

2. Literature Review

‘[L]ike dwarves perched on the shoulders of giants’¹⁰
(Bernard of Chartres, Unknown; translated in Salisbury, 1955, p. 167)

For Hart (1999, p. 13), a classical literature review is ‘[t]he selection of available documents [...] on the topic, which contain information, ideas, data and evidence written from a particular standpoint to fulfil certain aims or express certain views on the nature of the topic and how it is to be investigated, and the effective evaluation of these documents in relation to the research being proposed.’

In general, the literature regarding the healthy benefits of sport on health has an extremely voluminous and old tradition (Waddington, Malcolm, & Green, 1997, p. 165)¹¹ and it is, at the same time, often contradictory (S. Becker, 2011, p. 31; Knoll, 1997, p. 24). Furthermore, the general discussion on this subject is highly fragmented and entails many different perspectives (S. Becker, 2011, p. 23). This does not constitute a problem *per se*, but the few attempts to organise these already voluminous theoretical and empirical discourses in a unique research programme are very partial and unstructured.

For overcoming these issues, the present chapter identifies as a first step the closest studies to the topic examined. Starting from this basis, the literature review will focus on different sub-topics which are necessary to understand and deepen the existing research on the role of sport in health-related promotion of PA. The entire discussion is based mostly on the perspectives of the health and the sport sciences. These are in turn the backgrounds of health-related communications containing PA as a health-medium that will be examined in the empirical analysis. Finally, the section critically places the dissertation in a wider academic context and analyses desiderata and weaknesses in the research.

¹⁰ Original quotation: ‘[N]anos, gigantum humeris insidentes’ (Bernard of Chartres, Unknown).

¹¹ In fact, the first written attempts to establish a connection between health and sport date back to the ancient Greek and Roman empires (Cachay & Thiel, 2000, pp. 65-66). Also during the Middle Ages and the Renaissance, PA was investigated and recommended as an integrative part of medicinal-orientated therapies (Cachay & Thiel, 2000, p. 66).

2.1 The Acceptance of Sport in the Health System

This section analyses the sociological literature regarding the acceptance of sport in health-related communications for the promotion of physical activity. This has been the first logical step for composing the present literature review. By giving a narrow focus to the specific research question of this dissertation, a lack of measuring sticks within the sociologies of sport and of health and illness has been detected. With the exception of few contributions produced by the author himself (Michelini, 2011; Michelini & Thiel, 2013), accurate research has shown that analyses focussed on the role of sport in health-related communication for the promotion of physical activity have never before been performed on either theoretical or empirical levels.

In fact, this specific topic has been repeatedly, but marginally, assessed only by Thiel and Cachay (1999a, 1999b, 2000; 2004). In these contributes they focused mostly on the opportunities available to sport students within health organizations in Germany.¹² For example, they acknowledged (Cachay & Thiel, 1999b, pp. 152-153): on the one hand, the progressive increase of diploma study courses in the sport science orientated toward the professional field of health; on the other hand, the limited chances for sport scientists to establish a stable professional position within health system's organisations. The problematic inclusion of sport students in the health system from the middle of the 1990s has been put by the two authors in relation with: struggles between different logics of the health system and a turn in the expectations of the political discussion (Cachay & Thiel, 1999b, p. 153; Thiel & Cachay, 2004, p. 115).

For explaining this phenomenon, Cachay and Thiel (1999b) acknowledge a firm orientation to illness in the take-off of this system, which needed to be modified in the second half of the 20th century as a reaction to internal and external critics. The criticisms developed within the health system regards (Cachay & Thiel, 1999b, pp. 150-151): the excessive reductionism of considering bodies as an ensemble of separated segments, the rising of subjects like aetiology and epidemiology within the health system, the change within the illness panorama and the augmenting interest towards the origin and maintenance of health. Instead the external critics came particularly from the economic and political systems which started to put in question the costs and the sustainability

¹² The topic of the acceptance of sport professionals in the education system has been the subject of some inquiries of the same authors (Cachay & Kastrup, 2006; Cachay, Thiel, & Kastrup, 2010). In this context, physical education teachers are formally fully integrated in schools but are still socially less valued than the teachers of other subjects. For this reason they face the danger of a reduction of hours dedicated to the subject or of being substituted by other professional which, even if less trained, could be considered enough skilled for teaching physical education (Cachay & Kastrup, 2006, pp. 169-170).

of a model orientated mainly towards curative interventions. In turn, these positions developed in the demand for preventive and health orientated programme by the side of the health system (Cachay & Thiel, 1999b, pp. 151-152).

