JYU DISSERTATIONS 396

Veera Ehrlén

# Communal Pulse across Media

## Digital Networked Communication and Communality in Recreational Sport Cultures

UNIVERSITY OF JYVÄSKYLÄ
FACULTY OF HUMANITIES AND SOCIAL SCIENCES

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# ABSTRACT

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In this thesis, I study the interplay between social interaction, community building and the use of digital networked media in the context of recreational sport. The interdisciplinary research topic stems from recent societal, cultural and technological developments which are affecting sport as a form of culture and forcing it to adopt new ways. The purpose of this thesis is to generate knowledge on how changes in communication and community formation constitute and manifest a new kind of communality in leisure sport cultures. The theoretical framework of the study is based on the literature on digital media, communities and networking cultures. In addition, this study draws on the literature on the mediatisation of sport.

The dissertation consists of three empirical sub-studies: In *Article I,* I studied communication practices and the formation of social ties; in *Article II,* I examined visual communication; and in *Article III,* I explored self-tracking communication. The research was limited to individual and recreational sport practice. Altogether 301 climbing and trail-running enthusiasts living in Finland participated in the study. As data collection methods I used an online survey, semi-structured thematic interviews and online observation. As analysis methods I used statistical analysis, qualitative content analysis and image type analysis.

The results suggest that a new type of communality in leisure sport is constituted by and manifests itself in techno-social networks that are controlled by and centred around individual sports practitioners, and that include a mix of social ties and groupings, light sport communities, and commercial media services. Digital media platforms are situated in the background, providing individual practitioners with temporary objects of identification and momentary experiences of communality. They also enable the formation of individual social ties, the organisation of social networks, and communication within the networks. Recreational sports practitioners ascribe a variety of intrinsic, ritualistic, self-motivating and communal meanings to content-sharing activities online. These meanings are integral to and reinforce the experience of physical activity.

Keywords: digital media platforms, exercise culture, mediatisation of sport, networking

# TIIVISTELMÄ (ABSTRACT IN FINNISH)

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Tutkin väitöskirjassani sosiaalisen vuorovaikutuksen, yhteisöjen rakentumisen ja digitaalisen verkostomedian käytön suhdetta vapaa-ajan liikunnan kontekstissa. Poikkitieteellisen tutkimuksen aihe kumpuaa viimeaikaisista sosiaalisista, kulttuurisista ja teknologisista kehityssuunnista, jotka vaikuttavat liikuntakulttuuriin ja uudistavat sitä. Väitöskirja tuottaa tietoa siitä, miten viestinnälliset muutokset ja yhteisöjen muodostumisen murros rakentavat ja ilmentävät uudenlaista yhteisöllisyyttä vapaa-ajan liikuntakulttuureissa. Tutkimuksen teoreettinen viitekehys pohjautuu digitaalista mediaa, yhteisöjä ja verkostoitumiskulttuuria tarkastelevalle kirjallisuudelle. Lisäksi hyödynnän tutkimuksessa liikunnan ja urheilun medioitumiseen liittyvää kirjallisuutta.

Väitöskirja koostuu kolmesta empiirisestä osatutkimuksesta: *Artikkelissa I* tutkin viestinnällisiä käytänteitä ja sosiaalisten siteiden muodostumista; *Artikkelissa II* tarkastelen visuaalista viestintää; ja *Artikkelissa III* käsittelen liikuntaharjoittelun seurantaan liittyvää viestintää. Tutkimus rajautui koskemaan yksilö- ja harrasteliikkujia. Tutkimukseen osallistui yhteensä 301 Suomessa asuvaa kiipeilyn ja polkujuoksun harrastajaa. Käytin aineiston hankintamenetelminä verkkokyselyä, puolistrukturoituja teemahaastatteluja ja verkkohavainnointia. Analyysimenetelminä käytin tilastollista analyysia, laadullista sisällönanalyysia ja kuvatyyppianalyysia.

Tutkimuksen tulokset osoittavat, että liikuntakulttuurin uusyhteisöllisyys rakentuu ja ilmentyy teknologissosiaalisissa verkostoissa. Verkostot muodostuvat yksittäisten liikkujien ympärille, ja ne sisältävät erilaisia sosiaalisia siteitä ja ryhmittymiä, kevyitä liikuntayhteisöjä sekä kaupallisia palveluita. Verkostojen taustalla toimivat digitaalisen median alustat tarjoavat yksilöille tilapäisiä samaistumisen kohteita ja hetkittäisiä yhteisöllisyyden kokemuksia. Ne mahdollistavat yksittäisten sosiaalisten kontaktien muodostumisen, sosiaalisten verkostojen järjestäytymisen ja verkostojen sisäisen viestinnän. Liikkujat liittävät verkkoympäristössä tapahtuvaan sisällönjakoon erilaisia itsearvoisia, rituaalisia, itseä motivoivia ja yhteisöllisiä merkityksiä. Nämä merkitykset ovat olennainen osa liikuntakokemusta ja vahvistavat sitä.

Avainsanat: digitaalisen median alustat, liikuntakulttuuri, urheilun medioituminen, verkostoituminen

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## LIST OF ORIGINAL PUBLICATIONS

I Ehrlén, V. (2017). Communication practices and social tie formation: A case study of recreational lifestyle sports cultures. *International Journal of Sport Communication*, 10 (3), 393–413.

II Ehrlén, V., & Villi, M. (2020). 'I shared the joy': Sport-related social support and communality on Instagram. *Visual Studies*, 35 (2–3), 260–272.

Declaration of co-authorship: Ehrlén designed the study together with professor Mikko Villi. Ehrlén gathered the data, analysed the data, compiled the figures and tables, and wrote the article with Villi's contribution using his expertise on visual and mobile media.

III Ehrlén, V. (2021). Tracking oneself for others: Communal and self-motivational value of sharing exercise data online. *Leisure Studies*. Advance online publication.

## FIGURES



## TABLES

## LIST OF ABBREVIATIONS

| | |
|---|---|
| DMC | Digitally-mediated communication |
| DMP | Digital media platforms |
| FtF | Face-to-face |
| UGC | User-generated content |

# CONTENTS

# 1 INTRODUCTION

## 1.1 Background and motivation for the study

Today, a considerable proportion of social interaction is digitally mediated and takes place in the form of shared content, comments and discussions online. In the sport context, the creation and distribution of sport media products on digital media platforms (DMP) occurs among organisations and individuals, reaching from sport federations, agencies and broadcast media to individual journalists, professional athletes and recreational sports practitioners (see Filo et al., 2015). Arguably, the popularity of sport-related digital media practices is growing largely due to the pervasive mobile media that provide the communicative affordances for recording and sharing sport media products on the go. Consequently, digital media use is increasingly integrated with physical activity.

In this thesis, I study sports practitioners' digital media use and social interaction on DMP. I use DMP as an umbrella concept that includes interest-based online communities[1] and relationship-based social networking sites[2] as well as content-sharing,[3] self-tracking,[4] and instant messaging[5] services and applications. I chose to use the term *digital* instead of *social* because the former is broader and thus more applicable to the whole context studied here.[6] Whereas DMP provide the space and the technology for communication, networked media provide the form of communication. More specifically, networked media are here understood as "decentralized forms of mass communication, in which everyone, individuals and groups, can actively contribute to sharing and shaping

[1] Such as Reddit subreddits (https://www.reddit.com/)
[2] Such as Facebook (https://www.facebook.com/)
[3] Such as Instagram (https://www.instagram.com/)
[4] Such as Sports Tracker (https://www.sports-tracker.com/)
[5] Such as WhatsApp (https://www.whatsapp.com/)
[6] I used the term social media in individual articles, but in this summary chapter I found the broader term digital media more fitting to discuss the whole context.

a universe of media content" (European Commission, 2009, p. 10). In this summary chapter, I discuss digital media use from different perspectives without focusing on any one specific platform, service, or application. I use the terms digital and networked media separately and in combination, depending on whether the emphasis is on the space, the technology, the form, or all three.

Already nearly a decade ago, Hutchins and Rowe (2012) noted the interpenetration of digital media and sport. They argued that "the evolution of networked media sport pivots on the ongoing intensification of content production, acceleration of information flows, and expansion of networked communication capacity" (Hutchins & Rowe, 2012, p. 17). This evolution applies to sport journalism and professional and recreational sports alike. The specific focus in this thesis is on how recreational sports practitioners use digital networked media. I define recreational sports practitioners as nonprofessional leisure-time physical activity enthusiasts whose main foci of practice are on physical and mental well-being and on individual development. Recreational sports practitioners engage in a range of exercise levels and have varying goals, motivations and activities.

Digital networked media support the growing trend of recreational, non-competitive, health-enhancing physical exercise. They provide new affordances for social interaction and allow for the formation of interest-based networks and communities (Baym, 2015; Rainie & Wellman, 2012). Today, a large number of Europeans practise sport without being members of traditional sport communities, such as sports clubs (see European Commission, 2018). Through and with digital media, many sport subcultures have shifted to the network era (see Castells, 2010), and yet there has been only a limited amount of research on digital media use and network-based organising in recreational sport cultures. The existing literature covers different aspects of the social networks related to leisure sport (e.g., McCormack, 2018), online sport communities (e.g., Geurin-Eagleman, 2015; Kang, 2014), and the social use of visual media (e.g., Olive, 2015; Woermann, 2012) and self-tracking technologies (e.g., Lomborg & Frandsen, 2016; Smith & Treem, 2017). However, the previous literature does not include a comprehensive and theoretically coherent account of the role of face-to-face (FtF) and digitally-mediated communication (DMC),[7] or of interest-based social networks and communities in contemporary leisure sport cultures.

This thesis seeks to fill this gap by increasing our understanding of leisure sports practitioners' social interaction, community building, and use of digital networked media. The study that this thesis presents took place in Finland and is contextualised within two sport subcultures, namely climbing and trail running. In this thesis, I approach recreational climbers and trail runners as

[7] A contemporary definition of computer-mediated communication (CMC) includes all digitally-mediated and, to a growing extent, mobile communication (Herring, 2008). In their foreword to a recent issue on Journal of Computer-Mediated Communication, Yao and Ling (2020) put forward the idea of using the term DMC instead of CMC. Thus, the concept CMC seems to be evolving into DMC. I have therefore considered it appropriate to use DMC throughout this summary chapter, even though I used the term CMC in the first article.

networked individuals who are linked to each other through weak and strong social ties and who rely on the network support provided to them by their sport-related social contacts (see Rainie & Wellman, 2012). I also utilise the concept of light sport communities (see Borgers et al., 2018) to discuss late modern, loosely structured sport entities that include location-based meetups and online groupings that take place on diverse DMP. I study climbers' and trail runners' digital networked communication in the broad framework of the mediatisation and digitalisation of sport (see Frandsen, 2020; Hutchins & Rowe, 2012; Kopecka-Piech, 2019). The general discussion in this thesis seeks to offer new insights into media use and communication that can be applied to a variety of leisure-time cultures.

One practical implication of the thesis is that by broadening our understanding of the potential of networked media to provide social support for a physically active lifestyle, it can lead to new means of addressing physical inactivity. Previous studies show that social peer support positively impacts behaviour with regard to physical activity (e.g., Anderson et al., 2006; Samson & Solmon, 2011; Cavallo et al., 2014). Recent research has also found that the use of sport-related networked media (e.g., Zhang et al., 2016) and self-tracking technologies (e.g., Sullivan & Lachman, 2017) have the potential to promote behavioural changes in the form of increased physical activity. Since physical activity levels among Europeans continue to decline (European Commission, 2018), further research on the value of social interaction and digital media use in recreational sport is arguably increasingly important.

## 1.2 Research aims, questions and approach

This thesis has three aims. The first aim is to extend the theoretical discussion about light communities, networked individualism, and the mediatisation of sport. The second aim is to conceptualise communality in the context of recreational sport by having a dialogue between the focal concepts and the research data. The third aim is to deepen our understanding of the communication practices that strengthen communality and social peer support among networked sports practitioners.

This research, which is exploratory in nature, was conducted with a mixed methods approach in three sequential steps: 1) I explored sports practitioners' communication practices and social tie formation using an online survey; 2) using semi-structured interviews, I investigated what meanings sports practitioners ascribe to the social interaction, different DMP and diverse sport-related content that they share online; and 3) after conducting online observation, I described how these meanings are manifested in sports practitioners' photo-sharing practices.

This summary chapter seeks to provide an integrated higher-level overview of the results that the three datasets produced, and to reflect on the results in the light of interdisciplinary literature on digital media, communities and

networking cultures. The overarching research question for this thesis was as follows:

*How do changes in communication and community formation constitute and manifest communality in recreational sport cultures?*

The thesis consists of three sub-studies that empirically investigated the overarching research question from different perspectives. Thus, each article has its own set of more specific research questions, which are presented in Table 1.

TABLE 1 Research questions for each article

| Study topic | Research questions |
|---|---|
| Article I<br>Communication practices and social tie formation | RQ1 What is the role of CMC (DMC) technologies in the context of recreational lifestyle sports?<br>RQ2 How and why do recreational lifestyle sports practitioners form social ties with each other?<br>RQ3 What are the relationships among practitioners' communication practices, social tie formation, and the meanings attributed to social ties? |
| Article II<br>Visual communication | RQ1 How do recreational sports practitioners exchange social support and build communality through photo-sharing practices online? |
| Article III<br>Self-tracking communication | RQ1 What are the social-communicative motivators and limitations of sharing exercise data?<br>RQ2 How can the social-communicative aspects of self-tracking support physical activity behaviour? |

Figure 1 presents an overview of the articles and their interrelations. The first article is based on survey data, the second article on interview and observation data, and the third article on interview and survey data. The first article was completed in 2017, prior to work on the second and third articles. Visual and self-tracking communication were selected as specific viewpoints to examine in the last two articles because their importance in relation to physical activity became apparent from the survey and interview data. The second and third articles proceeded in parallel in 2018–2020.

