [to work] on the connective tissue means working on the emotions, because it is in the connective tissue that the strongest emotions pass through.

Beatrice's narrative underlines how, according to the subtle body model, the "liquid style approach" of Odaka Yoga and its primary focus on energy work, is inextricably connected with a manipulation of the connective tissue of practitioners' bodies, that in turn is linked to practitioners' emotions. We can then clearly see how this model, thanks to the constant interplay across sheaths, offers the right philosophical and discursive foundations to frame a practice where energy work, physical work, and emotional work, are not only manifestly overlapping on an epistemological level, but are also experientially accessible to the practitioners. Yet, what is perhaps of greater interest is that this interconnectivity among sheaths is here reframed through the language of modern medicine, and science, with terms such as "thermoregulates," "self-regulating," and "connective tissue," making it almost impossible to disjoint these two registers. The medicalized and the subtle body are no longer recognizable as separate bodies. Discourses belonging to these two different registers are then simultaneously mobilized to reciprocally legitimize one another, and strengthen their respective therapeutic, self-actualizing and self-transformative framings of the body.

In the next section I provide a brief discussion of how Odaka Yoga's conception of the body is epitomized, reproduced, and embodied by its ideal-typical practitioner, the Odaka Yoga Warrior.

The Odaka Yoga Warrior

The Odaka Yoga Warrior is the ideal-typical practitioner capable "to live centered in the middle of chaos¹⁷." This signifies that the Odaka Yoga Warrior maintains her "center" and a "calm mind"; it seeks to "transform" herself cultivating "new balance" and "inner strength" while embracing the adversities of life and its "challenges." For the Odaka Yoga Warrior:

Challenges should be thought of as opportunities, because that is exactly what they are. Without challenges, we cannot attain inner power. This makes challenges essential to growth. When we give into challenges without any fight, *we embrace the empowerment* (emphasis in original)¹⁸.

This ideal-typical practitioner emerges at the intersection of the practical-discursive logics of Western medicine (with its anatomical and biomechanical principles) and Asian systems of knowledge (and their fluid movement and inner flow of energy) next to their respective models of the body and conceptions of health. Moreover, the Odaka Yoga Warrior is simultaneously a product and a "solution" to the uncertainties, flexibility

demands, and challenges of contemporary Western societies. Having extensively inquired into Odaka Yoga's conception of health in the previous pages I devote the remaining of this section to a discussion of the affinity between the Odaka Yoga Warrior and a neoliberal mode of thought. As the Odaka Yoga's website argues:

To become an Odaka Yoga warrior means to become adaptable, flexible, and fully integrated: a complete fluid and transformative body-mind entity. When moving in the Odaka flow, muscles are invited to engage in a new way which strengthens them and, in turn, creates movement in the mind. If the connective tissue is tense, muscles are no longer able to move freely because the entire body tenses and tightens, and so does our mind¹⁹.

I would like to underline how the Odaka Yoga Warrior is not merely the outcome of the meeting between the practical-discursive universes of Western medicine and Asian systems of knowledge but is also the expression of the particular ethos of contemporary neoliberal societies. In fact, "[t]o become an Odaka Yoga warrior means to become adaptable, flexible and fully integrated," or in other words, "a complete fluid and transformative body-mind entity." This depiction of the Odaka Yoga Warrior—as much as its elective affinities with challenges, growth and empowerment—I argue, substantially adheres to the normative biopolitical injunction of self-care, flexibility and self-responsibility that characterizes contemporary neoliberal societies across social domains, such as higher education, sport and the labor market (e.g., Andrews and Silk, 2012; Bélanger and Edwards, 2013; González-Calvo and Arias-Carballea, 2018; John and McDonald, 2020). Understood in this light, the Odaka Yoga Warrior is—thanks to her self-control, self-mastery, and constant work of self-cultivation—able to fruitfully merge the central tenets of the medicalized and subtle body models within a unified therapeutic framework of fluid self-care and self-actualization. If this analysis is correct, then the Odaka Yoga Warrior is a particular declination of the "neoliberal yogi" discussed by Godrej (2016), that is, a yoga practitioner whose conduct is substantially in alignment with the dominant paradigms of self-care, self-conduct and self-responsibility of contemporary neoliberal societies. Here, Foucault (2008) concept of "biopolitics," defined as the control of the welfare, wealth, longevity, and health of the population through the pervasive government of individuals' conduct, becomes a useful heuristic tool to theorize about the interconnections between Odaka Yoga's discursive focus on health and self-transformation; its practical repertoire oriented to the problematization of practitioners' health, its maintenance and cultivation; and the type of power—or in Foucault's terminology governmentality—that dominates our everyday conduct as much as the ethos of our contemporary societies. These reflections point to the fact that, as much as it is pivotal to understand martial artists' positioning within the broader field of power in order to fully understand the martial systems that they create, it is also important to understand the broader ethos of a field, of a social group or even of an entire

¹⁷<https://odakayoga.com/en/> (accessed in date 07/02/2020).

¹⁸<https://odakayoga.com/en/in-defence-the-way-of-the-urban-warrior-2/> (accessed in date 10/08/2020).

¹⁹<https://odakayoga.com/en/about/concept/> (accessed in date 13/02/2020).

culture, to fully account for its conceptions of health and the manners in which they may be discursively framed, reinforced, or in certain cases also disqualified.

CONCLUSION

In this paper I have investigated the birth and development of Odaka Yoga and its conception of health. In order to do so I have relied on Jennings' theory of martial creation enriched by some of the central analytical tools of theorists such as Bourdieu and Foucault. Naturally, more should be done in this direction, for instance exploring Bourdieu's notion of habitus at a dispositional level, that is, at the level of its constitutive elements. This would allow to show how martial artists' habitus resists specific biographical or sociocultural transformations or on the contrary evolves and drastically changes following personal or social crises. Similarly, more should be said in relation to martial artists' positions of homology in the field of power and in the martial arts field, for instance focusing on the cultivation, acquisition, and conversion of specific types of capital, further exploring the manners in which martial artists successfully mobilize pre-existing capitals to establish their new martial styles.

Nevertheless, the central argument proposed in the paper is that Odaka Yoga's conception of health derives from a framing of its practitioners' bodies at the intersection of Western and Asian systems of knowledge, giving shape to a body that is simultaneously medicalized and subtle or energetic. It is here that the Odaka Yoga Warrior emerges, the ideal typical practitioner whose defining traits are its strength, adaptability, flexibility and integration of mind, body, and spirit. Also as briefly mentioned in the previous section, the focus on practitioners' health and processes of self-transformation is not merely a trait of Odaka Yoga, but one of the surfaces in which the normative injunction of contemporary neoliberal societies are expressed and socially reproduced, in practice, at a meso and micro level.

I would like to conclude this paper with a reflection on hybrid conceptions of health and the ubiquitous role of health discourses and narratives across sociocultural domains. Two examples should suffice: the psychologization of religion and spirituality and the spiritualization of medicine. The former represents one of the most tangible trends in the contemporary religious and spiritual fields, that is, the adaptation, evolution, and development of specific messages of salvation within the context of a pervasive "therapeutic culture" (e.g., Furedi, 2004; Illouz, 2008). As rightly underlined by Altglas (2014) religious and spiritual resources are increasingly re-casted in the language of emotionalism, self-help and psychologism, to the point that self-transcendence, one of the traditional pitfalls of religious and spiritual paths, has progressively morphed into a search for self-actualization, one of the landmarks of consumer popular culture. Here, religious and spiritual resources "are understood as the self-help tools helping to acquire detachment, strength, optimism, and acceptance, which as such pave the way to self-realization and self-fulfillment" (Altglas, 2014:216), as the case study of Odaka Yoga and of its ideal-typical practitioner poignantly testify.

The latter, namely the spiritualization of medicine can be identified in the growing scientific, medical, and professional interests for complementary and alternative medicine (CAM) (e.g., Balboni and Peteet, 2017; Brosnan et al., 2018; Timmins and Caldeira, 2019), the expansion of what David Heelas has famously labeled the "holistic milieu" (Heelas, 2008), and the forms of knowledge production and social transformations that they foster. CAM and the holistic milieu are in fact characterized by the attempt to bridge Western biomedical conceptions of health with non-Western traditional medicine, such as acupuncture, Ayurveda and traditional Chinese medicine alongside other approaches such as Reiki, homeopathy and hypnotherapy. Here, practitioners are promised balance, relaxation and—perhaps most importantly—the restoration of their body-mind-spirit unity, through a dedication to psychosomatic techniques such as yoga, massages, and meditations of various kinds. Most notably, what defines CAM and the holistic milieu is that their effectivity and transformative potentials are granted by their scientific and medical framings, and of course oftentimes, by the experiential and ritualistic rendition of these disciplines and sociocultural domains. What I meant to underline through these two short examples is that although it is correct to claim that anxieties over health, its minute control and mastery are a defining feature of our contemporary societies and their form of governmentality, our sociological inquiries would benefit from a more detailed understanding of what types of health is at stake in different sociocultural domains, especially in those domains articulated around hybrid conceptions of health.

Finally, I contend that to study hybrid conceptions of health where Western, indigenous, and New Age systems of knowledge and their epistemologies intersect, could be a promising avenue for future research and may contribute to shed further insights into the psychologization of the religious and spiritual fields as much as the spiritualization of medicine. The concept of "hybrid field" (Pedrini et al., 2019) is, I believe, particularly useful in this regard. This concept was originally coined to discuss—starting from a micropolitical exploration of the coaching environment—how "boxe popolare"s (people's boxing) (Pedrini, 2018, 2020) coaches negotiate the boundaries of the field relying on the practical-discursive logics of different fields, such as the sporting and the political fields. Its heuristic potential, however, could also be used to theorize about: first, how contemporary conceptions of health in the field of martial arts, for instance, derive from the meeting of different instances originating in disparate location of the martial arts field; and second, how they are imported from outside their boundaries (e.g., the medical field, the therapeutic field, the religious field, and so on). In the case of Odaka Yoga, I have preliminarily shown how its conception of health is strongly derived from the anatomical and biomechanical understanding of the body, inspired by Western medicine and its objectifying gaze, and the subtle body model of Asian traditions such as yoga and martial arts. This analysis, I believe, has helped defying any essentialist reading of Odaka Yoga as intrinsically commodified and devoid of substantive philosophical foundations, and in doing so, has also shown that Odaka Yoga is as much the expression of the self-centered and self-actualizing ethos of

contemporary societies, as it is the outcome of decades of martial explorations at the intersection of yoga and martial arts.

DATA AVAILABILITY STATEMENT

The data used for this paper are: extracts of biographical interviews, ethnographic field notes and extracts from the Odaka Yoga's website. There is no restriction on the data. The first two types of data are integrally, and privately stored by the author. The third type is freely available online. Requests to access the datasets should be directed to Matteo Di Placido, m.diplacido@campus.unimib.it.

ETHICS STATEMENT

The patients/participants provided their written informed consent to participate in this study. Written informed consent was obtained from the individual(s) for the publication of any potentially identifiable images or data included in this article.

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AUTHOR CONTRIBUTIONS

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Os Joelhos! Os Joelhos! Protective Embodiment and Occasional Injury in Capoeira

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Capoeira, the African-Brazilian dance and martial art has enthusiastic devotees in Britain. Most practitioners are acutely aware of their *capoeira* embodiment, and have strategies to protect themselves from injury, and ways to seek treatment for any injuries they get. Drawing on data from a long-term ethnography and a set of 32 open-ended interviews with advanced students, the paper explores student strategies to prevent *capoeira* injuries, and their discoveries of effective remedies to recover from them, before it presents an analysis of their injury narratives using Frank's three-fold typology of illness narratives. The *capoeira* study therefore adds to the research on sports and dance injuries, and to the intellectual debates on the nature of narrative in research on illness and injury as well as exploring one aspect of the culture of *capoeira* students in the UK.

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My knee stopped me for a few months, my back stopped me for 6 months, my shoulder stopped me for 6 months, and a car accident stopped me for 7 months.
(Penstemon, female, fifth belt in 2016)

INTRODUCTION

Joelho is the Portuguese word for the knee. *Capoeira*, the African-Brazilian dance-fight-game, uses a predominantly Brazilian Portuguese vocabulary, including songs in Portuguese so its serious students learn the Brazilian Portuguese names for its moves and for body parts like the knee. The knees are one of the body parts that practitioners of the African-Brazilian martial art *capoeira* report having trouble with. Both teachers and students are familiar with knees getting injured, or throughout their regular training realizing that they are gradually more insidiously becoming painful. There is even a traditional *capoeira* song that includes the refrain:

*Jogue comigo com muito cuidado
Com muito cuidado que meu joelho tá quebrado
“Play gently with me, my knee is broken.”*

Any *capoeira* teacher or learner would sympathize with that sentiment: painful knees are a common problem. *Capoeira*, though often called a martial art, is also a dance and a game, and its enthusiasts (*capoeiristas*) are players rather than fighters. In Brazilian Portuguese the verb used is *jogar*—to play—not the verb for fighting. This paper draws on a body of interview material collected from students about the experience of injuries, strategies to avoid them and ways to deal with any injuries that do occur. These 32 interviews are set in the context of a 16 years long ethnographic study of

contemporary capoeira as it is taught in two British cities—Cardiff and Bristol—by *Mestre* Claudio Campos, a Brazilian master. All the respondents were experienced capoeira learners in the two British cities.

The woman we have called Penstemon, whose interview is quoted at the head of the paper, is one of the most persistent capoeira students in the group we study. Few students remain so keen on doing capoeira if they have suffered that many injuries. At the time of her interview in 2016 it was 10 years since she began training, but she had “lost” 2 years of her involvement because of these four major injuries. At the time of the interview she was waiting for an operation on her thumb, which would necessitate another break. That was successful and she is still training at the time of writing. Our analysis draws on literature about illness narratives (see Thomas, 2010) and research on how injuries are reported by enthusiasts for other sports such as rugby (Smith and Sparkes, 2005) and martial arts practitioners (Smith, 2008).

Casual observers could think that capoeira is a dangerous activity, and that its practitioners would get injured. In Brazil capoeira games in the streets between men can be aggressive, but outside Brazil capoeira is taught as a non-contact activity. Men, women and children train and play together, escapes are as important as the attacks and the acrobatic flourishes are taught, practiced, and drilled extensively. Unlike many South East Asian martial arts kicks are not routinely blocked, but dodged, and punches or blows with the arms and elbows are rarely used at all. Attacks with the head and knees do exist, which, like kicks, can be blocked, but are equally often evaded. Protective clothing, like helmets, shin guards, or gloves, is not worn, nor are gum shields, and it is not mandatory to remove or put plaster over jewelry as it is in Savate classes (Southwood and Delamont, 2018). Learners who wear glasses can train wearing them, if they choose to do so.

Capoeira training involves learning and drilling movements individually in lines, paired practice of sequences, and games in the *roda*, a circle of *capoeiristas* and a group of musicians (*bateria*) within which two people interact using the attacks and escapes they have learnt (Delamont et al., 2017). Students are exhorted to train and play with one arm positioned to protect their face and head, as a precaution. In Claudio Campos's classes the instructions “Protect yourself” and “Protect! Protect!” are frequently heard, along with advice to escape as low to the ground as possible. Students are routinely told that capoeira can be dangerous. Games in the UK with strangers, who may have been trained in a more aggressive style, and all encounters in Brazil are likely to be fiercer and could involve more contact and more “real” take downs. Such contrastive rhetoric works to stress how “safe” capoeira is *here*, as long as you concentrate, use dodges and protect yourself but outside the home club, *there*, it could be very dangerous. The injuries capoeira students and teachers get doing capoeira are mainly sprains, pulled muscles and damaged ligaments and tendons, usually reported as due to falls in training or games or failing to take sufficient care when attempting moves. During our fieldwork injuries due to capoeira encounters have been very rare. At the time of writing (March 2020) Delamont has observed Claudio Campos teach 681 times, and watched 464 other classes, and has never seen an injury worse

than a black eye. In the Bristol class 15 years ago a man got his cheek bone fractured by a spinning kick from another student who was training next to him and the fact that this is remembered in the oral culture shows how rare injuries are.

The authors are three capoeira practitioners (Duarte, Stephens and Lloyd) one of whom is Brazilian, and a non-playing ethnographer (Delamont). All three capoeiristas have had injuries themselves. Capoeira does produce a toll on bodies—the teachers (professionals), especially those over 50, often report problems with their knees and hips. *Mestre* Gato, a pioneer of capoeira in the UK, has had both his hips replaced. Teachers are not, of course, immune from getting injuries from non-capoeira activities. They have bicycle and car accidents, and get hurt doing other activities. As a young man, in Brazil, *Mestre* Claudio Campos got several injuries when doing Brazilian jiu-jitsu and so stopped doing it to focus on capoeira. In the UK he injured his knee playing soccer and had to have surgery.

The paper begins with a brief account of *capoeira*, and a short methods section followed by an overview of our results. The heart of the paper is the debate among social scientists about illness narratives, the analysis of the data using the ideas of Frank (2012), and the insights gained into the habitus of diasporic capoeira. Frank (2012) suggested that illness narratives could fruitfully be classified into one of three types, quest narratives, chaos narratives and restitution narratives. This classification is useful for organizing the injury narratives we have collected from capoeiristas in the UK. Many sociologists of the body draw on Bourdieu's (1977) concept of habitus as we have done elsewhere (Delamont et al., 2017). He argued that research on how new bodily habituses were acquired was essential to understand embodiment and performativity. We argue here that the analysis of injury narratives is a way to gain insight into the embodied habitus of capoeira.

CONTEXT: CAPOEIRA OUTSIDE BRAZIL

Across the USA and Canada, in Europe and in Australia and New Zealand, thousands of people are eager to learn new and “exotic” forms of embodiment and performativity from other cultures. They dedicate time, energy, and money to acquiring skills and knowledge about “other” bodily traditions, such as Argentinian Tango, Chinese Kung Fu, Spanish Flamenco, Japanese Aikido, Scottish Highland dance, or Brazilian Capoeira. Men and women who decide to learn an “exotic” dance (such as Salsa) or a martial art (such as Muay Thai) are embarking on a journey into a new culture, as well as a project to make new friends and learn new bodily skills. Their teachers are either expatriates from the homeland of the exotic dance or martial art or “native” British people who have fallen in love with the dance or martial art in their youth, become experts in it, traveled to study it in its homeland and other centers of excellence to gain authentic experience and “qualified” formally or informally, as teachers. This paper draws on a larger ethnographic investigation (Delamont et al., 2017) of contemporary capoeira classes in the UK focused partially on the re-enculturation processes engaged in by novices acquiring new bodily habituses.

Capoeira's origins are undocumented and disputed (Assunção, 2005). Elements of capoeira, such as the musical instruments, the call and response singing, and the circle in which games are played (the *roda*), are certainly African in origin. The specific activity of capoeira is African Brazilian, developed by the slaves on the plantations of Brazil, or in the communities set up by escaped slaves, or in cities such as Salvador de Bahia. It was a male street pastime in the cities after the slaves were "liberated" in 1888, and was made illegal. In the 1930s it was legalized and recognized as a good way to get the armed forces and school children fit via a "Brazilian" (and not a colonial Portuguese) activity. In that era the so called "new state" led by Vargas (1937–1954), two varieties developed: *regional* which incorporated some aspects of South East Asian martial arts and *angola* which self-consciously aims to be true to the authentic roots of capoeira. *Regional* developed, in the period after 1970, into a variety called contemporary (*contemporânea*), which is today widespread across the globe. The classes we study are capoeira contemporânea. During the rule of the military junta in Brazil (1964–1985) many Brazilians went into exile, and took capoeira with them to North America, Europe and Australasia. There has been capoeira in the UK since the 1970s, with regular classes in Bristol since 2001, and in Cardiff since 2003. Many cities in the UK have, in 2020, at least one capoeira teacher running a group. In UK capoeira most of the teachers are Brazilians, but there are people of other origins who have chosen to dedicate themselves to the Brazilian dance-fight-game. Our research has been conducted primarily with Mestre Claudio Campos, a Brazilian who has taught in the UK since 2003.

Nicknames (*apelidos*) given by the instructor, are common in diasporic capoeira. Delamont and Stephens have "real" nicknames but routinely publish with the Portuguese pseudonyms *Bruxa* (Witch) and *Trovão* (Thunder). Pseudonymous nicknames are used for all informants in this paper. Men have nicknames from Kipling's *The Jungle Book* and women the names of flowers and trees. This gender difference in our pseudonyms reflects the way in which teachers allocate nicknames: men get funny or heroic names, women pretty ones (see Owen and de Martini Ugolotti, 2019). These are not sources of nicknames used by any UK capoeira teacher we have studied. "Real" nicknames are generally in Brazilian Portuguese, such as *Sorvete* (Ice Cream) or *Grego* (Greek). Teachers mentioned here have pseudonyms from Greek or Roman mythology and history such as Claudio and Seneca.

Most of the ethnographic research has been conducted on capoeira angola, in its heartland in Salvador de Bahia, Brazil (Lewis, 1992; Downey, 2005; Willson, 2010) or overseas (Griffith, 2016; Varela, 2017a,b). In capoeira, as well as being drilled in the "fighting" techniques, all students are expected to learn several dance forms and perform them in public demonstrations of capoeira related activities and at social events. The basic techniques of capoeira are attacks (such as kicks), escapes, and acrobatic "flourishes". Headstands, cartwheels and handstands are used routinely, while more elaborate acrobatics, such as a high back somersault are rarer, used only by the most physically skilled people, and are mainly used in displays to "amaze" an audience. Classes, which usually last 90 min or 2 h, consist of

drill and practice in lines, or in pairs, of individual moves or short sequences, and often end with "a *roda*": when pairs have an opportunity to play free games before their peers. Capoeira has an extensive virtual presence, with films, DVDs, websites and music downloads enabling those far from Brazil to establish themselves in a global network (Delamont et al., 2017).

RESEARCH METHODS

The ethnography is about capoeira as it is taught and learnt in English speaking countries (the UK, Canada, New Zealand) far from Brazil (Stephens and Delamont, 2006a), but the data on injuries were collected by interviews. The ethnographic methods are described in detail in (2017 Appendix One 178–191). The material used in this paper, on students' preventive strategies, the treatments sought when they were injured, and their accounts of injuries cannot be observable directly as they do not occur in capoeira classes. So the main data analyzed here are 35 injury narratives drawn from the 32 interviews. The informants were learning capoeira as a hobby in two UK cities and are mostly British. The interviews were conducted in two phases in 2013–2014 by Duarte a Brazilian sociologist who does capoeira, and by Lloyd, a Welsh dance teacher and experienced capoeirista. Duarte had not done capoeira in Brazil, but began to learn it in Cardiff during his period as a Ph.D. student. He has suffered recurrent back injuries. Students were eligible to be interviewed if they had been learning capoeira regularly, and therefore seriously, for over 2 years and had been awarded at least the second belt (*corda*) in the group's hierarchy explained below. Many people start capoeira, and may get the initial blue belt, but these interviews were designed to capture the experiences and narratives of serious, persistent students. The Duarte interviews covered a range of capoeira topics including injuries. Lloyd's interviews were focused on injuries specifically to provide data for this paper, and we obtained 35 injury narratives from 32 interviews. In the 2016 wave there were 12 women respondents and eight men, in the earlier phase there were seven women and five men who discussed their preventative strategies, injuries and recovery histories with Duarte, and so only their responses are included here (see **Table 1**). The longest any respondent had been training when they were interviewed was 18 years, the shortest three, the average six but some had trained continuously while others, like Penstemon, had had gaps.

Contemporary capoeira groups give *cordas* to students as they progress, and we have labeled all quotes from respondents with their sex, number of years in training and belt level in 2014 or 2016 (the date of their interview). *Cordas* are awarded at intervals that increase noticeably as the level of skill necessary rises. So the most experienced current Cardiff student Jagai got three *cordas* in 3 years (2003–2006), was subsequently raised to the fourth in 2010 and to the fifth in 2016. His, typical, gap between third and fourth belts was 4 years, and the next gap was 6 years. Most respondents were attached to Mestre Claudio Campos's capoeira group, but a minority regarded themselves as members of another group, and were training with Claudio because they were living in Bristol or Cardiff.

TABLE 1 | The two sets of interviews.

	Average Years of training	Range	Range of cordas	Total
Injury enquiry 2016				
Women	6	3–12	1–5	12
Men	6	3–18	2–5	8
General interviews 2013–2014				
Women	5	2–8	1–4	7
Men	7	3–10	2–4	5

The interviews for the injury enquiry were semi-structured. Delamont and Stephens devised a topic list that addressed the central issues we wanted to explore. The interviews were recorded and transcribed by Duarte and Lloyd and if originally in Portuguese, translated into English, and then all of them were analyzed by Delamont. We asked about injuries (such as a fractured cheek bone or damaged knee ligaments) that interrupted training, whether due to capoeira or other activities such as snowboarding or soccer. Both of the authors who devised the questions had experienced injuries that interrupted their capoeira training. Stephens had done karate from childhood and has a Second Dan Black Belt in Shotokan karate. He began capoeira in Cardiff as a postgraduate student, and trained for 6 years, gaining the third belt, until recurrent injuries led him to cease training. The respondents knew the interviewers as fellow capoeira students, and in some cases were friends. So these were interviews between people of a similar age and lifestyle, discussing an activity they were both invested in. They were paid £20 for doing the interview and put into a raffle with a chance to win one of four prizes each of £500. There were two prizes for each of Mestre Claudio Campos's clubs in 2016. The money was specifically intended to enable the winners in 2016 to go to Brazil for the ceremony at which their teacher Mestre Claudio Campos was being promoted to the highest teaching grade, that of master (*mestre*). For the intended respondents this was an incentive, because Mestre Claudio Campos's long term students wanted to see him rewarded at his elevation.

There is a caveat about the data: we expected more volunteers and many more injury narratives than we actually obtained from the sixty or so experienced learners in the two cities. This absence can be related both to a pattern in the recruitment to the study and to decisions by capoeiristas about continued involvement. This was a feature of the research design, which should have been foreseen, and that, in retrospect, has made the data less valuable than we anticipated. We expected the volunteers to be currently engaged in capoeira with experience of past injuries. In the event we had underestimated how many people who had been injured did not volunteer to be interviewed for the project. Some of those who might have been particularly useful informants because of their serious or recent injuries had stopped training permanently *because of* injuries and no longer self-identified as capoeiristas. They were not motivated to come forward to be interviewed even if they heard about the project. Others with an injury that was temporarily interrupting training were unlikely to want to go to Brazil for a capoeira festival if too impaired to play any capoeira

there themselves. Additionally, anyone who could not go to Brazil due to work, study, or family commitments was unlikely to volunteer to be interviewed because it would reduce their friends' chances of winning one of the prizes. These problems meant that we had a set of respondents who were keen to go into the draws so they might win the cost of the airfare, were not currently injured and had not "left" capoeira through injury.

THE INJURED RESPONDENTS

The majority of the people interviewed had experienced injuries of some kind that had interrupted their capoeira training. For many of the informants, capoeira was an important part of their recent and on-going journey through life itself. At least half of those injuries had occurred outside capoeira: at work, doing other sports and exercise, or in bicycle or car accidents. The capoeira injuries were mostly done when trying an acrobatic move, or were inflicted during games when an attack went wrong. Raksha's interview is used to illustrate a typical story because he is articulate about his experience of an injury and his subsequent responses to it.

The worst injury that I had did actually completely stop me [doing capoeira]... It was a few years ago now, but it was a good few weeks. It was actually down in the gymnasium gym. I was trying to learn how to do front flips. (Raksha, Male, 9 years training, 4th belt in 2016)

He was practicing on what he described as the wrong type of surface

It's less springy and there's less soft stuff to land on, and as I landed I was still in a *cocorinha* [squatting] position because I hadn't managed to get enough height and all of the force went through the side of one of my legs. I would swear that I heard something snap but it was probably just my imagination.