These internal and external critics rely at the basis of the change of the logic of the health system from a health/illness orientated code to a logic turned toward promoting/hindering health acknowledged by Bauch (1996, p. 111; 2004, p. 66). This change of logic permitted the expansion of the health system's functions to health-orientated programmes and determined the extension of the health system's tasks on PA promotion. However, the results of this programmes are mostly still evaluated by the health system through the illness-orientated logic (Bauch, 1996, p. 130). Because medicine still occupies the core position within the health system, there is a limited acceptance of programmes which are not evaluable with the logic 'health/illness', like those of health promotion and of sport.

The research programme presented above constitutes an already developed theoretical framework and in general a good starting point for the present research. However, this theoretical basis needs to be further developed for the inquiry at the hand. Indeed, these analyses are limited to the German situation and do not focus on the communication of the health and the sport system at the theoretical or the empirical levels.

2.1.1 Health and Sport in Systems Theory

The theoretical framework plays a key role in the present sociological analysis. The literature which lies at the basis of the model described above and the extensions used for the complete development of the theoretical framework of this doctoral thesis has been commented in the following.

Luhmann is considered to be 'Germany's most prominent and controversial social theorist' (Luhmann, 1995b, p. X) and his modern systems theory has 'emerged as one of the most widely discussed theories of society in a number of academic communities' (Albert, 2004, p. 22). During his lifetime, Luhmann was extremely productive and innovative, with a publication list of more than 70 books and almost 400 articles regarding numerous subjects (S. Fuchs, 1999, p. 118).¹³ In particular, this dissertation's theoretical framework is based upon some Luhmann's original (Luhmann, 1970, 1971, 1975, 1981a, 1981b, 1983a, 1983b,

¹³ Famous in this regard, is an anecdote about the beginning of his academic career as sociologist at the University of Bielefeld, during which, upon being asked about his research agenda, he answered that his project was to develop a theory of society, which would take him thirty years and would not cost anything (D. Lee, 2000, p. 320).

1984, 1985a, 1985b, 1986, 1990a, 1990d, 1994a, 1994b, 1997a, 1999, 2001, 2002a, 2006, 2008b, 2009) and translated (Luhmann, 1977, 1982a, 1982b, 1987, 1988, 1990b, 1990c, 1992, 1993, 1995a, 1995b, 1995d, 1997b, 2002b, 2003, 2008a) works. In addition, introductory literature on systems theory (for example Baraldi, Corsi, & Esposito, 1997a; Berghaus, 2004; Kneer & Nassehi, 1994; Krause, 2005; Luhmann, 2008b; Moeller, 2006; Reese-Schäfer, 1992; Willke, 2001b, 2005, 2006b) has been extensively used.

Because these are so comprehensive, the dissertation's theoretical discussion is based almost only on the original work of Niklas Luhmann. However, some extensions of his theories by other authors have been necessarily integrated for completing the theoretical framework. In fact, Luhmann's works do not cover two central topics of this doctoral thesis.

Firstly, Luhmann did not describe in depth the evolution of the sport and the health systems. In particular, the development of the sport system has been completely overlooked by Luhmann. This gap has been covered by the work of some other systems theorists. In particular, the differentiation of the sport system has been investigated by Cachay (1988); Cachay and Thiel (2000); Heinemann (2007); Schimank (1988); Stichweh (1990). Instead, the evolution of the health system has been marginally investigated by Luhmann in three scripts (1983a, 1983b, 1990d). This explanation has been integrated with the works of Cachay (1988), Bauch (1996, 1997, 2000, 2004) and Pelikan (2007; 1999; 2001).