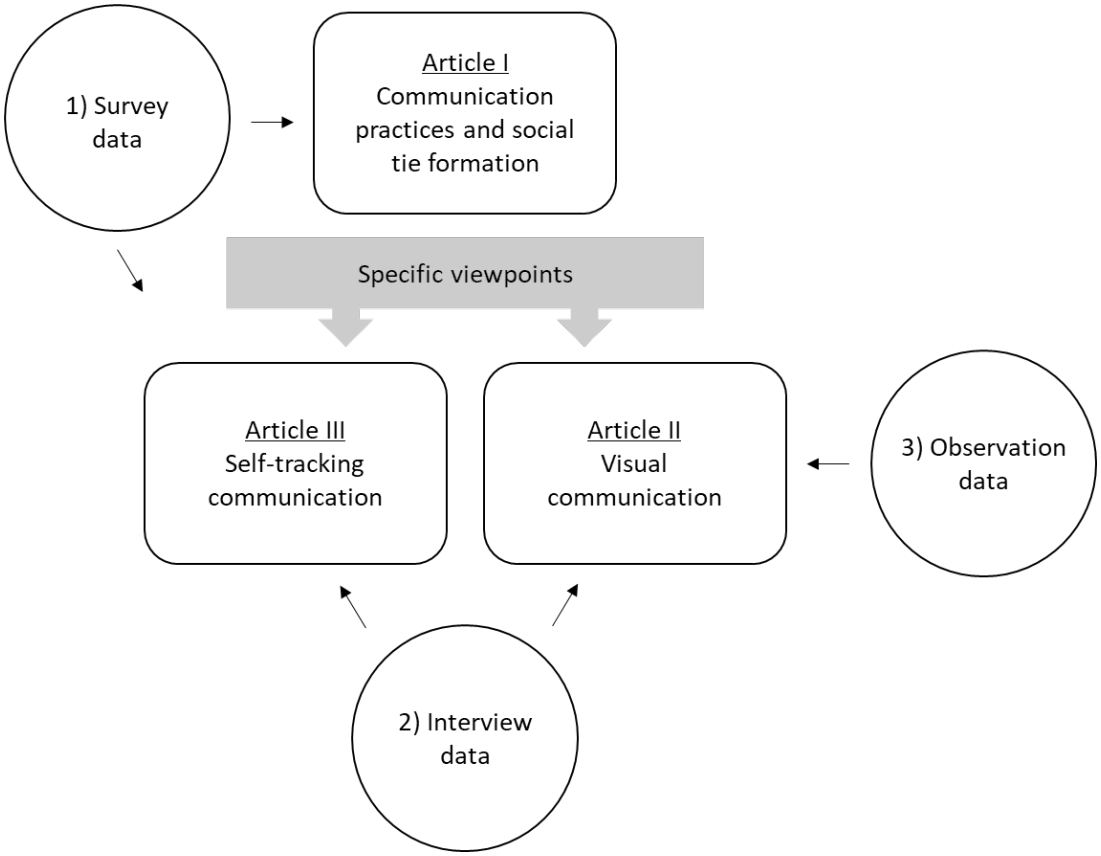


FIGURE 1 Overview of the articles and their interrelations

## 1.3 Thesis design and structure

The thesis begins with a description of the theoretical and conceptual framework that guides the study. I first discuss two key concepts – mediation and mediatisation – and outline how they affect sporting cultures and structures as well as individual sport practice (Section 2.1). I then provide an overview of how societal metaprocesses relate to networked media and present key perspectives for understanding sport-related digital media use (Section 2.2). Following that, I outline how the conception of community has changed with the advent of digital media and how these changes relate to changes in sport communication (Section 2.3). I also discuss the concept of personal social networks and explain why it is a valuable approach for studying leisure-time cultures. Last of all in Section 2 I draw attention to the concepts of social support and communality and their importance in the research (Section 2.4).

The third chapter provides a detailed account of the study that this thesis presents. I describe the methodological approach (Section 3.1) and the study target population (Section 3.2). I then give a detailed account of the processes of data collection and analysis (Section 3.3). The chapter concludes with a discussion of my positionality as a researcher in relation to the study (Section 3.4).

The fourth chapter introduces the articles that comprise the thesis. In Sections 4.1, 4.2 and 4.3 I describe the main results of each article and answer their specific research questions. The fifth chapter consists of a discussion of the synthesised findings of the three sub-studies. In this chapter I discuss how, from the viewpoint of this study, recent developments in the communication and media environment are linked to changes in the ways in which communities are now formed. I discuss digital media use in relation to meaning-making and the organisation of leisure-time, and answer the overarching research question of the thesis.

The thesis ends with my conclusions. In the last chapter I evaluate the strengths and limitations of the study (Section 6.1) and close with suggestions for future research (Section 6.2). The original research articles are attached at the end of the thesis, after the Finnish summary, references and appendices.

# 2 THEORETICAL AND CONCEPTUAL FRAMEWORK

## 2.1 Mediatisation of sport

Over the past two decades, mediatisation has emerged in the field of media and communication studies as a key theoretical and analytical concept, albeit highly debated, for structuring social and cultural transformation (see Ampuja et al., 2014; Lunt & Livingstone, 2016). Mediatisation is a broad concept that seeks to explain social and cultural changes, changes in the media environment, and the interrelationships between these changes (Ampuja et al., 2014; Couldry & Hepp, 2013). Even though to date there is no generally agreed definition of mediatisation, a common understanding among media scholars is that "many, even all, dimensions of society are now mediated by digital networked technologies in ways that matter and, many would concur, that matter increasingly" (Lunt & Livingstone, 2016, p. 463).

Before discussing the different approaches to mediatisation, it is important to make a distinction between the concepts of mediation and mediatisation. Mediation, in general, refers to the understanding that communication always and inherently mediates meaning construction (Couldry & Hepp, 2013). Therefore, both face-to-face (FtF) and digitally-mediated communication (DMC) mediate how individuals, groups and institutions interpret and negotiate life events and objects. The choice of communication channel has "a direct impact on the form and the content of a message, as well as on who is capable of taking part in the act of communication" (Hjarvard, 2018, p. 65). Moreover, because "culture is mediated and enacted through communication," changes in the modes and

technologies of communication also have profound implications for whole cultures (Castells, 2010, p. 357).[8]

The technological developments that have taken place over the past two decades have given impetus to digitally and, more recently, mobile-mediated communication. DMC enables instant communication across space and time without the physical presence of the communicative parties, and this inevitably influences how meaning is constructed. Whereas mediation is the process of communication, mediatisation, on the other hand, refers to a larger change in communication; it "reflects how the overall consequences of multiple processes of mediation have changed with the emergence of different kinds of media" (Couldry & Hepp, 2013, p. 197). In explaining the reciprocal relationship between mediatisation and mediation, Hjarvard (2018, p. 66) summarises it as follows:

> The conditions for communication and interaction change as media become integrated into more and more areas of culture and society. The media become therefore an important resource, and the steering logics of the media are both influenced by the media themselves and by the institutional logics in the area concerned (e.g., politics or sport). This, in turn, changes the conditions for how messages are mediated in this particular context.

For this reason, mediatisation scholars largely subscribe to Hjarvard's (2018, p. 65) statement that "if the objective is to understand the influence of media on modern society, it is not enough to focus on mediation alone – processes of mediatization also need to be analyzed."

Mediatisation theory has evolved in two different directions: the institutionalist approach provides a strong interpretation of mediatisation while the social-constructivist approach offers a weak one (Ampuja et al., 2014; Couldry & Hepp, 2013). The strong interpretation of mediatisation regards media as independent influential institutions that both serve other social and cultural institutions, such as politics or sport, and act autonomously according to their own goals and values (Ampuja et al., 2014; Couldry & Hepp, 2013). Consequently, the driving force for change comes from the fact that other institutions begin to operate under the terms of media logic(s) (Ampuja et al., 2014; Hjarvard, 2018). However, it is important to bear in mind that media seldom influence in isolation but rather operate in interaction with other global and local institutions, and therefore they also "become influenced by the particular inter-institutional context in question" (Hjarvard, 2018, p. 81).

Proponents of the social-constructivist approach claim that it is impossible to talk about media logic that linearly directs the activities of other institutions (Ampuja et al., 2014). According to the weak form, mediatisation should rather be seen as a metaprocess that shapes societies and cultures in the same way as globalisation, individualisation or commercialisation do (Krotz, 2007). The social-

[8] These kinds of implications are discussed further in, for example, Meyrowitz's (1997) medium-theory approach, which he applies to discuss the impact of technological developments on forms of organising across different times. Meyrowitz connects oral communication to traditional societies, print media to modern societies, and electronic media to postmodern societies, and argues that developments in communication technologies influence how communities are formed and how community insiders regard outsiders.

constructivist approach emphasises, moreover, that mediatisation is heavily interwoven with such major metaprocesses (Ampuja et al., 2014). The approach "highlights the role of various media as part of the process of the communicative construction of social and cultural reality" (Couldry & Hepp, 2013, p. 196). Thus, according to the weak interpretation, mediatisation is a series of multidimensional and context-bound phenomena that manifest themselves in different ways in different social and cultural fields (Ampuja et al., 2014). For this reason, studying different mechanisms of mediatisation in everyday lifeworlds (i.e., mediatised worlds) grounds mediatisation research in the various contexts of everyday life (Hepp & Krotz, 2014).

Regardless of the interpretive framework, mediatisation scholars agree that media are having an increased impact on cultures and societies. Mediatisation is omnipresent, affecting "each and every social domain" (Hepp, 2019, p. 301), including recreational sport. In the field of sport studies, a broader discussion about the effects of mediatisation on all forms of physical culture has more recently taken shape. Sport mediatisation research examines the interrelations between the changes in the communication and media environment and the changes in sport as a form of culture and as a social institution. Especially Frandsen (2020) and Kopecka-Piech (2019) highlight how mediatisation profoundly influences not only professional but also recreational sport cultures and social structures as well as individual practitioners' perception of and involvement in physical activity.

Frandsen (2020) bases her work on the strong form of mediatisation theory. In her view, the institutional approach is suitable when analysing change because sport is widely recognised as an influential institution, and because in the Nordic countries both media and sport institutions have historically been based on similar values and principles to those of the welfare society. Frandsen (2020) argues that the current wave of mediatisation gives impetus to recreational self-organised sport and strengthens the commercialisation of sport, thus challenging formal democratic models of organisation that "have historically been the back-bone of this sport institution in Scandinavia" (p. 111).

Frandsen (2020) emphasises that mediatisation as a phenomenon or as a concept is not new. She therefore uses the term new wave of mediatisation to describe the latest changes in the communication and media environment, which are primarily related to the digitalisation of sport. She argues that DMC technologies are increasingly contributing to the processes of change; she points out, for example, how digital media are challenging the dominance of television over the institution of sport. Sport organisations have responded to the changes and new challenges in the communication and media environment in different ways. Attitudes, which are influenced by the size, resources and priorities of organisations as well as external actors, have shaped the internal structures of sport organisations and have thus led organisations in different directions (Frandsen, 2020).

Sport-related digital media services are multiplying, and just as with organisations, individual practitioners' responses to the new media environment

vary. Kopecka-Piech (2019), who bases her work on the weak form of mediatisation theory, emphasises that mediatisation "is neither homogeneous, nor it is [*sic*] always equally intense, since it is not based on fixed, but dynamic mechanisms, some of which trigger reverse processual flows" (p. 189). One such mechanism that she cites is the increased use of exercise technologies, which may turn leisure activities into work-like performances, as a result of which some practitioners reach their limit and reduce their use of DMP. Many recreational practitioners utilise sport technologies mainly for personal use, and therefore, according to Kopecka-Piech (2019), in their case it is appropriate to talk about the light mediatisation of sport. Only a small proportion of practitioners are such heavy users of digital media that their physical activity can be considered to be mediatised at a deeper level. Kopecka-Piech (2019) argues that for this reason it is crucial to understand the impact that a minority of practitioners are having on the evolution of sport activities and disciplines. Furthermore, she reasons that by analysing differences between individuals and sport subcultures it is possible to understand which mechanisms are driving mediatisation and what is the role of individual influential subcultures or individuals in the process of change.

In this thesis, I evaluate recreational climbers' and trail runners' use of networked media partly from this perspective. One of the aims of this thesis is to explore further the effects of mediatisation on community formation and on individual sport practice using a social-constructivist approach. I combine this approach with an institutionally grounded concept of light sport communities, which I will introduce later in this chapter. Frandsen (2020, p. 101) states that "it is absolutely crucial to integrate recreational athletes' use of digital media into such a highly complex understanding of institutional change." This thesis seeks to advance the discussion of the larger institutional change through an exploratory, bottom-up approach to digital networked media use from the perspective of the two sport disciplines. In the next section, I provide an overview of how globalisation, commercialisation and individualisation relate to networked media and present key perspectives for understanding sport-related digital media use.

## 2.2 Societal metaprocesses and digital sport platforms

In Europe, sport-related networked media use reflects the changing cultural constructs, norms and values of western societies (see Frandsen, 2020). Apart from mediatisation, also globalisation, commercialisation and individualisation shape the meaning of DMP in recreational sport cultures. In the following, I give a brief overview of how these societal metaprocesses relate to sport-related networked media use.

Before the advent of digital networked media, sports practitioners engaged in subcultural activities within the possibilities and limitations of the surrounding environment and cultural norms. DMP have facilitated global means of communication, allowing people to connect with distant others without

boundaries of space and time. Today, recreational sports practitioners are to a great extent influenced by global sport media content that they may apply locally in their everyday sport practice. At the same time, they often share local examples and variations of a practice on global DMP. Effective global distribution channels and large networks enable that a local production may rapidly become a global phenomenon. Thus, digital media both enable and give new impetus to the globalisation of sport.

Sport-related digital media use is accelerating not only the globalisation but also the commercialisation of sport. Commercialisation affects both professional and recreational sport activities: grassroots organisations based on volunteer work are being replaced by commercial sport providers, professional athletes' activities are being regulated by their sponsors, and recreational practitioners increasingly rely on commercial service providers in their practice. The majority of popular DMP are commercial companies. They follow the logic of connectivity, which refers to their affordances to connect users with each other and with personalised advertising (van Dijck & Poell, 2013). According to Frandsen (2020, p. 109), connectivity "reflects aspects of mediatisation that have extensive implications for sport as an institution." On the one hand, connectivity supports social networking and the formation of light communities, and on the other hand it increasingly connects recreational sports practitioners with commercial interests (Frandsen, 2020).

The commercialisation of sport is a complex process because sports practitioners themselves are involved in commercial activities on many levels (see Edwards & Corte, 2010). For example, some local grassroots social networks and communities have been established in collaboration with global sport brands (Frandsen, 2020). Also, through digital media, some practitioners are able to commercialise their self-produced content and transform a leisure interest into a subcultural career (Snyder, 2011; see also Dumont, 2015; Woermann, 2012). Sport and commercial activities are intertwined to the extent that "the project of the self as such may become heavily commodified … [as] not just lifestyles, but self-actualisation is packaged and distributed according to market criteria" (Giddens, 1991, p. 198).