The consequence was

I just couldn't walk properly for a few days, and then it took a long time then to actually do anything.

Raksha had been training for 9 years with gaps due to moving cities, and employment issues. Raksha loves capoeira, particularly the acrobatics, and also does gymnastics and "a bit of circus". He did not seek any medical diagnosis or treatment and missed

training “for up to about a month”. He has not, he says, suffered any “serious” injuries although many readers might classify this as “serious”. Apart from this leg injury Raksha mentions some short gaps due to more minor injuries from capoeira, and gymnastics, and he has a recurrent “slight muscle pull, strain” in his neck and shoulder. He explains

I think it's the place where I hold a lot of tension and if I'm not warmed up properly and not aware enough of my body at the time then I have an inclination to overdo it and—err—compensate.

He mimes lowering himself from a handstand into a headstand, a move his interviewer, Lloyd, can do herself.

Yeah, handstand to headstand and yeah losing a bit of my strength to go down too fast and obviously just cricking my neck. So I've done that a few times.

Lloyd asked what Raksha does about that recurrent injury, and whether he sought help.

No, no. I would put hot and then cold on it, heat pack and then an ice pack and just keep using creams and stuff.

Raksha also had an injury from working as a house painter, when he got a back seizure. However, compared to Penstemon, with whom we opened the paper, Raksha has had little disruption to his capoeira experience. He was philosophical about injuries:

If I'd have had my knees closer together it might not have happened. If I had jumped higher it might not have happened. You do these things knowing full well....I've had closer calls with things like the flying trapeze at circus school. In Kung Fu I dislocated two or three of my fingers.

The majority of the informants had injury histories between Penstemon's three soft tissue problems and her car accident, and Raksha's leg damage and his recurrent neck pain.

As well as routine classes, which happen four or five times a week, capoeira in the UK has special events—festivals—to which lots of teachers and students come. The following extracts are from the ethnographic fieldnotes taken during a weekend in the Autumn of 2017 when over 100 people congregated in central London. We have drawn on the fieldnotes from the 3 days to illustrate injuries, public prevention strategies, one therapeutic activity, and the passion for capoeira that characterizes the lives of our 32 informants and their coevals. The weekend had been organized by Mestre Joãozinho of *Mar Azul* to honor two African-Brazilian veteran *mestres*: Mestre João Grande and Mestre Moa do Katendê. João Grande was 84 at the time, and Moa do Katendê not much younger, and it was thought that it might be British capoeiristas last chance to see, and learn from, them. Tragically Mestre Moa do Katendê was murdered in a bar the following year after an argument about the presidential election, so that prediction came true. The event, which cost £85 for one evening and two full days (including a celebratory Tshirt), was attended by Delamont, Lloyd as a full participant, and Mestre Claudio Campos as one of the many UK based teachers.

On the Friday evening the two Brazilian masters attended two different events. They went to Mestre Poncianinho's regular Friday night class in Fulham from 6.30 to 7.30, and then attended Mestre Joãozinho regular open roda in West Kensington. This happens every week and is “just” capoeira games. On Saturday and Sunday the two mestres taught huge classes in the sports hall of a London University. Delamont and Lloyd spent the Friday evening at the open roda, but the fieldnotes also mention events at Mestre Poncianinho's class. This was possible because Delamont has often attended Mestre Poncianinho's Friday class, knows many of the students, and was shown photographs of it by regular class members on the Saturday. There were about 50 people at each location on the Friday, and over 100 on each day over the weekend. The fieldnotes for this event run to 47 A4 pages, but we have extracted material related to the themes of this paper. Alongside the “celebrity” “star-studded” aspects of this event, there were multiple mundane encounters that included observation and accounts of injury prevention, of past and present injuries, and of therapeutic encounters.

The Friday night event in Kensington “began” at 5.25 when 10 people started to play capoeira music in an impromptu *bateria*. From 5.25 until 6.05 people stretched and played warm up games with friends, queued to pay and collect their Tshirt, greeted friends warmly and strapped up their ankles, knees and wrists as a precaution. At 6.05 Mestre Joãozinho explained the timetable for the evening and took Mestre João Grande and Mestre Moa do Katendê away to Fulham. One roda formed near the *bateria* and there were 18 players in it by 6.15. People arrived in a steady trickle all evening, paid, warmed up and joined in either as musicians or players. At 6.15 a teacher divided the first roda into two, and at 6.30 a third one was created. The aim of this is to keep rodas small so everyone gets a chance to play games. At 7.07 there were 10 musicians, eight people in the original room, 10 in the second, and six in the third. One woman, who had arrived with her arm in a sling, told her friends she would not play, but at 7.20 she took off the sling and played a careful game with a heavily pregnant fellow student. No one found that odd, because serious capoeira students often train throughout their pregnancies, and injured people often decide to play a careful game.

On the Saturday people began to arrive from 10.30 although the hall was not free till 11.00. Once the large sports hall was free and people could go into it, the organizers set up a *bateria*, a food table for the teachers, hung banners, and those teachers who had brought things to sell (such as DVDs and instruments) laid them out on tables. Individuals warmed up, put on precautionary strapping, played gentle games with friends, and caught up with people. Mestre Joãozinho “opened” the event with a formal welcome to Mestre João Grande and Mestre Moa do Katendê, and then to all the teachers present, starting with the mestres and moving on down through the lower grades to the instructors. All the mestres but one, a Scandinavian, were men. The proportion of women in the lower grades like “Professor” was higher. Mestre João Grande began to teach at 11.40 with a set of exercises that were capoeira but were also stretches, done individually and then in pairs. João Grande is now too old to do a lot of the moves he wanted the students to undertake, so he has two African-Brazilian women who demonstrate each move to the class for

him. This is normal if a master is old and frail, or injured. All the capoeira teachers present either played music or took the classes alongside the students. The first pair in the class to try the required exercise are themselves teachers. Teaching stopped for a lunch break at 1.45 and at 2.30 a music class took place, with 35 *berimbaus* being played all at once. Unusually Delamont was not the only capoeira researcher present, as Assunção (2005) took classes but also conducted interviews with teachers present throughout the event.

Sunday's event was due to start at 10.30 but at that point only 12 students were present including three who set up a set of screens and two massage tables at the far end of the hall opposite to the *bateria* which were occupied all day by people having massages which they paid for. This is not unusual at special events. Many capoeira groups include people who are trained to do massage, and it is common for them to set up a portable table and work, so that other students can be massaged *in situ*.

The formal proceedings began at 10.53 with welcomes, and then Mestre Moa do Katendê led a dance class, a common event at the beginning of the second full day of festivals which warms everyone up, stretches their bodies, emphasizes the African and African-Brazilian origins of capoeira and the need to move with the music. The massages and the dance class are the most public aspects of general preventive strategies recorded that weekend. On the second day of an event when many students are tired and aching from the intensive work on day one, to begin the second day with a dance class and a long and careful session of stretching, before any formal capoeira teaching takes place.

The capoeira classes begin at 11.24 –60 people are training, plus a *bateria*, and the people having massages. At one point a Brazilian mestre who teaches in the north of England goes to get massaged telling Delamont that because of the long drive to London that morning he needed to get his back “sorted” before he did any capoeira. Prevention strategies are employed by teachers as well as students.

At 12.13 Mestre Moa do Katendê called the class to a *roda*, which is mainly teachers, and many students take photographs of the games. A short break is then followed by Mestre João Grande teaching again. One of the paired sequences the mestre gets his advanced helpers to demonstrate involves one of the pair doing the splits as their opening gambit, and then when they change roles their training partner starts the sequence from the splits. A high proportion of the students present cannot, or choose not to, do the splits. Avoidance of a move that risks injury is normal.

A young woman who got injured on the Saturday (she hurt her leg training) is here today and she has a massage.

At 2.34 there was a lunch break and classes resumed at 2.53, with three *rodas* formed. Games are played, but Mestre João Grande occasionally stops them to make a pedagogical point, improve the singing, or get his helpers to demonstrate a move he has seen done badly. At 4.06 the *bateria* was all women. A small man wearing glasses was in a game with a tall blonde man from one of the groups based in mainland Europe, whose style was very aggressive, and who ignored all the small man's signals to calm the game down. When Delamont spoke to the small man after the game he said he had feared he might get an injury, but,

he added “Perhaps I've insulted his mother”, and “there are lots of styles.”

During the course of the two and a half days four students pulled out of a class or a *roda* with an injury of some kind, and in three of those cases ice packs were fetched from Reception for them. At the beginning of each session many people strapped their knees, or ankles, or both as a routine preparation for the exercises. Delamont was told of three people who had not come because they had injuries, and eight people talked to her about their state of health, including Penstemon (the flower), the student whose “history” began this paper, who had had her thumb surgery and was training again very happily. There were no “serious” injuries: no one left the event, or went to hospital. Our sociological interest in this account, and the interviews, lies in the students' prevention strategies, to which we now turn.

ILLNESS AND INJURY NARRATIVES

In this section we relate our injury data to the literature on illness narratives and the appropriate social science strategies for collecting, analyzing and writing about them. Injury narratives are a feature of two different areas of social science research: dance and sports studies and the sociology of health and illness. Injury narratives can be seen as a variety of illness narratives, a topic of controversy in the sociology of health and illness, and the wider discussions of interviews more generally (Atkinson, 1997, 2009; Atkinson and Silverman, 1997; Silverman, 2017). Frank (1995, 2010, 2012) argued in a series of influential papers and books that social scientists should collect, and showcase, the narratives of patients to rebalance the social science study of health and illness, which he saw as too focused on the standpoint of the doctor. Frank, himself a cancer survivor, was particularly important in establishing narrative based studies of patients with chronic and life-threatening conditions such as epilepsy and cancers. Frank's (1990, 1991) earlier work on the disciplined body has been used to explore the embodiment of capoeira masters and learners drawing on symbolic interactionist ideas (Stephens and Delamont, 2006b) but his analyses of illness narratives have not been applied to capoeira injuries and their consequences before. Before we draw on Frank's work on such narratives we have set it against a dispute among interactionist social scientists about the appropriate use of them.

Atkinson (1997) argued controversially that collecting and showcasing patients' stories was not, in itself, a defensible or useful *social science* activity. He pointed out that the task of the anthropologist or sociologist was to collect the data with social scientific research questions in mind, to analyse the narratives, and to write theoretically informed analyses of them. An absence of social scientific analysis, Atkinson argued, was an abrogation of social scientific responsibility, because the job of a social scientist is to analyse data, and to generalize and theorize from them. Merely celebrating the voice of patient is not, Atkinson argued, social science. Atkinson and Silverman (1997) made a more general argument about interview data in contemporary western societies, making the same call for rigorous analysis repeated recently by Silverman (2017). Frank (2010, 2012) and

Bochner (2001) accused Atkinson of both lacking in human feeling and empathy, and being a naive empiricist or an apologist for, or an ally of, western capitalist medicine. Thomas (2010) is an overview of that dispute with replies by Atkinson (2010), Frank (2010), and Bochner (2010). Frank (2012) is a further reiteration of his view. In contrast to the sociology of health and illness injury narrative research in dance and sport does not have authors arguing that celebrating the voice of the “wounded” is a “sufficient” task for social scientists. The studies of injuries suffered by sportsmen (Smith and Sparkes, 2005) and ballet dancers (Turner and Wainwright, 2003) are analytic not just celebratory. Sparkes and Smith (2012) for example *analyse* their data on spinal cord injuries among male rugby union players using Frank’s typology.

Frank (1995, 2012) reported that there were three main types of illness narrative: restitution, chaos and quest. In the first type, the patient tells how they were ill, were diagnosed, treated, and were able to resume their lives in an acceptable way. In these stories medical staff are represented as largely positive figures. In chaos narratives, the protagonist finds his or her life collapsing due to illness and many other issues. Everything that is tried makes things worse, and the result is chaos. Medical professionals are among many actors in these narratives who “fail” the narrator and are portrayed negatively. Smith and Sparkes (2005) found chaos narratives in their data on male rugby players who had suffered life changing spinal cord injuries. Quest stories are more like traditional folk and fairy tales, where the protagonist seeks something (Atkinson, 1992, 1996; Delamont, 2009) such as Gerda setting out to rescue Kay from the Snow Queen, or the dwarves in *The Hobbit* trying to regain the Arkenstone and other treasure held by the dragon Smaug. In such traditional quest stories the seeker is transformed by the experience, and often comes to accept that it was their destiny to be the seeker. In illness narratives the quest to regain good health is transformative for the seeker and something equivalent to “treasure” is discovered or gained by the main protagonist. In some of the injury narratives we collected, the capoeirista has learnt how to train and play regularly while preventing further injuries, and claims to have achieved life-changing knowledge of how to look after their physical and mental welfare a successful quest. We decided to explore the capoeira injury narratives to see if these three types existed in that body of data.

We hypothesized that those in our sample were most likely to tell us restitution narratives or quest narratives, because capoeiristas with chaos stories had probably left capoeira so we would not find chaos narratives in our data set. There were twenty distinct stories about health-related events that had interrupted the capoeira training of women, three of which were about pregnancies. In the interviews with men there were fifteen narratives about injuries that had prevented capoeira training. For both sexes the majority of the injuries had been suffered in capoeira related activities such as games in *rodas*, and the minority during other activities either sporting (snowboarding, gymnastics) or in traffic (especially while cycling). Excluding the pregnancies we had 35 injury narratives available for analysis. We found one story we could perhaps classify as a chaos narrative, although the same man had two other restitution stories as well.

Only two stories could be classified as quest narratives. All the rest were classic restitution stories, of the kind we were expecting to hear from these informants one of which we analyse below.

We have focused on one restitution narrative here, drawn from an interview Lloyd did with Fuchsia. She began capoeira with Mestre Claudio Campos in 2010 and was on her second belt in 2016, having lived in another city for a year and trained as a visitor with a different group. Fuchsia has, since her interview, been raised to the third *corda*. There were four injuries she chose to talk about, two capoeira and one skiing incident and a traffic accident. Fuchsia had had two leg injuries, one in her thigh and a second in her calf, and had stopped training for 2 months with the first injury, and three after the calf injury. Her account began:

A torn muscle in my thigh, that was the first one actually that was playing capoeira. Because I was really tired and exhausted. I pushed myself too hard in the class.

For that injury Fuchsia first saw a chiropractor because she thought she had a back injury, but discovered: “It was really the muscle that was torn!” So she went to a sports therapist. Fuchsia blamed herself for the injury:

It was a bad time mentally as well, I was trying to quit a job that was super stressful and trying to give myself something that I like then pushing myself too much so it was definitely my fault.

The chiropractor was “so expensive” but Fuchsia was pleased she had consulted him because he was honest, because he diagnosed the problem as muscular and recommended a good sports therapist.

The second injury began with a torn calf muscle but also led to knee pain. Fuchsia was again clear that it was her fault.

It was in a festival but I think it was my fault because I was feeling a bit under the weather. I was a bit ill and pushed because it was a festival so yeah, I know it was me, I think I had a cold.

This injury was to her other leg. She again saw the sports therapist who got her to do exercises with an exercise belt and then gave her painful massages that were beneficial. So the second story was also a restitution one. Fuchsia then had her third problem, a knee injury while skiing, which meant “the knee was unstable” so

I went back again to the sports massage guy.

This time she was away from capoeira for at least 6 months. Fuchsia produced her longest account of that injury. Initially she did not have any treatment because she thought:

I really need to heal this [but] I cannot afford any more [treatment]

However, after some months she went back to the sports massage therapist

I was worried if I’d ever be able to train anything again

The therapist said

You need to strengthen the muscles and I said “But I don’t want big muscles” and he said “No, no, you have a normal diet so don’t worry but do the exercise because it’s the only way to keep the knees healthy.”

The exercises did not leave Fuchsia pain-free

So after he did everything that he could he said “well take an MRI scan with the NHS” and I said I really wanted to do this otherwise I’d have to pay like £200 for it or something. So I went and they didn’t see anything and in between I was a bit scared and I was thinking that I absolutely don’t want an operation. So I tried acupuncture and in one session my pain I had when I used to bend: there was a sharp pain that was there and holding one back all the time. In the first session the pain was a lot less! Incredible! Incredible! So whatever happened I did 6 or maybe 12 sessions of acupuncture and that’s been the best.

Lloyd asked if Fuchsia would have acupuncture again.

It was really good the acupuncture—I had never tried it before and was not very keen on having anything stuck in my body, but really on my first session I was quite surprised—it worked!

The third part of the overall narrative covered a year of Fuchsia’s life, and she then suffered whiplash in a car accident and went to a different chiropractor. Since then Fuchsia has been careful to warm up thoroughly, and if she feels any pain in class stops training and goes to the side to stretch. All her recoveries have been

Totally worth it [because] capoeira is good for the soul. . . it is quite incredible—it’s a display of energy

This interview displays the characteristics of a restitution narrative. It has a happy ending, and both the orthodox and alternative practitioners are positively portrayed. Fuchsia reports that they all tried hard to diagnose her injuries and offer useful strategies to cure them. The diagnostic and remedial processes produced positive outcomes and eventually she can train regularly again.

Fuchsia’s restitution narrative contains the elements of the majority of the respondents’ accounts of their prevention strategies, and their recovery strategies.

Preventing Injury

Many of our informants prefaced their responses about how they prevented injuries with statements about how “lucky” they had been to have avoided body damage. There are six main prevention strategies reported in the interviews, readily observed in every class, and commonly discussed. They are: strapping and bandaging, intensive stretching before and during class, yoga or pilates, avoiding moves that are potentially injurious, “listening to my body,” and relying on *axé* which is a capoeira term we explain below. Strapping and bandaging are widely used. At the beginning of every class it is routine to see people

pulling on commercially made ankle, knee and elbow supports, or strapping those joints with bandages. Rashka rehabilitated his ankle by wearing an ankle support for some weeks, and thinks that wearing trainers, rather than going barefoot, also helped his recovery.

Intensive stretching is normal. Most classes start with a warm up, especially in colder weather or chilly halls.

The prevention strategies use at home outside formal capoeira classes are not a visible part of the ethnography. The careful attention to stretching and warming up that are a feature of Claudio’s classes make recurrent appearances of our fieldwork, and as Claudio has aged (he is now over 40) he pays more attention to ensuring that he and his students are ready to learn capoeira safely. Such practice is evident in the following fieldnotes, made on August 1st 2018 in Cardiff. There were 18 students present when the class began, including a student (Marut) who had been in Mestre Campos’ class when he first came to the UK in 2003, who was back in Cardiff from his home in Scotland for a family visit. The experience level was wide. Marut and Jagai had been training for 15 years, while three students were complete novices at their first ever class.

Before any general activity people strapped their knees, wrists or ankles ready for the class. At 8.09 M. Claudio set the class to run clockwise round the hall, forwards, backwards, forwards, sideways facing in, forwards, sideways facing out, forwards touching the floor with alternate hands, forwards lifting the knees up, forwards lifting the heels up, and then backwards again. It was a warm summer evening, and the hall was hot even with the fire doors open, so no one needed to do violent exercise to get warm. At 8.12 Claudio spread the students out in lines facing him and began to lead and demonstrate a set of stretches of each area of the body.

At 8.13 three more students arrived and joined the lines. The stretches include the dive (*mergulho*) in which the person lies on the floor on their front with the upper body and arms raised off the floor. Then Claudio demonstrates raising the legs as well as the upper body and holding their feet with their hands, the students begin rocking on their stomachs.

Other stretches based on standing and balancing alternate with several bursts of 10 star jumps counted in Portuguese, and press ups, leg pulls, and stomach curls (50 of each) plus various ways to loosen the waist and stretch the back muscles. The stretches end with the class standing first on one leg and then on the other with the other leg raised bent at the knee and held up with one arm. Most people wobble as they try to balance in this position.

At 8.36 the capoeira instruction begins.

This is a typical start to every class Claudio delivers to adults. Claudio is clearly the fittest and most agile person in the room, although over 40. One experienced student Ikki occasionally steps away and does back stretches on his own in a corner. His back problems are well-known to Claudio who lets him warm himself up in his own way without comment.

While the individual prevention strategies that students use in private are not visible to the ethnographers, the shared injury prevention of the class warm up is public. Individual experienced students may comment that the general class stretches do not have enough emphasis on their particular “at risk” body area, and they will add more on their back, or shoulders or whatever.

Others, like Ikki, will even step out of the lines if they know not to do a particular exercise.

Another preventative strategy is partaking in yoga and pilates, which were popular in themselves, as well as purposely used to prevent and control injuries.

I do yoga and I go to the gym (Female, 12 years, 3rd Belt)

Another woman, with 9 years of capoeira experience, on the 4th Belt, does “yoga regularly”, reports herself doing “more stretches” than the brief warm up before class, and wears wrist guards in class.

Another preventative strategy widely reported was avoiding capoeira moves that were beyond the student’s competence or put strain on an area of the body that they perceive as vulnerable or weak. The informants we had were articulate about how they tried to avoid injuries. For example Rashka says:

I don’t do things that I know my body is not ready for—well as far as I can. I don’t do weird stuff for my shoulder. I basically don’t try and learn something new until I’ve fixed my body. I have to really think about what I’m doing, or what I’m going to try and do. When people say “and try this move!” I don’t, because I know the cost is too high. I always warm up myself before I come to lessons: a general warm up doesn’t get me ready.

It never gets to the point where it never hurts at all, but I feel very lucky generally. If you strengthen and protect your body properly it can maybe decrease your chances of falling apart.

His prevention strategy is

about listening and being aware of your body and knowing what’s going on and as long as you stay fully aware or try always to be listening and take the awareness of your body [seriously] then I think there is no reason why you should get injured.

Injuries happen “when you’re not paying attention.” So his strategy is

go carefully, and listen to your body and place close attention to what things you’re moving and how you’re moving them.

The sixth strategy is capoeira specific, and is only reported retrospectively. Capoeira, when it is successful, with good music, strong loud singing, and rhythmic clapping, is characterized by good *axé*. *Axé* is a Yoruba word, used in the African-Brazilian religion *candomblé* to capture the power of the *orixás* (gods and goddesses). In capoeira it is used in a way equivalent to “The Force” in *Star Wars* to convey a positive force or energy, that enables people to play expressively, joyfully and exceed their “normal” skill level: in short it is the mystical energy that drives good capoeira as we have explained elsewhere (Stephens and Delamont, 2014; Delamont et al., 2017; Scott and Stephens, 2018). At festivals, and on special occasions, advanced students will report that the *axé* was so powerful it carried them through the problems they had with injuries. Abazi, scheduled to go up to his fifth belt at the 2018 winter festival arrived on the Saturday saying

that he had been injured in his ribs on Friday, his feet were giving him trouble, and his recurrent back problems were bad. In his ceremonial games with seven visiting teachers he performed with no sign of any injuries and when asked by Delamont how he had managed to play said “The *axé* carried me through” (Stephens and Delamont, 2013; Delamont et al., 2017).

Recovery Strategies

In this section we present and reflect on the data about the recovery strategies used by our informants. We thought that serious students who had experienced injuries might seek help from specialists in sport injuries, and consult therapists from alternative medicine, as well as using the British National Health Service (NHS). There is a considerable amount of self-treatment reported, with people saying that they know what to do from experience. Friends, and friends of friends who hold qualifications in physiotherapy, or sports medicine, or sports massage, or alternative therapies such as acupuncture are sources of advice, diagnosis and treatment. Family doctors are seen as ignorant about capoeira, and as lacking any facilities that can be used to deal with capoeira injuries, except referral to NHS physiotherapists or orthopedic surgeons. Referrals are not highly regarded because they take too long, and so NHS physiotherapists or other interventions are a last resort. If people can afford it, they use orthodox and alternative therapies privately: that is they pay for as many sessions as they can manage. The capoeira clubs we have researched include a good many people who have medical or other therapeutic qualifications and jobs, and so the injured capoeirista has access to a range of expertise and advice from their friends who are also capoeira enthusiasts.

DISCUSSION AND CONCLUSIONS

Drawing on the injury narratives collected from capoeira enthusiasts we have found that Frank’s typology of illness narratives can be usefully deployed to separate out different types of account. In their reflexive work on interviewing rugby players with spinal cord injuries Sparkes and Smith (2012) reject a standard realist account of the narratives they collected, and argue for a “reflexive” positive of *indwelling*: *feeling* their way into and out of the data through their known sensual corporeality (54–55). They argue that, when working with data such as our injury narratives researchers need empathy and sensual corporeality, and must never compromise the alterity of the informants. That was hard for Sparkes and Smith (2012) because of the severity of the spinal injuries and type of narrative the victims produced. In our case, the restitution stories that our informants gave Duarte and Lloyd were, once categorized, life enhancing for the social scientist and the capoeiristas.

We have drawn two related sociological conclusions from this investigation which are informed by our methodological conclusion. Because of the caveats we have about our informants, who were self-selected volunteers and did not include people who were temporarily or permanently absent from capoeira due to injury or other circumstances, we did not collect any chaos stories, and only two quest accounts. We suspect that other sampling methods among past and current students of diasporic

capoeira could generate chaos and quest narratives. However, taking the restitution narratives as a corpus of data on capoeira we are confident that two useful conclusions can be drawn.

First, taking the position of Atkinson (1997) and Silverman (2017) seriously, these narratives are valuable when analyzed. They reveal features of the shared culture of serious capoeira students in the UK that they have acquired during their enculturations into its habitus. Like many features of any acquired habitus those apparent from these data are largely tacit or indeterminate, and become “taken for granted”. Indeed it was not until those narratives were analyzed that the authors realized discourse in and around injuries revealed features of the acquired habitus. We had “known” about them but not recognized their importance for a sociological understanding.

Experienced students have developed a range of explicit strategies to prevent injuries, and acquired explicit knowledge of a range of therapies, orthodox and alternative, are likely to ameliorate any injuries they do get. Being an advanced capoeirista is dependent on having these two bodies of knowledge. At the tacit or indeterminate level they have learnt to “listen to” their bodies. This is a shared skill, evidence of an acquired habitus of embodiment. As soon as this appeared during our analysis all the authors had a jolt of recognition, but one that we had not made explicit for ourselves or our readers before. This analysis of the restitution narratives, the useful ideal type proposed by Frank, when the narratives were not simply celebrated but worked on as sociological data, have exposed to us an important feature of the embodied habitus of diasporic capoeira previously unrecognized and unreported.

DATA AVAILABILITY STATEMENT

The datasets generated for this article are not readily available. There are two types of data: interviewed transcripts and ethnographic fieldnotes. The field notes only exist in handwritten form and are archived at SD’s house. The interview transcripts

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contain highly confidential medical details, and would be very hard to anonymise. They are held in hard copy by SD. The original recordings were on TD and IL’s phones and have been deleted once transcribed. Informants were not asked to give consent to any archiving or storing of their interviews: they were promised that only TD, IL, SD, and NS would see them. The data were collected in 2014 and 2016 and at least half of the respondents are no longer in contact with any of the four authors. Requests to access the datasets should be directed to neil.stephens@brunel.ac.uk.

ETHICS STATEMENT

The studies involving human participants were reviewed and approved by Cardiff University School of Social Science Research Ethics Committee. The patients/participants provided their written informed consent to participate in this study. Written informed consent was obtained from the individual(s) for the publication of any potentially identifiable images or data included in this article.

AUTHOR CONTRIBUTIONS

The interview data were collected by IL and TD. The interviews were transcribed by IL and TD. Interviews conducted in Portuguese by TD were translated by TD. The data were analyzed by SD and NS, who also wrote the paper, drawing on discussions with TD. All authors agreed to the submission of the paper and contributed to the research reported in the paper.