Secondly, within his work on systems theory, Luhmann has been sceptical about the chances of steering systems, has left a gap regarding the theoretical functioning of cooperation between function systems (Krause, 2005, p. 65), has given no solid theoretical basis for the analysis of governance mechanisms (Wiesenthal, 2006, p. 68) and has even been accused of being imprecise in his reasoning regarding over mentioned topics (Krause, 2005, pp. 68-70). However, the consequences of the autopoietic turn regarding the relationships between systems have been often overestimated. Luhmann's concepts of integration and structural coupling (Luhmann, 1990a, 1994b, 2008b) instead have had an underestimated explanative power. In fact, these two concepts have been used as a theoretical basis sufficient to cover almost all the argumentations related to the topic of a system's interaction.

Instead, in order to theoretically explain governance¹⁴ in the systems theory, the extension of Helmut Willke (1990, 1994, 2001a, 2001b, 2005, 2006a, 2007a, 2007b) has been necessary to cover the theoretical gap left by Luhmann. As an exception the topic of 'governance' has been theoretically assessed not only by the literature on systems theory, but also by general literature (Bevir, 2009;

¹⁴ In this dissertation, governance is defined as: 'the activity of coordinating communications in order to achieve collective goals through collaboration' (Willke, 2007b, p. 10).

Hagen, 2000; Kjær, 2004; Lange, 2004; Offe, 2009; Rosenau, 1998; Wiesenenthal, 2006) and particularly by the streams of actor-centred institutionalism (Mayntz, 2003; Mayntz, Rosewitz, Schimank, & Stichweh, 1988; Mayntz & Scharpf, 1995; Mayntz & Streeck, 2003; Scharpf, 2000; Schimank, 2000) and of multi-level governance (Benz, 2007; Benz & Eberlein, 1999; Benz, Lütz, Schimank, & Simonis, 2007). Beyond the aforementioned concepts of governance and structural coupling, frameworks for the description of social networks have also been recently adapted to systems theory for clarifying the functioning of social interactions. Even if the topic of social networks has been only superficially assessed by Luhmann (1995c), today the literature regarding this topic in the systems theory is quite abundant (Bommes & Tacke, 2006; Borggrefe, 2013; P. Fuchs, 1997; Fuhse, 2005, 2009; Tacke, 2000). These concepts have been used for some theoretical reflection on the interpretation of the empirical data.

In this way, the present dissertation not only extensively uses both the tools furnished by classical systems theory and by new extensions for the analysis of interaction between systems. Also desiderata, explanatory limits and possible extensions of the existing theoretical models will be considered.

2.1.2 Expansion of the Health System

The struggles between different logics and the expansion of the health system play key roles in determining the inclusion of sport as a medium of health. This topic has been widely explored in the sociology of health and illness. The discourse on the definition of health plays a relevant role for following this development, because it furnishes important information about the evolution of and discussion within this system (Baier, 1970). In particular the discussions concerning the meaning of 'health', (Göckenjahn, 1991; Hurrelmann, 2006; Jadad & O'Grady, 2008; Thiel, Seiberth, & Mayer, 2013; Üstün & Jakob, 2005; WHO, 1946) play a key role for both the theoretical and empirical analysis of this dissertation.

Within this discipline, various terms such as 'healthism' (Crawford, 1980; Rose, 1999; Skrabanek, 1994) and 'medicalization' (Conrad, 1992; Conrad & Schneider, 1980; Zola, 1991) emerged to describe this social phenomenon. Indicatively, both have a pejorative meaning: 'healthism' is an ideological construct concerning health and medicine, which places the problem of health and disease at the level of the individual (Crawford, 1980), or refers to governments imposing norms for a 'healthy lifestyle' through the use of propaganda and coercion (Skrabanek, 1994); 'medicalization' 'consists of defining a problem in medical terms, using medical language to describe a problem, adopting a med-

ical framework to understand a problem, or using a medical intervention to “treat” it’ (Conrad, 1992, p. 211), as well as the process through which medical supervision dominates everyday life (Zola, 1983).