Commercial parties take advantage of what is called differentiation in sport. In the sport context, differentiation refers to the increasing diversification of sport organisations' and individual practitioners' goals, motivations and actions (see Pfister, 2006). Differentiation is seen as new performance styles and activities that lead to a variety of practitioner groups and subcultures within each sport (van Bottenburg & Salome, 2010). Differentiation is, in turn, closely related to individualisation. Individualisation means that in late modern societies, "new demands, controls and constraints are being imposed on individuals" (Beck & Beck-Gernsheim, 2009, p. 14), and consequently, human identity is being transformed "from a 'given' into a 'task'" (Bauman, 2012, p. 31). Individuals are urged to take responsibility for this task and to engage in "life politics" through "day-to-day decisions on how to live" (Giddens, 1991, p. 14). In the sport context, commercial DMP and technologies help individual practitioners to structure and

organise their everyday exercise routines according to their individual needs and desires (Frandsen, 2020). Sports practitioners are willing to consume sporting goods and services that meet their specific needs. By combining different leisure-time activities and services, individuals can create their personal lifestyle of sport practice that they, in turn, may share with others online.

Late modernity is also characterised by reflexivity, in which "social practices are constantly examined and reformed in the light of incoming information about those very practices, thus constitutively altering their character" (Giddens, 1990, p. 38). Through reflection, individuals have the capacity to engage in life politics, that is "a politics of lifestyle … [and] self-actualisation" (Giddens, 1991, p. 214) For those sports practitioners who actively share content online, sharing is a reflexive practice through which their sporting identity is continuously constructed and redefined (Gilchrist & Wheaton, 2013; Woermann 2012). Reflection, however, is not only an individually conducted activity; it is also, and importantly, a communal practice among the members of a subculture.

Physical experiences and digital media continuously shape each other when practitioners consume, produce and distribute local and global sport media content (Dumont, 2014; Gilchrist & Wheaton, 2013; Jones, 2011; Woermann, 2012). DMP and technologies have made possible the extensive production and distribution of user-generated content (UGC). UGC refers to non-professional media content that individuals create, remix and share online (Matikainen, 2015). Sport-related UGC has become increasingly popular during the past decade due to smartphone applications, action cameras, smartwatches, activity trackers, and wearable technology (see Thorpe, 2017). Not only professional athletes but also recreational sports practitioners on all levels of skill and commitment create educational, experiential and entertaining content both for their own consumption and for others who share their interest. This takes place in the form of text, numbers, GPS-tracks, photographs, videos and multimedia products on various DMP.

Digital media technologies offer affordances that enable practitioners to create sport media products of their individual performances, for example using visualisations, filters and special effects. These affordances help practitioners on all levels of skill and commitment to regard themselves as serious individuals (Frandsen, 2020). Furthermore, by sharing UGC online, recreational practitioners can place themselves under the gaze of other practitioners, and thus legitimise their place as a part of the subculture (MacKay & Dallaire, 2014; Olive, 2015). In consuming sport media products, the audience, including the producer, attribute new meanings to the content and recreate the whole subculture (Jones, 2011; Woermann, 2012).

For many recreational sports practitioners, digital media use is an integral part of the sport practice; it has become "a norm, an ever-present and thus invisible aspect of one's daily life" (Kopecka-Piech, 2019, p. 2). It is, however, important to emphasise that the active use of DMP and technologies does not mean that everyone is active in producing or distributing content. According to

van Dijck (2009, p. 44), "it's a great leap to presume that the availability of digital networked technologies turns everyone into active participants." In fact, research shows that only a small proportion of DMP users can be classified as frequent content producers (Tagarelli & Interdonato, 2018). Presumably, this is also true for sport-related digital media use. Frandsen (2020, p. 104) argues that the mediatisation of sport "may manifest as both an intensified need for [digitally] mediated communication in order to make a physical practice meaningful, and as calculated non-use in order to avoid communicating certain kinds of meaning to either oneself or a group of peers."

To find out more about where the kind of intensified need or calculated non-use stems from, in this thesis I explore what meanings the practitioners studied here ascribe to sport-related digital networked communication and DMP. In this thesis I investigate recreational sports practitioners' digital media use and digital networked communication in relation to community building. In the next section, I take a closer look at the concepts of community and social networks and give an overview of how the understanding of these concepts has changed with the advent of digital media. I also discuss why personal social networks offer a valuable approach for the study of contemporary leisure-time cultures and communities.

## 2.3 Communities and social networks

The conventional way of looking at communities is to define them as spatially bounded groups. In that sense, a village or a neighbourhood is seen to form a community because people who live close to each often make use of the same facilities and share an interest in local issues (Wellman, 2001a; Hopkins et al., 2004; Chua et al., 2011). However, as many researchers (e.g., Baker & Ward, 2002; Blanchard & Markus, 2002) point out, place-based groupings do not always form a community, so a broader definition of the concept community is needed. Baker and Ward (2002, 211) define a community as "a self-organizing group of individuals whose organizing principle is the perceived need for co-operation so as to satisfy a shared interest or set of interests." This definition is based on shared needs and goals instead of a shared locality. In this thesis, I examine communities from this perspective.

Traditionally, sport practice in Europe is strongly bound to sports clubs (see Breuer et al., 2015). Sports clubs offer their members a community, an identity, training facilities, coaches, and peer practitioners. In Finland, grassroot-level sport practice is primarily organised in non-profit sports clubs that rely on voluntary work (Vehmas et al., 2018). Many of the long-established Finnish

sports clubs were originally formed around a social class or an ideology.[9] This strengthened the feeling of 'us' against 'them' (see Meyrowitz, 1997). Organising in traditional sports clubs is comparable to Wellman's (2001b) conceptualisation of little boxes. Wellman's little boxes are hierarchically structured, densely knit, bounded groups that have a high level of social control (Wellman, 2001b). Interaction in little boxes happens mainly inside and not between groups, so the groups' resources are limited to what is available within the boxes (Wellman, 2001b).

The organisation of sport in Finland has undergone many changes as Finland has become a more urbanised, pluralistic, individualised and market-driven society (Koski, 2012). Sport organisations have been compelled to change their orientation from demand to supply and at the same time, sport disciplines are having to compete more aggressively for media attention (Koski, 2012). The new wave of mediatisation led by digital media has further reinforced this trend, forcing sport organisations to diversify and dissolving long-established distinctions between the organisations (Frandsen, 2020, see also Borgers et al., 2018; Koski, 2012). As emphasised in the previous sub-section, the world has globalised and at the same time individual goals and needs have become more important (see Castells, 2010; Meyrowitz, 1997). Leisure-time sport participation is undergoing a transformation that is "not just a linear result of societal processes of change, but should be perceived as a complex interplay between societal processes, organisational cultures and traditions and individual action" (Borgers et al., 2018, p. 86).

Because of this kind of interplay, new types of communities have emerged alongside traditional sports clubs. These types of communities have been described as tribal (Maffesoli, 1995) or liquid (Bauman, 2012). The focal idea in late modern communities is that they are temporary, loosely organised entities based on shared emotions, lifestyles, or consumption practices (Blackshaw, 2010; Cova, 1997). An individual may belong to several communities without being particularly attached to any of them (Wellman, 2001a). Attachment to multiple, even conflicting communities is possible through different roles; in forming communal connections with others, people often bring out a specific value, ability, or part of themselves, but not the whole person (Wellman, 2001a). Late modern communities enable an individual to construct a temporary identity that may dissolve once they leave the community (Maffesoli, 1995; Bauman, 2004).

Whereas Maffesoli (1995) considers that late modern communities unify individuals with similar interests and thus offer a temporary sense of community, Bauman (2001) takes a more critical stance and proposes that individuals use communities for individual purposes. These purposes are deeply rooted in consumerism and identity building, so members of late modern communities do not gain a communal but merely an isolated experience of a community (Bauman,

[9] Organising based on social categories was a consequence of the industrial revolution, and especially the development of print media. Printed language helped people to develop a stronger national, class, or ideology-based identity (Meyrowitz, 1997). For example, in Finland, the first women's gymnastics club was founded in 1876 and the first workers' sports club in 1887 (Sarje, 2011).

2001, 2012). In this thesis, I seek to advance the discussion about late modern communities by exploring which of these two perspectives is more valid in the context of this study.

In the sport context, Borgers et al. (2018) introduced the concept of light sport communities to describe changes in participation and in the organisation of physical activity in recent decades. Light sport communities are comprised of informal, self-organised sport groups. In contrast to heavy sport organisations (such as traditional sports clubs) that value rules and commitment, light sport communities are flexible in their nature (Borgers et al., 2018). Participation in light communities does not mean that a person could not at the same time be involved with more traditional communities, such as sports clubs. Within this framework, it is important to underline that an individual can experience all forms of social interaction, from traditional to light communities; they are not mutually exclusive (Cova, 1997).

In this thesis, I use the concept light sport communities as an umbrella term to discuss late modern, loosely structured sport entities that include location-based meetups and online groupings that take place on diverse DMP. Van Dijck (2009, p. 45) points out that the term community on DMP "refers to a large range of user groups, some of which resemble grassroots movements, but the overwhelming majority coincide with consumer groups or entertainment platforms." Light sport communities are thus here understood to include this whole spectrum, and combinations of commercial and grassroots communities. From an individual's perspective, the great variety of light sport communities that exist today increases their freedom of choice. Because of the temporary character of the communities, people may not be very attached to them; instead, people will rely on their social networks for sociability, support, information and collaboration (Wellman, 2001b).

In my research, I approach recreational sports practitioners as networked individuals who are linked to each other through weak and strong social ties (see Rainie & Wellman, 2012). Social ties are "the links that bind individuals to other individuals, as manifested in the frequency and kinds of communications among individuals" (Pickering & King, 1995, p. 480). In the context of this thesis, I understand social ties (or social contacts) as weak or strong interpersonal connections to other practitioners within the same sport discipline. Using their social ties, people share various resources, such as information or goods. People who are connected through strong ties are often willing to share more resources compared with people who are connected through weak ties (Wellman & Wortley, 1990). However, a group of people connected via strong ties are limited to the resources within the group unless some members have access to other groups through their weak ties (Wellman, 2001b). Thus, the strength of weak ties is that they provide more diverse resources than strong ties do (Granovetter, 1973).

Social ties are the basic units of social networks. In the present framework, I rely on Wenger et al.'s (2011, p. 9) definition of a social network as "a set of connections among people, whether or not these connections are mediated by

technological networks." Social network research has two distinct theoretical foundations: formalism and relationalism. Formalists are mainly concerned with the forms of social networks, whereas relationalists emphasise the meaning of relations in the networks (Erikson, 2013). Relationalist research focuses on the evolving microstructures of networks, whereas formalist research focuses on their static macrostructures (Erikson, 2013). For relationalists, interaction between one's network ties is important because it forms the basis of human relations (Erikson, 2013). In this thesis, I study social networks from a relational perspective by examining the interaction between different actors in the networks and the meanings that are created through the interaction.

I also apply the perspective of personal (ego-centric) social networks. Personal social networks form around individuals, who create their social ties and build their networks "on the basis of their interests, values, affinities, and projects" (Castells, 2001, p. 131). Personal social networks are typically large and diversified, and they include both weak and strong social ties, as well as densely-knit social groups (Boase & Wellman, 2006). According to Wellman (2001b), each individual is responsible for creating and maintaining all their social ties, so is neither limited nor supported by a traditional cohesive community.

Personal social networks are at the heart of networked individualism. Rainie and Wellman (2012) describe networked individualism as "the new social operating system" and it is rooted in what they call "the triple revolution." By that they mean the sequential revolution of social networks, the internet and mobile media. Rainie and Wellman (2012) point out that the shift towards social networks as a way for people to relate to each other happened before the coming of the Internet, but DMC and mobile media have significantly accelerated the trend towards networked individualism.

In the context of leisure, networked individualism means that people move from organised recreational groups to shifting networks of recreational friends (Rainie & Wellman, 2012). According to Wang et al. (2018), networked individuals are characterised by having multiple, partial and diverse social networks, by playing an active role in connecting with other people, and by using digital media to communicate with their personal social networks. In this thesis, I examine whether these three attributes hold true also for the sports practitioners studied here. In the next section, I take a closer look at networked-based social support and its importance for sport practice. I also discuss the concept of communality in the context of social networks.

## 2.4 Social support and communality

Sharing sport-related content online facilitates the exchange of social support. DMP lower the threshold for seeking help and advice especially through weak ties. Social support can be defined as "an exchange of resources between at least two individuals perceived by the provider or the recipient to be intended to enhance the well-being of the recipient" (Shumaker & Brownell, 1984, p. 11). Social

support can be exchanged between two people or among many people. Network support "enables people to feel part of a group whose members have common interests and concerns" (Cutrona & Russell, 1990, p. 322).

Social support can be informational, instrumental, appraisal, or emotional (Berkman et al., 2000). Informational support refers to the exchange of advice or information, whereas instrumental support refers to concrete assistance with tangible needs (Berkman et al., 2000). Appraisal support is understood as useful feedback for self-evaluation, through which people gather insights into their own capabilities (Langford et al., 1997). Emotional support, in turn, relates to the expression of sympathy, caring and being valued (Berkman et al., 2000). In the context of sport, informational support can be manifested in providing information about sport gear, instrumental support in teaching sport techniques, appraisal support in encouraging a fellow practitioner to overcome a physical challenge, and emotional support in consoling a practitioner after an unsuccessful attempt.

Social peer support has been shown to impact physical activity behaviour indirectly by influencing self-regulation and self-efficacy (Anderson et al., 2006; Samson & Solmon, 2011) or intention (Cavallo et al., 2014). However, research shows a large variation in the effect of peer support on physical activity behaviour, which may be due to previous studies having taken account of the different dimensions of social support to varied degrees (Scarapicchia et al., 2017). Most studies on social support and physical activity are quantitative in nature. This thesis seeks to contribute some additional qualitative insights to the research on social support and sport.

Perceiving the possibility of gaining social support from one's social network is an essential part of experiencing communality with one's peers. The term communality is not widely used in the literature and there is no well-established definition of it. Communality is close to the commonly used concept of a sense of community, which McMillan and Chavis (1986, p. 9) define as the "feeling that members have of belonging, the feeling that the members matter to one another and to the group, and a shared faith that their needs will be met through their commitment to be together." The sense of community does not, however, accurately describe the emotion that individuals experience when they feel connected to a larger network of people that is not limited to the boundaries inherent in a community. For this reason, I argue that it is important to make a distinction between the concepts of communality and sense of community.