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Evidence-Based Medicine and the Potential for Inclusion of Non-Biomedical Health Systems: The Case for Taijiquan

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Many traditional and complementary and alternative healthcare systems or practices, such as Traditional Chinese Medicine, taijiquan, or acupuncture, are easily found in many North American and European cities. For the most part these practices are not accredited, and their validation remains limited. This is primarily the result of the lack of modern scientific research. Additionally, the studies that are performed rely on evidence and research designs that often negate the true features of these practices with a loss of authenticity. Is it possible or even desirable for these systems to acquire accreditation and inclusion? If so, given the apparent, subjective nature of these practices, can a pluralistic approach to healthcare that retains the Western values of science and medicine be developed that yet respects the diversity of different concepts about life, health and services while permitting these practices to maintain their authenticity? And is it possible to develop a regulatory framework that practitioners can use? The current paper examines questions concerning the uses of non-Western healthcare practices without the loss of their authentic nature. The process of integration is here examined using the inclusion of taijiquan as a health-promoting martial art as the model.

Keywords: Taijiquan, evidence-based medicine, inclusion, accreditation, authenticity, validation, evidence

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INTRODUCTION

“No attempt to refine our present medical system will prove ultimately successful unless they address the deficiencies of the most basic assumptions on which the system rests.”

-Larry Dossey

Space, Time and Medicine, 1982

The advent of evidence-based healthcare has provided us with a means to determine the effectiveness and efficacy of much of the currently relied upon medical research. However, limits of this basis for healthcare have become more evident with passing time.

Additionally, with globalization, the availability of non-traditional (by Western standards) health systems such as Traditional Chinese Medicine, taijiquan or acupuncture, are easily found in many North American and European cities. A systematic review published in *The Bulletin of the World Health Organization* revealed that the use of traditional and complementary/alternative therapies has been increasing worldwide (WHO, 2013). The reasons are varied. For example, patients at the Royal London Hospital for Integrated Medicine, when questioned, stated that they attended due the failure of other

treatments, personal or cultural preferences or because they experienced adverse side effects with biomedical treatments (Sharples et al., 2003). In many instances, patients turn to complementary or alternative practices as a last resort, a “last hope,” for serious diseases such as cancer (Verhoef et al., 2005). Yet for the most part, these nonstandard practices are not accredited by the accrediting agencies, and their Western research validation remains limited. This is primarily the result of the lack of modern scientific research or clarity about what constitutes evidence in the modern scientific sense. However, is it possible that this mode of understanding used in conjunction with practices such as taijiquan, for example, is not a viable way to understand the effectiveness of these practices? Further, the studies that are performed rely on research designs that often negate the true features of these practices with an attendant loss of authenticity. Is it possible or even desirable for these practices to acquire accreditation? If so, given the often apparent subjective nature of these practices, can a pluralistic approach to healthcare that retains the Western values of science and medicine and yet respects the diversity of different concepts about life and health be developed while permitting these practices to maintain their authenticity? And, is the development of a regulatory framework that practitioners can use even possible? The current paper will examine these and related questions concerning the uses of non-Western healthcare practices, their accreditation and the possibility for incorporation into today’s healthcare systems without the loss of their authentic nature. Using the inclusion of taijiquan as a health-promoting martial art as the model, the process of integration will be examined from a clinical aspect, as well as the research methodology used to potentially validate its inclusion.

EVIDENCE AND EVIDENCE-BASED CARE

Before looking at evidence-based care, it is important to gain an understanding of what constitutes evidence and how this may be related to the development of the knowledge that enters the pantheon of clinical care. Over the last several decades and within the general scientific community, especially within medical research, evidence tends to be conceived as a neutral factor based on what is observable and useable. The idea that within the Western research paradigm, to use the term first coined by Thomas Kuhn [Kuhn, 1962 (1970)] to describe a set of specific frames of reference that depend on theoretical assumptions and presuppositions, is devoid of meaning and an objective view of reality has come under increasing skepticism. Developing out of the idea that our understanding is based on context, feminist theorists such as Donna Haraway (Haraway, 1988) or Alison Wylie (Wylie, 2003) believe that knowledge, being human knowledge, is based on human perspective. Similarly, Marxist theorists posit that scientific knowledge focuses on the human character of knowledge and is contingent upon issues of gender and race as well as social position (Lektorsky, 1977). Value-neutral theories continue to be propagated based on evidence put forward by researchers and philosophers of science (Levi, 1960), yet we know that the meaning of evidence in and of itself has changed over the ensuing periods. Within the 20th century the debate over what is evidence has been central. Several ideas of evidence as being equivalent to proof or

fact, or, more importantly, considered as knowledge, have been set forward. Yet, what creates this evidence, its foundational ground, remains debatable (Djulbegovic et al., 2009).

During the early part of the 20th century, Bertrand Russell advanced the view that “sense data,” objects that we are directly perceptually aware of or items within one’s present consciousness, was mind dependent and could be used to “construct relevant objects of knowledge” (Russell, 1912/1997). However, this then left perceptual information that was indirectly observable out of consideration. For instance, when looking at a table, you can only see the surface and the sides facing you. You can still “see” the table by virtue of seeing only a portion of it.

This leads on to positivist methodological research where the role of the researcher is limited to data collection and interpretation and findings which are typically observable and quantifiable or verifiable. A problem with this view, especially in attempting to prove a hypothesis, is that hypotheses can never truly be proven but only falsified or rejected. Karl Popper, noted philosopher of science, stated that all knowledge and in his view, especially scientific knowledge, is falsifiable. Simply put, just because all swans seen are white in no way logically means that there are no black swans. Knowledge is never complete, it can always be revised or is ultimately fallible (Popper, 2002; 1952). This view, which has been the norm in much research, emphasizes that research is value-free and objective. The underlying belief is that knowledge garnered in this fashion is neutral and based solely on logic regardless of the human or cultural context.

To expand this view, Willard Van Orman Quine defines evidence as that which directly leads from observations with what has been witnessed and is embedded within scientific language (Quine, 1992).

Neither of these are suitable, however, for the inclusion of new information in clinical practice. In “Knowledge and its Limits” Timothy Williamson states that the prerequisites leading to knowledge is what is justified, a true belief, and supports the knowledge base that is being developed. This knowledge base is, ultimately, unanalyzable. And this knowledge, taking it a step beyond the work of the logical positivists, transcends the individual but is, more significantly, community-based and, returning to the work of Quine and others, language-based (Williamson, 2000).

Yet, in recent years, the need for evidence underlying our healthcare systems has increased, as has the publication of evidence-based research such as systematic reviews, random controlled trials and meta-analyses along with less so-called rigorous research protocols.

The story of evidence-based medicine (EBM) is long, though calling it such only dates back to the 1990s.¹ This was considered

¹James Lind is given credit for the first “drug” trial. In 1747 he divided a group of 12 British sailors each suffering from scurvy into six pairs; two were given a quart of cider to drink daily, two a small amount of acid added to their drink, two had nutmeg added to their food, another pair received daily glasses of saltwater and the final pair, oranges to eat and lemons to suck on. The outcome, now classically known, was that the sailors eating the oranges survived while the others died from the ultimate liver failure of scurvy. Acceptance was slow, however, it took another 40 years before the British navy added limes to the diet of their sailors, hence the name “limeys.”

to be such an important “break-through” that the New York Times lauded EMB as the idea of the year (Hitt, 2001). Much of what is now talked about in EBM circles was developed within the past two or three decades and comes from the work of epidemiologists and statisticians rather than frontline practitioners. Prior to 1990, medicine was based on the use of evidence or, as the definition states, “grounds of belief,” though often the evidential practices within individual clinics relied upon anecdotal or successful personal experience from specific cases by the practitioner (Howick, 2011).

Looking back to the 1970s, of prime research interest within clinical medicine was a formalized means for patient management. While biomedical knowledge and research was the foundation for clinical application, there was no consistent method for using this information within the day-to-day medical practice. At the time, clinical authority rested with the presiding physician or clinic director. Any questions or concerns were directed toward the very authority who made the initial diagnosis. This view of clinical application began to change. Scientific evidence became an important aspect of care and offered both physicians and patients with the security of relying on what was considered objectively neutral knowledge for decision making. Expert opinion and clinical experience, once considered the basis for clinical decision making, now was placed at or near the bottom of the evidential pyramid (Howick, 2011). Medicine moved from being “the art of medicine” to seeking “best practices.” Diseases are now objectified and unrelated to the subjective sense from the patient.

EBM relies on a reductionist, causal approach to acquire knowledge which is hierarchically ranked with systematic reviews and random controlled trials at the top of the ranking; expert judgment and observational studies carry less significance (Howick, 2011). The goal has been to replace the subjective components of decision making with clinical judgements that are made using purely objective methods. Considered as a pragmatic approach.

To achieve objective knowledge, there is a crucial lack of observational values such as patient preference or cultural needs, that are often the most important component of care according to patients. It follows, based on the intrinsic paradigm, that the research models relying on this reductionist approach reflect the paradigm in which they are found. The assessment of issues around such things as quality of life or patient values are frequently downgraded to secondary importance with the “objective science” carrying most of the weight. And to further complicate the issue, numerous recent studies reveal that the objective knowledge that is so heavily relied upon often have culturally or gendered biases and miss those qualitative components vital for positive patient compliance and outcomes (Hall et al., 2015; Spector and Overholser, 2019). Most studies tended to be biased toward white Western males with, until recently, medical studies typically either ignoring or underrepresenting women (Richardson et al., 2015).

The role of culture and its embedded values including basic assumptions about life, health, politics, societal rituals and

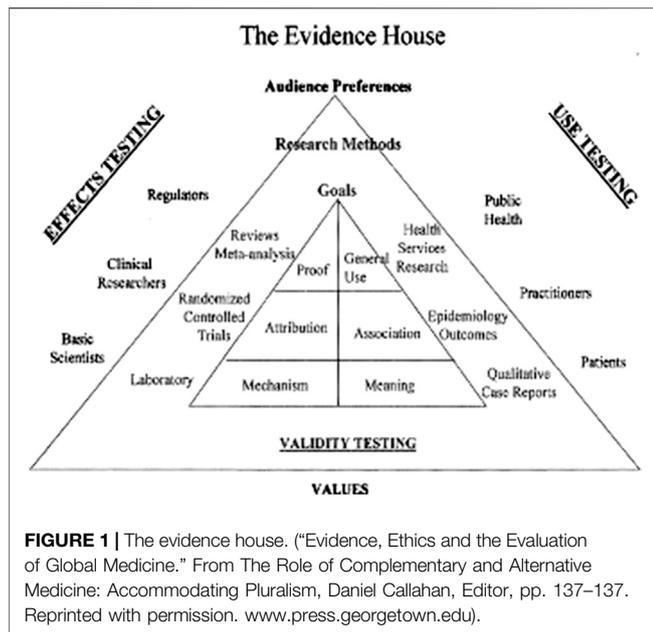
mythologies, while easily discerned in many “pre-modern” societies, is felt to have been removed from biomedicine, of which evidence-based medicine is a prime example. Yet, we find that even within differing high technology countries, differences in medical culture exist. Lynn Payer, in her now classic comparative study of medical practice and national culture in the United States, England, France and Germany, reveals that these four western countries, all with equivalent morbidities and life expectancies, have significant differences in medical diagnosis and treatment. What is revealed here is that even with the increase in research-based medicine, cultural influences continue to have an enormous impact (Payer, 1996).

The greatest challenge faced by evidence-based care is to develop practices that are balanced between the best clinical practices encompassing evidence in its various forms with equal consideration of patient values and preferences.

Looking at evidence-based care with its outward appearance of being strictly reductionist, we find that patient care must include those random controlled trials researchers and clinicians so fervently proclaim yet are only a single aspect of what will be integrated patient care. This includes, in the best of circumstance, the consideration of the patient desires, community and cultural aspects that have a direct impact on health outcomes.

What has come to light in recent years has been the paucity of the epistemological foundations of modern evidence-based research. These studies are quite useful for specific types of modalities, specifically drug-related therapies, but are less useful when hoping to understand systems that must take into account greater complexity. Strict links between cause and effect can no longer necessarily be relied upon to clarify treatment results. And the evidence base for the evidence causal hierarchy that has been assumed to be the basis for clinical decision making suddenly becomes suspect when attempting to bridge the gap between efficacy in research and the observations of outcomes in complex systems. Attempts are being made to create a more holistic, non-reductionist set of research protocol suitable for this new plurality of medicine. There has been a failure to understand that evidence can be constructed differently and more appropriately (Barry, 2006) (Figure 1). One such set of protocols was formulated by Wayne B. Jonas as a method to rebalance the evidence hierarchy in a way that orients the methodology used depending on the type of information the provided. Defined as the “House of Evidence,” testing is divided into internal and external validity with each level looking at more or less causal methods. Additionally, he divides each level into testing for effects or testing for use. These are further divided into Mechanism or Meaning at the “lowest level” to Attribution and Association in the middle and Proof compared to General Use at the upper most level (Jonas, 2007).

Beginning in the 1970s, anthropologists began looking at non-biomedical systems as potentially complementary rather than competing (Unschuld, 1976). Alternative health systems challenged allopathic medicine to compete for dominance. Associated with that are the ways and means of understanding how these practices can be integrated into care.



According to Chenyang Li, the Chinese “typically do not see truth as corresponding with objective fact in the world; rather they understand truth more as a way of being. . . . For them, truth is not carved in stone, and there is no ultimate fixed order in the world” (Li, 2015). In light of this sentiment, the philosophical underpinning of taijiquan reflects the belief that individual experiences reveal a causative principle that can be found within all levels of reality, much of it not observable. Unlike the Western research paradigm with its abbreviated time frame and movement that may be coordinated with breathing, there is a depth that researchers will not see with these limited studies. We may see the outcome but never answer why or how it reaches that point. This then presumes that our understanding of experience is empirical rather than the more Western reductionist model.

Western based researchers continue to attempt to mold taijiquan into a medical model though there is some recognition that there are significant challenges to do so (Wayne and Kaptchuck, 2008a; Wayne and Kaptchuck, 2008b). Interest in traditional medicine was expressed by the World Health Organization, the National Center for Complementary and Integrative Health in the United States and the CAMbrella project supported by the European Union yet also have concerns regarding fraudulent practice, the confirmation of “real” health benefits and levels of professional qualifications. Of particular significance and, as with any area of research, a consensus on research terminology must be established so that researchers can understand one another.

While there are many styles and differing emphases, the fundamental practices of taijiquan are emphasis on slow, mindful movement, deep abdominal breathing and relaxation are a consistent character of the practice. But this is merely the outer aspects of the art. As the practice deepens a sense of a “true

essence” is expressed by many practitioners. And this is the issue regarding whether the research actually does represent an authentic practice. The majority of long-term practitioners become aware of the deeper aspects as they delve into these meditative-gymnastic practices. They encompass levels of relaxation and efficient movement that a typical 12-weeks taiji study cannot approach. This is not to denigrate the research nor the effective outcomes but, rather, to clarify the issue of the practice of authentic taijiquan with its combination of mental and physical discipline modeled on specific animal motions, the circulation of qi² and balancing the opposing forces of yin and yang and whether the effects seen can be just as easily created using some other slow, mindful movement (Clarke, 2000).

RECOGNITION, INTEGRATION AND VALIDATION OF TRADITIONAL, COMPLEMENTARY AND ALTERNATIVE HEALTH CARE SYSTEMS

“Science sits at the root of the efficacy, safety and regulation debate on CAM . . . science, bolstered by the force of law, has been deployed as a tool of exclusion of nonwestern medical norms. . . . It is for States to embrace factors and paradigms beyond the reductionist framework of Western science or the random controlled trial.”

-Iyioha, 2010

Is it possible to integrate traditional healthcare practices, in this instance the use of taijiquan (and its related practice of qigong) into current Western biomedical systems without the loss of its authentic identity or will it be subsumed into care as simply another therapy, one that has been simplified and separated from the traditional practices found outside of the clinic or research facility? If following the research models currently in use it will, in all likelihood, be the latter.

In other areas of traditional practice vs. biomedical practices challenges are present. We can see tension between the traditional approaches to acupuncture and those that profess to move it into a more Westernized clinical use. The British Medical Acupuncture Society (BMAS), for instance, admittedly claims to be taking a different approach and is re-interpreting the centuries old practices found within traditional acupuncture practices (White et al., 2008). Many GP acupuncturists restrict their practice to chronic pain patients, a much narrower approach than taken by non-medically qualified practitioners. Taking a modern scientific approach, they are attempting to

²Qi (also chi)- Within Chinese culture the vital force that animates a living being. This is said to flow through the body following specific pathways, the meridians. According to Chinese medicine, its unimpeded, smooth flow is what allows one to maintain good health. Taijiquan and the practice of breath work, qigong, are practices that can help with the harmonious flow of qi.

explain the working of this modality in terms that are more aligned with current Western views of anatomy and physiology (White et al., 2008). Additionally, their stance is that the approach traditional acupuncturists take regarding the cause and effect of needling does not accord with current concepts. Though an increasing number of general practitioners use needling and many of the National Health service pain clinics offer it, there remain a significant number of practitioners who have trained and are practicing in a more traditional manner, often with purportedly better response than those who have tried to take a biomedical stand. What is interesting is that even the BMAS recognizes that the experiences of patients undergoing traditional acupuncture treatment are unlike anything experienced and remains inexplicable and that the effects do not appear to follow Western current understanding of how the body functions (White et al., 2008). Joseph Needham has made a point that Eastern and Western science have uniquely different starting points which has led to differing views about physiological function (Needham, 1956, Author's Note). While no studies are known to date, it would be likely that we would find similar differences arising between traditional taijiquan practice and the Western medical approach.

In addition to questions of inclusion, there are concerns that, in the case of taijiquan, accrediting instructors becomes even more problematic than acupuncture simply because, first, there are numerous styles, second, varying levels of expertise in both the practice and skill of the instructor and finally, how to assess the understanding of the internal aspects of the practice. This last aspect takes years to acquire and "feel." As we will see, the research remains rather equivocal about the effects of taiji using a Western paradigm.

So, how is it possible to assess the skill and internalization of the practice?

Moreover, there needs to be a mechanism that recognizes the professional group with the authority to set standards for this practice. As with other regulated activities, a system would be needed that both regulates the education of producers, in this case, experts in teaching taijiquan, and also regulates the production by producers, the teaching of taijiquan. This dual aspect of education and regulation is found in other areas where the practitioner is required to be registered such as medicine, dentistry or chiropractic. But in each case, the basic criteria for the profession are known and the education has been formalized. There are also examinations and on-going post-education requirements (Evetts, 2006).

Within the United Kingdom there are several organizations and schools that teach taijiquan but there is no one set of consistent criteria. Attempts have been and are being made to develop a taiji teaching profession within the gym and leisure industry (CIMSPA, 2020). Whether this is possible and if, in doing so, will this alter the art being taught to further match the biomedical model remains to be seen. There has been significant research into how professions develop. What is consistently seen is that the professional associations typically identify, carve out and protect an area of exclusive competency (Saks, 2003). Once this occurs, States grant autonomy and self-regulation leading to

licensing. The net effect of this is the standardization of the information being presented, though as mentioned, not necessarily a standard practice. We see this in medical education throughout the biomedical world, though differences do exist (Payer, 1996).

Looking at this from the standpoint of taijiquan, which has several major schools and numerous variants, the systematic body of knowledge comes from the Chinese cultural foundation, yet how it is expressed is highly varied. Expertise certainly is seen within the current taiji teaching community but there is no mechanism for ascertaining with certainty that instructors have a basic minimum of knowledge and understanding of taiji. Validation and accreditation would, in all probability reduce this lack of standardization, especially as the accreditation process stems from a central body responsible for the process.

In the case of taiji practitioners and given the political climate, they could find themselves as merely serving the medical community with the loss of autonomy and an increasing medicalization of both the research and practice of this unique art within the medical setting. What is needed is a new paradigm that would reveal the emergent properties of the consistent practice of taijiquan. Obviously, not an easy proposition, not a short-term fix. In the United Kingdom, the House of Lords Parliament Select Committee on Science and Technology (Wilkinson, 2002) recommended that studies of complementary and alternative medicine, of which taijiquan would be considered, should focus on efficacy before investigating mechanism.

If efficacy testing was based on the wrong mechanism, however, the test may fail to demonstrate value leading to the false conclusion that the treatment does not work (Hyland, 2000). Developing the appropriate testing procedures is crucial.

TAIJIQUAN IN THE WESTERN RESEARCH CONTEXT

Taijiquan originated as a martial art. While its definitive origins remain obscure and are rather contentious, several lineages based on specific family styles have grown and changed over the decades. In the West, the art is generally understood as a series of gentle, slow movements with low impact often seen as a movement exercise for seniors or as a health practice to integrate mind/body and create and maintain a sense of well-being and inner peace. The art is a complex, multicomponent mind-body therapy.

One of the more obvious aspects of the practice taiji, such as weight shift, balance and its effects on balance improvement and falls prevention, was the earliest therapeutic aspect that Western research examined. Wolf (Wolf et al., 1996) performed some of the initial research in 1996 looking at the effects of regular taiji practice when compared to computerized balance training in the frail elderly. This 15-weeks, random controlled trial examined the effects of an unspecified taijiquan style on falls reduction in the frail elderly (70+ years of age). The study, being one of the earliest looking at the possible benefits of taiji practice, compared

learning several unspecified movements with computerized balance training and, as a third arm, a psychosocial education component. While opening the door for further investigation, this study was greatly flawed from a Western perspective let alone an investigation of the deeper aspects of taijiquan practice, especially since no information was presented regarding the style, the specific of moves taught, why they were selected, and, most importantly, the comparison was not between similar types of movement but rather, quite different methods used to enhance balance and prevent falls.

Falls prevention, still a major health concern with over 37.3 million annual falls world-wide severe enough to require medical assistance (WHO, 2007), became the prime focus for taiji research for the next few years. It was recognized at that time that teaching an entire taiji set of moves was not truly feasible. Researchers started developing protocols that incorporated simplified sets of taiji “exercises” and possibly a few of the accessory warm-up movements. This allowed patients to learn the movements in a brief period of time. The idea was that these selected movements offered the participants the opportunity to experience taiji at a basic level and thereby, develop an understanding of the deeper health supporting principles.

A more recent study investigating balance and falls by Voukelatos et al. (2007), provided once weekly community-based classes for 16 weeks with a follow-up 24 weeks later. In this instance participant were taught either Sun or Yang styles though no specific differentiation was made. While differing styles were used, they were not compared, but simply relied upon as a basis. Once again, there was no indication of which movements had been selected nor why. Additionally, there is no mention of practice outside of the weekly group class so knowledge regarding dose was not established.

Though both studies had positive, if somewhat equivocal results, in neither case were the participants provided with the instruction nor time to learn a complete form. These trials are considered to be, in essence, non-inferiority trials. They were designed to detect whether the intervention, in this case an abbreviated series of movements taken from more established forms, was at least equal to other forms of treatment. Of course, there are other issues at hand such as time spent practicing outside of the controlled environment, co-morbidities, experience of the instructors, dose, etc.

Over the succeeding decades, the research evolved to include different clinical conditions and groups of people. By the late 1990s research had expanded to include acute and chronic heart failure (Guo et al., 2017; Ren et al., 2017), neuropathy (Hermanns et al., 2018), musculoskeletal system (Qin et al., 2005), diabetes (Lee et al., 2014)-and psychological conditions such as anxiety and depression (Kong et al., 2019). The number of studies and the speed with which the research was produced was becoming exponential with the vast number of studies appearing within the last 5 years.

In reviewing a select few studies published in the peer-reviewed literature we find similar difficulties as found with those examining the effects on balance.

For example, the paper by Ren et al. (2017) “The Effects of Tai Chi Training in Patients with Heart Failure: A Systematic Review

and Meta-analysis” we find research into another significant health problem with both high morbidity and mortality. Discovering a means to control this problem, given that in the United States alone there are nearly one million cases/year (Benjamin et al., 2017), would be both life-saving and cost-effective. In this paper the authors reviewed a series of published studies in both English and Chinese with the selection criteria of patients suffering heart failure and using any form of taiji as part of their intervention strategy. The control groups were varied and spread across the gamut of “usual care” including pharmacologic therapy, diet, exercise and education or combinations of these. The final selection found 11 suitable randomly controlled studies for inclusion. A limitation of this systematic study was the heterogeneity of the methodology, duration, style and frequency of training. Once again, as we saw with the falls studies, time was limited to 12–16 weeks.³ Achieving any true understanding of the art was not likely and could only be assessed if follow-up extended beyond the study timeframe.

Similarly, a meta-analysis by Guo et al. (2017) found that patients with chronic heart failure appeared to improve using a standard 6-min walking distance test. Again, the studies found some possible benefits, though the limitations were significant with regard to poor design, risk of bias and the heterogeneity of the studies. As in previous studies, comparisons between the abbreviated taiji movements and other exercise types was limited and no complete set was taught. While it is evident that there may be reasons to incorporate these movements, labeling them taiji may be a misnomer.

Hermanns et al. (2018), “Impact of Tai Chi on Peripheral Neuropathy Revisited: A Mixed-Methods Study,” looked at the effects of taiji on altered sensation of the limbs due to a number of ill health causes including diabetes, infection or other metabolic conditions. This 12-weeks study reviewed the effects of weekly practice on muscle strength, mobility and balance. Discussions centered on the qualitative component of practice and included questions about well-being, quality of life, etc. In each instance, the participants improved, yet there was no comparison of taiji with other types of movement therapies. As with most studies, the limitations were the small number of participants and the length of time of the study (Hermanns et al., 2018).

“Beneficial Effects of Regular Tai Chi Exercise on Musculoskeletal System” evaluated the of regular practice on bone mineral density. Once again, we find that the study did not compare taiji with any other form of weight bearing exercise. The question remains, does this make taiji unique or will any form of weight-bearing exercise suffice (Qin et al., 2005)? And how has (or does) the limited number of moves taught provide any longer-term benefits?

The paper by Lee et al. (2014), “A systematic review and meta-analysis of taiji for treating type 2 diabetes.” looked at a series of studies of the effects of taiji on diabetes over a period of 10 years. In this instance, several of the reviewed studies compared taiji

³A single study extended for 24 weeks but participants were only expected to actively practice for 30 min or less each week.

with walking, dancing or conventional exercise. Another subset compared taiji to standard anti-diabetic medication. These studies, in virtually all instances, did not find taiji to be better than other therapies, in the case of medication, the taiji fared worse (Lee et al., 2014). And again, no effort was made to either teach a complete taijiquan form nor compensate for the heterogeneity of the styles, times taught and nor teachers experience.

Finally, there have also been a significant number of studies using taiji to attempt to alleviate psychological conditions such as anxiety and depression.

“Treating Depression with Tai Chi: State of the Art and Future Perspectives” by Kong et al. (2019) is one of the few papers that recognizes that teaching a full taiji set required supervision with an experienced teacher. The authors chose not to rely on experienced instructors but rather purposely used a simplified protocol. The scores on the depression scales were improved yet, with the exception of a single study where both taiji and yoga were practiced, there was no comparison between other movement therapies. They do suggest that the core components of mind-body interventions would, potentially, all lead to similar symptomatic improvements including attentional control, emotional regulation and self-awareness and that these therapies can effectively normalize depressive patients cognition but they do not relate this specifically to taiji.

What these studies reveal is that in the majority of instances, based on the Western model, taiji did not really stand up to the expected miraculous effects frequently touted, at least within the timeframes typically used in the research protocols.

These studies appear in an array of medical research journals. The information has filtered into general public awareness and has been reported as the positive effects of taijiquan. Yet, when reviewing the studies, it is consistently found that the length of time in addition to the abbreviated number of movements, leads one to suspect that though the movements used were taken from taiji they were not attempting to study the essence of what make the art unique but rather separate aspects that could be effective in treating specific health conditions. It is not taijiquan that is being taught and researched but rather a series of movements often associated with relaxation and deep breathing. And rarely is there a comparison between taiji and some other set of movements or exercises that are performed in a slow, smooth and relaxed fashion (Jimenez-Martin et al., 2016).