Skolbekken (2008) acknowledges a solid link between medicalization and the adoption by the health system of the risk factor model. In social-epidemiological research, the connections between individual, environmental and social factors and health consequences is called the Risk Factor Model (Hurrelmann, 2006, p. 126). In this model, risk factors are variables related to an increased or decreased risk of diseases and determinants are the variables associated with this fluctuation. In turn, these determine the statistical chance of a person becoming ill. Risk factors are related, and not causal to, illnesses. Indeed, this model only calculates a person’s exposure to risks over a certain timespan. If there are statistically relevant pathological differences between persons exposed to risk factors and those who are not exposed, then it is possible to speak about a risk factor (Pflanz, 1973, p. 13). This switched the health system’s interests to creating strategies which prevent illnesses and/or promote health. Medicalization relies in turn at the basis of the exponential growth of the health system since the beginning of the 20th century.

Also, some system theorists like Luhmann (1983a, 1983b, 1990d), Bauch (1996, 1997, 2000, 2004) and Pelikan (2007; 1999; 2001) have dedicated scripts to the expansion of the health system by means of a change of its logic. Indeed, by reviewing the literature, it can be stated that principally three different binary codes have been proposed. In order to understand which code is the most suited for this research, the core characteristic of each one will be summarised in the following paragraphs.

In his three papers on health, Luhmann assumes the emergence of a specific health related function system in modern societies, with ill/healthy as a binary code (Luhmann, 1990d, p. 186). This code orientates the system’s processes principally at the negative value ‘ill’, and not at the positive value ‘healthy’ (Luhmann, 1990d, pp. 187-188).

Bauch and Pelikan criticise the most that Luhmann, in this way, is not taking into account all the operations of the health system, considering cure and healing as the health system’s only operation. For example, Bauch (2004, p. 61) criticises Luhmann for not bearing more modern developments in the health system in mind and criticises Luhmann’s imprecision. Indeed, on the one hand, he refers only to the operation of illnesses’ healing, and, on the other hand, observes that the health system includes itself in many of society’s problems by medicalising them. Pelikan also criticises Luhmann’s imprecision for not distinguishing between ‘treatment of disease’, ‘treatment of ill person’ and ‘medicine’ (Pelikan, 2007, p. 88).

Hence, Pelikan (2007, p. 88) argues that for a certain period, the health system limited its operations to the management of illness and that in this time it was orientated toward the binary code presence/absence of illness and not the code health/illness. Instead, Pelikan (2007, p. 89) argues that in modern times the health system operates by means of two different binary codes:

- presence/absence of illness for ill physical health; and
- sub-optimal/optimal health for positive physical health.

In Bauch's opinion, the focus of the health system in modern societies has switched from infectious diseases to chronic diseases.¹⁵ This phenomenon implies the development of new operations, which cannot be logically explained with Luhmann's code of health/illness (Bauch, 1996, p. 24). This is particularly evident in the case of health promotion, an operation which does not refer to illness and whose communications become the principal operation. For this reason, Bauch assumes that Luhmann's code is today only representative of a specific part of the operations of the health system (Bauch, 2004, p. 63). He proposes a new and wider binary code (Bauch, 1996, 1997, 2004), which is more appropriate to describe the new operations of the modern health system: promoting/hindering health (Bauch, 2004, p. 66).¹⁶ Moreover, Bauch assumes that these two codes are concurrent. This happens because they tend towards exclusivity and because their logic is hard to join: for example, medicine is case-orientated and individualist, while illness prevention is population-orientated and generalist (Bauch, 2004, p. 75). The point of conjunction of these three authors is the common opinion about the expansion of the health system to new areas that were before considered external to health. Their discussions also involve the topic of the inclusion of prevention and health promotion as new programmes of the health system. In this way, the subject of the promotion of PA as a medium of health has been also superficially assessed by Pelikan (2007, 2009). However, an extensive exploration of the topic of the inclusion of sport as a health-medium by the health system is far to be completed and has been instead only set out.

2.1.3 *Positive Acceptance of Sport as a Health-Medium*

For enquiring the role of sport as a medium of health in the communication of the health system, it is necessary to assess the historical and social context of this

¹⁵ This is a relevant point of fracture between Luhmann's and Bauch's discussions on health system, which otherwise could be seen as commensurable.