Another concept that is close to communality is collectivity, which is defined as "the experience or feeling of sharing responsibilities, experiences, activities" (Cambridge Dictionary, n.d.). In essence, this definition describes well how I understand and approach communality. I have chosen, however, not to use the term collectivity in this thesis because collectivity and especially the concept collective action are commonly associated with a social or political ideology (see e.g., Mikołajczak & Becker, 2019). In addition to collectivity, there is also the term connectivity. However, in communication research there is already an established understanding of the concept of connectivity as algorithm-

based connections between users and between users and advertisers on DMP (van Dijck, 2013; van Dijck & Poell, 2013). [10] As opposed to automated connectivity, Van Dijck (2013) proposes to use the term connectedness when referring to organic human connection. Whereas connectedness connotes a set of relationships, communality, in my view, more accurately describes the common and meaningful experience of sharing. Therefore I have chosen to use the latter term in this thesis.

Jokela et al. (2015, p. 435) approach communality as "a new method of examining and understanding people's connections, spontaneous networks and common pursuits as a counterforce to extreme individuality and consumption." Following this line of thought, in this thesis I use the concept communality as a starting point to explore how recreational sports practitioners experience connection, togetherness or solidarity within their social networks and light sport communities. I also aim to conceptualise communality in my chosen context and to deepen our understanding of the communication practices that strengthen communality and social peer support among networked sports practitioners.

[10] In Section 2.2 I approach connectivity more from this perspective.

# 3 THE STUDY

## 3.1 Methodological approach

The methodological approach in this study is based on a pragmatic stance. Pragmatism advocates for the selection of research tools that are best suited for solving the problem at hand (Tashakkori & Teddlie, 1998). At the same time, it is important to underline that the philosophical roots of the paradigm go beyond the 'everyday pragmatism' that justifies the use of appropriate methods to meet the research ends (Biesta, 2010; see also Morgan, 2014). Pragmatism as a paradigm does not settle in between quantitative and qualitative approaches, but it abandons the traditional philosophical dualism about the nature of reality and knowledge (Johnson & Onwuegbuzie, 2004). It treats and honours different schools of thought as research communities based on shared beliefs and actions that guide how the researchers within them engage in searching for knowledge (Morgan, 2014). According to the pragmatic stance, our reality is based on our actions, and knowledge can be acquired through "the combination of action and reflection" (Biesta, 2010, p. 112). Research, according to pragmatists, is inherently social and context-bound (Morgan, 2014).

Pragmatism endorses empiricism as a source of knowledge and holds that the research question should drive the methodological approach of the study (Johnson & Onwuegbuzie, 2004). When a combination of approaches would provide the best means of answering research questions, various methods may be used. Mixed methods research relies on a combination of inductive, deductive and abductive logics, and both qualitative and quantitative research approaches

(Johnson & Onwuegbuzie, 2004).[11] My choice to use a mixed methods design in this study was based on the premise that in order to fully answer the research question and to produce more complete knowledge of the study area, both quantitative and qualitative approaches were needed.

This study was designed on the basis of a mixed methods approach for the sake of complementarity and development. Complementarity means that multiple methods are used to enrich and elaborate understanding of a phenomenon, while development means that the results from one method are used to develop or to inform another method (Greene et al., 1989). For these purposes, I adopted a sequential mixed-method research design where quantitative and qualitative components were given equal status (see Johnson & Onwuegbuzie, 2004).

Figure 2 presents an overview of the mixed methods design that I applied. I collected the data for this study using an online survey, semi-structured interviews and online observation. The survey was used to get a large-scale overview of the phenomenon in question and to inform and develop the purpose and design of the qualitative components. Interviews were used to collect data on the research participants' in-depth insights and perspectives, and observation was used to study actual practices and the manifestations of these insights. Integration of the data took place at the level of theory, meaning that the theoretical framework I have described guided the design and analysis of all three components, and that at the level of analysis, the results from different components were mirrored throughout the analytical process. The final inferences were based on the integrated results of the three components.

[11] What is understood as mixed methods research has aroused controversy "stretching from basic issues of the legitimacy and meaning of mixed methods to its philosophical underpinnings, and on to the pragmatics of conducting a mixed methods study" (Creswell, 2011, p. 281). Johnson et al. (2007, p. 129) define mixed methods research as "an intellectual and practical synthesis based on qualitative and quantitative research." On the basis of this definition, I characterise this study as a whole as mixed methods research.

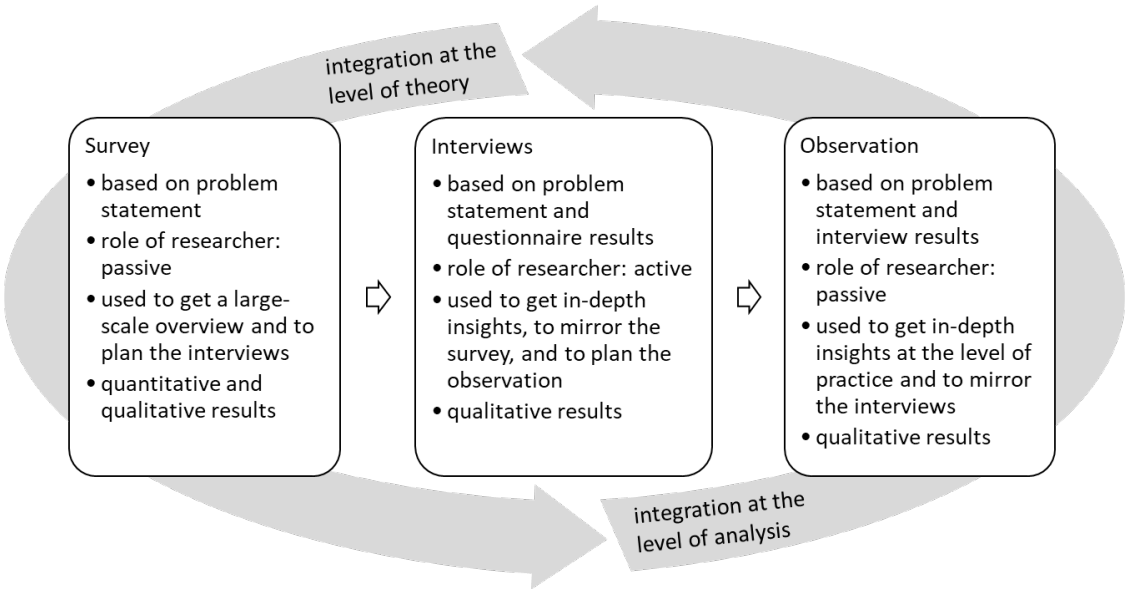


FIGURE 2 Sequential mixed methods design

## 3.2 Target population

This research was limited to individual recreational sport practice. In other words, elite sport, team sport and sports clubs were excluded from the study. The focus of the study was on individual sports because they were assumed to provide novel insights into community building and communication. In contrast to team sport, where practitioners as a spatially bound group form a community in the traditional sense, individual sports practitioners may more frequently lack a sense of belonging and connection with other practitioners. Thus, they may be more inclined to seek alternative ways such as DMP to connect with their peers.

Furthermore, this research focused on physical activities that can be labelled as lifestyle sports (Wheaton, 2010). Well-known lifestyle sport activities include skateboarding and surfing. The central common factor in lifestyle sport is practitioners' holistic orientation towards the practice. In lifestyle sport, participants' physical and mental as well as cultural, emotional and existential needs are taken account of (Atkinson, 2010). In this study, the term is used to contrast with conventional sports, which are physical activities driven more by

competition, achievement and spectators.[12] Conventional sports, such as football and track and field, are generally systematically structured and organised, their activities reaching from grassroots sports clubs to national and international sport federations. The distinction between conventional and lifestyle sport is made here on the assumption that the results of the study can be better applied to the latter, whose activities are less structured and less rooted in western societies.[13]

Two lifestyle sport disciplines, climbing and trail running, were selected for the research. I made that choice among lifestyle sport disciplines that have a long tradition of being practised, have gained popularity in recent years, are practised around the globe, and have a visible presence online. Climbers and trail runners were studied in the Helsinki region of Finland because both climbing and trail running are practised widely and have strong communities in the region. A geographical restriction was made to reduce the bias that might occur when participants had different access to sport sites, groups or communities due to their place of residence.

## 3.3 Data collection and analysis

Table 2 provides an overview of the collected data. Altogether, 301 recreational sports practitioners participated in the research. I collected the data for the study in 2016–2017 using an online survey, semi-structured interviews and online observation. I selected these methods because they were effective and easy to implement with the available resources. Moreover, together, the three methods generated a dataset that offered many different perspectives on the study area, which was needed to answer the main research question. I decided to use the three datasets across the articles to enable a more comprehensive analysis of the specific viewpoints on visual and self-tracking communication (Articles II and III).

[12] In the literature, lifestyle sports are sometimes labelled alternative or extreme sports. These terms describe well what these activities involved when they were established, but as recent research shows, lifestyle sport has become popularised, regulated and relatively safe (e.g., Booth & Thorpe, 2007; van Bottenburg & Salome, 2010). Thus, both conventional and lifestyle sports can today be seen as mainstream activities, and the term mainstream no longer translates well as conventional. Sometimes the term conventional is also used meaning traditional, just as lifestyle is replaced with modern or postmodern. However, in order to keep in view the fact that conventional sport activities have not disappeared but rather exist side by side with lifestyle sport, I avoid using these terms. Thus, in the scope of this thesis, I use only the terms conventional sport and lifestyle sport.

[13] Conventional sports are rooted in western societies in many ways. For example, they are often linked to national identity, sport politics and physical education (see Bairner, 2001).

TABLE 2 Outline of the data and methods

| Data collection method | No. of participants | Data collection | Main analysis method | Data analysis | Data used in |
|---|---|---|---|---|---|
| Survey | 301 | 2016 | Statistical analysis | 2017 | Articles I & III |
| Interviews | 15 | 2017 | Qualitative content analysis | 2018 | Articles II & III |
| Observation | 10 | 2017 | Image type analysis | 2019 | Article II |

### 3.3.1 Survey

Participants were briefed about the research at the beginning of the online survey that formed the first part of the study. The survey was widely promoted on Finnish climbing and trail running Facebook groups and online communities and directed towards practitioners living in Helsinki. Permission to promote the survey was given by the administrators of the sites and specific groups. The survey was open from March to May 2016 and available in Finnish and in English. Participants were not offered any reward for participation.

On a general level, the survey investigated recreational sports practitioners' communication practices, social tie formation and social support exchange in online and offline settings. Participants were asked questions about their climbing or trail running communication practices, digital media use and sport-specific social contacts. Most questions were closed and had multiple choice answers as well as space for supplementary answers. Different perspectives for examining communication practices were how, where, with whom and how often communication took place. Additionally, Likert scales were used to test participants' motivation for practising climbing or trail running, and their opinions about social contacts and communality in the context of that particular sport. At the end of the survey, participants could answer two open-ended questions about the meaningfulness of their sport-specific social contacts. A detailed account of the survey can be found in Appendix 1.

Altogether, 301 recreational sports practitioners answered the survey. Of these, 59% were climbers and 42% were trail runners. Regarding gender, 53% were male, 46% female, and 1% other. In terms of age, 18% were in the age group 15–29, 49% were between 30–39, 27% between 40–49, and 6% between 50–69. A combined variable of practice length, frequency and self-estimated competence shows that 16% of participants can be classified as novice practitioners, 60% as intermediate practitioners, and 24% as advanced practitioners. The respondents were most often highly educated and employed full-time.

To analyse the survey results, I conducted descriptive analysis, Chi-square tests, correlation tests, and independent sample t-tests using the software package SPSS statistics. Additionally, I coded the two open-ended questions (256

answers) inductively and analysed them using qualitative content analysis, following Schreier's (2014) model. I found Schreier's (2014) version of qualitative content analysis systematic and transparent, so I decided to use her step-by-step analysis guide for all the qualitative data that the methods produced.

### 3.3.2 Interviews

At the end of the survey, participants were asked if they would be willing to take part in a follow-up interview. I made the selection of interviewees from among the 60 participants who expressed their willingness to participate. The aim was to collect a varied sample with regard to age, gender, perceived competence and the use of DMP. Prior to data collection, I asked the participants to read and sign a consent form concerning the interview guidelines. The consent guaranteed anonymity and stated that participation was voluntary and could be terminated at any point in time.

I conducted thematic semi-structured interviews with 15 participants in February–April 2017. Eight of the participants practised climbing and seven trail running as their main sport activity. The participants' age range was between 24 and 52 years. Nine of the participants were male and six were female.

The purpose of the interviews was to identify the meanings that the practitioners ascribed to social interaction, different DMP and diverse sport-related content. A detailed account of the interview frame can be found in Appendix 2. I asked all the predetermined questions in each interview, but their order varied and they were supplemented with other questions, depending on the way the discussion developed. The interviews lasted between 45 and 100 minutes. I recorded all the interviews and later transcribed them using intelligent verbatim form. I reached data saturation after 12 interviews. This means that the last three interviewees provided no new dimensions or insights into the topics discussed. In Appendix 3 I present two extracts from the interview data in their original language.

After anonymisation of the interviews I organised the data into themes that were both derived from the interview topics and emerged from the interview data. Subsequently, I analysed each thematic section using a combination of the inductive and deductive approaches of qualitative content analysis, in accordance with Schreier's (2014) model. The aim of the content analysis was to identify meanings and mindsets embedded in the interviews. I used the final thematic coding frames both separately and in combination with the other data I had collected to go deeper into the thematic sections, and finally examined them in parallel to form an overview of all the interview data.

### 3.3.3 Observation

I chose Instagram as the platform for observation because during the research interviews the importance of visual media in the context of physical activity was repeatedly emphasised by the interviewees, and because Instagram emerged as

a mobile application that was widely used among the practitioners. All the participants who used Instagram and who were willing to be observed were included in the third part of the data collection. In total, I observed 10 practitioners, five of whom practised climbing and five trail running as their main sport activity.