Given the general positive results, it is important to stress that this work is quite significant and important. There is no intent to denigrate the research nor the outcomes. This research offers hope for the inclusion of these exercises into a variety of care settings, however, the question is, are the participants really learning the art of taijiquan or is this simply a set of exercises disconnected or even unrelated to their purported origins? Would any set of movements that includes deep breathing and relaxation suffice? Or is there something unique about the practice and movement? Can the research and practice of taiji be integrated while remaining true to its origins? These questions remain unanswered. The debates are on-going and the theoretical

understanding of illness, treatment, prevention need to be addressed.

CONCLUSION

Relying on evidence certainly is an important aspect of what can and should be included in care but that returns to the question of what makes the evidence? Whether or not this can be resolved remains within the bounds of the philosophy of knowledge, but we need to be aware that there are contrasting and often opposing points of view. We see this even when examining strictly Western evidence and research.

Taijiquan, as other alternative and complementary practices, has the potential to contribute novel therapeutic and diagnostic modalities to biomedicine (Kidd, 2013) but how we get that information is crucial to fully understanding the mechanisms leading to safety and efficacy and, ultimately, validation and accreditation.

Sitting with the concept of reliable evidence, especially when looking at validation and accreditation, it is apparent that in order for taijiquan to be considered a part of the current biomedical pantheon, how it is researched and prescribed may need to be re-assessed.

The research models currently found within the biomedical health care systems and relying on the concepts of evidence based medicine have proven to be a poor fit for traditional, complementary and alternative health care. In the case of taijiquan, current research protocols, with its limiting timeframe and small number of movements, and an understanding of dose requirements, ignore the potential emergent and highly beneficial properties found in taijiquan with both longer term practice and on-going internal development. And with taijiquan, like similar “traditional” therapies, we find that the whole is greater than the parts. The paradigms that these therapies are modeled on do not fit Western medical concepts and have, for the most part, not been given the necessary depth of study. Can these practices be integrated into current biomedicine? In all probability, only if the medical paradigm shifts to be more inclusive. Any new evidence would need to be integrated within the entirety of the belief system and reframe not just the questions but how we ask those questions. The tension that exists between the safe public use of these therapies, government accreditation and healthcare professions accepting these practices and practitioners is crucial to their use and growth. Biomedicine is solidly scientific, even infallible at least until some life changing event occurs to alter that. At this point in time, this faith in science as the mediator of reality means that self-reflection is limited within evidence-based practices (Montgomery, 2012). New views on how we research and practice need to be developed and framed and include the realization that many practices are not capable of being reduced to minimal common denominators. The sheer complexity of the human experience dictates that we re-examine our understanding of the very foundation of that experience.

AUTHOR CONTRIBUTIONS

The inclusion of non-Western medical practices has, over the past years, become a topic of great interest to both the public as well as healthcare providers. Using taijiquan as the model, the paper examines the unique features required by Western scientific research with special emphasis on evidence-based medical research and whether non-Western practices can

truly be included into the pantheon of practice without losing their authenticity. The author examines the rise of evidence and evidence-based medicine and contrast it with the Taoist view of evidence. A brief survey of taijiquan research is included and whether, given the fundamental different starting points, it is possible to actually fit it into the evidence-based paradigm while allowing it remain a true expression of the martial art.

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Book Review: Martial Arts and Well-Being: Connecting Communities and Promoting Health

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Keywords: martial arts, health, book review, lifestyle and behavior, well-being

A Book Review on

Martial Arts and Well-Being: Connecting Communities and Promoting Health

Carol Fuller and Viki Lloyd (London: Routledge), 2020, 130 pages, ISBN: 978-1138213555

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SUMMARY OF THE BOOK

The book “Martial Arts and Well-Being” by Fuller and Lloyd offers an interesting view about karate practitioners’ health and well-being perception. It demonstrates how martial arts influence athletes’ behavior and, in turn, their lifestyle and social activities. Results come from over 500 participants across all ages and ranges. The authors make very clear that the research does not aim to verify the health benefits *per se* but only the perception of them in martial arts athletes. Therefore, the study is based on different interviews and a qualitative methodology to access the participants’ perceptions. The topics of well-being, martial arts, and social science seem really familiar to the authors, as Carol Fuller is a professor of education at the University of Reading, UK, and Viki Lloyd is the director of the Reading Acupuncture Clinic and lead instructor of a Karate and a Taijiquan school in Reading. The authors’ experience, on the other hand, may have affected the sample’s selection, as most of included participants were karate or Tai chi practitioners.

The book starts with an introduction about health-related problems of our century and how martial arts may help in the prevention and reduction of some of the most common illnesses. Different studies show the ability of martial arts to improve balance, cognitive functions, quality of life, and psychological health.

Very interesting is the link between martial arts and feeling of belonging to a group or community, as shown in the interviews at page 73 and supported also by other researches.

In chapter 2, the authors explore how behavior, lifestyle, and martial arts impact health and well-being, showing results from previous scientific researches, while in chapter 3, we find

instructors of martial arts and their motivations to practice and learn. All other respondents (not teachers) involved in the study are included in chapter 4, which explores not only their motivations but also their perception of martial arts on health as the importance of the instructor in the learning process. Chapter 5 reports an analysis of interviews related to well-being. The authors make very clear in this section that they are not claiming a causal connection between well-being and martial arts in an empirical way, but they are trying to understand how athletes perceive this link. Chapter 6 draws the key themes found by the authors in the 511 interviews. Results underline the importance of martial arts for the participants' well-being perception and strongly support the socially constructed nature of health and well-being. In the last chapter, number 7, the authors show a summary of the significance of the research, with recommendations for policy and practice.

EVALUATION OF THE BOOK'S CONTENT

The book seems to be in line with the previous literature in the field of sport psychology, sport science, social science, and martial arts, and it offers a closer perspective to the participants' perception. Anyway, few limitations need to be addressed. The book title is about "Martial Arts," but the sample of the study is based mostly on tai chi practitioners 51% and karate athletes 43%, followed by Qi Gong 21%, Kung Fu 6%, Aikido 4.5%, and Jujitsu 3% (Chapter 1, page 8). Therefore, this does not really help to have an overview on martial arts, but mostly on two of them, and mostly East Asian traditional martial arts. The second problem is related to the style of the art. In karate, for example, there are many styles, the most common are Shotokan, Wado-ryu, Shito-ryu, and Goju-ryu. As there is no protocol for karate training, every style, every club, and every instructor has a different way of teaching. One may argue that results may change according to the style and instructor. It is also very interesting to see that most of the interviews related to a link between martial arts and spiritualism or philosophical code are by tai chi students. This may lead to the question: Are philosophical and spiritual aspects proper for all martial arts? How much spiritualism is there in an MMA fight? Is that a martial art? Some may say yes and others say no, as at the moment, there is no universally agreed definition of "martial art." Therefore, a definition and explanation of the meaning of martial arts by the author are necessary. At the same time, karate is a very popular sport, practiced by between 50 and 100 million people around the world, with a debut in the next Olympic Games. Anyway, of all the karate styles and associations, only the WKF karate has been approved by the Olympic committee. This is very important to underline as it makes very clear that also in the same martial art, styles, goals, and training change from school to school. Therefore, it is necessary to investigate if the philosophical, spiritual, and health perception reported by the participants have to be related to the martial art *per se* or more to a populistic and advertising popularization of martial arts, linked to spiritual myths of oriental culture.

DISCUSSION OF THE BOOK'S CONTENT

As an active athlete and instructor of the WKF, with more than 20 years of experience, the writer disagrees with any spiritual perception related to the martial art. This personal opinion that may look irrelevant in a scientific review can make sense if considered as a possible perception and view of a martial artist, which was not included in the study. Fuller and Lloyd may argue that it is not relevant if the participants' well-being perception is due to the martial art *per se* or to the populistic advertising of it, as the results will not change. On the other hand, this is very important to clarify if the research interest is to involve martial arts in the clinical field, as the authors aim.

Therefore, readers could definitely benefit from the book reading and gain more information about the importance of being active at any age. On the other hand, they are invited to look at the interview perception with a critical spirit.

Here are some of the questions that this book raised in the writer:

How much "divinization" has there been of martial arts and how much spiritualism was there in their origin, considering that some of them, like karate, were born from military arts?

Why don't we talk about this spiritualism in the western war/martial arts like the Greco-Roman wrestling? Art performed during the religious celebration of the God "Zeus," therefore the link with the spiritual world should be intrinsic.

Why do most of the links with spiritualism in the interviews come from tai chi practitioners?

With these pungent and critical questions, I do not want to challenge the research results or the participants' perceptions that are definitely genuine and are needed for the love of martial arts and for their use and development in the clinical field. The reported health benefits of martial arts may be found in any other kind of exercise, leaving martial arts in a gray area without peculiar benefits when compared to other activities.

In conclusion, I recommend the book for those experts in the field of martial arts or social science and interested in understanding, through other people's experience, how our behavior and daily activities, not only martial arts, impact our perception of health. I would not recommend the book for those that are new to martial arts and may easily misunderstand the authors' message, overestimating or underestimating the value of the martial art they practice. I do not recommend the book to those who are looking for quantitative data and empirical definitive proofs about the benefits of martial arts on health. For research purposes, I think that the book brings a good value in social science and in psychology, for those researching the link between motivation and active behavior. On the other hand, I do not think that the book brings new findings in the field of martial arts as if in martial artists, the perception of health is affected by martial arts, in soccer players, it may be affected by soccer, and in runners, by the run, and so on, leaving martial arts at empty ends, with nothing more valuable than any other physical activity or sport. The research itself does not have a control group, and this makes the findings quite weak. I think that it is fair to consider the manuscript as an interesting book with a scientific approach, no more, no less.

AUTHOR CONTRIBUTIONS

The author confirms being the sole contributor of this work and has approved it for publication.

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Cultivating Health in Martial Arts and Combat Sports Pedagogies: A Theoretical Framework on *the Care of the Self*

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“Martial arts and combat sports” (MACS) are a myriad of systems of embodied movements and underlying philosophy and pedagogies. Due to the intrinsic complexity of MACS, they have the potential to both reshape practitioners’ selves and improve their wellbeing, as well as to hamper the pursuit of sustainable, healthy lifestyles. This article provides an interdisciplinary theoretical framework to critically approach both the “light” and the “dark” sides of martial pedagogies. The model we propose develops the Foucauldian notion of “*the care of the self*,” which has been considerably overlooked in martial arts scholarship. Furthermore, by viewing health as a goal for *cultivation*, this proposal places the situated practices linked to materiality and discourses at the centre of the theoretical and empirical analyses. The article thus takes into account the internal diversity and cross-institutional variance of martial pedagogies by allowing scholars to explore four forms of cultivation (*self, shared, social, ecological*) prompted on a day-to-day basis. To conclude, we discuss the main methodological implications for multimodal research arising from the framework in order to foster future inquiries.

Keywords: care of the self, cultivation, health, martial arts and combat sports (MACS), multimodality, pedagogies, praxiography, wellbeing

INTRODUCTION

Without doubt, with the advent and spread of the COVID-19 virus, the topic of health has become dramatically important in global society. National governments are trying to face the crisis, while the World Health Organization (WHO) is striving to limit the diffusion of the fatal virus. Universities, as well as national and private research centres have developed forms of anti-virus and have begun to contrast — or understand, at least — the ongoing social changes resulting from the pandemic. Our daily routines, relationships and lifestyles have been reshaped in unpredictable ways.

As “martial arts and combat sports” (MACS) (Channon and Jennings, 2014) aficionados based in two Western countries, we are aware about the impact of COVID-19 on martial

communities, as we have also experienced how some organisations have reacted to face the health crisis¹.

For instance, certain Taijiquan (Tai Chi Chuan) and historical European martial arts (HEMA) schools in UK have implemented online classes, film nights and fitness regimes (see Jennings, 2020). This illustrates the specific responses used to maintain physical fitness and muscle mass for distinct combat sports advocated in Spain, as in wrestling and Judo (Herrera-Valenzuela et al., 2020). During the lockdown stage (March-May 2020), most of the Italian people's grass-roots boxing gyms (*palestre popolari*) – themselves created in abandoned squatted buildings – were turned into warehouses to stock food and medicines. Many *boxe popolare* practitioners joined the welfare programmes of the local municipalities for supporting citizens in need – e.g., isolated elderly people without relatives, unemployed adults and disabled people. Last but not least, the Italian feminist boxing team named *le sberle* (“the slappers”) run the campaign ‘No One’s Alone’ in order to collect money for sex workers – unable to work due to mobility restrictions – and to sensitize public opinion about these sex workers’ (vulnerable) condition via social media.

As these examples suggest, the relationship which intertwines MACS cultures with the issues of health and wellbeing is multifaceted, and, we do not want to deny, controversial. Nonetheless, given the current debate within the interdisciplinary field of “martial arts studies” (see, in particular, Bowman, 2018), the question “how might martial arts and combat sports be good or bad for health?” has yet to be framed and tackled in any explicit way. This is starting to change, however, with new empirical studies on martial arts, health and society as seen in this special issue of *Frontiers in Sociology*. A notable contribution to empirical data is the recent monograph from Fuller and Lloyd (2019) sharing adult practitioners’ viewpoints (through a large-scale survey and in-depth interviews) on the subjective aspects of wellbeing gained from the sustained practice of a variety of martial arts (but particularly Taijiquan and Karate) in several countries. For their broad range of participants, Fuller and Lloyd (2019) identified numerous benefits of martial arts training such as dealing with back pain and postural problems. However, this research remains exploratory in nature and tends to avoid any detailed theorising around the questions of pedagogy, embodiment and transformation. This is quite understandable, as health is an extremely complex theme to be conceptualised and researched, with various competing health philosophies and pedagogies regarding the huge spectrum of MACS (Jennings, 2014). On the one hand, martial arts and combat sport exercises may “help people become fitter, defend themselves, feel more

relaxed and develop specific personal and cultural values” (Jennings, 2019, p. 137). On the other hand, to continue following Jennings’ account of the “light” and “dark” sides of martial arts activities (Ibid, p. 138), “many practices are outdated, risky and misguided [...] with drills and exercises that are not compatible with a sustainable, healthy lifestyle.”

The aim of this article is to provide a conceptual framework for critically approaching the (un)healthy pedagogies embedded in MACS practice. The critical pedagogy we call for consists of a balanced viewpoint about “both the seemingly healthy practices and the potentially unhealthy, even dangerous, practices in a given physical culture by considering their internal diversity and cross-institutional variance” (Jennings, 2019, p. 138)².

In the wake of the spirit of the burgeoning field of martial arts studies, which embraces anthropological, cultural, historical, philosophical and sociological inquiries (Bowman, 2015), as well as other visions for research into the world’s armed and unarmed fighting systems in specific regions (Cynarski, 2012; Ryan, 2020), our ambition is to build a definition of health beyond a purely physiological or biomedical paradigm. Our viewpoint on health therefore crosses the disciplinary boundaries and unifies different perspectives within the paradigm of embodiment by focusing on practice, that is, “what is taught (the movements) and how (the methods) – in essence, the practices: the nexus of not only doings, but also the sayings” (Jennings, 2019, p. 318).

Making use of ideas around self-cultivation and care of the self, we combine perspectives inspired by the Japanese philosopher Yuasa with the celebrated French thinker Michel Foucault. This combination is both novel and perhaps necessary given the global dimension of MACS, the calls to break down disciplinary boundaries in martial arts studies (Bowman, 2015) and the strange absence of Foucault’s ideas in this emergent field – something noticeable given the special place of his works in sport studies and physical culture studies.

The paper is structured in three sections: the first and main part of the article reviews the main research findings by elucidating the overarching perspective of embodiment in order to frame the (un)healthy pedagogies of martial arts and combat sports. Here, we discuss the Foucauldian notion of ‘the care of the self’ (Foucault, 2005) and introduce the idea of cultivation. The second section outlines four interconnected dimensions of cultivation (*self, shared, social and ecological*), in which health might be conceptualised, developed and investigated. The third section offers some methodological insights for future (interdisciplinary) research. The methodology relies on the approach of “praxiography” proposed by Bueger (2014), whose main aim is the actual analysis of specific practices through data collection and interpretation strategies. In conclusion, we introduce a few questions implicated in our article for other researchers and practitioners to consider.

¹Lorenzo lives in Milan, Italy, and has been practising boxing for four years. His latest publications focus on *boxe popolare* – a boxing style widespread in Italy promoted by leftist grassroots groups. George is based in Wales, and he has a longstanding experience in several Eastern martial arts, Mexican Xilam and medieval fencing (historical European martial arts or HEMA), with numerous publications on several martial arts from throughout the globe.

²The term ‘martial arts and combat sports’ (MACS) involve a myriad of styles and systems from all corners of the world: many remain unregulated; others are sporting activities; others are state-regulated exercises, or forms of military and civilian self-defence; some of them remain folkloric and vernacular arts.

TOWARDS A THEORETICAL FRAMEWORK BASED ON EMBODIMENT

Widely speaking, pedagogy can be considered as the ensemble, more or less codified and explicit, of the principles, the precepts and the methods to transmit skills, values and norms, so as to reshape human beings and how they perceive and act in the world.

Inquiries into MACS from the discipline of sociology have devoted significant attention to this topic over the last few decades, paying particular attention to specific dexterities and cultural values in cross-cultural contexts (Channon and Jennings, 2014; Delamont et al., 2017). As international texts such as that of Sánchez García and Spencer (2013) have shown, these ethnographic investigations pertain mainly to gender, culture, identity and violence through the apprenticeship into a particular martial arts subculture. These have drawn extensively on the theories of Bourdieu and Elias, in particular in terms of the notion of habitus, as well as on the concept of “techniques of the body” coined by Mauss (1973). These concepts are milestones in approaching embodied experience in MACS around the world (for a review, see Channon and Jennings, 2014).

More exactly, embodied experience — or, embodiment — refers to the living, moving, active body with agency for self-reflection, improvement and healing (martial arts as forms of medicine and healing in themselves), but, for our purposes, not one involving external surgery for aesthetics (for a sharp contrast, see Orbach’s (2008) account of how bodily ideals in global modernity have turned many people to psychotherapy and cosmetic surgery). Embodiment is also the key to what Eichberg (1998) terms significantly as body cultures: the elements of broader culture centred around movement. In this view, body cultures are always pluralistic, offering multiple possibilities in different spaces and across time. They can be for performance, health and also cultural expression (and quite often a shifting mix of the three positions). For instance, over the centuries, fencing has shifted from a battlefield activity and one for duels to the death to a modern Olympic sport. Yet there has been resistance to the sportisation process and a renaissance of interest in historical fencing and lost styles known as the historical European martial arts (HEMA), which are being researched, re-enacted and revived through the creation of new materials, organisations and events (Jaquet et al., 2020). The techniques and objects are recreated in modern times, which enables us to consider the potential benefits and risks associated with wielding a powerful weapon such as a longsword or a poleaxe.

In addition, two very different inquiries on the pedagogies of two very diverse practices and milieu — *Kalaripayattu* in South India and *Juego de Garrote* in Venezuela — have demonstrated that martial arts can also be adopted for healing purposes to improve practitioners’ self-confidence and feeling of power, which all stems from the preparation, curation and training of the body (Zarrilli, 2000; Ryan, 2016). Accordingly, Jennings (2014) demonstrates how practitioner-instructor interactions in Wing Chun Kung Fu and Taijiquan associations transmit precise health philosophies from Daoist, New Age spiritualities and Western medicine. This is assisted by the multicultural nature of contemporary Britain in an information age, where alternative views on the body and health are readily available. Yet the influence

of health philosophies and medical paradigms on martial arts training is not new, as seen in the *Yojokun* (Kaibara, 2008); a 18th-century text written by a Japanese Samurai influenced by the classic texts of Chinese medicine at a time of increasing peace in that then feudal society. As an early self-help or self-care book, the *Yojuken* offers a glimpse into how themes of longevity, and specific techniques to maintain particular areas of the body (as in Bates’ (2019) recent work in the British secular context) are vital for a holistic model of health.

However, despite the relevance of these studies on culturally-distinct MACS, several questions remain. How do specific conceptions of health emerge in a broader set of martial arts and combat sports? How do different aspects of health complement each other within a given bodily art/sport discipline? How are they transmitted and acquired in different socio-cultural environments, traditions and across federations?

Recently, seeing theory as central to any discipline, Bowman (2017) has called for a central place of theorising in martial arts studies, and this further conceptualisation could also have a role in studies pertaining to health. In the following two sections, we hence move towards a more detailed (theoretical) definition of health that overcome a purely (bio)medical paradigm. The first step consists in discussing the concept of “the care of the self” (*epimeleia heautou*) (Foucault, 2005), which surprisingly, given the popularity of Foucault’s perspectives and concepts in sport studies, as well as the more recently established physical culture studies (Silk et al., 2019), represents a novelty in the field of MACS scholarship. For our purposes, the notion of “the care of the self” seems particularly pertinent since it implies embodiment. Besides, the notion allows to explore the physical, symbolic and relational dimensions of health and wellbeing, furnishing the basis to further empirical (interdisciplinary) inquiries.

Last but not least, one of the focal points of the “care of the self” is pedagogy and how it is articulated in practice in situated, organised environments, that is, the daily teaching and learning process — i.e., education in all its guises. This might include regular classes, informal training between classmates, training at home or in a park, private lessons between a teacher and their student, seminars with lineage holders and workshops with specialists and competitions between schools: all of which are used to varying degrees in different MACS systems.

Care of the Self

The well-known French philosopher and social historian Michel Foucault introduces the notion of the care of the self in the final stage of his works — also defined as the “ethical turn” — in relation to this idea of subjectivity: how individuals shape and transform themselves in order to reach a given state of grace, happiness and wellbeing (Foucault, 2000; Smith, 2015).

The concept, and the late Foucault’s investigations, are extremely significant because they break with his previous and most popular arguments, according to which the conception of health — with particular reference to modern West of the last few centuries — would relate to the medical gaze and social institutions, whose main scope is to produce docile bodies for the maintenance of social order (Randall and Munro, 2010). Primarily through the workings of science and the related development of institutions such as mental

asylums, jails, schools and hospitals, subjects have been divided into opposite categories, e.g. “the mad and the sane, the sick and the healthy” (Foucault, 1983, p. 208).

Accordingly, drawing on Dunning and Waddington’s (2003) theorisation, two different approaches to sporting culture has emerged: the “Stoical/Puritanical” and the “Epicurean/Dionysian,” with the former emphasising the hygienic/disciplining aspect of body cultures, the latter more concerned in boosting hedonistic experience. In particular, the Puritanical approach “received clear expression in the 19th century, with the formation [...] of the *mens sana in corpore sano* ethos, that was bolstered in the wider society by the emergence of the so-called “rational recreation” movement and, what might be called the “sport/health” ideology,” which has remained hegemonic in Western cultures for two centuries. In contemporary postmodern times, this ideology still permeates a wide range of body cultures, even informing social policies.

The ethical turn of Michel Foucault, evolved since the mid-Seventies, responds to the opposing transformations occurring in the global political and social scenario: on the one hand, the consolidation of neoliberal societies and new forms of bio-power; on the other hand, the rising of ‘new social movements’ (Melucci, 1996), which criticize and resist the governmentality processes in several realms of daily life.

Over the last three decades, the collapse of the Welfare States and the achievements in the field of social and civic rights have been entailing to the fragmentation and lability of the modern discursive regimes, habits and customs (Alston, 2017) — in the field of health, too. In late modernity, borrowing Giddens (1991) term for this period, individuals’ lives are less pre-determined, as they live in a condition of ontological uncertainty. Environment, culture and society change rapidly and affect human-beings in several ways. Because of the social order dynamism, the selves are always at stake. Everyone becomes the main responsible for her/his own destiny, for her/his own wellbeing, successes and failures (Mellor and Shilling, 1993) – and even self-reinvention at a time where the increasingly individualised self is expected to readily adapt to societal expectations, as the fitness culture demonstrates (Sassatelli, 2010; Elliot, 2012). Martial arts could play a role in such a society, with the growing number of self-help books (e.g., Jones, 2004; Thompson, 2010) encouraging individuals to take full responsibility for their destinies, including the care of their own bodies as seen through Chinese, eclectic or Western medical perspectives.

Being sensitive to those trends of individualism and neoliberalism, Foucault framed the “care of the self” (from the Ancient Greek concept of *epimeleia heautou*) as an ethical project based on experience, the relation with one-self and to others; and it is not run by any law or stable institutions (Smith, 2015)³. Care of the self, then, might include personal hygiene, massage, healthy

sleeping patterns, regular hydration, walking in the fresh air and taking a holiday from work. In martial arts, this could include the various forms of massage and bone setting that accompany specific traditional medicine and healing systems (see Zarrilli, 2000; Cynarski, 2012), or the regulation of temperature during training and warm-ups/cool-downs, boxing workouts, standing postures in traditional Chinese martial arts and even using thermoception to maximise the execution of a mixed martial arts technique (Allen Collinson and Owton, 2015; Allen Collinson et al., 2016).

In this sense, care of the self postulates a sort of physical immanence and points its difference with transcend wellbeing and self-realization — for instance, the “ultimate” or idealized human beings prompted by revealed religions and/or the political ideologies. According to this view, the self is a balance between the body and the mind: “self” means postures, feelings, instincts, guts and thoughts. To emphasise the creative nature of the care, Foucault uses the term “aesthetics of existence,” “whose form cannot be given in advance” (Smith, 2015, p. 135), as the subject is a never-ending project that progresses over the life-course.

Like many of Foucault’s original ideas and notions, “care of the self” is not defined precisely. Foucault prefers a set of evocative expressions to refer to it. In the 1981–1982 Lectures at the Collège de France (*The Hermeneutics of the Subject*) (Foucault, 2005, pp. 8–9), care of the self is termed as:

“a sort of thorn which must be stuck in men’s [sic] flesh, driven into their existence, and which is a principle of restlessness and movement, of continuous concern throughout life [...] Generally speaking the principle that one must take care of oneself became the principle of all rational conduct in all forms of active life that would truly conform to the principle of moral rationality.”

The notion implies three interlaced aspects that are extremely significant for our theoretical enterprise; more exactly: 1) the care of the self as general (critical) attitude; 2) the care of the self as spiritual awareness; 3) the care of self as embodied activities.

Care of the Self as General (Critical) Attitude

First of all, the care of the self means “a certain way of considering things, of behaving in the world, undertaking actions, and having relations with other people. The *epimeleia heautou* is an attitude towards the self, others, and the world” (Foucault, 2005, p. 10). Such an attitude — in other words, a philosophy — provides the general framework to conduct an active life that refuses the status quo. The care, from this standpoint, is a sort of twofold “combat” (Berni, 1995). It represents a rejection of the given social reality. In addition, as a principle of living and acting, the care is a sort of self-critique; a way to disapprove ourselves, who and how we are as human beings. As Foucault himself states, through the care of the self “[w]e have to promote new forms of subjectivity while refusing the type of individuality that has been imposed on us” (Foucault, 2000, p. 208). This general framework represents the cornerstone for an active philosophy necessary “to attain a

³To develop his (unfinished) project of tracking the ‘genealogy of subjectivity’ (Depew 2016, p. 24) — revolving around the question of how subjects are established in different historical and institutional contexts — Foucault looked back to the Ancient Greek civilisation, where morality became a topic of philosophical problematization and discussions (Foucault 2005; 2011).

certain state of happiness, purity, wisdom, perfection, or immortality” (Ibid, p. 225)⁴.

In order to achieve this status in the fields of sport and physical culture, certain conditions are required: “An individual must problematize the limitation of his/her current identity; s/he must think critically about being an athlete, a physically (in)active woman, a sports fan, a coach or a health professional advocating physical activity” (Markula and Pringle, 2006, p. 153). This framework or attitude might be seen in the martial arts influenced by other ancient philosophes, such as the path of Daoism taken by many “internal” Chinese martial arts schools such as Taijiquan and Baguazhang, alongside Japanese Aikido, which often has spiritual connotations with Shintoism.