¹⁶ In his early works, Bauch (1996, pp. 80-97) speaks in this regard to this code as a societal 'super-code' for the whole of society (*Gesellschaftlicher Leitcode*) and assumes a code orientated towards the code 'promoting/hindering life' (1996, p. 78). These positions appear in a mitigated form in later works of this author.

connection. Sport is traditionally associated with health at many different levels (Thiel et al., 2013, p. 105). For example, at the programme level this connection is detectable in sport organisations and, at least until the 1980s, also massively in programmes of health insurance politic, schools and health organisations. Also, the development of health-orientated programmes within of the sport system is a perfect example of this trend. For instance, health sports¹⁷ have been developed as activities with the direct aim to promote, maintain or restore health (K Bös & W Brehm, 1998; Bös & Brehm, 2006; Brehm, 1998; Breuer & Wicker, 2008; A Woll & Bös, 2004). The background of these programmes is the idea that doing sport is healthy and that practicing sport for a lifetime protects from illnesses (Thiel et al., 2013, p. 105). The last section has argued that the evolution of the health system has been fundamental for understanding the roots of this social construct. For assessing the other side of the coin, this section reviews the standpoint of sport science, particularly of sports sociology, regarding the benefits of sport in a broad sense¹⁸ as a medium of health.

As for many other function systems, systems theory has been applied to the analysis of the sport system. In contrast with Luhmann's reception in health sciences, systems theory has a great tradition in sport sociology (Schulze, 2005, p. 12). This had already began between the 1970s and 1980s with the works of Lüschen (1976), Rigauer (1982) and Bette (1984). On the basis of this tradition, this dissertation bases its analysis of the sport system on the descriptions furnished by Schimank (1988, 2008), Thiel (2000; 1997; 2009), Bette (1989, 1999), Stichweh (1990) and Heinemann (2003, 2007). In this context, many authors have focused on the central question of whether the sport system should be considered a function system (Bette, 1989; Cachay & Thiel, 2000; Schimank, 1988). Within the other topics discussed, the relationship between the health and the sport systems is one of the most recurrent subjects (Cachay, 1988; Cachay & Thiel, 2000; Heinemann, 2007; Schimank, 1988, 2005; Stichweh, 1990). Many of the aforementioned authors agree that the connection of the two systems is so strict that it even influences the evolution of their respective independent identities. However, their findings and arguments diverge greatly on other points; their research does not cover a common timespan and is particularly discordant in the discussions of recent developments. For these reasons the theoretical framework

¹⁷ Thiel et al. (2013, p. 105) acknowledge the differentiation of 4 different typologies of health sports: health promotion through sport, prevention of illness through sport, therapy through sport and rehabilitation through sport.

¹⁸ The extensive and differentiated definition of the terms related to PA and sport based on scientific literature (Bouchard & Shephard, 1994; Caspersen, Powell, & Christenson, 1985; Güldenpfennig, 2004; Haag & Haag, 2003; Heinemann, 1986; Pietilä, Hentinen, & Myhrman, 1995; Stichweh, 1990; Waddington et al., 1997) is contained in the chapter 'Defining Health, Physical Activity, Sport and Their Relationship.'

of this dissertation reviews and updates this discussion and the empirical data extend it, particularly with regards to the perspective of the health system on sport as a medium of health. With the exception of some critical voices (for example: S. Becker, 2011; Lüschen, Abel, Cockerham, & Kunz, 1993; Oppen, Woll, & Minnebeck, 1993; Rütten, 1993), the majority of authors agree about the relevant role of sport in the area of health promotion and prevention of illnesses. For example, within this discussion, the sport system has even been identified as the 'health system' of modern society (Stichweh, 1990, p. 382) and the health system's need of sport for the enhancement of population's health as a validation of the sport system role in the society (Schimank, 2005, p. 23).

This tendency to positively evaluate the benefit of sport on health has also been detected in other humanistic disciplines¹⁹ within the sport science. For example, in the area of sport psychology the topic of the beneficial influence of sport on psychological health has been intensively assessed since the beginning of the 1980s (R. Fuchs, 2003, p. 1).²⁰ This field has scientifically proven some of the benefits of sport on people's psychology. In many other cases reasonable presumption can simply be spoken about (R. Fuchs, 2003; Wagner, Singer, Woll, Tittlbach, & Bös, 2004). For example, it is scientifically proven that PA relieves symptoms of depression and anxiety and improves mood or, more generally, psychological well-being (Public Health Service. US office of the Surgeon General & President's Council on Physical Fitness and Sports, 1998, p. 8). Instead, its preventative effects on depression have not been scientifically proven (Public Health Service. US office of the Surgeon General & President's Council on Physical Fitness and Sports, 1998, p. 8).