I sent a consent form about the observation guidelines to all participants via email and asked participants to confirm that they had read and accepted the consent prior to data collection. In giving their consent, the participants gave their permission to use their photographs in academic presentations and publications provided that their names and usernames were removed. I observed the participants' Instagram accounts for one month in the spring of 2017 and again for one month in the following summer. A photograph was included in the data if it, the related caption or the hashtags used indicated sport-related activities. Altogether, 165 Instagram photographs were included in the analysis.

The purpose of the online observation was to investigate how the sports practitioners in the study used photographs to communicate the social and cultural meanings that they ascribed to visual communication. I analysed the photographs using image type analysis[14] following Grittmann and Ammann (2009). I chose image type analysis as the method of analysis because it made it possible to investigate the social and cultural meanings that photographs bear and to interpret their intrinsic values and ideas (see Grittmann, 2014). I also studied the captions and hashtags of the selected photographs using qualitative content analysis (Schreier, 2014) and categorised them deductively into the categories that emerged from the interview data. Finally, I analysed Instagram descriptively to get an overview of the communicative affordances that shape how the participants in my study use the platform.

## 3.4 Researcher's positionality

Reflexivity helps a researcher to examine on what grounds they base their observations and knowledge of a social world, thereby enabling them to be observant about the strengths and limitations of the research project (May & Perry, 2014). Acknowledging the researcher's positionality is also crucial from a pragmatic viewpoint: "pragmatism insists on treating research as a human experience that is based on the beliefs and actions of actual researchers" and so the paradigm calls scholars to contemplate how and why they make their choices about the way they do research (Morgan, 2014, p. 7). Reflecting on my positionality as a researcher has been a process that began before the data collection and continued through the analysis and writing phases. In the following, I clarify my position as a researcher and my relation to the research field, research topic and the research subjects.

I am a 31-year-old, white, middle-class female. Sport has always been a big part of my life. I grew up as a member of a sports club that belonged to the

[14] For a detailed account of image type analysis steps, see Article II, pp. 5-6

Finnish Workers' Sports Federation. I competed in cross-country skiing for several years and towards the end of my athletic career I started my university studies in the social sciences of sport. After completing my master's thesis on online sport communities I was left with many unanswered questions about the topic. I therefore decided to take my research in the area further.

The two sport disciplines that I chose to study in my dissertation are climbing and trail running. I have some experience in both types of sport, but on the level of a novice. Therefore, deviating from the norm for lifestyle sport researchers (see Olive et al., 2016), I would define myself more as an outsider than an insider of the sport subcultures explored here. The participants in the current study regularly use digital media as a part of their sport practice, but I do not. After ending my athletic career, I stopped using all sport-related technology and rarely look for sport-related information, entertainment or social support online. Today, I most often practise recreational sport alone.

Whereas for the first twenty years of my life I was a part of a strong community as a member of a sports club, during the past ten years network-based organising has taken over how I socialise with other people. In the course of the past ten years I have lived in four different countries and along the way have created worldwide networks. I currently do not belong to any stable communities, but instead completely rely on my social networks for knowledge exchange, social support and communality. In order to do this, I regularly use networked media to keep in contact with my family and friends.

To summarise, my background has affected my research in the following ways: I chose to study digital networked communication and communality from the viewpoint of physical activity; I chose individual instead of team sport disciplines; I examined digital media use and network-based organising from the perspective of an insider, but I studied sport-related online interaction and the selected sport subcultures as an outsider. Arguably, these positions and decisions have both advantages and disadvantages. I am observant about different elements in online interaction that bring about social support and a sense of communality. However, I cannot fully comprehend the subculture-specific tacit assumptions and unspoken rules of interaction and social hierarchy that may have affected how the research participants used digital media as part of their sport practice.

Sharing a cultural background and being close to the age of most interviewees was certainly helpful for communication and mutual understanding during the interviews. At the same time, it means that I have been studying the Finnish individualistic, low-hierarchy, indulgent culture (see Hofstede Insights, n.d.) and its representatives as a product of it. Unavoidably, this has guided the qualitative analysis of the study and the discussion in this thesis. In the Conclusion I will come back to this point and evaluate what advantages and disadvantages my positionality has had for the study, and how the discussion should be understood in the context of my personal experience of the research topic.

# 4 ARTICLES INCLUDED IN THE STUDY

## 4.1 Article I

The first article (Ehrlén, 2017) focuses on communication practices and the formation of social ties. The article is based on the survey data and it therefore gives an overview of the subject of study. The purpose of the article is to examine climbers' and trail runners' social interaction and the meanings that they attribute to FtF communication and DMC. The article also investigates how and why climbers and trail runners form social ties with each other. The article draws on Thorpe's (2017) research agenda for studying sport cultures across physical and digital spaces and Berkman et al.'s (2000) conceptualisation for studying social support exchange in social networks.

The results indicate that the circumstances in which the exercise takes place and the sport subculture determine to a great extent how and where practitioners socialise. If practitioners share a geographically defined sports site, they socialise more FtF. If they are not connected with each other by a sports site, they are more social at sport events and online. However, a subculture does not define the actions of individual practitioners. Those practitioners who place more importance on their social contacts communicate with their peers more FtF and by using DMC channels. The reasons for forming or not forming social ties are based on individual needs, goals and motivations.

The results also show that the site for socialisation influences what kind of social ties practitioners form with their peers, as well as what kind of meanings they ascribe to their contacts. Practitioners who socialise FtF form strong social ties that provide emotional support and motivation for the practice. Practitioners who socialise on DMP form weak social ties that are characterised by the exchange of information and entertainment.

In the article, I put forward two arguments. Firstly, that while the use of digital media is an integral part of contemporary leisure sports practitioners'

sport practice, FtF communication and doing sport together are essential for the formation and maintenance of strong social ties. Secondly, that DMP and the various technologies provide affordances that guide practitioners' actions; how practitioners use these affordances in their sport practice is shaped, however, by the sport culture, the situation, and personal choices. In conclusion, I propose that contemporary leisure sports practitioners ought to be seen as networked individuals who rely on the network support provided to them by their sport-related social contacts.

## 4.2 Article II

The second article (Ehrlén & Villi, 2020) investigates climbers' and trail runners' photo-sharing practices. The article is based on the interviews and the observation data. The purpose of the article is to examine how climbers and trail runners exchange social support and build communality through photo sharing online. The interview data are used to get insights into the social and cultural meanings that climbers and trail runners ascribe to the practice of sharing, and the observation data are used to study how practitioners use photographs to communicate these meanings. As a theoretical framework, the article uses Lobinger's (2016) texto-material perspective on photo-sharing practices.

The results show that practitioners share photographs to tell visual stories about the natural surroundings, athletic performance, togetherness and overcoming challenges, and through these stories they mediate their location and presence. Different types of visual content build and reinforce communality in distinct ways. Whereas inspirational photographs drive practitioners to explore, motivational photographs encourage them to keep going through goal setting and peer support. The value of visual communication online lies in its ability to inspire and motivate behaviour, to inform and affect decision-making, and to construct identities. In and through these processes, practitioners exchange social support and build communality within their social networks.

In the article, we argue that photo sharing in this context not only facilitates social relationships but is a meaningful social practice that is an integral part of the performance of the physical activity. We argue, further, that photo sharing has the potential to strengthen social ties and create communality within subcultural social networks because the members of these networks consider the practice of sharing visual stories to be meaningful in subculture-specific ways. We conclude with the suggestion that the value of online visual communication lies in the fact that it mediates a stream of momentary encounters between practitioners that merge into communally meaningful experiences.

## 4.3 Article III

The third article (Ehrlén, 2021) investigates trail runners' self-tracking practices. This article is based on the survey and the interview data. The purpose of the article is to examine social-communicative aspects of self-tracking, and the support that these aspects and their associated practices may provide for physical activity behaviour. The survey data are used to recognise broader patterns of the use of self-tracking technologies and platforms, whereas the interview data are used to go deeper into the meanings that trail runners ascribe to self-tracking. The article draws on van Dijck and Poell's (2013) framework of social media logic and Frandsen's (2020) theorising on the mediatisation of sport.

The results show that sharing exercise data with other practitioners on a regular basis can support physical activity behaviour because it is mediated by social peer support. For those who regularly share their physical activity data, sharing has both a communal and a self-motivational value. The communal value of data sharing manifests itself when practitioners share information about their workout routines and routes. The self-motivational value in data sharing emerges in activities that support social comparison or recognition.

The results also indicate that trail runners do not use data sharing to reach a larger network of people but as a means to communicate with those peers who belong to the same subcultural sporting network. The prerequisites for gaining peer support from sharing activities are, then, that a sharer has a knowledgeable audience that includes at least some known social ties, and that sharing is, at least to some extent, a reciprocal activity.

The paper makes two key arguments. First, I argue that a key effect of mediatisation on individual sport practice is the ability of practitioners to choose their level and style of involvement with DMP. Second, I argue that social-communicative practices around self-tracking and exercise form a positive circle in which interaction, motivation and perceived social support reinforce each other. In conclusion, I suggest that for many users of self-tracking platforms, the communal and self-motivational values of self-tracking practices outweigh concerns about surveillance and the commodification of leisure time.

# 5 DISCUSSION OF FINDINGS

## 5.1 Meaning-making on digital platforms

In this thesis, I have examined light communities in recreational sport from the perspective of DMP. DMP provide an environment which transcends time and place and in which leisure sports practitioners can find others who share their interest. My research shows that DMP function as connecting hubs in which sports practitioners can communicate, organise themselves and exchange social support. At the same time, they operate as sites for identity construction and communication. This thesis supports "a social shaping approach" (Baym, 2015) as a useful perspective for understanding the role of DMC in recreational sport. According to this, DMP and technologies offer affordances that guide practitioners' actions, but it is the sport culture, situational impacts, and individual needs and goals that shape how practitioners use these affordances in their sport practice.

Other studies on sport-related digital networked communication and community formation share similar findings. McCormack (2018), who studied a mountain biking community, argues that mediated rituals extend and strengthen social relations between practitioners. McCormack (2018, p. 575) concludes that bikers "employ [DMC] technologies in ways that strengthen weak ties, connect beyond local groups, and make community boundaries more porous." Likewise, Smith and Treem (2017, p. 149), who studied users of a cycling-focused fitness application, conclude that "individuals across locations can develop a sense of shared experience by jointly participating in a common online activity." Smith and Treem (2017, p. 137) view sport-related DMP users as being "engaged in actions with others that share communicatively negotiated meanings."

One key area of focus in this thesis has been the meanings that recreational sports practitioners construct through their social interactions on DMP. In this particular context I have defined meaning making as a hybrid outcome of

individual interpretations and interpersonal and cultural negotiations of life events and objects. The meanings that users ascribe to different DMP arise from a mix of the platforms' communicative affordances and constraints and the ways people make use of them (Baym, 2015; Lomborg, 2015). This study shows that leisure sports practitioners create meanings on DMP in social-communicative exchanges within a frame of reference that consists of both peer practitioners and top-level athletes (see Kneidinger-Müller, 2018). The thesis highlights especially the central role of visual and self-tracking communication in recreational sports practitioners' digital media use, and their value in creating meanings that nourish practitioners' interest in sport.

Previous empirical research has shown that recreational sports practitioners use DMP mainly to gather information, to interact with peers, to discover experiences and to find entertainment (Geurin-Eagleman, 2015; Hur et al., 2007; Kang, 2014; Ojala & Saarela, 2010). This study proposes a higher level of abstraction of the meanings sports practitioners ascribe to consuming, producing and distributing sport-related UGC on DMP. The meanings that this study has identified can generally be divided into two categories: they are either community-oriented or they have a self-motivational value.

Community-oriented meanings include sharing information, inspiration and motivation. The practitioners who took part in this study utilised sport-related information that is available online in their own practice and used DMC to share practice-related guidance both openly and privately with others. Apart from being informed, they were inspired by their peers' and top-level athletes' quantified and visualised performances. Likewise, they used both visual and self-tracking content to post about their personal goals and challenges. These practitioners regarded reciprocal spurring and the communal sharing of personal and collective accomplishments as highly motivating for their sport practice. Thus, the findings support previous studies arguing that digital media practices impact practitioners' integration into the sporting culture and communities (Jones, 2011; McCormack, 2018).

The self-motivational value that the practitioners in this study ascribed to content sharing emerges in activities relating to social comparison or recognition. By sharing self-tracking or visual content about their performances, practitioners compared their accomplishments and their level against their peer practitioners and top-level athletes. Additionally, by reacting to shared content through comments and "likes", practitioners were able to express recognition and to validate a shared performance.

Dividing meanings into the two categories presented above resonates with Oliver et al.'s (2018, p. 384) description of meaningful media experiences that exist in "a continuum, with self-related, egoic gratifications on one end, and self-transcendent experiences on the other." In addition to this continuum, the practitioners in the present study ascribed intrinsic and ritual meanings to the use of DMP. For many practitioners who were active in sharing sport-related

content on DMP, sharing was a habitual or in some cases an automated[15] practice that immediately followed and is therefore an integral part of the physical activity. These practitioners shared in a ritual manner for the sake of connectivity to their peers and to a larger community of practitioners.

The research indicates that the meanings practitioners construct in social interactions on DMP mirror identity building as a social process. Practitioners negotiate the styles and limits of their sport practice in social-communicative exchanges with their peers. Through sharing activities, they construct a common understanding and an identity of what it means to be a practitioner of a specific sport subculture, and they communicate their personal sporting identity (see Gilchrist & Wheaton, 2013; Woermann 2012). On DMP, users create momentary experiences of belonging to the subculture and to networks of practitioners, which keeps bringing them back to the platforms. Through social interaction and in interrelation with meaning making and identity building, practitioners exchange social support that may further motivate the sport practice. However, active use of DMP does not necessarily mean that practitioners are emotionally supported by the surrounding sporting subculture. One of the key findings of the research is that the prerequisites for gaining emotional and appraisal peer support for the sport practice through DMC are reciprocity, interaction with familiar others, and parallel FtF communication. Without these elements, the use of sport-related DMP is primarily beneficial for the sake of finding information and entertainment.

Figure 3 presents a summary of the process described above of the potential for DMP to provide support for a physically active lifestyle. In sum, the research indicates that motivation for physical activity though social interaction on DMP comes from meaningful encounters that bring about social support and provide a temporary sense of communality and identification with the surrounding sporting network and subculture. Whether individual leisure sports practitioners experience such meaningful encounters or not depends on their own know-how and will, the availability of interest-related DMP, locational-situational factors, and the norms of the surrounding sport subculture.