Care of the Self as Spiritual Awareness

Second, and consequently, “the care of the self implies a certain way of attending to what we think and what takes place in our thought” (Foucault, 2005, p. 11). This can be defined as the spiritual dimension of the care of the self, that is, a specific and aware relationship that the subjects establish with what they consider as the “truth” or to be meaningful. The care of the self, in these terms, means how we deal with the surrounding social world; how we assess and interiorize representations and norms of conduct; how individuals develop their interior consciousness.

To use a metaphor: care of the self is a glance, a sight towards interiority. The ancient Greek philosophers consider the care of the self as “medicine for the soul” (Iftode, 2013, p. 80), consisting in an ongoing check into personal feelings and thoughts for their modification: that is why “self-care, in Foucault, means ethical and social practices whose goal is to favour the self-fashioning of individuals and/or a spiritual conversion of a sort” (Iftode, 2013, p. 76; White, 2014).

It is important to specify that self-knowledge is the basis for conversion, embracing the subjects as a whole: their thoughts, feelings, bodily postures, and the kind of relationships they are able to establish with others. They all are part of the ongoing embodied project of the care of the self that might have been seen in Ancient Greco-Roman wrestling that is quite removed from the modern approach to wrestling seen in the Olympic Games today. Other forms of wrestling, as in classical anthropological studies in Northern India, seem to have continued this monitoring of thoughts

and feelings and control of sexual desire and behaviour (see Alter, 1992).

Care of Self as Embodied Activities

Third, then, the care of the self significantly “involves a series of practices, most of which are exercises that will have a very long destiny in the history [. . .] These are, for example, techniques of meditation, of memorization of the past, of examination of conscience, of checking representations which appear in the mind and so on.” (Foucault, 2005, p. 11). In order to be realized, the care of the self requires discipline, i.e., the *askesis*. “Through the rigors of *askesis*, the self can be rendered an object of analysis and hence a critical position external to the self can be achieved” (Alston, 2017, p. 95).

This aspect of the care of the self echoes another one of Foucault’s (2000), (p. 87) concepts: the “technologies of the self,” which Foucault defined as “the procedures, which no doubt exist in every civilisation, suggested or prescribed to individuals in order to determine their identity, maintain it, or transform it in terms of a certain number of ends, through relations of self-mastery.”

This quotation introduces pedagogy, the relation with meaningful others and (repetitive) training. Indeed, “care of the self is about [...] “living coherently”; it also means a regulated form of existence, the harmony between the words and the deeds, instilled through a series of “techniques” (Iftode, 2013, p. 78), which requires the support of a community of practice and deploys in regulated activities. In other terms, the care of the self implies a series of (disciplined) embodied practices, which are mandatory to concretely realise both sociocultural and spiritual transformation⁵. Many contemporary martial arts systems such as Aikido are even designed to benefit the individual and society through a spiritual philosophy through their techniques and practices. We explore such techniques and practices in the next two sections.

THE (UN)HEALTHY PEDAGOGIES OF MACS AND THE IDEA OF CULTIVATION

The discussion of the care of the self – in terms of a general philosophy of changes, interior awareness and ruled activities – allows us to develop an intercultural idea of human flourishing and cultivation. The theoretical idea of cultivation can be empirically explored in terms of how the “practical pedagogic logic” (Brown and Jennings, 2013, p. 41) of MACS foster perspectives of wellbeing at different levels. Precisely, we

⁴To stress the philosophical dimension of the care of the self as a life-principle, Foucault analyses the ancient philosophies of Cynics, Stoics, and Epicureans. All those philosophical perspectives were indeed concerned with reaching a state of grace, happiness and wellbeing, criticizing the dominant ways of living and thinking in the polis at that time — Foucault examines in particular the biographies and the writings of a limited amount of philosophers who lived in Ancient Greece and Rome (Foucault, 2005; Depew, 2016). In addition, according to Foucault’s thesis, all those philosophies constitute the basis for the care of the self as a general (critical) attitude throughout Western civilisation (see in particular: Foucault, 2011). A similar thesis evokes Dunning and Waddington’s (2003) differentiation between the stoic culture and the epicurean culture, calling for a more balanced experience in terms of pursuing health and wellbeing.

⁵Several of Foucault’s analyses (Foucault, 2000; Foucault, 2005; Foucault, 2011) are devoted to the gymnastic exercises and the embodied activities prompted by philosophical schools. In his examinations, the philosophers thus appear to be as ancient gurus who share several features with the modern charismatic figures of the martial artist founders (cf. Brown, 2020) Accordingly, Pierre Hadot (1995) sustains that the main objective of the ancient Greek schools of philosophy did not consist in elaborating, or even the teaching, theories. On the contrary, they were more concerned about the transformation of individuals.

propose four forms of cultivation that future research projects could investigate critically, considering these levels separately as well as interlaced. We define these forms as *self-cultivation*, *shared cultivation*, *social cultivation* and *ecological cultivation*.

Self-Cultivation

Inspired by the Eastern mind-body theorist Yuasa (1987) and Yuasa (1993), we define the process of self-cultivation as the long-term, even lifelong, development of human beings through an intensification of mind-body relationships and subsequent development of character and instilling of values. This form of cultivation resembles the care of the self as spiritual awareness. In this vein, previous exploratory enquires have demonstrated how, in particular the commitment to Eastern martial arts and to Latin American body cultures – as in the case of Afro-Brazilian Capoeira – help individuals to create a deeper and more aware relationship with themselves, providing them the opportunity to master bodily skills, develop personal interests and define their social identity in accordance with the nature of the practice carried out (see: Spencer, 2011; Channon, 2012; Brown and Jennings, 2013; Delamont and Stephens, 2019).

Indeed, from a critical angle, Spencer (2012) pays attention to the experience of pain among MMA practitioners. He demonstrates the clearly *ambivalent*, as well as unhealthy, relationship established by the fighters in the mid- and long-term between bodily injuries and the normative masculinity connected to the practice. While experience of pain and injuries are considered mandatory pedagogical experience in order to embody a masculine self; “addiction” (Dunning and Waddington, 2003) to exercise and debilitating bodily injury fails to materialise masculine ideals associated with participation in combat sport (for similar considerations on Capoeira, see Stephens et al. in this Special Issue).

Shared Cultivation

In relation to self-cultivation, with the term shared cultivation we place emphasis on the forms of collective development within formal and informal pedagogies of many systems such as the traditionalist Chinese martial arts (Jennings, 2010). This is akin to the relational element of care of the self. As we have seen, MACS pedagogies indeed do not only reshape individuals. They produce shared cultivation when practitioners are bounded together, create schools that transmit certain abilities and cultural values across generations and practitioners’ lineages. This is due to the techniques of the body (Mauss, 1973) that characterise the arts. Techniques of the body, as the ways in which the bodily movements are adopted and learned in organised social environments, are forms of “primitive classification” (Durkheim and Mauss, 2010). In other words, these classifications serve to bind people together and differentiate social groups.

This can be noticed considering practices ruled very differently, across time and space; for example, Kung Fu practitioners often understood their increasingly intercontinental and intergenerational associations as “families” forming “family trees” or lineages operating across centuries (Partiková and Jennings, 2018). In the case of Italian *boxe popolare* – a contemporary, self-managed boxing

style run by leftist grassroots groups outside the jurisdiction of the Italian boxing federation – one of the main scopes of the daily routine is to engage new practitioners within the coaching structure (Pedrini, 2020). The pedagogy of shared cultivation, in other terms, offers a sense of belonging, care towards teammates or classmates and solidarity within diverse communities.

Abramson and Modzelewski (2011) point out that theories of subculture normally explain how people from working-class or marginalised groups join and create subcultures. This would work well with the example of the leftist *boxe popolare* in Italy, but not for all MACS settings. Abramson and Modzelewski’s (2011) dual ethnographic study shows how MMA gyms act as voluntary subcultures for conventionally affluent and successful middle-class members who do not often come from marginalised or deviant groups in wider U.S. society. Their collaborative ethnography shows the positive side of this voluntary community of men and women of different sizes and shapes who uphold American ideals. This can transfer to ideas around cultivation, as the fighters’ shared values such as commitment and self-improvement enabled interactive levels of cultivation.

A critical attention to shared cultivation, however, has to carefully consider how certain ruled activities can, without being necessarily intended, exclude potential practitioners in terms of age, social class, ethnicity, gender, bodily condition, religious or political beliefs (see: Nardini 2016; Delamont et al., 2017; Nardini and Scandurra [forthcoming]). Indeed, it is through the acquisition, transmission and usages of the body that individuals take place in the social world and define who they are – e.g., as youngsters, males, females, and so on and so forth (Bourdieu, 1985). Shared cultivation is hence a way to differentiate the populations and their systems of beliefs in relation to every aspect of the daily life. We next turn to the system of beliefs, ideologies and politics that govern many MACS cultures, their missions and visions.

Social Cultivation

We define social cultivation, in preliminary terms, as the processes of human transformation and transcendence occurring in local communities, in specific (sub)cultures, and even in broader society. Learning arts involve the transmission of cultural values and symbolic meanings, which differ across socially organised contexts and practices. Furthermore, pedagogies is the main medium for the transformation of individuals, opening up the opportunity to spread certain perspectives of wellbeing while shaping individuals in a way instead of another. As historical research projects demonstrate, traditional Eastern martial arts as in the Southern Chinese forms of Kung Fu were codified for this scope purposefully (see Judkins and Nielson, 2015).

Given the variety of contemporary MACS trans-cultural practices, their pedagogy can be adopted for social justice projects – for example, improving wellbeing of vulnerable populations⁶. Social cultivation underlies a series of political

⁶An example can be found in the scheme of this program <https://www.guidestar.org/profile/26-2793142>.

implications in today's society, which include health issues such as weight or anger management. Then, some MACS pedagogies are instead designed to include people in the realm of civic activism involving them in projects and campaigns for progressive societal change (Pedrini, 2020); while several practices and daily (ruled) interactions, even if they are not designed for explicit political purposes, possess pedagogical significance: for example, in the UK, combat sport classes are sites where cultural subversion to gender order can be experienced (Channon, 2013; Channon, 2014; Channon and Phipps, 2017); meanwhile, in the broader English-speaking world, some male-dominated tribes such as mixed martial art (MMA) communities are increasingly open to include homosexuals (Matthews and Channon, 2015).

Of course, MACS pedagogies remain controversial, since they can rehearse hegemonic discourses and established forms of discrimination. Martial arts can still be used to support political and military ventures whose main aim is to realize supremacist projects, as the rise of the fascist fight clubs in several Western countries and Post-Soviet countries demonstrate (Pedrini et al., 2019). However, despite the political makeup of a country, people are increasingly aware of the environmental consequences of human action. The following notion of ecological cultivation is an extension of cultivation beyond the human and societal into the environmental realm in which they coexist.

Ecological Cultivation

Ecological cultivation is another layer we include in the analytical proposal. We consider this level of cultivation as a sort of environmental awareness, sensitivity and action. The analysis of the art of Taijiquan in a UK context, for example, illustrates how martial practice can “sow the seeds of environmental awareness” (Brown et al., 2014, p. 380) – the relation with nature is indeed one of the dimension of the care of the self and the pursuit of happiness discussed by Foucault (2011). This form of cultivation draws on Kasper's (2009), (p. 318) definition of ecological habitus, which “refers to the embodiment of a durable yet changeable system of ecologically relevant dispositions, practices, perceptions, and material conditions—perceptible as a lifestyle—that is shaped by and helps shape socioecological contexts.” Also, Eichberg (1998) has emphasized the green attitude of certain vernacular forms of wrestling in Scandinavian countries, since these body cultures are strongly related to the cultivation of ethnic identity; wellbeing perspectives prompted by these bodily arts also consists in caring about the natural environment, considered as a fundamental aspect of the local community growth.

This point to the importance of considering the MACS setting, where they are carried out and how they develop implicit pedagogies towards the surrounding environment and the kind of relationship and sensibility the practitioners create with the urban as well as rural landscapes. For example, the Japanese art of Ninjitsu is experiencing something of a renaissance as it is reimagined for different purposes. No longer is Ninjitsu used to train assassins collaborating with the warrior nobility; instead, the modern Ninja can learn their craft at university, with a new

master's course in Ninja Studies. The BBC has followed its first graduate, Genichi, a mature Japanese man who praises the feudal way of living from the earth as a farmer first, and martial artist second, which he believes leads to a sustainable lifestyle within urbanized societies experiencing a pandemic⁷. Other martial arts have specific ecologies and cosmologies embedded within their philosophies and pedagogies, such as the ritualistic forms of Mexican Xilam saluting to the earth (before acknowledging one's surroundings and neighbours) or the movements of Taijiquan inspired by animals, elements and the cosmos (with poetic and metaphorical terms like “white crane spreads wings,” “cloud hands” and “repulse the monkey”). But how might we study such language and daily talk in MACS pedagogies? This is explored in the next section, which leads to a discussion on praxiography and multimodal research.

IMPLICATIONS FOR (INTERDISCIPLINARY) RESEARCH

In this last section, we provide a few methodological guidelines in order to approach the (multi-layered) topic of health according to the framework proposed. Considering MACS as a set of specific practices, we call for interdisciplinary inquiries and a mixed methodology (Jennings, 2019) as demonstrated by Fuller and Lloyd's (2019) broad yet exploratory study. The unifying broad perspective we embrace is one of praxiography. To put it simply, it means the analysis of social practices. Praxiography understands “practices as meaningful, regulated bodily movements, which depend on a related implicit incorporated knowledge. Since the majority of practices deal with artefacts (e.g. writing requires a pen and paper), practices are often routinized patterns of behaviour using artefacts. Often a certain way of doing is inscribed into artefacts and they hence can equally be considered as carriers of practices” (Bueger, 2014, p. 387). The main objective of praxiography is to develop a theoretically-driven body of knowledge. According to Littig (Littig, 2013, p. 458), “praxiographic research places the interwoven, supra-individual social practices linked to materiality in the centre of empirical and theoretical analysis.”

For this purpose, we view MACS practice drawing on the definition of (Reckwitz, 2002, pp. 249–250):

“A “practice” (*Praktik*) is a routinized type of behaviour which consists of several elements, interconnected to one other: forms of bodily activities, forms of mental activities, “things” and their use, a background know-ledge in the form of understanding, know-how, states of emotion and motivational knowledge.”

From this view, social worlds and subjects “co-emerge” (Sánchez García and Spencer, 2013, p. 190) in relation to specific martial practices. Specific perspectives and experience of health, intended as forms of cultivation, hence depend on the specific embodied pedagogic logics characterizing each martial art and combat sport in given sociocultural context and institution.

⁷See <https://www.bbc.co.uk/programmes/p08zkvjy>.

A Multimodal Approach

The perspective of praxiography to explore the complex relationships between care of the self and cultivation advocate a creative usage of different strategies for empirical research. Even though we do not seek to limit the potential eclectic methodological mix for interdisciplinary research, at this point, we seek to clarify some path that could be followed for investigations in order to stimulate a creative mix of data collection and analysis. Importantly, we emphasise the opportunity to approach practice from a synchronic or a diachronic standpoint through a multimodal approach.

A special issue of *Qualitative Research* (Dicks, Flewitt, Lancaster and Pahl, 2011) has imagined the possibilities of uniting the well-established ethnography (particularly popular in MACS research) with the multimodal research approach, which originally developed in semiotics and linguistics. This multimodal research draws on a range of data collection techniques and data sources in order to understand human and social meaning as opposed to social order. This might be enacted through the exploration of symbols and visual concepts in martial arts theory as seen in badges and crests of different organisations. An example of this is in the world-famous Yin-Yang symbol used in many uniforms and logos, which can be used to explain Daoist health philosophies in the face-to-face teaching of Chinese martial arts in classes and seminars – quite often using whiteboards or physical demonstrations to aid students' understandings of the oral messages. The meanings behind these symbols and concepts could thus be explored through observation, interviews and semiotic analysis in many other fighting systems. Channon et al.'s (2020) study recounts such a multimodal approach in ethnographic research through their multi-sited fieldwork in conjunction with interviews with a range of medical professionals, coaches and combat sport athletes, which helped them compare official messages around health with the real-life practices in preparation for, within and as a consequence of, competition. In a shocking revelation, this research team revealed a common, even guaranteed, expenditure of ring girls over that on reputed medical professionals.

This above examples offer a critical perspective on pedagogy Markula and Pringle (2006). Given our attention to the discourses in this article, we wholeheartedly advocate studies on how martial arts instructors (be they coaches, *sifus*, *senseis*, *gurus* or *gurukkal*) use specific forms of language within asymmetrical power relations. We wish for instructors to develop a more “ethical guidance” rather than a pedagogy of mastery and self-control, creating actual strategies to negotiate their values, norms, and beliefs in order to improve self-awareness and critical attitudes of the practitioners so as to improve their abilities to cultivate care (in terms of self-cultivation, shared cultivation, social cultivation, as well as ecological cultivation). Yet at the same time, we are aware of the continued need to study unhealthy and damaging practices such as forced fights, the falsification of medical records and poor hygienic practice during pandemics such as COVID-19.

Depending on the culture of the nation-state and the subculture of the art in question, these coach-athlete relationships and group hierarchies will vary tremendously, although like MMA as other forms of physical culture such as

surfing, these MACS are very often based around hierarchies and archetypes of emotive masculinity expressed in mundane daily talk (Green and Evers, 2020).

The links between power, space and emotions could be applied in studies on health in terms of the emotional side of pain, injury, recovery and retirement – especially in more physically demanding combat sports such as MMA or the emotionally challenging approaches taken in Israeli Krav Maga and Russian Systema, which work with ideas around survival psychology and breath control. Talk and emotions can therefore be a key aspect of raw data, which might include the use of humour and changing room banter, text messages, everyday corridor conversations and coaches barking orders from the corner of a ring.

Moreover, adopting a different theoretical perspective, Winchester and Green (2019) explain how the past, present and future social actions are connected through accounts of motivations. They make use of a range of theoretical traditions from hermeneutics to pragmatism to explain how and when people's accounts in interviews and observations relate to the social context they operate in. The authors argue that the subjective motivations are both “in” the practitioner as well as “outside” them. This adds to the limited research on *talk* in the martial arts, an approach which could enable scholars to understand the motivations behind healthy and unhealthy practices that are not purely individual or institutional, but are certainly driven by the biographies of the participants. In general, approaching practice synchronically allows researchers to grasp the articulation of (un)healthy pedagogy in the making, by adopting the huge spectrum of data collection and analysis adopted in social sciences. The pedagogy of single case-studies can be explored through participant observation adopting several forms of involvement into the field in order to analyse daily interactions (see Wacquant, 2013). Martial gurus, entrepreneurs, coaches and practitioners can be interviewed by adopting different forms of standardized questions, both from a qualitative and a quantitative perspective. Investigations could implement martial classes on specific populations and monitor how they respond to the pedagogies of the practices in different ways (physically, mentally and socially).

By collecting visual and written documents, it is also possible to develop “discourse analysis” (Gee, 2010) on health and wellbeing prompted by different coaches and martial associations — this method is indeed inspired by Michel Foucault's theorisations and it is one of the main tools for conducting critical analysis from different theoretical perspectives, such as phenomenology, poststructuralism and pragmatism. Discourse analysis is a powerful tool for inquires that consider pedagogies over time; how discourses about health and wellbeing of established associations and coaches, for example, change in relation to the broader symbolic and political landscape. “Narrative analysis” (Sparkes, 2005) of personal involvement in MACS and health practices surrounding them is another prominent method, as seen in Stephens et al.'s study of British Capoeira practitioners' injury narratives (this issue). Health and care can be approached from critical angles, detailing how certain techniques of the body impact on physical and psychological wellbeing, as well as how certain

ideals of wellbeing are being boosted, interiorized, lived or contested by long-standing practitioners. This leads us to our final conclusions that bring together the different aspects of our theoretical framework and methodological approach for “martial arts, health and society.”

CONCLUSION

In conclusion, investigations into martial arts and combat sports (MACS) have been increasing steadily over the last two decades, with specific projects focusing their attention on themes of gender, violence, pedagogy and embodiment. Some refer to this field as “martial arts studies” (Bowman, 2015), while others talk of “martial arts anthropology” (Cynarski, 2012), a revival of the 19th century science of armed and unarmed fighting (“hopology”) or even a “New Hopology” focusing on the armed traditions of combat (Ryan, 2020). Within this growing body of inquiry across interconnected areas of social science, there is a need for a critical understand of (un)healthy pedagogies; a complex topic which remains surprisingly underexplored currently. Our article has made a small contribution to the new line of inquiry into health, wellbeing and wellness that adds to the special issue on “martial arts, health and society.” It is not strictly within the realm of medical sociology, but it should be judged as adding to a new stream of research into the world’s fighting systems and cultures of combat (Brown et al., 2019) in terms of how one can envisage, study and critically assess the relationships between movement, practice and health.

Drawing on our previous reflections and the existing literature, we have provided a theoretical proposal with a twofold aim. First, we have conceptualized health and its pedagogies by moving beyond a reductionist biomedical paradigm to one focused on subjectivity as seen through the lens of care of the self. Second, we have set up a framework on *cultivation* in order to conduct future analysis on the pedagogies of health, so as to foster interdisciplinary inquiries in order to ask what and how martial arts could improve, or even act as an obstacle to, personal and collective health. We hence frame health and wellbeing pursued by MACS pedagogies as *forms of cultivation*, aiming at pursuing happiness and harmony with the selves — practitioners’ bodies and minds — the others, and the environment, as well as attempting to transform the living condition of several populations and the status quo to some extent, taking into account the social organisation of the practices and how they are experienced. Other valued qualities such as empowerment, self-control and social awareness could also be studied using the strands of our theoretical model. Investigations into values, dispositions and other aspects of humanity and society that are cultivated in MACS would add to knowledge on the cultivation of health.

We have added a few methodological suggestions for future analysis, considering the importance of this perspective given a few global trends, as the contemporary crisis of the Welfare-States (especially following the COVID-19 pandemic), the commodification of culture and the ageing process and the associated issue of isolation — which affects Western countries

in particular. We anticipate research across methodological paradigms, methodologies and traditions to provide a well-rounded subfield of martial arts and health that contributes to martial arts studies (or whatever the field might be termed in different languages and regions) and the social science/sociology of health, illness and medicine.

In summary, this article has contributed to the broad question “How might martial arts and combat sports be good/bad for health?” This complex question requires a multifaceted perspective that considers individuals, the relationships between them, wider sociopolitical dynamics and ecological perspectives beyond humanity. Martial communities can sustain individual and collective projects for improving wellbeing, as they can harbour individual health and progressive societal change. Specific research questions inspired by the theme of martial arts, health and society explored in this special issue and our particular article might include the following: Considering the fluid nature of martial activities between traditions and sports, how can goals of performance and health can be balanced in MACS experience? How do federations and coaches conceive health in the first place? To what extent could precise health pedagogics be part of coaching programmes and coach education? How do practitioners frame their wellbeing? Finally, bearing in mind the high dropout rate in martial arts clubs, to what extent do the (un)healthy pedagogies of the practices influence the practitioners’ involvement and withdrawal from MACS?

A lot of work has still to be done to move beyond this early collection of eclectic research projects seen in *Frontiers in Sociology*. Scholars across the world might wish to expand their research agenda to several different disciplines in order to compare and find general and specific traits of the different pedagogies, facing similar questions. Our proposal is an invitation to bridge different fields of inquiries so as to establish an open and critical dialogue across subjects with the ultimate goal of creating new research strategies and, hopefully, for policy making.

DATA AVAILABILITY STATEMENT

The original contributions presented in the study are included in the article/Supplementary Material, further inquiries can be directed to the corresponding authors.

AUTHOR CONTRIBUTIONS

The authors declare they are equally responsible for the contents of each section.

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Multilevel Evaluation of Rapid Weight Loss in Wrestling and Taekwondo

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The practice of strategies for rapid weight loss (RWL) involve diverse factors, such as individual expectations, social interactions, structural elements, etc., conforming to a “culture” of RWL, which must be evaluated and understood in a broad sense. Based on the need of a comprehensive evaluation of the use of RWL in practitioners of combat sports, an *ad hoc* questionnaire designed for this study, which includes the types and detailed descriptions of RWL strategies, that athletes currently use, the prevalence and frequency of use, the physiological and psychological consequences, the perception of the effect of RWL on their own performance and finally, the individuals who influence the adoption of this practice. One hundred and sixty combat athletes from wrestling and taekwondo disciplines, from Mexico, filled out this questionnaire. Data collected for their statistical analyses. Results revealed a RWL strategies prevalence of 96% across the participants. Our results revealed that 57% of those athletes using RWL lose more than 5% of their body mass. Across the athletes, the most commonly used RWL strategies and with higher intensity were increased exercise and training with plastic or thick clothes. The greater the relative weight loss, the greater the presence of physiological symptoms in athletes, such as rapid breathing and blood pressure. Athletes also mentioned mood states such as tiredness, sadness, confusion, fatigue and vigor, these last two positive and negative mood states are associated with the relative weight loss, respectively. Finally, the people who most influenced the adoption of RWL strategies were the coaches, parents and nutritionists. In conclusion, the questionnaire prepared for this study allowed us to obtain valuable information about the several factors, and their interactions, involved in the practice of RWL in combat athletes. This type of practice could increase health risks and decrease their performance. Therefore, here we state the importance of a comprehensive evaluation of RWL strategies that allows the development of psycho-educational and social-based interventions and programs for the promotion of proper weight maintenance, and prevention against RWL strategies, involving the individuals who influence the adoption of these practices and supporting it with the help of communication technologies.

Keywords: acute weight loss, wrestling, taekwondo, multidimensional evaluation, psycho-educational intervention

INTRODUCTION

Combat sports are internationally practiced, and they are characterized by categorizing athletes by body mass (BM) into weight divisions or classes to minimize differences in size and strength among competitors. To ensure that athletes fulfill the weight requirements, an official weigh-in is done before the competition. The weigh-in procedures are different between the diverse Olympic combat sports, such as: judo, taekwondo (tkd), boxing, and wrestling (Reale et al., 2018). The purpose of weight classes is to match athletes with similar body build to create an equal level of competition and minimize the risk of injury between opponents (Jetton et al., 2013).

It is known that combat athletes perform strategies for Rapid Weight Loss (RWL) which is an acute loss of BM in the week prior to the competition. The magnitude of the percentage of weight athlete's loss varies depending on the time they implement the strategy before the official weigh-in. RWL occurs often (Artioli et al., 2010b; Brito et al., 2012; Franchini et al., 2012; Khodae et al., 2015) with the aim to qualify in a class lower than the athletes training weight, seeking to gain an advantage by competing against lighter, smaller and weaker opponents (Artioli et al., 2010d; Fernández-Eliás et al., 2014; Reale et al., 2016b). These practices take place within a structural, social and cultural context. There are studies that tell us about the adoption of the practices, how the rules are accepted within the sports community becoming a key part of the sport and, as a consequence, these practices are well-established.

However, there is the belief that RWL is related to mental advantages during the competition. This has been evidenced by reports from athletes performing RWL that indicate a sense of "sporting identity" or "real sportsman" as consequence of achieving weight reduction quickly (Hall and Lane, 2001; Koral and Dosseville, 2008; Jetton et al., 2013; Pettersson et al., 2013; Reale et al., 2016a). In this regards, one study has reported that competitive success is positively associated with RWL (Reale et al., 2016a), however, most studies have reported that the success is mainly due to years of experience of the athlete (Hall and Lane, 2001; Artioli et al., 2010c; Kazemi et al., 2011; Brito et al., 2012; Franchini et al., 2012; Zubac et al., 2017; Reale et al., 2018) and not the amount of weight he/she has lost and the recovery, prior to weigh-in and prior to competition, respectively. The truth is that the weight control strategies often employed are at the expense of health and sport performance (Kowatari et al., 2001; Alderman et al., 2004; Degoutte et al., 2006; Prouteau et al., 2006; Green et al., 2007; Artioli et al., 2010b; Pettersson et al., 2013; Reljic et al., 2016; Nascimento-Carvalho et al., 2018). There is variability in the prevalence, methods and magnitude of weight loss, as well as recovery post RWL, among sport disciplines.