Also in the politics of sport, the topic of health promotion through physical activity started to be studied in sport science around the 1990s (Rütten, Frahsa, & Abu-Omar, 2010, p. 18). This area fundamentally entails two different rationales: one is infrastructure/policy-orientated (Giles-Corti, Timperio, Bull, & Pikora, 2005; King et al., 1995; Kolb, 1995; Owen, Humpel, Leslie, Bauman, & Sallis, 2004; James F. Sallis, Bauman, & Pratt, 1998) and the other is activity orientated, for example through health-enhancing physical activity (Pate et al., 1995) and health sport (Bös & Brehm, 2006; Brehm, 1998). Alfred Rütten fo-

¹⁹ The term 'humanistic disciplines' is used here to artificially distinguish the speculative-orientated area from the scientific-orientated area of sport science. This entails motor control and biomechanics, physiology, nutrition and diet, sport technology, anthropology, kinanthropometry, computer science in sport and sport medicine.

²⁰ In sport psychology, many authors focused their entire research on the topic of the relationship between sport and health. For example, Wolfgang Schlicht (1994, 1995a, 1995b; 2007; 2003) and Reinhard Fuchs (1989, 1997, 2003, 2007, 2012) dedicated dozens of publications to the theme of sport and health. Other works on the subject relevant for this dissertation have been produced by: Abele, Brehm, and Gall (1991); Alfermann, Stoll, Wagner, and Wagner-Stoll (1995).

cused almost his entire scientific career on the topic of health and PA with circa 50 publications related to this topic. Of these publications, some also empirically compare national strategies for the promotion of PA (Abu-Omar, Rütten, & Lehtinen, 2004; Rütten, Abel, Kannas, von Lengerke, Lüschen, Diaz, Ståhl, et al., 2001; Rütten, Abel, Kannas, Von Lengerke, Lüschen, Diaz, Vinck, et al., 2001; Rütten & Abu-Omar, 2004a, 2004b; Rütten, Lüschen, et al., 2003; Rütten, Ziemainz, et al., 2003; Ståhl, Nutbeam, Kannas, & Rütten, 2002).²¹ Also in sport politics, it is normally taken for granted that sport is fundamental for keeping people healthy.

Finally, many studies assess the role of physical education in public health (Brettschneider & Naul, 2004; Demetriou, 2012; Hardman, 2004, 2007, 2011; J.F. Sallis & McKenzie, 1991; J.F. Sallis et al., 2012; Trost & van der Mars, 2010; Trudeau, Laurencelle, Tremblay, Rajic, & Shephard, 1999; Waddington et al., 1997). The effect of PE upon lifestyle and upon health are often used as rationale against the reduction of PE (Trost & van der Mars, 2010). However, the objectives and effects of PE on health are still debated (Balz, 1992; Waddington et al., 1997).

In conclusion a review of the literature related to the research question in sport science demonstrates that the topic of the correlation between sport and health in different disciplines of sport science is widely assessed and mostly positively perceived. The critical, and especially sceptical, perspectives are exceptions in these disciplines.

2.1.4 *The Role of Sport within Health-Strategies*

The lack of research regarding the role of sport as a medium of health in the communication of the health system makes the literature review within sport science insufficient as basis for proceeding to the analysis of this dissertation. For this reason this section discusses further relevant background material and literature gathered by an analysis of the situation of the sociology of health and illness and the communications of the health system. This permits to understand which

²¹ However, these studies are focused on environmental and political aspects of the topic and the theoretical framework plays a very small role. For this reason, Rütten's research programme is incommensurable with the present doctoral thesis. Other cross-country studies partially related to the doctoral thesis's topic have been performed by A. Woll, Tittlbach, Bös, and Oppel (2003), by Sjöström, Oja, Hagströmer, Smith, and Bauman (2006) and by Daugbjerg et al. (2009). Also these are too different for being identified as predecessors of this dissertation.

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Physical Activity

The Perspective of the Health System

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