[15] Some of the practitioners studied here used self-tracking technologies or applications that automatically share their physical activity data on self-tracking or social networking platforms.

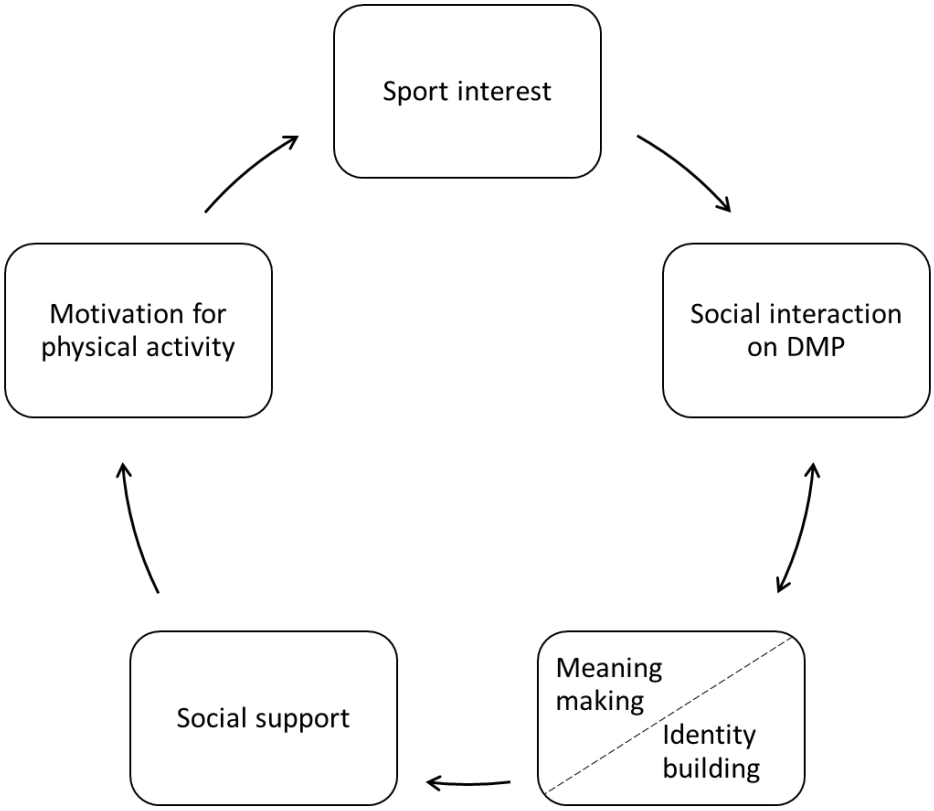


FIGURE 3 Motivation for physical activity through social interaction on DMP

## 5.2 Digital media and the organising of leisure-time

Looking at this subject from a broader societal perspective, the study shows that digital media have opened up new opportunities for community building and that therefore a formal organisational model is no longer the only way for sports practitioners to be involved in communal activities. The research indicates that light sport communities, which include both DMP and location-based meetups, are not in themselves strongly communal, but they help people to meet and communicate, stay connected, and actively manage "the social fabrics of their everyday lives" (Wang et al., 2018, p. 683). They offer meeting points for individual sports practitioners and the underlying structure for sporting networks to form. The research shows that social interaction at a certain meeting point at a certain time can create a temporary sense of communality (see Maffesoli, 1995). However, the underlying argument in this thesis is that belonging to light sport communities is not essentially a social experience unless people make social contacts who provide them with social support and give meaning to the communities.

The study indicates that recreational sports practitioners who are looking for others who share their interest opt for light sport communities because they give more freedom than traditional communities. Individuals may be attached to multiple communities simultaneously because the attachment does not have to

be permanent or particularly binding. The lightness of this kind of organising may also partly explain the wide range of sport forms and practices today; a "pick and mix" mentality enables everyone to create their own personal sporting identity, and individual freedom allows for more individualised ways of expressing oneself through physical activity. Thus, belonging to light sport communities is also an identity project that meets a person's individual needs (see Bauman, 2001).

The ongoing individualisation of society (see Beck & Beck-Gernsheim, 2009) and the differentiation of sport cultures (see van Bottenburg & Salome, 2010) are closely connected to consumerism and the commercialisation of sport. As evidenced in this study, leisure sports practitioners are ready to consume sporting goods and services that meet their specific needs. The practitioners studied here actively used many commercial DMP to consume, produce and share sport media content, and to organise themselves. In the context in which this research was carried out, many DMP function simultaneously as both service and community; that is, they follow the logic of connectivity (van Dijck & Poell, 2013). The participants in this study did not generally regard these two aspects as contradictory, but as complementary for the sporting culture. For many leisure sports practitioners, commercial DMP and technologies are an integral part of the sport practice. They help practitioners to keep track of what is going on in the sport and to maintain connections with their peers. Thus, the use of DMP both increases individual practitioners' connections to commercial interests and strengthens the commercialisation of sport in general (see Frandsen, 2020).

Commercialisation and mediatisation drive each other forward and fundamentally affect sport as a form of culture and as an institution. Frandsen (2020, p. 111) captures how new forms of organising in sport supported by mediatisation "are created from the bottom up and draw on voluntary work carried out by enterprising individuals from civil society, whereas their communicative platforms are global, social-media brands that are governed by commercial interests." In the context of this study, the mediatisation of recreational sport manifests as the growing digital mediation of social relations and as the increased and integrated use of commercial DMP and technologies as a part of the sport activity. The research also shows that one key effect of mediatisation on individuals' sport practices is that it enables practitioners to choose their level and style of involvement with DMP.

Taking this further, I argue that individuals' power to choose the extent to which they want to integrate the use of DMP into their sport practice is also a mechanism that drives mediatisation forward. As the study shows, individual practitioners' DMC activities vary between and within different sport subcultures. Leisure sports practitioners use DMP for a variety of individual and social purposes but, as the research indicates, they are not particularly attached to any one DMP for its own sake. If the platforms do not meet the needs of individual users or sporting networks, they may quickly be abandoned. Consequently, whereas sport disciplines today need to compete for mass media attention (Koski, 2012), networked media need to compete more vigorously for

the attention of sport subcultures and individual users. This, in turn, affects networked media, forcing them to create more personalised conditions for interaction. Commercial DMP are in the position of needing to provide affordable services that meet the needs of individualised practitioners and diverse sporting cultures. This, again, strengthens their logic of connectivity (see van Dijck & Poell, 2013) and contributes to the mediatisation of sport.

From the perspective of sport media consumption, this study supports the view that digital networked media continue to challenge the dominant role of broadcast media as sport content providers (see Frandsen, 2020; Hutchins & Rowe, 2009). Mobile media enable athletes on all levels to bypass journalistic content production, direct their own athletic narrative, and produce real-time content that their audience can privately consume from anywhere (see Hutchins, 2014). Besides peer-produced UGC, many of the practitioners in this study followed the content produced by top-level athletes and sport brand ambassadors.[16] They also felt that these athletes belonged to their techno-social sporting networks. These networks, which are sustained by content-sharing activities, are an important part of the complex media sport content economy and the subcultural media production that defines and distributes discipline-specific cultural knowledge and identity (see Gilchrist & Wheaton, 2013; Hutchins & Rowe, 2009).

This thesis underlines that sport in Finland, the organisation of which has traditionally relied on voluntary participation, is now more than ever compelled to acknowledge the role of network-based organising, which is shaped by mediatisation, commercialisation, globalisation and individualisation. As a result, sport as an institution is having to undergo a process of deinstitutionalisation, meaning that traditional sport organisations need to open up to lighter forms of organising (Borgers et al., 2018). At the same time, light sport communities may over time become more formalised; this is a process that Borgers et al. (2018) call the reinstitutionalisation of sport. As an outcome of deinstitutionalisation and reinstitutionalisation we may see the rise in what Hampton (2016) calls persistent-pervasive communities. Persistent-pervasive communities rely on the affordances of digital networked media and combine elements from traditional and late modern communities: they enable individuals to develop stronger community ties through more frequent interaction and to stay connected to multiple different communities over time (Hampton, 2016). This blurs the boundaries between different sport communities and organisations within the sport institution (see Frandsen, 2020; McCormack, 2018).

## 5.3 Final thoughts on communality

Conceptualising the new communality in leisure sport means paying attention to the means, content and meanings of communication, and how these affect sport's

[16] Influential athletes who represent and market sport brands.

social structures. To answer the overarching research question—how changes in communication and community formation constitute and manifest communality in recreational sport cultures—I end this chapter with some final remarks on digital networked communication in the context of this study.

Participation in leisure sport is undergoing a transformation that is guided by societal, cultural and technological changes as well as individual and subcultural responses to these changes. Sport communication is increasingly digital, and the ways of organising leisure time are more varied than before. When large-scale techno-cultural changes take place in a society, there is a tendency to fear for the loss of meaningful relationships and a real sense of communality (Baym, 2015; Rainie & Wellman, 2012). This thesis proposes that neither meaningful relationships nor communality have disappeared with the recent changes in sport communication and community formation, but they survive now in the form of networked individuality.

In the context of my research, I conceptualise communality as an experience of reciprocal sharing that is beneficial for those who at any given moment share the common space. I argue that there is a novel communality in leisure sport that forms and manifests itself in techno-social networks that are controlled by and centred around individual sports practitioners and that include a mix of social ties and groupings, light sport communities and commercial media services. For those who immerse themselves in the content around a particular sport and mediate their physical performance through text, photographs, videos or exercise data, interactions in and around the sharing activities can be socially supportive and can create connection and communality with other users. This study shows that recreational sports practitioners ascribe a variety of intrinsic, ritualistic, self-motivating and communal meanings to content-sharing activities online. These meanings are integral to the experience of physical activity and reinforce it. Moreover, they can turn individual sport practice into a communally meaningful experience.

# 6 CONCLUSIONS

## 6.1 Evaluation of the study

The most notable limitation of this thesis concerns the scope and the sample of the study. The first part of the data collection was conducted online, which means that all the leisure sports practitioners who participated in the study already used DMP as a part of their practice. Those practitioners who did not use sport-related DMP were outside the scope of the study. The results therefore cannot be generalised to include all sports practitioners in the selected sport disciplines. Those practitioners who did not participate in this study might find sport-related DMC and technology use in general non-motivational. Hearing their voice would have provided a richer dataset and allowed one to reach more comprehensive conclusions about the role of digital networked communication in recreational sport practice.

In addition, the study was limited to only two sport disciplines. It is therefore unclear to what extent the results can be generalised to the general population and across different types of sport. For example, in sport disciplines where the practice is organised in more formal settings, the importance of the social support provided by peer practitioners might be less evident. Moreover, for those leisure sports practitioners who do not identify as belonging to any specific sport subcultures, the concept of peer practitioners might be vaguer, and this might affect how social they are around their sport practice and what meanings they ascribe to the use of DMP.

Lastly, the sample of this study was limited to one northern European capital city. Therefore, the results cannot be straightforwardly generalised to non-urban settings or to other countries, apart from those that share similar values, the same principles of a democratic welfare society, or similar cultural dimensions, such as individualism and indulgence (see Hofstede Insights, n.d.); they would also need to have similarly high internet usage rates to Finland (see

Eurostat, 2020). This means that the biggest limitation of this research is that the results cannot be generalised to (sporting) cultures that deviate from those that inherently support individual freedom to choose forms of organising and interaction with members of the same subculture. In conclusion, an important learning outcome of this research process has been that a sample that is in many respects limited prevents one drawing conclusions that could be generalised outside the research setting.

That said, the purpose of the research was not to generalise extensively but to generate new insights into the interplay between social interaction, community building and the use of digital networked media in the context of recreational sport. This was an exploratory study, and researching people who are more or less pioneers of sport-related digital networked communication proved to be a choice that did make it possible to gain such insights. Even though the results are not empirically or analytically generalisable, they may be transferable; in other words, the knowledge that has been uncovered in this research may be applicable in other research settings and contexts (see Maxwell & Chmiel, 2014).

During the course of the research, the use of a mixed-methods approach brought its advantages and disadvantages. On the one hand, using both quantitative and qualitative methods restricted the amount of quantitative and qualitative data that it was feasible to collect within the scope of the study, as well as the depth of the analysis. On the other hand, together, the three methods produced a dataset that provided the various perspectives on the area of study that were needed to answer the main research question. Dividing the dataset between the articles turned out to be challenging but, at the same time, using only one method per article would not have provided as comprehensive an analysis of the specific viewpoints (visual and self-tracking communication) as combining the methods did. Another personal learning outcome of this research process has thus been that the process of writing a paper for a journal needs to begin with a careful consideration of the amount of data that needs to be collected to meet the specific analytical objectives of the paper.

Similarly, my position as an interdisciplinary researcher created its own possibilities and challenges. I could not base the research on the key theories of any one research discipline but I had to compile a unique theoretical framework by combining approaches from media and communication studies, sociology, and sport and exercise research. Thus, in terms of solid theory building, this thesis has less to offer. However, the study bridges gaps in our understanding of the role and growth of digital media, of late modern communities, and of interest-based social networks in contemporary leisure sport cultures. This thesis should, therefore, first and foremost be seen as a signpost for future research on how mediatisation, commercialisation, globalisation and individualisation together shape diverse leisure-time cultures.

The three sub-studies that form this thesis would have benefited from a more coherent use of terminology. In individual papers I use terms such as social media, online communities, social networking sites and self-tracking platforms that I have later grouped together under the concept of DMP for the sake of this

summary chapter. Similarly, I changed the concept CMC to DMC because during the years of research the latter term came to seem more accurate and illustrative. Additionally, the concept of lifestyle sports turned out to be both explanatory and limiting, and for that reason I have used it to varying degrees throughout the thesis. On the one hand, the concept and the discussion around it broaden our understanding of why networked media have their increasingly important role in sports, but on the other, I did not want to limit the general discussion to lifestyle sports because broader changes in sport cultures affect all kinds of physical activities, including both lifestyle and more conventional forms of sport.

## 6.2 Future research

This thesis opens up many new avenues for future research. In the future, collecting a broader sample will be necessary to challenge and explore the conclusions drawn in this thesis. Comparative studies between sport disciplines, between users and non-users of sport-related DMP, and between different regions or countries would advance the discussion above about light communities, networked individualism, and the mediatisation of sport. As the majority of participants in this study were in their thirties or forties, the results and the discussion[17] reflect the cultural norms of these age groups. Undoubtedly, a similar study that included in the sample more digital natives or people in their middle years would produce a broader picture. It would also be valuable to find out to what extent the study findings translate to other leisure-time contexts such as music, art, travel or gaming.