Concerns about acute health risks from the continued use of RWL have mainly focused on the loss of more than 5% of BM by means of extreme dehydration or food deprivation on days 1 or 2 prior to weigh-in. It has been suggested that a reduction of 5% or less in BM does not significantly affect performance, as long as the athlete has a few hours to feed and rehydrate after weigh-in (Artioli et al., 2010b,c; Franchini et al., 2012). Despite

this, the prevalence of those individuals losing more than 5% of weight and the number of days prior to which they begin to use strategies for RWL have not been reported. And the athletes who lose and gain weight intentionally and constantly (weight cycling), as a result of the practice of RWL (Saarni et al., 2006) has a negative effect on physical performance. This may be due to poor replenishment of the overall intake of macronutrients by athletes on competitions day as they do not replenish their overall needs of macronutrients and water between official weigh in and the competitions (Artioli et al., 2010a; Pettersson and Berg, 2014).

The risk produced by RWL depends on a combination of factors, such as the amount of reduced BM, time for this reduction, and the frequency of episodes and/or strategies used for RWL (Artioli et al., 2010b). To achieve RWL athletes use a combination of several potentially harmful methods, such as severe restriction of intake of food and liquids, exercising with plastic or heavy clothing, use of saunas, taking diet pills, or even vomiting (Alderman et al., 2004). Although there are various strategies for RWL, dehydration and food restriction are the most common methods and, together, result in alterations in body fluid and the availability of glycogen (Oppliger et al., 2003; Kordi et al., 2011; Franchini et al., 2012; Reale et al., 2016b).

Despite the well-documented adverse effects of RWL on health status, the prevalence of aggressive and harmful procedures for rapidly weight reduction is very high in most combat sports such as wrestling (Steen et al., 1988; Kinningham and Gorenflo, 2001; Oppliger et al., 2003, 2006; Alderman et al., 2004) and tkd (Kazemi et al., 2011; Brito et al., 2012). Extreme dehydration can cause a decrease in plasma volume, resulting in a decrease in systolic volume, an increase in heart rate, and a decrease in the difference in arteriovenous oxygen during submaximal exercise (Rankin, 2002), which harm performance and can also be hazardous to health (Jetton et al., 2013).

In addition, dehydration has adverse effects such as alteration of the central nervous system, increases in central temperature, cardiovascular stress due to glycogen deficiency and alterations in metabolic function (Cheuvront et al., 2003; Artioli et al., 2010b). Side effects have also been reported from the use of short-term RWL strategies (that is, they affect the health of the athlete during the weight reduction period) presenting negative emotions (Degoutte et al., 2006) and sensations such as muscle fatigue, and/or symptoms of weakness, muscle pain and/or myalgia and depression (Kordi et al., 2011; Zubac et al., 2017). A long-term effect is that athletes experience higher rates of obesity later in life (Saarni et al., 2006), problems of anxiety, perfectionism and eating disorders (more studied in women), and irregular menstruation in women (Filaire et al., 2007; Rouveix et al., 2007; Escobar-Molina et al., 2015) due to reduced baseline metabolic rate, making weight maintenance difficult (Nascimento-Carvalho et al., 2018).

Other consequences are depressed autoimmune activity making athletes more susceptible to disease, reduced bone density and injuries (Kowatari et al., 2001; Prouteau et al., 2006; Green et al., 2007; Rouveix et al., 2007).

Alterations in the growth of athletes and hormonal imbalance (Reljic et al., 2016), as well as cognitive functions have also been reported (Nascimento-Carvalho et al., 2018). Considering

the negative physical, emotional, and psychological effects of RWL, presumably it affects sports performance negatively, however, there are few studies measuring the effect of RWL on sport performance.

Excessive weight reduction practices during adolescence could affect body development. For instance, these practices have been reported in individuals between nine and 17 years old, although RWL has also been observed in athletes younger than seven years old; that is the reported case of a 5 year old athlete encouraged by his father (Oppliger et al., 2003; Sansone and Sawyer, 2005; Kordi et al., 2011; Brito et al., 2012).

People with the greatest influence in teaching and adopting strategies for RWL are regularly the coaches, sport mates, former athletes; while the least influential tend to be the parents, physicians and dietitians (Oppliger et al., 2003; Reale et al., 2018). Some authors propose that the culture of the sport is also a major influence for quick weight reduction and that the athletes are resistant to change this practice (Kordi et al., 2011; Reale et al., 2018). Structural factors in sport rules influencing the use of RWL are the weight rating system, the programming patterns and the organization of events (Artioli et al., 2010a; Zubac et al., 2017) as well as the physiological requirements of sport (Lagan-Evans et al., 2011). It is known that RWL strategies are less used by athletes of higher weight categories, meaning that the lower the category the higher the prevalence and aggressiveness of use of strategies for RWL (Kinningham and Gorenflo, 2001; Alderman et al., 2004; Artioli et al., 2010b; Reale et al., 2016b).

Finally, no previous studies have reported the use and type of strategies utilized by athletes, the symptoms and their perception in relation to sport performance, the characteristics of the context and the actors that facilitate the RWL in a comprehensive way that allows us to understand it as a complex phenomenon in order to generate appropriate actions to prevent and contain it and its negative consequences.

Therefore, the aim of this study was to implement a holistic instrument to evaluate contextual (agents and performance perception) and psychophysiological (physiological and psychological symptoms) variables with respect to the prevalence and methods of RWL, correlated with the amount of weight loss and the relation in wrestling and tkd athletes.

MATERIALS AND METHODS

There were 160 combat sport athletes (48 wrestling and 112 tkd), 96 men and 64 women belonging to Sport Center from Mexico. Athletes of both sexes between seven and 24 years old (13.34 ± 2.89), that is, infant and youth categories, height 156.61 ± 12.67 cm and BM 48.89 ± 15.29 kg, the weight divisions were from 39 to 125 kilograms in wrestling and 27 to 68 kilograms in tkd. Participants with at least 1 year of competitive experience and accepted informed consent were included. Evaluation was conducted during the pre-competitive period. In terms of sports age, the average was 6.55 ± 2.62 years, while for the competitive age it was 5.39 ± 2.29 years. All procedures were carried out in accordance with the ethical principles and Standards of the Declaration of Helsinki 1964 and its subsequent amendments on

human research, and the current version of Ley General de Salud de Mexico. This study was approved by the Ethical Committee of Centro de Investigación Transdisciplinar en Psicología of the Universidad Autónoma del Estado de Morelos.

Instruments

Based on the previous literature, a questionnaire was created to obtain qualitative and quantitative data for the detection of the type of strategies on RWL practices that athletes have used and use, the frequency and intensity of their use, and its consequences as a change of mood and feelings and perception of sports performance during the season when experiencing weight changes and symptoms of dehydration, as well as the social environment promoting the RWL practice.

The questionnaire consists of 4 sections. The section one was based on the questionnaire of Artioli et al. (2010d) *Rapid Weight Loss Questionnaire* (RWLQ) validated with Brazilian judo athletes with Cronbach's scores of 0.98 obtained between test and retest, which was based on other questionnaires made for wrestlers (Steen et al., 1988; Kinningham and Gorenflo, 2001; Oppliger et al., 2003; Alderman et al., 2004) and the previous research of Artioli et al. (2007) and Zubac et al. (2017). Most of the questions focus on generic information (diet history, weight management practices and competitive level). Specific questions were adapted, allowing their application to combat sports. In addition, this section collects general data as well as years of practice and competitive experience of the athletes.

Section two regarded the evaluation of the people who influence athletes to practice RWL and the intensity of their influence.

Section three consisted of the report of how the weight of athletes fluctuates from the general to the competitive period, as well as the sensations they experience when they lose weight rapidly, and the perception of how this affects their performance. This part consisted of open questions.

Finally, section four, evaluated the symptoms of dehydration (Santos-Peña et al., 2006) when performing strategies for RWL 3 to 5 days prior to the competition.

An expert review was made by coaches of wrestling, judo, boxing and karate; besides, a preliminary study with 30 wrestlers, not included in the final sample, to verify the relevance and comprehension of the questions included in the questionnaire, and the relevant adjustments were made prior to their final application (see **Supplementary Material 1**).

To test the factorial structure of the *Ad Hoc* Questionnaire through the present sample, in order to obtain evidence of the validity of the three scales presented above. For this purpose, we performed confirmatory factor analyses (CFAs) using AMOS program.

In order to assess the fit of these models, we examined RMSEA (root mean square error of approximation), CFI (comparative fit index), NFI (normed fit index), TLI (Tucker-Lewis's index), and AIC (Akaike information criterion) goodness of fit statistics. The interpretation of these indexes is as follows: RMSEA < 0.08 = acceptable model; CFI, NFI, and TLI > 0.90 = acceptable model, and >0.95 = excellent model; AIC values close to 0 indicate

a better fit and greater parsimony (Bentler and Bonett, 1980; Bentler, 1990; Hu and Bentler, 1995; Dudgeon, 2004).

Table 1 shows the goodness of fit statistics of confirmatory factor analyses performed at the *Ad Hoc* Questionnaire.

Study Procedure

Athletes were summoned to the facilities of the Sport Center an hour before their training, they were asked to attend rested and fed. The application of the questionnaire was carried out collectively, six evaluators previously trained conducted the application, the athletes took ~40 min to answer. Prior to the application of the questionnaire, all participants were orally briefed on what the instrument was, and each participant of legal age signed the informed consent. For underage athletes the informed assent and consent for parents was granted and signed prior to the application session.

Data Analysis

Data analysis consisted of several steps, calculation of relative weight lost, categorization of mood states related to lost weight, and the indices of success and experience were created on basis of the original items (see below). To explore the normality of the data the Shapiro-Wilks test was performed which showed that the data did not follow a normal distribution; therefore, subsequent inferential analysis was performed by means of a non-parametric statistical test. Finally, descriptive, correlational and mean comparison analyses were performed for the different variables; see below for a more detailed description.

The calculation of the new variables was performed as follows. The relative percentage of weight lost in the athletes was calculated by dividing the weight they regularly lose prior to a competition by their regular weight during the entire season. This calculation also helped us to classify the athletes as those who lose more or <5% of their BM.

Since a questionnaire collected information by mean of open questions for the sections of mood state and perception of performance, a categorization of the participant's responses were conducted *a posteriori* for statistical analysis. The qualitative items regarding the mood state related to weight lost, they were categorized in anger, confusion, sadness, fatigue, vigor and no changes from the perception of the athletes when they practiced RWL.

This procedure helps to identify the athletes that do or do not present a specific mood state. The same procedure was performed to identify whether or not those athletes perceive a decline in their sport performance. The success index was calculated by dividing the number of medals by the number of competitions they had in the last year. Finally, the sport experience index was calculated by dividing the competitive age by the sport age.

For the analyses of the strategies for RWL, two measures were considered: (a) the presence/absence of the strategy which allowed us to calculate the sample frequency for its use; and (b) the intensity in the use of the strategy categorized into rarely, sometimes and always. For the physiological symptoms, a similar procedure was performed; however, the intensity was categorized as normal, moderate and severe. Analyses were

conducted considering the whole sample, but also separated into the two groups who lost more or <5% of their relative weight.

Statistical descriptive analysis consisted of the calculation of percentages, means and standard deviations for the prevalence of use of RWL strategies in the overall sample and the subgroups (more/less 5% of BM loss), subgroups by sexes and disciplines, the days prior to the competitions that they carry out RWL strategies, the amount of RWL strategies, the intensity of the type of strategies that they used, the physiological symptoms as consequence of RWL strategies, the emotional symptoms and the change in the perception of performance as consequence of RWL strategies, and the influence of others in using RWL strategies in the overall sample and in the subgroups (more/<5% of BM loss).

For the correlational analysis, we used the Spearman test, where the association between the relative weight lost with the amount and frequency of RWL strategies, the influence of people for use of RWL strategies, the success index, or the sport experience index, were tested.

Finally, comparisons were performed between groups using the U Mann-Whitney test to identify the differences in the intensity of the strategies that they use, the intensity of the symptoms as consequence of RWL and the influence of others to adopt this practice between the two subgroups (more/<5% of BM loss), both sports and sexes.

For the analysis of emotional symptoms, comparisons between groups consisted of the difference of the relative weight lost, the quantity of strategies and the intensity of the strategy between those participants reporting vs. participants not reporting the changes in mood state, therefore analyses were performed for each category of mood separately. For the comparisons between sexes and sport disciplines, the analysis was conducted by means of chi squared test for each mood state category. All the statistical analyses were performed using the software IBM SPSS v. 25.

RESULTS

Prevalence of RWL

The aim of this analysis was to identify the prevalence of RWL strategies among the sample of combat athletes. We found that 96% ($n = 153$) of the participants reported use of strategies for RWL, from this sample the relative weight loss was calculated only for 148 athletes. This allows dividing the sample in two groups: 57.40% of the athletes who practice strategies for RWL lose more than 5% of their BM, while 42.60% lose <5%.

The percentage relative weight lost was 5.21 ± 3.99 and the reported days prior to competitions that they carry out RWL strategies were 9.95 ± 5.92 . Finally, the range of age of onset of RWL reported was between 7 and 17 years.

A significant difference between sports were found in the greatest amount of weight they had lost along their sport career ($U = 1,266.50$, $Z = -4.56$, $p < 0.001$, $Hedges' g = 0.45$) where the wrestling athletes lose more than tkd athletes and the age of onset of RWL ($U = 433.00$, $Z = -8.14$, $p < 0.001$, $Hedges' g = 1.59$) where the wrestling athletes begin to use first the strategies for PRP than tkd athletes. No significant differences were found in terms of sex.

TABLE 1 | Goodness of fit statistics of confirmatory factor analyses performed at the *ad hoc* Questionnaire.

Factor	<i>p</i>	<i>df</i>	Absolute			Incremental			Parsimony
			χ^2/df	χ^2	RMSEA	CFI	TLI	NFI	AIC
Strategies	0.00	65 (104–39)	2.18	142.08	0.09	0.84	0.80	0.74	222.08
Influence of people	0.00	14 (35–21)	6.86	96.12	0.19	0.98	0.97	0.97	138.12
Symptoms	0.00	20 (44–24)	3.27	65.50	0.11	0.99	0.99	0.99	113.50

TABLE 2 | Percentage of athletes of wrestling and taekwondo reporting different intensity in the use of the diverse rapid weight loss strategies.

RWL strategies	Athletes using strategies, currently (%)	Rarely (%)	Sometimes (%)	Always (%)
Increased exercise	86.48	16.40	50.00	33.59
Training with plastic or thick clothes	75.67	14.28	55.35	30.35
Fluid restriction	74.32	38.18	40.90	20.90
Omit food	69.59	35.92	44.66	19.41
Spit out	61.48	20.87	50.54	28.57
Fasting	54.05	25.00	58.75	16.25
Intentionally training in hot rooms	54.05	38.75	45.00	16.25
Saunas	41.21	26.22	60.65	13.11
Laxatives	29.72	59.09	34.09	6.81
Use plastic or thick clothes even without training	27.70	53.65	31.70	14.63
Diuretics	10.81	62.50	37.50	0.00
Vomiting	7.80	28.57	71.42	0.00
Diet pills	3.90	50.00	50.00	0.00

Frequency and Intensity of RWL Strategies

This subsection aimed to explore the amount and intensity of RWL strategies. The frequency and the intensity of use of RWL strategies in both sports from the highest to the lowest are shown in **Table 2**. Despite the fact that the gradual diet, a proper and healthy form of weight reduction, is one of the most used (82.03% of which 28.12% always use it), it is observed that increased exercise and training with plastic or thick clothes and spit out, that means, dehydration strategy, are the most intense strategies (always) used for RWL. The mean amount of RWL strategies used by individuals was 5.73 ± 2.68 .

The participants reporting different intensity in the use of the diverse RWL strategies are shown in **Table 3**. Results are separated by subgroups as function of their relative weight lost, more or <5% of BM loss. Notice that the strategies are used with higher intensity in the group with more than 5% of BM loss, except for the use of laxatives (see the last column in **Table 2** “Always”).

Although from the correlation analysis there was not a significant association between the relative weight lost and the amount of strategies used, a positive correlation was found between the intensity of strategies they use and relative weight lost, specifically with the use of plastics even without training ($r_s = 0.38, p < 0.05$) and fluid restriction ($r_s = 0.40, p < 0.01$), i.e., it seems that the athletes lose more weight when these strategies are used with greater intensity.

To disentangle differences in the intensity of use of RWL strategies between athletes losing more or <5% of their BM, median comparisons between groups were performed for all the

strategies separately. Results are shown in **Table 4** where the group with more than 5% of body mass loss displayed higher intensity in the use of five of 11 strategies relative to the group with <5% of BM loss.

Differences were found between males and females where the latter have higher intensity in the use of fasting ($U = 1,534.00, Z = -3.17, p = 0.002, Hedges' g = 0.96$), laxatives ($U = 494.50, Z = -2.48, p = 0.013, Hedges' g = 0.74$) and omit food ($U = 868.50, Z = -2.99, p = 0.003, Hedges' g = 1.19$). No significant differences were found between disciplines.

Physiological Symptoms as Consequence of RWL Strategies

In terms of physiological symptoms reported when they use RWL strategies, the frequency and the intensity for the general physiological state (i.e., sleepy, sweaty, sometimes comatose/excessive inactivity, cyanotic limbs/limbs change blue) was reported with 23.80 and 48.30% for normal, and 17.50 and 9.10% for moderate in the group of more than 5% of BM and <5% of BM, respectively, and 0.70% for severe in both groups.

The rest of the intensity of the physiological symptoms are displayed in **Table 5** from highest to lowest according to the severity. As we can see, the symptoms that were presented with greater severity for the whole sample were the mucous membranes (i.e., dry or very dry mucous membranes).

Table 6 shows the percentage of participants reporting different levels of intensity of physiological symptoms as consequence of RWL strategies between the subgroups losing more or <5% of BM, the absence of tears and lack of urine being

the most severe physiological symptoms in the group that loses more than 5% of their BM. Notice that this latter group tends to show more severity in the symptoms than the group with <5% of BM loss.

Correlational analysis revealed a significant positive association between the physiological symptoms, general physiological state ($r_s = 0.24, p < 0.01$), breathing ($r_s = 0.21, p < 0.05$) and blood pressure ($r_s = 0.22, p < 0.01$) with the relative

weight the athletes lost. In addition, the amount of strategies used was also positively correlated with heart rate ($r_s = 0.18, p < 0.05$), breathing ($r_s = -0.28, p < 0.01$), eyes ($r_s = 0.28, p < 0.01$), mucous membranes ($r_s = 0.30, p < 0.01$), urine ($r_s = 0.26, p < 0.01$), and blood pressure ($r_s = 0.30, p < 0.01$).

Comparisons between groups were performed to test the difference in the reported intensity of the physiological symptoms between the groups with more or <5% of BM loss. Results are shown in **Table 7**. More severe symptoms were reported by the group with more than 5% of BM loss in the general physiological state (i.e., sleepy, sweaty, sometimes comatose/excessive inactivity, cyanotic limbs/limbs change blue), heart rate (i.e., fast and impalpable sometimes) and breathing (i.e., deep and fast).

In addition, a significant difference was found in the symptoms associated to urine ($U = 1805.00, Z = -3.01, p = 0.003, Hedges' g = 0.35$) where athletes of wrestling showed higher intensity in the symptoms than athletes of tkd. The analysis between males and females revealed differences between the symptoms associated to tears ($U = 1929.0, Z = -3.01, p =$

TABLE 3 | Percentage of participants reporting different intensity in the use of the diverse rapid weight loss strategies.

RWL strategies	+5%		-5%		+5%		-5%	
	Rarely (%)	Sometimes (%)	Always (%)	Rarely (%)	Sometimes (%)	Always (%)	Rarely (%)	Sometimes (%)
Increased exercise	5.65	10.48	19.35	30.65	19.35	14.52		
Training with plastic or thick clothes	4.63	10.19	22.22	32.41	19.44	11.11		
Spit out	5.62	14.61	22.47	28.09	19.10	10.11		
Fluid restriction	8.49	29.25	18.877	21.70	16.98	4.72		
Omit food	16.83	18.81	15.84	28.71	13.86	5.94		
Use plastic or thick clothes even without training	17.07	36.59	14.63	17.07	12.20	2.44		
Intentionally training in hot rooms	14.47	25.00	21.05	22.37	11.84	5.26		
Fasting	9.09	15.58	25.97	32.47	11.69	5.19		
Saunas	15.79	12.28	33.33	26.32	10.53	1.75		
Laxatives	21.43	35.71	16.67	19.05	2.38	4.76		
Diuretics	40.00	26.67	13.33	20.00	0.00	0.00		
Vomiting	0.00	33.33	33.33	33.33	0.00	0.00		
Diet pills	16.67	33.33	33.33	16.67	0.00	0.00		

RWL, Rapid Weight Loss; n = 148; results are separated by subgroups as function of their relative weight lost, more or <5% of BM loss.

TABLE 5 | Percentage of athletes of wrestling and taekwondo reporting different intensity of physiological symptoms as consequences of rapid weight loss strategies.

Symptoms	Normal (%)	Moderate (%)	Severe (%)
Mucous membranes	62.30	24.70	13.00
Blood pressure	76.40	14.20	9.50
Urine	45.60	47.00	7.40
Eyes	61.30	33.30	5.30
Heart rate	70.90	27.70	1.40
Tears	75.50	23.30	1.30
Breathing	78.00	20.00	2.00

TABLE 4 | Comparison between subgroups as a function of their relative weight lost, more or <5% of body mass loss and the intensity of the type of rapid weight loss strategies used.

RWL strategies	Athletes who lost ± 5% of body mass						
	More than 5%, mean rank	Less than 5%, mean rank	U Mann-Whitney	Z	p	Hedges' g	
Increased exercise	68.97	57.34	1541.50	-1.96	0.05	0.29	
Training with plastic or thick clothes	61.57	48.41	1096.50	-2.42	0.01	0.01	
Fluid restriction	66.69	42.99	766.50	-4.22	0.00	0.44	
Omit food	54.03	48.36	1126.50	-1.04	0.29		
Spit out	51.62	39.09	709.00	-2.49	0.01	0.05	
Fasting	43.03	35.46	593.00	-1.67	0.09		
Intentionally training in hot rooms	43.13	34.34	553.50	-1.87	0.06		
Saunas	30.50	26.78	340.00	-0.94	0.34		
Laxatives	22.21	21.02	200.50	-0.35	0.73		
Use plastic or thick clothes even without training	24.83	18.00	138.00	-2.01	0.04	1.09	
Diuretics	7.38	8.71	23.00	-0.70	0.48		
Vomiting	4.50	3.00	2.00	-1.11	0.26		
Diet pills	4.00	3.00	3.00	-0.74	0.46		

Bold values indicate significant $p < 0.05$.

0.003, *Hedges' g* = 0.50) where men present a higher intensity than women do.

Mood State Symptoms as Consequence of RWL Strategies

The frequency of athletes reporting the presence or absence of the diverse mood states because of the use of RWL strategies are shown in **Table 8**. The most frequent mood states were fatigue (i.e., tired, muscle pain, exhausted, without energy, weak), vigor (i.e., with energy, content, motivated), and confusion (i.e., disoriented).

Table 9 shows the percentage of athletes who lost more or <5% of their body mass reporting the presence or absence of mood changes related to RWL. Notice that those athletes losing more than 5% tend to report more frequently the presence of negative mood states.

The comparison between the groups for presence or absence of one specific category of mood state (i.e., anger, confusion, depression, vigor, and no changes) shows no differences for any category when the relative weight was compared. However, when the intensity of RWL strategies was analyzed, a significant

difference was found for the intensity of use of training with plastic or thick clothes in the mood state category of fatigue ($U = 1080.00, Z = -1.97, p = 0.04$) where the group reporting fatigue showed higher intensity in this practice.

Additionally, differences between groups in the amount of RWL strategies used by the athletes were observed for the categories of vigor and fatigue, where the group reporting the presence of fatigue used more RWL strategies in comparison with the group not-reporting that mood state category. On the other hand, the group reporting the presence of vigor showed lower amount of RWL strategies in comparison with the group not reporting this category of mood state (results are shown in **Table 10**).

Tables 11, 12 report the presence or absence of mood state in the groups of athletes of wrestling and tkd, where fatigue was the greater reported mood in both disciplines, in men and women groups. No differences in the proportion of presence/absence of the mood states were found between sport disciplines nor between females and males.

Individuals Influencing RWL Practice

In this subsection, the results of the analysis regarding the influence of others in the adoption and use of RWL strategies are shown. Percentage of athletes indicating the different levels of influence for all the individuals included as items in the questionnaire are shown in **Table 13**. Notice that in general the most influential persons are the coaches, the parents and the nutritionists.

TABLE 6 | Percentage of athletes reporting different intensity of physiological symptoms as consequence of rapid weight loss strategies divided in subgroups of more or <5% of body mass loss.

Symptoms	+5%		-5%		+5%		-5%	
	Normal (%)		Moderate (%)		Severity (%)			
Tears	62.71	60.98	18.64	29.27	18.64	9.76		
Urine	70.00	81.93	15.00	12.05	15.00	6.02		
Breathing	52.46	67.86	36.07	30.95	11.48	1.19		
Blood pressure	63.93	76.19	26.23	20.24	9.84	3.57		
Mucous membranes	45.16	43.90	45.16	50.00	9.68	6.10		
Heart rate	67.74	86.75	29.03	12.05	3.23	1.20		
Eyes	67.74	80.95	32.26	16.67	0.00	2.38		

The relative weight lost was not obtained from all participants, because five of them did not report the amount of weight they usually lost or the regular weight during the season ($n = 148$).

TABLE 8 | Percentage of participants reporting the presence/absence of mood states as consequence of rapid weight loss strategies.

Mood states	Presence (%)	Absence (%)
Anger	8.10	91.90
Confusion	17.00	83.00
Depression	2.20	97.80
Fatigue	48.90	51.10
Vigor	20.00	80.00
No changes	11.90	88.10

TABLE 7 | Comparison between subgroups (More vs. Less 5% of Body Mass Loss) of the intensity of physiological symptoms as consequence of RWL strategies.

Symptoms	Athletes who lost ± 5% of body mass					
	More than 5%, mean rank	Less than 5%, mean rank	<i>U</i> Mann-Whitney	<i>Z</i>	<i>p</i>	<i>Hedges' g</i>
General physiological state	82.88	64.13	1837.00	-3.43	0.001	0.59
Heart rate	80.90	67.10	2083.00	-2.75	0.006	0.47
Breathing	80.78	67.35	2087.00	-2.22	0.03	0.48
Eyes	78.73	69.64	2280.00	-1.71	0.09	
Tears	71.78	70.44	2373.00	-0.22	0.82	
Mucous membranes	72.84	72.24	2521.00	-0.09	0.92	
Urine	77.33	68.15	2170.50	-1.78	0.08	
Blood pressure	78.59	68.94	2221.00	-1.72	0.08	

RWL, Rapid Weight Loss. Bold values indicate significant $p < 0.05$.

The correlation analysis performed for the whole sample to evaluate the association between the level of influence of others to adopt and use RWL strategies and the relative weight lost, revealed a significant positive correlation with the nutritionist ($r_s = 0.17, p < 0.05$), i.e., the more weight lost, the greater the influence of the nutritionist.

Table 14 shows the results of the comparisons between groups for the intensity of the influence of others in the adoption of RWL strategies. Comparisons consisted of the differences between athletes who lost more or <5% of BM. No differences between groups were found, however a marginal difference ($p = 0.051$) was found for the nutritionist likely suggesting a higher influence in the group losing more than 5% of BM.

Table 15 shows the comparison between disciplines in the intensity of influence from others to adopt the practice of RWL. We found that partner influence was greater in the discipline of wrestling than tkd, but coach, parents and physical therapist were more influential in tkd respect to wrestling.

No differences between sexes in the influence from others to adopt this practice was found.