The focus of the research has been on recreational sport subcultures from the perspective of individual members. Future research could look more closely at the subcultural communities and networks as whole entities. This could be done, for example, using group interviews or participatory or nethnographic (see Kozinets, 2015) methods. Aspects that were not explored in the current study but should be further researched include how subcultural communities or network clusters are formed and how they relate to different kinds of late modern communities, and what kind of communication flows and dynamics there are within and between the clusters or subcommunities within a subculture. Borgers et al. (2018, p. 92) point out that even though light sport communities are by their nature flexible, they may have "invisible norms and values known by insiders" or "a lack of explicit entrance possibilities." This is substantiated by some studies (e.g., Salome, 2010; Rickly-Boyd, 2012) showing that those practitioners who consider themselves to be authentic or lifestyle practitioners often form tight insider groups that are hard for leisure participants to penetrate. For future

[17] Going back to my positionality as a researcher, sharing a cultural background and being close to the age of most interviewees was helpful for communication and mutual understanding during the interviews. At the same time, the shared understanding inevitably guided the qualitative analysis and the discussion.

research, it would be interesting to look at the "hidden rules" of participation and their consequences for participants on all levels of skill and commitment.

This thesis shows that social interaction on sport-related DMP can provide support for a physically active lifestyle. Since physical activity levels among Europeans continue to decline (European Commission, 2018), an important future line of research would be finding out what kind of online interaction and what kind of social support have the best impacts on physical activity behaviour (see Scarapicchia et al., 2017). One of the findings of the current study is that the prerequisites for gaining emotional and appraisal peer support for the sport practice through DMC are reciprocity, interaction with familiar others, and parallel FtF communication. In the future, it would be beneficial to investigate which of these three factors is the most significant.

Finally, the concept of communality and its various roles call for future research. This thesis concluded by conceptualising communality as an experience of reciprocal sharing that is beneficial for the people who at a given moment share a common space. To elaborate the concept further, it would be worth studying how communality manifests in other subcultural contexts. This thesis challenges researchers to consider if the changes in the communication and media environment and community structures mean that the focus of attention should perhaps shift from the sense of community to the idea of communality in other areas of study too.

# YHTEENVETO (SUMMARY IN FINNISH)

Huomattava osa sosiaalisesta vuorovaikutuksesta toteutuu tänä päivänä verkkoympäristössä keskusteluina, kuvina, videoina ja kommentteina. Liikunnan kontekstissa verkkosisältöjä luovat niin organisaatiot kuin yksityishenkilöt valtamediasta, kattojärjestöistä, lajiliitoista ja seuroista aina yksittäisiin toimittajiin, ammattilaisurheilijoihin ja vapaa-ajan liikkujiin. Yksi syy liikuntaan liittyvien digitaalisten mediakäytänteiden suosion kasvuun on mobiililaitteiden yleistyminen. Älypuhelimet ja -kellot, aktiivisuusrannekkeet ja puettava teknologia tarjoavat viestinnällisiä käyttömahdollisuuksia urheilumediatuotteiden tallentamiseen ja jakamiseen liikuntasuoritusten yhteydessä. Digitaaliset mediakäytänteet ovat täten integroituneet yhä tiiviimmin osaksi fyysistä aktiivisuutta.

Uudet viestintäteknologiat muokkaavat sosiaalisen vuorovaikutuksen dynamiikkaa ja mahdollistavat kiinnostuksen kohteisiin pohjautuvien verkostojen ja yhteisöjen muodostumisen. Digitalisoituminen on ohjannut monia liikunnan alakulttuureita kohti verkostoitumisen aikakautta. Tästä huolimatta verkostomedian[18] käyttöä ja verkostopohjaista järjestäytymistä vapaa-ajan kulttuureissa on tähän mennessä tutkittu vain rajoitetusti. Tämän väitöskirjan tarkoitus on paikata tutkimusaukkoa lisäämällä ymmärrystä sosiaalisen vuorovaikutuksen, yhteisöjen muodostumisen ja digitaalisen verkostomedian käytön suhteesta vapaa-ajan liikunnan kontekstissa. Lisäksi väitöskirjan päämääränä on tuottaa uutta tietoa siitä, miten viestinnälliset ja organisatoriset muutokset tuottavat uudenlaista yhteisöllisyyttä liikunnan kontekstissa. Näiden tavoitteiden pohjalta asettamani väitöskirjan päätutkimuskysymys kuuluu:

*Miten viestinnälliset muutokset ja yhteisöjen muodostumisen murros rakentavat ja ilmentävät yhteisöllisyyttä vapaa-ajan liikunnan kulttuureissa?*

Teoreettisia lähtökohtia tutkimukselleni ovat kulttuurien ja sosiaalisten suhteiden medioitumiseen (esim. Frandsen, 2020; Hjarvard, 2018), jälkimoderneihin yhteisöihin (esim. Bauman, 2001; Maffesoli, 1995) ja verkostoitumisen aikakauteen (esim. Castells, 2010; Rainie & Wellman, 2014) liittyvä kirjallisuus. Lähestyn väitöskirjassa vapaa-ajan liikkujia verkostoituneina yksilöinä, jotka hyödyntävät sosiaalisten verkostojen tarjoamaa tukea osana liikunta-aktiivisuuttaan. Hyödynnän väitöskirjassa käsitettä kevyistä liikuntayhteisöistä (Borgers ym., 2018) kuvatakseni, miten jälkimodernit löyhästi järjestäytyneet ryhmittymät sijaitsevat suhteessa sosiaalisiin verkostoihin.

Tutkimus nojautuu pragmaattiseen tieteenfilosofiaan. Pragmatismi paradigmana ei asetu määrällisen ja laadullisen lähestymistavan väliin, vaan se hylkää perinteisen filosofisen dualismin todellisuuden ja tiedon luonteesta (Johnson & Onwuegbuzie, 2004). Pragmatismin mukaan todellisuus perustuu toimintoihimme, ja tietoa voidaan hankkia yhdistämällä toimintaa ja pohdintaa (Biesta,

[18] Esimerkiksi liikuntaan liittyvät verkkoyhteisöt, sosiaalisen median palvelut ja mobiilisovellukset.

2010). Tieteenfilosofiana pragmatismi ymmärtää tutkimuksen olevan luontaisesti sosiaalista ja kontekstisidonnaista (Morgan, 2014). Pragmatismi tukee empirismiä tiedon lähteenä ja katsoo, että tutkimuskysymyksen tulisi ohjata tutkimuksen metodologista lähestymistapaa (Johnson & Onwuegbuzie, 2004). Väitöskirjani päätutkimuskysymyksen moniulotteisuuden takia valitsin tutkimukseni metodologiseksi lähestymistavaksi monimenetelmällisyyden.

Keräsin tutkimusaineiston käyttämällä verkkokyselyä, puolistrukturoituja haastatteluja ja verkkohavainnointia vuosien 2016–2017 aikana. Käytin verkkokyselyä saadakseni yleiskuvan tutkimusaiheesta sekä voidakseni suunnitella tutkimuksen laadullisia aineistonhankintamenetelmiä. Verkkokyselyn päätarkoitus oli tuottaa tietoa liikkujien viestinnällisistä käytänteistä ja sosiaalisten siteiden muodostumisesta. Haastattelujen tarkoitus oli tarkemmin selvittää, mitä merkityksiä liikkujat liittävät sosiaaliseen vuorovaikutukseen, digitaalisen median alustoihin ja verkkoympäristössä jaettaviin sisältöihin. Havainnoinnin tarkoitus oli puolestaan tuottaa tietoa siitä, miten nämä merkitykset ilmenevät visuaalisessa viestinnässä.

Analysoin tutkimusaineiston vuosien 2017–2019 aikana käyttämällä tilastollista analyysia, laadullista sisällönanalyysia (Schreier, 2014) ja kuvatyyppianalyysia (Grittmann & Ammann, 2009). Tutkimusaineiston integrointi tapahtui teoreettisella ja analyyttisella tasolla tarkoittaen sitä, että tutkimuksen teoreettinen viitekehys ohjasi kaikkien kolmen komponentin suunnittelua, ja että peilasin eri aineistojen tuottamia tuloksia koko analyyttisen prosessin ajan. Väitöskirjan lopulliset päätelmät perustuivat täten kolmen eri aineiston integroituihin tuloksiin.

Tutkimukseen osallistui yhteensä 301 Suomessa asuvaa kiipeilyn ja polkujuoksun harrastajaa. Lajivalintojen perusteina olivat lajien perinteisyys, suosio, kansainvälisyys ja selkeä kytkös verkkoympäristöön. Suuri osa verkkokyselyyn osallistuneista kiipeilijöistä ja polkujuoksijoista oli 30–39-vuotiaita korkeasti koulutettuja työssäkäyviä keskitason harrastajia. Osallistujien laji- ja sukupuolijakauma oli tasainen. Haastatteluihin osallistui yhteensä 15 verkkokyselyyn vastannutta vapaa-ajan liikkujaa, joista kahdeksan harrasti kiipeilyä ja seitsemän polkujuoksua pääaktiviteettinaan. Haastateltavien ikäjakauma oli 24–52 vuotta. Verkkotarkkailuun osallistui haastatelluista viisi kiipeilijää ja viisi polkujuoksijaa. Tarkkailin harrastajien visuaalista viestintää Instagramissa kahden erillisen kuukauden ajanjakson aikana. Tarkkailu tuotti yhteensä 165 analysoitavaa liikuntaaktiviteetteihin liittyvää valokuvaa.

Tutkimuksen tulokset osoittavat, että verkostomedian käyttö on nivoutunut osaksi tutkimukseen osallistuneiden liikkujien liikuntaharrastusta. Digitaalisen median alustat toimivat vapaa-ajan liikunnan harrastajia yhdistävänä solmukohtina, jotka mahdollistavat verkostojen vuorovaikutuksen, järjestäytymisen ja sosiaalisen tuen jakamisen. Samalla ne toimivat identiteetin rakentamisen ja viestinnän paikkoina. Digitaalisen median alustat tarjoavat käyttömahdollisuuksia, jotka ohjaavat liikunnan harrastajien toimintaa. Liikuntakulttuuri, tilannetekijät sekä yksilölliset tarpeet ja tavoitteet muokkaavat kuitenkin sitä, missä määrin ja miten liikkujat käyttävät niitä osana liikuntaharrastustaan.

Tutkimus osoittaa, että liikkujat liittävät verkkoympäristössä tapahtuvaan sisällönjakoon erilaisia itsearvoisia, rituaalisia, itsemotivoivia ja yhteisöllisiä merkityksiä. Tutkimukseni painottaa erityisesti visuaalisen ja harjoitustietojen julkaisemiseen liittyvän viestinnän merkityksellisyyttä tiedon, inspiraation, motivaation, vertailun ja tunnustuksen jakamisessa. Nämä merkitykset sekä vahvistavat yhteisöllisyyden kokemusta että auttavat liikkujia rakentamaan identiteettiään, mikä yhtäältä tukee liikunnan harrastusta ja toisaalta vie käyttäjiä takaisin verkostomedioiden ja kaupallisten tahojen pariin.

Tutkimukseni antaa viitteitä siitä, että sosiaalisesti suuntautunut digitaalisen median alustojen käyttö tukee fyysistä aktiivisuutta etenkin silloin, kun vuorovaikutus verkossa on vastavuoroista, kun liikkujat ovat vuorovaikutuksessa ainakin osittain tuntemiensa henkilöiden kanssa ja kun liikkujat tapaavat toisia käyttäjiä myös kasvokkain. Nämä kolme tekijää vahvistavat liikuntaan liittyvän sosiaalisen tuen kokemusta. Ilman näitä tekijöitä liikuntaan liittyvällä verkostomedioiden käytöllä on lähinnä viihteellinen ja tiedon jakamiseen liittyvä rooli. Yhteenvetona voidaan todeta, että motivaatio fyysiseen aktiivisuuteen vahvistuu verkkoympäristön merkityksellisistä kohtaamisista, jotka välittävät sosiaalista tukea ja luovat hetkellisen yhteisöllisyyden ja samaistumisen kokemuksen toisten liikkujien kanssa. Se, kokevatko yksittäiset vapaa-ajan liikkujat tällaisia merkityksellisiä kohtaamisia vai ei, riippuu heidän omasta tietotaidoistaan ja tahdostaan, kiinnostuksen kohteisiin liittyvän digitaalisen median alustojen saatavuudesta, tilannetekijöistä ja ympäröivän liikunnan alakulttuurin normeista.

Väitöskirjani havainnollistaa, että yhteisöllisyyden tarkastelussa on kiinnitettävä huomiota sosiaalisiin rakenteisiin, viestintätapoihin, sisältöihin ja merkityksiin sekä näiden keskinäisiin vaikutussuhteisiin. Tutkimuksen kontekstissa käsitteellistän yhteisöllisyyden kokemuksena vastavuoroisesta jakamisesta, josta on hyötyä ihmisille, jotka jakavat tietyllä hetkellä yhteisen tilan. Liikuntakulttuurin uusyhteisöllisyys rakentuu ja ilmentyy teknologissosiaalisissa verkostoissa, jotka muodostuvat yksittäisten liikkujien ympärille ja jotka sisältävät erilaisia sosiaalisia siteitä ja ryhmittymiä ja kaupallisia palveluita. Verkostojen taustalla toimivat digitaalisen median alustat tarjoavat yksilöille tilapäisiä samaistumisen kohteita ja hetkittäisiä yhteisöllisyyden kokemuksia. Ne mahdollistavat yksittäisten sosiaalisten kontaktien muodostumisen, sosiaalisten verkostojen järjestäytymisen ja verkostojen sisäisen viestinnän.

Väitöskirja tuo esille sen, että suomalaisen liikunta- ja urheiluinstituution, joka on perinteisesti nojautunut seurojen vapaaehtoisuuteen perustuvaan järjestäytymisen malliin, on yhä näkyvämmin tunnustettava sosiaalisten verkostojen ja verkostomedian kasvava merkitys osana liikuntakulttuuria. Liikuntaan liittyvä viestintä ja vuorovaikutus on kasvavissa määrin digitaalista ja järjestäytyminen entistää kevyempää. Tätä suuntausta vievät eteenpäin maailmanlaajuiset trendit, joista kärkisijalla ovat medioituminen, kaupallistuminen ja individualismi. Uusyhteisölliset liikkujat ovat verkottuneita yksilöitä, jotka ovat integroineet mediavälitteisen viestinnän osaksi harrastustaan. Monille liikkujille verkostomainen järjestäytymisen muoto täyttää liikuntaharrastukseen liittyvät sosiaaliset tarpeet ja suurilta osin korvaa perinteiset liikuntayhteisöt.