Performance Perception as Consequence of RWL

Athletes were asked to indicate whether RWL practices influence their sport performance. Responses were categorized into

negative influence or no influence. Among the athletes using RWL strategies ($n = 130$), 76.10% perceived a decline in their performance, while the 23.80% did not perceive changes.

Of 130 athletes, in the group that loses <5% of BM, 68.00% perceive a decline in their sports performance, while 31.90% mention that it does not affect them. On the other hand, of the group of athletes who lose more than 5% of their BM, 86.20% perceive that it affects their performance and 13.80% mentions that it does not have an influence.

In other hand, of 135 athletes in both disciplines, 8.88% of wrestling did not perceive a decline in their sport performance while 25.18% did. In tkd, 50.37% perceived a decline in their sport performance while 15.55% did not.

Finally, 44.40% of men and 31.10% of women perceived a decline, while 0.14% of men and 10.37% of women did not perceive changes.

Association Between Sport Experience, Success, and RWL

The aim of these analyses was to evaluate the association between the sport experience, success and RWL, to contribute to the clarification of previous contradictory findings in this regard. A negative correlation was found ($r_s = -0.18, p < 0.05$) between sport experience index and the relative weight lost, i.e., the more experience the athletes have, the less weight they lose before a competition.

TABLE 9 | Percentage of participants reporting the presence/absence of mood states as a consequence of rapid weight loss strategies divided in subgroups considering more or <5% of body mass loss.

Mood states	Athletes who lost ± 5% of body mass			
	Less than 5% of BM loss		More than 5% of BM loss	
	Presence (%)	Absence (%)	Presence (%)	Absence (%)
Anger	6.80	93.20	10.50	89.50
Confusion	13.70	86.30	21.10	78.90
Depression	2.70	97.30	1.80	98.20
Fatigue	46.60	53.40	52.60	47.40
Vigor	23.30	76.70	17.50	82.50
No changes	12.30	87.70	8.80	91.20

$n = 130$.

TABLE 11 | Comparison between disciplines in the presence or absence of mood states as consequence of RWL strategies.

Mood states	Wrestling		Tkd		X ² of Pearson	p
	Presence, %	Absence, %	Presence, %	Absence, %		
	Anger	2.22	28.14	5.92		
Confusion	2.96	27.40	14.07	55.55	2.20	0.32
Depression	0.74	29.62	1.48	68.14	0.01	0.98
Fatigue	19.11	11.02	30.14	39.70	4.97	0.09
Vigor	3.70	26.66	16.29	53.33	2.24	0.32
No changes	2.22	28.14	9.62	60.00	1.15	0.55

TABLE 10 | Comparison between groups of the relative weight loss of athletes of wrestling and taekwondo divided by the presence or absence of mood states as consequence of RWL strategies.

Mood states	Presence, mean rank	Absence, mean rank	U Mann-Whitney	Z	p
	Amount of RWL strategies used				
Anger	67.27	68.08	674.00	-0.06	0.95
Confusion	62.39	69.15	1159.00	-0.76	0.45
Depression	53.17	68.34	153.50	-0.66	0.50
Fatigue	80.57	55.98	1447.50	-3.68	0.00
Vigor	52.83	71.797	1048.50	-2.27	0.02
No changes	54.00	69.88	728.00	-1.54	0.12

RWL, Rapid Weight Loss. Bold values indicate significant $p < 0.05$.

TABLE 12 | Comparison between sexes in the presence or absence of mood states as consequence of RWL strategies.

Mood states	Men		Women		X ² of Pearson	p
	Presence, %	Absence, %	Presence, %	Absence, %		
Anger	2.96	56.29	5.18	35.55	2.60	0.10
Confusion	8.88	50.37	8.14	32.59	0.57	0.44
Depression	0.74	58.51	1.48	39.25	0.85	0.35
Fatigue	27.94	31.61	21.32	19.11	0.54	0.45
Vigor	12.59	46.66	7.40	33.33	0.19	0.66
No changes	7.40	51.85	4.44	36.29	0.07	0.77

TABLE 13 | Percentage of participants reporting the different levels of influence of others to adopt and use rapid weight loss strategies.

People who influence RWL use	No influence (%)	Slight influence (%)	Unsure (%)	Some influence (%)	Very influential (%)
Coach	14.00	13.30	6.70	26.00	40.00
Parents	25.30	17.80	11.60	19.20	26.00
Nutritionist	41.20	14.90	7.40	20.30	16.20
Partner	45.90	24.30	5.40	12.80	11.50
Physical trainer	53.40	13.50	11.50	12.80	8.80
Physician	72.50	16.10	3.40	4.70	3.40
Physical therapist	75.90	9.00	8.30	4.80	2.10

Regarding the association between the sport experience index and the intensity in the use of certain RWL strategies, our results showed a negative correlation between the sport experience index and intensity of use of saunas ($r_s = -0.39, p < 0.01$), training intentionally in hot rooms ($r_s = -0.37, p < 0.01$) and use of plastic or thick clothes even without training ($r_s = -0.51, p < 0.01$), all of them dehydration strategies.

The success index did not show significant correlations with the quantity of strategies, relative weight lost, nor the frequency of the use of strategies.

DISCUSSION

The aim of this study was to implement a multilevel evaluation of RWL practice, by means of a questionnaire, in order to understand from a multilevel point of view the factors involved in this practice and how they are associated.

Currently, strategies for RWL represent a typical and well-established procedure prior to competition in most combat sports, even knowing the harmful health risks and consequences that can even lead to death (Franchini et al., 2012).

Reports in different combat sports (judo, tkd, karate) have found a high prevalence of use of RWL (66–94%) in Israeli, Iranian and Malaysian athletes (Kordi et al., 2011; Berkovich

et al., 2016; Cheah et al., 2019). In line with previous findings, the results of our study show a high prevalence of about 96% of use of RWL strategies in the sample of Mexican athletes.

Previous literature pointed to a higher incidence of negative effects when athletes lose more than 5% of their BM (Artioli et al., 2010b,c; Franchini et al., 2012); however the incidence of losing more than 5% of BM across these populations has not been reported. One of the novelties of our study is that we differentiate between athletes losing more or <5% of BM by calculating the relative weight lost. Our results showed a prevalence of 57.4% of athletes losing more than 5% of their BM. This finding highlights the urgent need to implement actions to prevent the use of RWL strategies and their negative outcomes.

On the other hand, authors such as Artioli et al. (2010b), mention that the athletes of wrestling having a smaller number of weight categories can lead athletes to use strategies for RWL since there is a greater weight interval between them. Other authors (Kinningham and Gorenflo, 2001; Oppliger et al., 2003; Alderman et al., 2004; Viveiros et al., 2015) confirm the prevalence of 40 to 90% of use of RWL among high school, collegiate and international wrestlers.

The prevalence of use of RWL strategies in different combat sports (judo, tkd, karate, wrestling and boxing) ranges from 70 to 80% (Kordi et al., 2011; Brito et al., 2012; Berkovich et al., 2016), specifically in the study of Reale et al. (2018) were the most prevalent wrestling and tkd athletes, our results are similar to this study since wrestlers presented a prevalence of 98% while tkd athletes presented 94.60%.

In our study the mean age onset of RWL use was 9.9 ± 5.9 years with a range ranging from 7 to 17 years. This result is consistent with those reported in previous literature: in Brazilian athletes the mean age was 11.0 ± 2.5 with a range of 6 to 24 years old (Bruto et al., 2012); in the study of Kordi et al. (2011), they found a mean age of 14.2 ± 2.8 years (range 5 to 29 years); however the practice of RWL in athletes younger than 7 years old belonging to the National Collegiate Athletic Association has been documented (Oppliger et al., 2003).

It is documented that the practices of RWL strategies at an early age have a negative impact on the growth and development of the athlete, hormonal imbalance, increased risk of injury due to bone reduction and may also present a higher risk of weight management-related problems throughout their lives (Roemmich and Sinning, 1997; Kowatari et al., 2001; Prouteau et al., 2006; Green et al., 2007; Artioli et al., 2010b; Reljic et al., 2016; Nascimento-Carvalho et al., 2018). Therefore, it is important to start with actions at an early age for the development of athletes taking care of their health and sport performance.

Also, it is known that a small reduction in the amount of body fat in 7 days by means of energy restriction through partial or total reduction of food and fluids results in significant reductions in lean mass and body fluid (Jlid et al., 2013). In our study, the days prior to competitions that the athletes carry out RWL strategies was 9.9 ± 5.9 .

While in the study of Smith et al. (2001), boxers reported that prior to 7 days before competition they use active methods such as increased exercise, as the competition approaches they are

TABLE 14 | Comparison between subgroups (More vs. Less 5% of Body Mass Loss) and the intensity of influence from others to practice RWL strategies.

People who influence	Athletes who lost \pm 5% of body mass				
	More than 5%, mean rank	Less than 5%, mean rank	U Mann-Whitney	Z	p
Coach	72.31	73.50	2520.00	-0.18	0.86
Parents	76.68	66.91	2084.00	-1.43	0.15
Nutritionist	79.39	66.35	2053.00	-1.96	0.05
Partner	73.63	70.83	2392.50	-0.42	0.67
Physical trainer	77.18	69.15	2239.00	-1.24	0.21
Doctor	73.88	71.51	2437.00	-0.42	0.67
Physical therapist	74.05	67.84	217.00	-1.19	0.23

RWL, Rapid Weight Loss.

TABLE 15 | Comparison between wrestling and taekwondo in the intensity of influence from others to practice RWL strategies.

People who influence	Wrestling, mean rank	Taekwondo, mean rank	U Mann-Whitney	Z	p	Hedges' g
Partner	88.73	68.08	1691.50	-2.88	0.004	0.42
Coach	63.91	80.63	1859.00	-2.27	0.023	0.42
Parents	48.00	84.50	1122.00	-4.90	0.000	0.93
Physical therapist	63.31	77.35	1814.00	-2.48	0.013	0.40

Bold values indicate significant $p < 0.05$.

replaced by passive methods such as restriction of food and fluids, losing $\sim 5.20 \pm 0.40\%$ of their BM. This is similar to our results where the percentage of relative weight lost was 5.21 ± 3.99 .

In terms of the preferred RWL strategies by the athletes, our results are similar to those previously reported, for instance the results of Aghaei et al. (2011) and Oppliger et al. (2003) with Iranian and American athletes, respectively. They found that they commonly practice different methods for severe dehydration by the use of wet or dry saunas, training in heated rooms, and training in plastic or thick clothes, in addition to restricting fluid intake in the last hours before weighing. In the study of Oppliger et al. (2003) the primary methods of weight loss reported were gradual dieting (79.4%) and increased exercise (75.2%). However, 54.8% fasted, 27.6% used saunas, and 26.7% used rubber/plastic suits at least once a month. In our study, the main strategies that athletes used were dehydration and food restriction, such as increasing exercise, training with plastic or thick clothes, fluid restriction and omitting food. These results are also similar to Reljic et al. (2016) and Smith et al. (2001).

In addition, strategies like skipping meals, fasting, fluid restriction and spit out were the most used in Brazilian athletes of tkd who lost between 3 and 7% of their BM, these results are similar to ours (Silva Santos et al., 2016).

Common RWL methods used by Malaysian athletes were exercising more (69.8%), gradual dieting (51.1%), and training in heated rooms (20.8%) (Cheah et al., 2019), while food and fluid restriction in combination with increased energy expenditure were the preferred methods of weight loss employed by tkd British athletes (Fleming and Costarelli, 2009).

However, dividing the sample into subgroups (more/ $<5\%$ of their BM) allowed us to identify that those athletes who are in

danger because they lose more than 5% of their BM tend to use certain strategies more frequently (increased exercise, training with plastic clothes, fluid restriction, spit out, and use plastic clothes even without training) than those who lose less.

These findings allow us to have a clearer view of the strategies used and to evaluate the level of harm impacting their health and thus be able to establish a probable plan that can directly tackle and prevent negative consequences that RWL encompasses.

Previous studies list the strategies used by athletes, but just a few of them make a distinction in the number of strategies used by the athletes on the basis of the weight they are losing, i.e., whether they are losing more or $<5\%$ of BM. In our results, we found that those athletes losing more weight were frequently using several RWL strategies; therefore, we could expect a greater negative effect at muscular level, greater loss of fluids, being more likely to suffer an acute health episode. It is also known that the use of RWL strategies has a negative impact on growth and development (Roemmich and Sinning, 1997), as well as problems related to life-long weight management (Saarni et al., 2006; Artioli et al., 2010b).

Actually, the consequences of dehydration have been reported at a physical level in several studies such as Zubac et al. (2017), where they found that European boxer athletes reported muscle fatigue and/or symptoms of weakness, and onset of muscle pain caused by RWL strategies. These types of ailments could affect sport performance and especially expose athletes to injuries (Kowatari et al., 2001; Smith et al., 2001; Prouteau et al., 2006; Green et al., 2007) during competitions and even in training.

In our study the symptoms that correlated with the highest amount of weight loss were the general condition, breathing and blood pressure, reporting symptoms such as thirst, irritability,

weakness, rapid breathing, dizziness, blurred vision, and nausea. It seems that our evaluation was sensitive enough to distinguish the main physiological effects of RWL as a function of the amount of weight lost in our sample.

In addition, in our study the athletes reported a negative change in their mood state with the increase of RWL. Regarding the evaluation of mood state changes as a consequence of RWL practices in the combat athletes, we found that the group who reported vigor shows less use of RWL strategies in comparison to the group not reporting vigor. On the other hand, those participants reporting fatigue-tiredness displayed higher use of RWL strategies than participants who did not report this mood state.

On the other hand, there is evidence of differences between men and women, the latter may be influenced by anxiety generated by the existence of the weight divisions themselves, including the weigh-in process. In contrast, in men, the total emotional disturbance is affected by the practice of RWL; however, in both sexes, fatigue and tension increased when practicing RWL (Yoshioka et al., 2006). In our study, no differences were found between men and women.

In other study, Landers et al. (2001) mentions that the state of positive affection decreased when performing a food restriction hour prior to the competition. On the other hand, Kordi et al. (2011) mentions that there was an increase in fatigue and depression in wrestlers through a self-report. Marttinen et al. (2011) also mentions an increase in confusion on wrestlers. On the contrary, Seyhan (2018) mentions that there is no positive or negative effect in the mood state of vigor, anger, tiredness or stress detected through an *ad hoc* questionnaire. In our study, tkd athletes' reports more mood state of fatigue, vigor and anger, but confusion was more reported by wrestlers.

Our results indicated feeling weak, tired and with muscular pain in the lower train in athletes when using RWL strategies, and are also supported by the findings of Cheah et al. (2019) where athletes reported to perceive adverse effects of RWL on mood state; the most frequent responses included fatigue (69.2%), decreased vigor (50.8%), and muscle cramps (46.2%). Additionally, Kordi et al. (2011) found that the majority of the wrestlers who quickly lose weight reported weakness, fatigue, and myalgia.

Contrary to our results and the results of Kordi et al. (2011) and Cheah et al. (2019), Yang et al. (2018), who investigated the impact of RWL (5% within 3 days) on athletic performance associated hemorheological properties considering relevant recovery time (16 h and between simulated matches). However, it is important to mention that the sample in this study was very small involving five male athletes.

There are three positions on sport performance and RWL. The first posits an improvement in sport performance (Reale et al., 2016b; Coswig et al., 2018), the second suggests no changes (Choma et al., 1995; Yang et al., 2018), while the third supports a decrease in sport performance (e.g., Camarço et al., 2016; de Fortes et al., 2017; Zubac et al., 2017).

Our results support the last; no relationship was found between the relative weight lost quickly and the competitive success, because no correlation was found among these variables,

similar to results reported by Zubac et al. (2017). However, Reale et al. (2016b) mentions that RWL is positively related to competitive success measured by the number of medals won. As a future proposal, a longitudinal study is recommended to verify this data.

An important aspect of a comprehensive point of view of the RWL phenomenon is the social influence in the adoption of this practice. Kordi et al. (2011) reported that athletes used to receive information on weight reduction from different sources, and the most important were the coach (57%), other athletes (28%), parents (6%), doctor (3%), nutritionist (2%), and other people such as friends and athletes in other teams (4%). In our study, we found, as in the Kordi et al.' study, that the most influential person was the coach (86%), which makes sense considering the leader role of the coach in the context of the sport team. Alternatively Cheah et al. (2019) mentioned that the physical trainers and training colleagues are commonly rated as the people having the most influence on the use of RWL by the athletes. Another example is the study by Berkovich et al. (2019) in which they examined coaches' attitudes, perceptions and practices regarding RWL strategies, and they found that more than 90% of the participants reported that they usually supervise athletes through the weight loss process and recommend the gradual diet used in combination with dehydration.

Impressively, following the influence of the coach, our results showed that parents (74.7%), and nutritionists (58.8%) are the second and third most influential persons to adopt RWL strategies, respectively. Our results regarding the role of the parents on RWL adoption may be due to a combination of the athletes' age (7–24 years) which cover the child and youth categories and the context-related implicit and explicit cultural rules where parents play a fundamental role in the young athlete's behavior. These context-dependent differences influencing RWL should be considered in the design of strategies for the prevention of RWL practices.

In the study of Park et al. (2019), they reported that athletes who used more strategies for RWL mainly received the influence from social networks, while the athletes who used fewer strategies received nutritional advice. Our study differs in that the nutritionist was one of the most influential people for the adoption of RWL strategies and the physical trainer was the person who was least influential for the adoption of this practice. Our hypothesis is that they who are most concerned about sports performance and know the negative consequences of practicing such strategies.

Artioli et al. (2010b) reported that the main structural factors driving weight loss behaviors are the weight grading system, programming and organizing patterns for competitions. Therefore, other authors mention that RWL could be eradicated by changing the rules of competitive events (Alderman et al., 2004; Artioli et al., 2010a,c; Pettersson et al., 2013; Khodaei et al., 2015; Brandt et al., 2018; Reale et al., 2018; Berkovich et al., 2019).

Considering how difficult this proposal can be, we are committed to educating athletes from an early age as proposed by Calvo-Rico et al. (2013). Since such practices are rooted in the culture of sport, particularly in combat sports, psycho-educational interventions and programs must be created

focused on coaches and by creating a sense of identification among athletes, with the support of social figures and influential sport mates, in the behavior of athletes, considering that the people who have the most influence in the teaching of strategies are usually the coaches and former athletes and because the coach is generally the most frequent source of information for athletes.

Educational programs should focus on providing coaches with explanations of how to adequately advise athletes for healthy weight management (Kiningham and Gorenflo, 2001; Kordi et al., 2011; Pettersson et al., 2013; Dubnov-Raz et al., 2015; Khodae et al., 2015; Do Nascimento et al., 2020). Interventions of this type should act from a multidisciplinary approach, considering the relevance of the associations of all the factors involved.

The team should involve a nutritionist (which, in our study, showed an important relevance in RWL adoption), physician, physiotherapist, physical trainer, etc., in order to reach a successful outcome. Likewise, parents must be involved, since they have a higher intensity of influence for the adoption of RWL strategies, and it is known the parents also have a higher influence in the development of the athletes, especially at younger ages (Gimeno-Marco, 2003).

The relevance of our study is that this approach allowed us to create a comprehensive view of RWL in the sport of wrestling and tkd in Mexican athletes, at individual and group levels. Among the advantages of our study we could highlight: the identification of subgroups losing more or <5% of their BM; the number of strategies they use, as well as the severity of the use; evaluation of the incidence of the practice, not only the physiological effect, but also at psycho-emotional and the perception of the sport performance, providing information that contributes to the dispute about whether or not RWL influence performance; and finally the measure of the level of influence of others to adopt RWL practices.

Furthermore, this study allowed us to obtain a clear picture about how all these factors are related. The relevance of the latter lies in the design and implementation of socio-educational and psychological interventions and programs aimed to prevent RWL practices and their negative effects. Taking back our study the effectiveness of these programs depend on an adequate and comprehensive diagnosis and understanding of the interaction of these factors (Brown et al., 2011; Holmboe and Durning, 2020). These programs should have as main agents the coach, parents and nutritionists, and not only the athlete, from a multidisciplinary perspective.

Finally, our study may constitute a pioneering study for others, where comprehensive evaluation with objective and longitudinal measurements should be proposed, reducing the risks in the athlete's health and optimizing

his/her sport performance through the implementation of psychoeducational programs.

LIMITATIONS

Since in our study weight variables were self-reported, it is important for further studies to obtain an objective measure of the weight variations along the season. Also, the age range in our study confirms the early adoption of RWL strategies, as previously reported in the literature, however it is important, when social influence or mood state are evaluated, to consider the influence of age and psychological maturity on these dimensions; further studies could analyze this phenomenon by age groups. Finally, just having two sports makes it necessary to compare with other disciplines.

DATA AVAILABILITY STATEMENT

The raw data supporting the conclusions of this article will be made available by the authors, without undue reservation.

ETHICS STATEMENT

The studies involving human participants were reviewed and approved by Ethical Committee of Centro de Investigación Transdisciplinar en Psicología of the Universidad Autónoma del Estado de Morelos. Written informed consent to participate in this study was provided by the participants' legal guardian/next of kin.

AUTHOR CONTRIBUTIONS

CC-P, JS-L, and JL-W contributed to the conception and design of the study, organized the database, performed the statistical analysis, and wrote sections of the manuscript. CC-P contributed to the data collection and wrote the first draft of the manuscript. All authors contributed to the manuscript revision and read and approved the submitted version.

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SUPPLEMENTARY MATERIAL

The Supplementary Material for this article can be found online at: <https://www.frontiersin.org/articles/10.3389/fsoc.2021.637671/full#supplementary-material>

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“I don’t Teach Violence, I Teach Self-Control”; The Framing of Mixed Martial Arts Between Mental Health and Well-Being

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This paper draws on conceptual and analytical tools from cultural sociology to analyze media representations of the MMA right after the murder of a twenty-year-old boy, that took place in a small village in central Italy by a gang of young men, two of whom frequented a MMA gym. While often characterized as violent and uncivilized, MMA has a core following of fans who watch and practice MMA out of an interest in the effects of the sport in terms of health and well-being. Through in depth qualitative analysis of MMA media discourse offered by traditional and new media, this paper explores the way the MMA media constructs symbolic boundaries around different kinds of fights inside and outside the gym, through aesthetic and moral evaluations based on the hierarchical ‘distinctions’ between “violence” and “health” as possible outcomes of the MMA training process. Particularly, we carry out a discourse analysis based on Italian Newspapers, Magazines and Facebook groups dedicated to MMA, through which we frame the multiple representations of the discursive production built around the MMA in Italy. Our aim is to identify the different ways in which the discussion about this event provided narrative paths and points of view about the meaning of MMA, focusing on the reputational consequences concerning health, especially in its physical and mental expressions. This research may prove useful for scholars interested in MMA, culture, and sports media studies.

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INTRODUCTION

As martial arts are widely practiced, their effects on physiology, morphology, immunology and neurology should be further investigated in order to help people select the best discipline or style to achieve their goals (Bu et al., 2010). Indeed, Martial arts and combat sports (MACS) are believed to have a particularly significant educational potential, linked to several desirable values that provide positive models of health behaviours (Kotarska et al., 2019). For example, a notable contribution in terms of empirical research is the recent monograph by Fuller and Lloyd (2019). However, although these authors have explored the many benefits of physical training within different martial discipline systems, the sociological problem of health remains an extremely complex issue to conceptualize, especially from a cultural perspective (Channon et al., 2020).

Thus, the relationship that intertwines MACS cultures with issues of health and well-being is not only variously articulated but also, often, ambivalent (Blue, 2017; Kotarska et al., 2019). This, in fact,

is mainly due to the issue of categorization and classification of individual disciplines and the related styles according to their effects on different body systems and levels of contact (Bu et al., 2010), as well as ways of standardizing assessment criteria in terms of health effects for individual martial arts. In short, what is at stake is precisely the construction of different competing philosophies and pedagogies of health within the huge spectrum of MACS (Jennings, 2014).

In this paper, therefore, we try to analyse the issues of health and well-being inside a particular martial sector of Mixed Martial Arts, starting from the discursive construction of its disciplinary boundaries. In fact, Mixed Martial Arts (MMA) is a controversial sport, since the health effects for practitioners—and spectators—have been the subject of controversy and debate since its inception (Andreasson and Johansson, 2019). Concerns, in fact, have mainly focused on the violent nature of MMA and, consequently, the related training pedagogies that formed its background. This point of view, therefore, allows the question of health as a controversial cultural form to be addressed directly. As we try to articulate in the following, unpacking the approach of MMA media from the perspective of health pedagogies allows us to see how some of their “cultural” work can lead to the social construction of a particular definition of health and well-being.

In the case of MMA, which is a recently developed sport, members of the media are in many ways responsible for this construction, invocation, explanation and representation of a pedagogical system. The MMA media classify, in fact, the “good” and the “bad”, the “beautiful” and the “strange”, the “insufficient” and the “excessive”, and thus stipulate the terms for their classification (Brett, 2017). This evaluative work of MMA media creates an entire symbolic world of discourse that operates outside of the fights themselves, a world that is eventually invaluable in understanding MMA as a pedagogical system.

To this aim, the paper is structured in three sections: the first part of the article frames the theoretical landscape in which we insert our proposal, declining the concept of cultivation (Pedrini and Jennings, 2021) from the point of view of the analysis of the discourse and social representations of the media that are responsible for presenting MMA in Italy to the mass audience and to the smaller circle of fans of the sector. Here we discuss how the (un)healthy pedagogies of martial arts and combat sports are framed in the specific case of MMA. The second part presents the boundaries of the research design, illustrating the specific case study we chose for our analysis and discussing the methodological choices in terms of data collection and analysis. The third part, in which we present the empirical results, is divided in two: an initial presentation and discussion of the framing operations of MMA by the legacy journalism; then, a second part of in-depth analysis of the discussions by experts and fans of the sector, occurred in UFC Italia, the most important Facebook group focused on MMA in Italy. In conclusion, we introduce a few questions implicated in our article about the relationship between health and martial pedagogies and address future possibilities for more research to be conducted in this line with a media-framing lens.

FRAMING UNHEALTHY PEDAGOGIES: THE CASE OF MMA

In his seminal work on the genesis of a bodily pedagogy within a boxing gym, Wacquant (2004) focused in depth on the “expertly savage” practices that lead towards the transformation of body and soul into a fighter’s habitus. However, in the contemporary landscape of the “martial arts and combat sports” (MACS), beyond a myriad of systems of embodied movements, there is also a diffuse will to knowledge (Foucault, 1972) which transpires in an assorted Universe of philosophies and pedagogical systems that constitute, accordingly, diverse objects of disciplinary knowledge therefore identified as specific martial arts or combat sport.

In this sense, analyzing the “light” and “dark” sides of martial pedagogies (Jennings, 2019), it becomes significant to keep an eye also on the discursive procedures through which the content of these disciplines is publicly discussed and framed. It is crucial to understand such pedagogies, therefore, not only as systems of enacted practices but also and simultaneously as discursive formations (Foucault, 1972) that progressively establish bodily health and well-being as the goal of such practical, everyday processes of cultivation (Pedrini and Jennings, 2021).

Notably, within martial arts studies (Bowman, 2018) the question “how might martial arts and combat sports be good or bad for health?” has begun to be posed and discussed. However, on the one hand, the question has only been marginally addressed as a by-product of the broader discussion on the topic of violence and the processes of sportization of combat practices (Elias and Dunning, 1986; Bottenburg and Heilbronn, 2006; Spencer, 2009). On the other hand, more recently, the issue of practitioners’ health and well-being has been directly addressed (Jennings, 2014; Fuller and Lloyd, 2019) while still remaining within a framework that encompasses health as an embodied dimension.

However, while it is certainly important to overcome a reductionist definition of health, locked within the physiological and biomedical paradigm, in order to investigate the practical and embedded dimension of practices (Pedrini and Jennings, 2021), in the same way, we consider it equally crucial to investigate the construction of “(un)healthy pedagogies” (2021: 5) from the perspective of their discursive production, thus unfolding the very procedures of public definition of health (included what is excluded from such a definition), within the worlds of MACS.

In short, from this point of view, it is relevant to ask how the cultural legitimacy of a sporting practice is discursively constructed, starting from the conflicting representations of its constitutive rules (Coulter, 2009) regarding especially the methods and contents of its teaching.

This aspect is particularly crucial in the case of MMA in contrast with a combat sport such as boxing, for example. As Brett vividly stated, in fact: “while the legitimacy of the craft of boxing is almost taken for granted, for those outside this sphere of “internal legitimacy” of MMA, treating violence as an artistic and aesthetic endeavour may strike them as counterintuitive, offensive, or even morally wrong.” (2017: 16).

Similarly, while the pedagogical procedures and devices of boxing are by now institutionalised and framed in a consolidated media imaginary (Sheard, 1997; Rhodes, 2011; Vogan, 2020), in the case of MMA the social representations of their pedagogies are still polarised and debated. In fact, they usually split between a vision on the part of casual spectators more attracted to the taboo aspects of transgressing rules and conventions; and that of connoisseurs and heroes of the field, committed to presenting their work in the gym as an ongoing “testing the efficacy of fighting styles and techniques, legitimising some while debunking others.” (Brett, 2017: 17).

From this point of view, the case of media framing of pedagogies within MMA is particularly relevant precisely because their difference in cultural legitimacy with of a sport such as boxing can be interpreted in the light of their different framing in traditional and non-traditional media. In fact, most of the growth in popularity of MMA has occurred in the absence of primetime broadcast television opportunities (Frederick et al., 2012), and little coverage from ESPN (Martin et al., 2014). Consequently, much of what the mass public can learn about MMA necessarily comes from the limited, but often spectacularized coverage of the mainstream media; at the same time, however, MMA ‘connoisseurs’ often look to in-depth and very specialised online sources of information.

Finally, it is precisely in these differentiated venues and through these diverse forms of representation, that those “objects of disciplinary knowledge” of martial arts and combat sports are publicly reproduced and differentiated. Hence, these discursive formations become a relevant part of the process of cultivation (Pedrini and Jennings, 2021) of different audiences (Brett, 2017), inside and outside gyms: that is to say, a process of granting certain meanings of health and well-being as specific by-products of each martial discipline.

Therefore, when we depart from the biomedical and psychological paradigm to define objects such as health or well-being, we need to analyse the specific empirical procedures through which these objects of knowledge (Foucault, 1972) are produced within specific discursive arenas. In fact, by analysing in depth how the specific rules of the pedagogical game of each martial discipline are discussed, criticized or justified, we can reconstruct the boundaries through which the object of “health” is thought as an effect of truth (Foucault, 2017) within such particular discursive field. Finally, it will be this unique versions of health and well-being that will constitute the pedagogical goal of the discipline, consequently adapting the *cultivation* of the bodies of its disciples (Pedrini and Jennings, 2021).

Certainly, in the current landscape of sociological studies, there is a significant amount of literature devoted to exploring the topic of media framing in the context of combat sport (Messner & Solomon, 1993; Hutchins and Rowe, 2012), and there is also an emerging and increasingly consolidated sociological literature dedicated to MMA (García and Malcolm, 2010; Bottenburg and Heilbronn, 2006). However, there is a relevant lack of studies that explicitly focus on the intersection of these two issues, albeit with some relevant examples (Naraine and Dixon, 2014; Brett, 2017). However,

while these works reveal the variety of investigations within the sphere of media framing and sport, they do not contribute much to our understanding of the effects of MMA media framing in fabricating (un)healthy pedagogies.

Therefore, the purpose of this research is to examine such framing in the context of MMA in the Italian context¹, thereby extending the scope of media framing to this specific martial discipline within modern MACS.

Research Design

On the night of September 6, 2020 Willy Monteiro, a 20-year-old cook, is killed with kicks and punches in Colleferro, a town of 20,000 people in the province of Rome. The investigations very quickly identify those responsible for the murder in four boys, two of those regularly attending an MMA gym in the same town. This event caused a great media clamor in Italy, which allowed the discourse on MMA to be at the center of the public debate for weeks. Accordingly, exploring the media framing of MMA attached to such a particular case allows us to call in question how the social construction of public knowledge of this martial art has relevant effects in the process of producing (un)healthy pedagogies.

The first part of our research focuses on analyzing how MMA’s presence was framed in the early days of the journalist’s coverage after the murder. The second part delves into how a community of MMA amateurs, gathered in the most important Facebook group dedicated to MMA in Italy, talk about the possible responsibility of this particular martial discipline in the commission of the crime. The first part of our media analysis focuses on what are generally referred to as legacy media: outlets of traditional journalism, generally paper-based, and also online platforms owned by the same traditional press. The data of this first round of analysis is taken from a range of news outlets accessed via the Internet. The sites were located through Google Italia searches of MMA and Colleferro from September 7, 2020 to September 11, 2020.

The websites returning hits from these searches included various different media outlets, such as national, regional, and local And the online services of local newspapers and television shows; sport and MMA-specific news websites. We held these various different news outlets to be significant sites through which public discourse about the Colleferro’s case takes form and begins to circulate.

All this first set of data thus gathered were sourced and translated into English. We then used a thematic analysis approach (Brawn and Clarke, 2019) to code the data. After identifying a broad range of themes pertinent to these theoretical issues, we eventually reduced these into three

¹At the beginning of 2010, FILA (International Olympic Wrestling Federation recognised by the IOC–International Olympic Committee) introduced amateur MMA, which came under the management of IMMAF (International Mixed Martial Arts Federation) in 2014, which is supported and funded by the UFC. In Italy, MMA is managed by the Italian Grappling Mixed Martial Arts Federation (FIGMMA) which is internationally recognised by IMMAF and in Italy by the CONI Federations FIJLKAM (Federazione Italiana Judo Lotta Karate Arti Marziali) and FIWUK (Federazione Italiana Wushu Kung Fu).

overarching analytical categories, which will be detailed in the next paragraph.

The second part of our media analysis focuses on analyzing the discussion of the Colferro case on the most important Italian Facebook group dedicated to mixed martial arts in Italy: UFC Italia. The choice of mapping the discourses on this Facebook group allows us to understand how the themes proposed by the traditional press have been received, deepened, and eventually rejected by a group of MMA fans in the sense illustrated in the previous paragraph.

We selected this particular group as a significant site for a case study after 2 months of analysis of digital discourses related to the murder. Although these discourses have developed in all major digital platforms (Twitter, Instagram, Youtube, Reddit), we eventually selected Facebook as the most significant platform where to map this type of discursive production, especially through the participation in thematic and closed groups². Particularly for potentially very sensitive topics, such as people's physical and mental health, the closed and private group allows people to express themselves more easily, feeling more protected by a higher level of privacy (Bradshaw et al., 2020). UFC Italia, in particular, is a private Facebook group created on September 20, 2008; it is now composed of 21,997 members and it is actually the largest Italian group dedicated to this discipline on this platform. We selected all the posts dedicated to the event of Colferro produced from the date of the murder until 4 months later. There were eight posts analyzed with a total of 2236 comments.

We analyzed comments based on media frame analysis (Scheufele, 1999), a research method that interprets the often implicit-meaning-of textual data through a process of systematic coding and identification of recurring analytic categories or frames. The frame, in this context, can be understood as a set of interpretive packages that give meaning to a problem, framing some aspects of reality and neglecting others (Gamson and Modigliani, 1989). We thus examined all the comments to the posts, to identify the different ways in which users make sense of the killing of Willy Monteiro, trying to highlight the discourses related to mental health and the potential effects of martial discipline on well-being.

Framing the Colferro Murder: Old Media Scenario

The murder at the center of our article takes place around three in the morning of September 6, 2020. The first newspapers to break the news are therefore the Sunday online editions, since the paper editions did not have the material time to publish the news until the following Monday, September 7. Since the very first articles published, it was clear that the attendance of an MMA gym by two of the four components of the beating is a relevant criterion of newsworthiness. In the first days after the event we can clearly see three trends in reporting this event.

The first one is when the attendance of the MMA gym is put at the center of the news, but in this occasion the newspaper articles were not built on a strong condemnation of the discipline. Yet, the event serves almost as an excuse to explain some general features

of this discipline, until then largely unknown to most of the Italian public. As we saw in the introduction, in fact, most of the growth in popularity of MMA has occurred in the absence of primetime broadcast television opportunities, therefore the mainstream press essentially took this opportunity to inform the general public of the very existence of this martial discipline.

An example of this first descriptive kind of framing is given by the following three different articles from the "Corriere della sera", "La Repubblica", and "Wired.it"³ published on September 7 and September 8:

Wrestling and Thai boxing: this is Mma, the sport of the brothers arrested for the murder The Mixed Martial Arts, practiced by the Bianchi brothers, accused together with Mario Pincarelli, 22, and Francesco Belleggia, 23, of having massacred with punches and kicks a young twenty-one year old who had intervened to defend a friend [these Martial Arts] come from Brazil and are a sport that mixes elements of many different disciplines. (La Repubblica September 7, 2020).

What are MMA, mixed martial arts?

The answers to all the questions about Mma, the mixed martial arts of which there is much talk after the killing of Willy Monteiro Duarte in Colferro (Wired, September 8, 2020).

The Bianchi and Mma, what is the fighting art practiced by the two brothers arrested for the death of Willy Monteiro.

The brothers Marco and Gabriele Bianchi arrested in Colferro are practitioners of the discipline in which punches, kicks, wrestling holds are allowed. "In the gym, there is no racism" (Il Corriere della Sera September 7, 2020).

This very neutral frame, however, is soon overridden by one that is decidedly more guilt-ridden. In the following articles, for example, violence already appears as almost the main by-product in teaching MMA:

MMA, what it is and why it's so dangerous. "But on the street, violence is banned."

For a few days now we have been talking about Mixed Martial Arts, MMA for short, the discipline of which the young brothers Marco and Gabriele Bianchi, arrested with two other boys for the murder of Willy Monteiro Duarte in Colferro, were fans. But what is MMA, why is it so dangerous and what are its rules? (Leggo.it September 8, 2020)

Mma, what it is and why it is considered a violent and dangerous sport With the murder of Colferro have become synonymous with violence and social degradation. What are the MMA, also known by the

²For an overview of the issues concerning doing research on closed groups and ephemeral content see Boccia Artieri, Brilli, Zurovac (2021)

³"La Repubblica" and "Corriere della sera" are the two main national newspapers in Italy. Wired.it is the Italian version of Wired.com.

name of Mixed Martial Arts (Notizie.it September 8, 2020).

These articles operate by linking the idea of physical “danger” and “social degradation” to MMA world, assuming violence as one of the most relevant components of MMA pedagogy, even though they do not fully embrace the idea that MMA is a sport that is responsible for what happened in Colferro. This sort of framing is also embedded by a series of articles that, taking almost for granted a part of MMA’s responsibility in the incident, work explicitly fabricating a polarization between the dangerous and physically worrying world of MMA, on the one side, and the “brave and generous” world of honest citizens, on the other side. Interestingly, though, most of these articles actually take their cues from a Tweet by the editor of “La Stampa”, Massimo Giannini.

Hello #Willy, brave and generous boy. But now, having punished the two exalted men who massacred him, do we want to ban certain “martial” disciplines and close the related gyms?

Soon after, this tweet also becomes a newspaper article, on the newspaper edited by the author of the tweet:

“Banning violent sports,” online controversy erupts (La Stampa September 8, 2020).

Following this article, essentially based on the tweet published by the director of the same newspaper, we see the publication of several articles which, while working on dismantling the previous thesis about MMA effect on good citizens physical health, eventually raised on mainstream media the debate around the relationship between MMA teaching and physical violence.

Colferro, identifying martial arts with violence is unfair. In fact, the opposite is true (Il Fatto Quotidiano September 10, 2020).

Willy and the demonization of martial arts, the crazy debate that wants to ban MMA (Il Riformista September 9, 2020).

After punishing the two brutal men who massacred Willy, do we want to ban certain “martial” disciplines and close their gyms?” Massimo Giannini’s tweet triggers online controversy—“if a carpenter commits a murder, do we criminalize all carpenters?”—“there is no connection between mixed martial arts and those two morons”—in the gym of the two arrested: “this is not the fight club” (Dagospia August 8, 2020).

The fact that the “La Stampa” article obtained basically only criticism is particularly interesting, especially considering that, as we’ll see in the next paragraph, the same argument treated in “La Stampa” article will receive instead higher consideration in the Facebook group of MMA fans.

Another way in which the connection between MMA teaching procedures and the tragic event is constructed is through the interview of the privileged witnesses or experts. This role is

offered in the first days of the journalistic coverage by two kinds of people: gym instructors and some of the most famous MMA Italian fighters.

Colferro, the MMA champion Di Chirico: “Fighter? They look more like poachers. They have nothing to do with sport”. (Il messaggero September 9, 2020).

Sakara: “Colferro? Rotten apples. But the MMA are not a scapegoat”.

“Legionarius” after the murder of young Duarte: “In 4–5 heavier against one, what mentality is that? Young people need teachers, examples, values. And in this sport do not look at McGregor but Miocic”. (La gazetta dello sport September 8, 2020).

Death of Willy in Colferro, the MMA champion Vettori: “4 cowards against 1”. (Le Iene September 8, 2020).

As we can see, all these interviews are roughly based on the same script: the fighters claim that “they” (a general they, here meaning the traditional press) are criminalizing MMA, but the responsibility lies with the individual protagonists of the affair and not with the martial art as a system of teaching. On the other side of such a picturing, though, mainstream media manage to tell the role of the teacher in this story, through interviewing the teacher of the two Bianchi brothers of, Luca Di Tullio, who is very willing to give interviews in the days immediately after the incident.

Colferro, the trainer of the attackers: “My MMA does not teach violence. I am saddened, I will go to Willy’s funeral”.

“I am not the master of killers,” says Luca di Tullio, MMA instructor of Marco and Gabriele Bianchi, two of the attackers of Willy, the young 20-year-old killed Saturday night in a beating. “MMA does not teach violence” continues the instructor visibly shaken by the event. (Il Fatto Quotidiano September 8, 2020).

Homicide Colferro, in the gym of Willy’s attackers. The MMA instructor: “I teach non-violence, I don’t train killers”.

Luca Di Tullio is the instructor of the MMA Academy in Lariano, the gym where Marco and Gabriele Bianchi trained, accused of the beating of Willy Monteiro Duarte, the 21-year-old boy who lost his life in Colferro. “They all attack me but I am not the master of the killers, I teach discipline,” he repeats between tears. (La Repubblica September 8, 2020).

Then, by building the debate against the idea that MMA is somewhat equal to violence, both MMA champions and instructors reinforce the idea that MMA pedagogy is just the opposite of physical violence and uncontrolled use of the body. Thus, as their instructor says: “I do not teach violence, I teach discipline” he actually intended the latter as

the exact opposite of violence, that is self-control of one's own body and being able to defend oneself from the menace of uncontrolled ferocity.

In the next paragraph, we will see how these issues are discussed in the Facebook group at the center of our analysis. Particularly, we will see how the frame of the responsibility of the teacher is just one of those that arouses the liveliest discussions, and how the group will not offer a univocal vision of this topic, dividing into absolutory and guilt-ridden positions.

Framing the Colleferro Murder: The Debate on Facebook Group "UFC Italia"

The first frame on which we will focus is centered on the medicalization of gym attendance, particularly on the assessment of supposed psychological fitness at the time of the beginning of classes. This is a theme proposed by many comments, some of which, such as the following, call for the input of scientific experts to assess as scientifically as possible who is attending a gym⁴:

We need to bring in studies on the physiology of ethics, neurocognitive area, neurophysiology of aggression, behavioral neurobiology, etc. Personal defense? Have you ever seen a seminar in a gym with a lawyer, a judge, a police commissioner, or a psychologist? Friends, until we get out of the "volemose bene"⁵ we will always be unprepared for all this that we are experiencing⁶

Firstly, it is quite interesting how the medicalization frame has been almost completely absent from mainstream media coverage. In this case, what we can see is how although the discussion in the Facebook group necessarily takes place among enthusiasts of the discipline, this does not exclude the possibility of creating even more profound boundaries than those fabricated by the traditional media system.

In fact, MMA amateurs demonstrate here that they are indeed very familiar with all the issues that martial discipline can bring to the health and well-being of its participants. Actually, they are indeed more expert in create differentiations in such a field.

One good example here, is the theme of psychological help for athletes. It started from commenting the episode of the murder and then quickly extends to cover other issues, one of the most important being domestic violence:

Sorry, we must be serious: think about how many MMA related athletes get arrested for domestic violence. The case of the Bianchi brothers is just the tip of the iceberg.

Ok the Bianchi brothers committed murder, so now the media will be all over MMA for a few days. Of course, now the media will piss us off, but how many cases of domestic violence do we see every year that have MMA fighters as protagonists? Maybe more in the United States, but we cannot deny that there is a problem of psychological health and welfare of life within the environment of MMA.

Yes of course this case is crazy, and we can't judge all of MMA in light of a murder. But it's not the first time we have heard of violence related to MMA, to me the most disgusting ones are those related to domestic violence. In the gyms there must be psychologists.

Following the comments of the group participants, what distinctly emerges is the visualizing the MMA pedagogical environment as straightforwardly unhealthy, especially psychologically. Although the discussion starts from the case of Colleferro murder, in fact, we can see how other details apparently unrelated to such an event come to light that help to delineate a generally not very encouraging picture. The mainstream mediatization of the murder of the Bianchi brothers may let think that it has been a somewhat isolated case in the landscape of MMA commentators and amateurs. Yet, dozens of comments focused on cases of domestic violence and abuse, that promptly appeared in the social media arena, starting from the discussion of the murder, portray a situation where psychological problems are widespread even when the mainstream media turn off the spotlight. The case of the Bianchi brothers thus acts here almost as a proper excuse to broaden the discourse to other aspects where MMA seems to generate health issues. Moreover, it helps to raise the question of the need for a presence of constant psychological support for athletes.

We see in the next comment, for example, how the request to have a psychological interview at the time of entry into the gym would thus favor the teacher's work, so as to help him decide who can and who cannot attend. In this way, the teacher's responsibility would be confirmed, but in some way also limited by the help of a psychological evaluation:

It would take (for any sport) a talk with a psychologist before starting to practice, this could also help coaches to know better the kids and avoid these episodes.

The second frame, link to the previous one, is the one focused on who or what to blame for the incident. This frame is divided into two subframes: one, narrower, that places the responsibility primarily on the teacher in the gym, and the second, more substantial, that discusses whether responsibility can be placed on the sport itself. The discourse on responsibility, whether it is directed on the teacher or on the martial art itself, is one of the places where we best observe the process of cultivation in action. It is here, in fact, in attributing whose responsibility it is that the practice of this discipline is framed as healthy and not harmful—that is, the opposite of physically dangerous and

⁴All comments reported here are taken from posts dedicated to the murder of Willy Monteiro published in the Facebook group UFC Italy. The link of the closed group is <https://www.facebook.com/groups/25610244838>

⁵"Volemose bene" is an expression of the Roman dialect that indicates the attitude to pass over problems, not to create others.

⁶One must consider that this is a group dedicated to MMA and UFC fans, so the prevailing opinion which is an absolutist one for the martial art should not come as a surprise. However, as we shall see, many critical voices have been raised.

cruel. Among the few comments that tend to attribute at least a portion of responsibility to the teacher there are, of course, comments from teachers themselves, who passionately explain how in their daily practice they tend to try to limit gym attendance to certain individuals they considered dangerous:

I am an instructor of MMA and I know all my boys, both good and not so good. The master as well as teaching the discipline must teach respect for people and respect between students. My teacher as well as being a great instructor is a mentor and a teacher of life. He has taken boys off the streets. He has made real men of value and respect with a few words and a lot of sacrifice and teaching.

As this kind of comments make clear, the idea of being “a teacher for life” stands exactly in front of the professional ability to transform “bad boys”—that is individuals dangerous for others and for themselves—in “real men of value” teaching them “respect for people”. Again, but even more detailed, the achievement in participating in MMA training is precisely to reach a “healthy” place defined as the opposite to the mainstream discourse of uncontrolled cruelty and unsafe state of mind which is the prevailing definition of bad western citizens.

In contrast, comments focusing on the responsibility of the sport itself are numerous and have a variety of nuances. Nearly all of them respond to other comments that propose an essentially absolutory position, where the sport is treated neutrally, as in the comment below:

What in the world does martial arts have to do with anything? What? These guys are gutless cowardly bastards! No matter what discipline they practice! I myself practice combat sports and am a respectful and decent person. As are a myriad of people who practice martial disciplines! Martial arts are about respect, honor, sacrifice, dignity, discipline.

These scum are not even worthy of the name they bear! They are a disgrace to MMA and all combat sports. I hope justice is served and they are disbarred for life from all sports.

In contrast to this opinion, we find dozens of comments that, sometimes very subtly, other times decidedly more directly, question the fact that the practice of this martial arts is not so neutral, and that perhaps it may have had a bearing on the training of the two murderers:

However, if one has attended combat sports gyms, he knows that, deep down, the criticisms that are coming are not so far from the truth.

You have to be realistic. Personally, in 15 years of experience with the gyms I have known many good guys but so many hotheads, starting with the coaches. In the gyms of MMA, boxing, k1 etc. if you make a survey of how many people had problems for complaints for attacks etc. you realize that from the outside they see us

as we are. while we inside, do not want to see the reality as it is.

This is starting from the coaches, to the amateur boxers until you get to the professionals!!!

The professionals who have never had any problems with the law related to violence, you can count them on two hands. so this is it!

One interesting distinction to solve this quarrel between the responsibility of MMA in creating unhealthy pedagogies is the one about the boundaries between “combat sports” and “martial arts”. One of the characteristics attributed to martial arts, as we have tried to show so far, is to teach, besides the art of combat, a philosophy of life, which instils respect for the opponent and to behave with dignity inside but especially outside the ring. Accordingly, martial arts would thus be a place where body and mind both benefit from a continuous training that tends to improve the behavior of those who adhere to the precepts that are taught. This assumption, which we have seen proposed—albeit in somewhat crude terms—in the first comment that we reported, is however challenged by those who argue that in reality MMA actually have a complex relationship with martial arts. The discussion here funnels into a series of nuances.

However, for those who stress this distinction, as recently suggested by Martinková and Parry (2021), MMA cannot be actually defined as a fully-fledged martial art, but is simply a combat sport. The absence of the component attributed to martial art would remove the spirit of respect for the opponent leaving just room for the veneration of violence:

There are Martial Arts and Martial Arts, don't tell me that MMA doesn't exalt violence and the overpowering of the opponent, Martial Arts are born for self-defense not to learn how to fight.

Let's not confuse martial arts and combat sports. In the first one a sensei can also kick you out of the gym because he knows you use the art outside the gym. In the second let's say he cares less about what you do outside the gym.

Combat sports in general certainly do not promote ethics, fellowship between human beings, philanthropy and compassion, but they do expose the animalistic part of the human being.

Here, once again, we find at work that work on boundaries through which a certain discursive partition is constructed between what is healthy defined on the basis of its categorical opposite. Unlike the case of traditional media, however, in which this partition occurred based on a more vague discourse external to the specific vocabulary of the field of MMA, in this second part something different happens. In fact, as we have seen, the specific skills of the practitioners, the multiple nuances they have to think about and describe their discipline are put at the service of a boundary work that is even more sophisticated, but that in the final analysis only traces this type of partition. The gain in terms of health and well-being activated by martial pedagogies, in short, is such only if it adheres to a certain regime of truth according to

which it is healthy that which moves away from the dimension of physical danger and lack of mental self-control. The extreme cases of domestic violence, of the psychological control needed within gyms for more dangerous subjects or, finally, of the exclusion of MMA from the authentic spirit of “true” martial arts only confirm this kind of discursive construction of healthy pedagogies within the field of MMA.

CONCLUSION

This article seeks to show the analytical value of cultural sociology for MMA—and martial arts and combat sports more generally—as well as the empirical value of MMA for cultural understanding of issue such as health and well-being. By analysing the critical, aesthetic and cognitive potential of MMA media framing (Naraine and Dixon, 2014; Brett, 2017), this article highlights their pedagogical and evaluative role, as well as the moral apparatus created both inside and outside of such a controversial sport (García and Malcolm, 2010; Andreasson and Johansson, 2019). Indeed, as we have tried to show, implicit and powerful boundaries, hierarchies and moral and pedagogical values are erected around particular types of martial disciplines, thus transforming issues of health and well-being into specific cultural stakes (Jennings, 2019; Channon et al., 2020). Thus, not only does the cultural sociology approach provide an understanding of the health pedagogies inscribed in MMA, but at the same time MMA, as a controversial and specific martial discipline, can deepen our understanding of health and wellness cultures.

Particularly, we have seen how the dramatic case of Colferro has constituted the occasion for a public debate on MMA in Italy. Obviously given that this discussion developed as a result of a murder there were reasonable expectations that the general connotation of the discourses were predominantly pessimistic. Despite this, we were able to observe an interesting difference between the coverage of the press and how this theme has been handled in the discussion between fans. While the mainstream coverage focused on producing a general blaming of the martial art as a multiplier of violent and unhealthy pedagogies, the community of fans delved more deeply into various aspects of MMA’s relationship to the physical and mental health of its participants. Notwithstanding the fact that one might expect a generally absolutist tone towards MMA from those who are its fans—though partially this has certainly been the case—this event has been an opportunity to question and explore various issues of this combat sport from those who are supposed to be more inclined to defend it (Frederick et al., 2012; Zembura and Žyško, 2015). It was in fact the potential well-being that MMA would fail to bring to their followers that eventually leads many commentators to question the belonging of MMA to the family of martial arts, which in contrast are mostly perceived

as helpful places in which to experience physical and mental growth (Fuller and Lloyd, 2019).

Although of course we have to assume that these comments were influenced by the specific news event from which the discussion arose, such judgments coming from fans, experts and connoisseurs of the discipline express neatly how the very definition of health and wellbeing is perceived by practitioners as an internal stake linked to the boundaries of the martial discipline itself. Accordingly, we discussed how the (un)healthy pedagogies of martial arts and combat sports are framed in the specific case of MMA. Analysing the discursive construction of such pedagogies, in fact, allow us to illuminate how creating bodily health and wellbeing is the goal of such practical, everyday processes of cultivation (Pedrini and Jennings, 2021). Even though this process is composed by moments of enactment of practices, we have tried to show how it is also inevitably caused by the discursive procedures of public definition of health, within and without the worlds of MACS.

Thus, it will be this distinctive definition of health and wellbeing that will establish the pedagogical goal of the discipline, consequently adapting the practices of disciplining the bodies of its adherents (Pedrini and Jennings, 2021). In this line, the discourse on responsibility of obtaining (or not) such a goal, whether it is set on the teacher or on the martial art itself, is one of the places where we best observe such process of cultivation in action.

Hence, understanding how health is framed in relation to a specific disciplinary system enlarge and enrich cultural approach to health based on embodiment and practice (Blue 2017; Pedrini and Jennings, 2021), while calling in question the approach that is usually grounded on the idea of “social determinants” of health (Baum 2008; Cynarski et al., 2017). The approach we have tried to address, in fact, has been to investigate the socio-cultural-martial context in which health behaviors are evaluated and produced, exploring the availability of various health resources including discursive fields promoting—or obstructing—articular healthy or unhealthy pedagogies with their attached ideal notions of what a healthy citizen might be (Thompson and Kumar, 2011).

DATA AVAILABILITY STATEMENT

The original contributions presented in the study are included in the article/Supplementary Material, further inquiries can be directed to the corresponding author.

AUTHOR CONTRIBUTIONS

LD and OR contributed to conception and design of the study. OR organized the database. LD wrote the theoretical and methodological sections of the manuscript. All authors contributed to different manuscript revisions.

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