Tutkimuksen merkittävin rajoitus liittyy aineiston yksipuolisuuteen. Keräsin tutkimusaineiston ensimmäisen osan verkkokyselyn avulla. Tämän takia aineisto rajautuu koskettamaan vain niitä liikkujia, jotka käyttävät digitaalisen verkostomedian alustoja vähintään ajoittain osana liikuntaharrastustaan. Lisäksi aineisto rajautuu koskettamaan vain kahden lajin edustajia. Tämän vuoksi on epäselvää, missä määrin tutkimuksen tulokset ovat yleistettävissä muihin liikuntalajeihin. On otettava huomioon myös se, että tutkimukseen osallistuvat liikkujat asuivat kaikki Suomessa pääkaupunkiseudulla. Tutkimuksen tuloksia ei täten voida suoraviivaisesti yleistää koskettamaan liikkujia, jotka asuvat toisenlaisissa yhteiskunnallisissa, maantieteellisissä tai kulttuurisissa olosuhteissa.

Rajoitukset huomioon ottaen voidaan kuitenkin todeta, että tutkimuksen tarkoituksena ei ollut yleistää laajasti, vaan tuottaa uusia näkökulmia verkostomedian käytön, yhteisöjen muodostumisen ja sosiaalisen vuorovaikutuksen suhteisiin vapaa-ajan liikunnan kontekstissa. Verkostomedian ja verkostopohjaisen järjestäytymisen edelläkävijöiden tutkiminen mahdollisti sen, että pystyin luomaan kyseisiä näkökulmia. Vaikka tutkimustulokset eivät ole laajalti yleistettävissä, ne voivat olla siirrettävissä muihin tutkimusympäristöihin ja konteksteihin. Tutkimus poikii täten useita jatkotutkimusehdotuksia, joista tärkeimmät liittyvät vertaileviin tutkimusasetelmiin eri lajien ja vapaa-ajan kulttuurien, verkostomedian käyttöasteen, ikäryhmien ja olosuhteiden väleillä.

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# APPENDICES

## Appendix 1: Survey frame (translated from Finnish)

Personal background

1. How old are you?
2. What is your gender?
3. What is your postal code?
4. For how long have you lived in the Helsinki region?
    - Less than 6 months
    - 6 months to 2 years
    - 2–5 years
    - 5–10 years
    - Over 10 years
    - I do not live in the Helsinki region
5. What is the highest level of education you have completed?
    - Comprehensive education
    - Upper secondary education
    - Special vocational qualification
    - Bachelor's degree or equivalent
    - Master's degree or equivalent
    - Licentiate or doctorate degree
6. What is your current employment status?
    - Part-time employed
    - Full-time employed
    - Self-employed
    - Not employed
    - On temporary leave
    - In training / voluntary work
    - Student
    - Retired

Climbing / trail running background

7. For how long have you practised climbing / trail running?
    - Less than 6 months
    - 6 months to 2 years
    - 2–5 years
    - 5–10 years
    - Over 10 years
    - I do not practise climbing / trail running
8. How often do you practise climbing / trail running?
    - Less than once a month

- 1–2 times per month
- 3–4 times per month
- 5–6 times per month
- 2 times per week or more

9. Which of the following terms most accurately describes your competence in climbing / trail running?
    - Beginner
    - Novice
    - Lower intermediate
    - Higher intermediate
    - Advanced
    - Professional
10. To what extent do the following factors motivate you to practise climbing / trail running?

    *Scale items*
    - Physical effects of training (endurance, strength, motor skills, flexibility)
    - Mental effects of training (stress reduction, cognitive skills, relaxation)
    - Physical and mental challenges
    - Risk-taking
    - Spirituality of climbing / trail running
    - Nature experiences
    - Social contacts
    - Climbing / trail running community
    - The popularity of climbing / trail running
    - Possibility of recording and/or sharing climbing / trail running exercise data with the help of technology (e.g. mobile application, sport watch, activity tracker)

    *Scale*
    - Not at all
    - To a little extent
    - To a moderate extent
    - To a great extent
    - To a very great extent
11. Do you think that climbing / trail running is a lifestyle to you?
    - Yes
    - No
    - I do not know
12. Do you belong to any climbing / trail-running groups, clubs, or communities in the Helsinki region? If yes, what?

Digital media practices

13. Which of the following online communities and forums related to climbing / trail running have you followed during the past two years? [multiple responses possible]
    *Climbing*
    - 8a (8a.nu)
    - Mountain Project (mountainproject.com)
    - Reddit Climbing (reddit.com/r/climbing)
    - Reddit Bouldering (reddit.com/r/bouldering)
    - Relaa Kiipeily (relaa.com/forum/kiipeily)
    - Rockclimbing (rockclimbing.com)
    - Slouppi (slouppi.net)
    - Summit Post (summitpost.org)
    - The Crag (thecrag.com)
    - None of the above mentioned online communities

    *Trail running*
    - Juoksufoorumi (juoksufoorumi.fi)
    - Movescount (movescount.com)
    - Reddit Trail Running (reddit.com/r/trailandultrarunning)
    - Relaa (relaa.com/forum)
    - Runner's World (community.runnersworld.com)
    - None of the above mentioned online communities
14. Have you followed any other online communities or forums related to climbing / trail running during the past two years? If yes, what?
15. Which of the following mobile applications have you used to record climbing / trail running exercise data during the past two years? [multiple responses possible]
    *Climbing*
    - Climbing Away
    - Digit Trainer
    - Fitbit
    - Google Fit
    - Human
    - Map My Fitness
    - Mountain Project
    - Moves
    - My Climb
    - Sports Tracker
    - Strava
    - Vertical-Life Climbing
    - None of the above mentioned mobile applications

    *Trail running*
    - Adidas miCoach
    - Digit Trainer

- Fitbit
- Garmin Connect
- Google Fit
- HeiaHeia
- Human
- Map My Run
- Moves
- Movescount
- My Trails
- Nike+
- Pumatrack
- Run Keeper
- Runtastic
- Salomon City Track
- Sports Tracker
- Strava
- View Ranger GPS
- None of the above mentioned mobile applications

16. Have you used any other mobile application to record climbing / trail running exercise data during the past two years? If yes, what?
17. Which of the following social networking sites and applications have you used in relation to climbing / trail running during the past two years? [multiple responses possible]
    - Facebook
    - Google+
    - Hangouts
    - iMessage
    - Instagram
    - LINE
    - Meetup
    - Pinterest
    - Skype
    - Snapchat
    - Tumblr
    - Twitter
    - YouTube
    - WhatsApp
    - None of the above mentioned social networking sites or applications
18. Have you used any other social networking sites or applications in relation to climbing / trail running during the past two years? If yes, what?

Social networks

19. With whom do you practise climbing / trail running? [multiple responses possible]
    - With friends I have met through climbing / trail running
    - With friends I have met elsewhere
    - With my family members
    - With people who belong to the same climbing / trail running group, club or community as I do
    - With strangers I meet at climbing / trail running sites
    - Alone
20. Where do you form social contacts with other climbers / trail runners? [multiple responses possible]
    - At indoor or outdoor sites
    - At sport events
    - Online
    - Elsewhere
    - I do not form social ties with other climbers / trail runners
21. How do you communicate with other climbers / trail runners? [multiple responses possible]
    - Face to face
    - Phone call
    - Video call (e.g. Skype, LINE)
    - SMS
    - Mobile applications (e.g. WhatsApp, iMessage)
    - Social networking sites (e.g. Facebook, Twitter)
    - E-mail
    - Online communities
    - Other means
    - I do not communicate with other climbers / trail runners
22. How important is it for you to form contacts with other climbers / trail runners?
    - Not at all important
    - Not so important
    - Moderately important
    - Very important
    - Extremely important
23. How easy is it for you to form contacts with other climbers / trail runners?
    - Not at all easy
    - Not so easy
    - Moderately easy
    - Very easy
    - Extremely easy
    - I do not know

24. On average, how often do you do any of the following activities related to climbing / trail running?
    *Scale items*
    - Interact with other climbers / trail runners at indoor or outdoor sites
    - Interact with other climbers / trail runners at sport events
    - Interact with other climbers / trail runners online
    - Follow discussion about climbing / trail running online
    - Participate in discussion about climbing / trail running online
    - Read articles, blog posts, etc. about climbing / trail running online
    - Write articles, blog posts etc. about climbing / trail running online
    - Share articles, blog posts etc. about climbing / trail running online
    - Watch photos or videos about climbing / trail running online
    - Take photos or videos related to climbing / trail running
    - Share climbing / trail running photos or videos that you have seen
    - Share climbing / trail running photos or videos that you have taken
    - Record climbing / trail running exercise data with the help of technology (e.g. mobile application, sport watch, activity tracker)
    - Share climbing / trail running exercise data with others

    *Scale*
    - Never
    - Less than once a month
    - Once or twice a month
    - Weekly
    - Several times a week
    - Daily
25. To what extent do you agree with the following statements about socialising with other climbers / trail runners?
    *Scale items*
    - (It is important for me that…) I know other climbers / trail runners, and that other climbers / trail runners know me
    - …I can trust other climbers / trail runners
    - …when I have a problem, I can talk about it with other climbers / trail runners
    - …other climbers /trail runners value the same things
    - …other climbers / trail runners share a common purpose and goals
    - …other climbers / trail runners and I help each other
    - …other climbers / trail runners care about each other
    - …other climbers / trail runners and I share a sense of community
    - …other climbers / trail runners and I share a lifestyle
    - …I feel comfortable and relaxed with other climbers / trail runners
    - …I fit in the community of climbers / trail runners
    - …I have influence over the community of climbers / trail runners

- …everyone is welcomed into the community of climbers / trail runners

*Scale*

- Strongly disagree
- Disagree
- Neither agree nor disagree
- Agree
- Strongly agree

26. To what extent do you agree with the following statements regarding your climbing / trail running contacts (people you know through climbing / trail running)?

*Scale items*

- (My contacts…) provide me information about indoor or outdoor sport sites
- …provide me information about sport gear
- …provide me information about sport events
- …provide me sport-related news
- …provide me sport-related entertainment
- …provide me advice on techniques
- …provide me a sense of belonging
- …care about me
- …are important for me
- …share my life values
- …share my lifestyle
- …motivate me to practise climbing /trail running
- I am a better climber / trail runner because of my contacts

*Scale*

- Strongly disagree
- Disagree
- Neither agree nor disagree
- Agree
- Strongly agree

27. Are your climbing / trail running contacts meaningful for you in any other way? If yes, how?
28. Why do you want or not want to form social contacts with other climbers / trail runners?

**Appendix 2: Interview frame (translated from Finnish)**

Sport and exercise background

- What sport activities have you taken part in during your life?
- Have you been involved in sports club activities?
- How did you come to start practising climbing /trail running?
- Tell me about your climbing / trail running practice today.

Sport contacts and communication

Please draw your social network related to climbing / trail running on this piece of paper. Write you name in the middle circle and draw your climbing / trail running network, including relevant social contacts, groupings and communities across the three outer circles. Proximity to your name in the middle circle symbolises mental and emotional intimacy with the network ties you mention. Please also name which communication channels and technologies you use with each contact, grouping and community.

- Who are the people, groupings and communities in your network?
- How do you communicate with your network ties?
- Are you satisfied with the network as a whole? Do your ties provide you with enough support, information or companionship for practice?
- Is the network important to you? If so, why?

Digital media and sport

- How do you use digital and social media as a part of your sport practice?
- What kind of sport-related content do you follow and share online?
- With whom do you share sport-related content?
- Why do you share?
- Why do you follow certain people online?
- What do digital media bring to the sport culture? What would climbing / trail running be without digital and social media?

Sport communities

- Which official sport organisations do you belong to?
- If you have experience of sports club activities, how would you compare the organisation of sports clubs with how climbers / trail runners organise themselves?
- What is your main sport community?

Individuality and communality

- Is it important to you to stand out from other climbers / trail runners?
- How do you bring out and realise your individuality and personality through climbing / trail running?
- How would you describe communality in climbing / trail running?
- Where does communality in climbing / trail running come from?

Lifestyle

- Why do you or do not you perceive climbing / trail running as a lifestyle?
- If you perceive climbing / trail running as a lifestyle, how do you communicate or share this lifestyle with others?

## Appendix 3: Original interview extracts in Finnish

Sample interview 1

Date: February 6, 2017

Location: A cafe in Helsinki

Duration: 64 minutes

Transcribed: 4727 words

Age: 24

Gender: Female

Sport: Climbing (advanced)

Interview situation: Sixth interview. The interview situation was relaxed and there were no background disturbances. The interviewee was glad and talkative.

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THEME: DIGITAL MEDIA AND SPORT

25:43

**Miten sä käytät sosiaalista mediaa osana sun kiipeilyharrastusta?**

No se on vähän semmoinen. Toi WhatsApp on. Aika harvoin enää lähettää mitään tekstiviestejä. Se on ihan, ne on mulle sellaisia integroituneita juttuja normielämään. Kyllä mä käyn joka päivä kattoon Instagramin ja Facebookin ja mä en ajattele sitä enää sellaisena, että käynpä katsomassa sosiaalista mediaa. Se on niin jotenkin perus. Meillä on myös toi duunin staffiryhmä Facebookissa. Että sen takia siellä tulee käytyä kuitenkin joka päivä.

Sit WhatsAppissa keskustelee noiden kavereiden kanssa. Instagramissa seuraan noita muita kiipeilijöitä ja postaa ite kuvia ja kattoo siistejä mestoja, että mihin haluaisin matkustaa seuraavaksi. Että joo, sitä tulee käytettyä ehkä vähän liikaakin (naurahtaa). Välillä vois olla irti puhelimestaan.

**Keitä kiipeilijöitä sä seuraat?**

Mä kolmea eri blogia seuraan. Tää yks on semmoinen joka on opiskellut samaa alaa ja on itsekin kiipeilijä, niin se on mun mielestä hirveän mielenkiintoinen tyyppi. Sinänsä että on silleen vähän samaa taustaa. Noi pari muuta on suomalaisia, jotka reissaa kanssa paljon, niin musta on hauska lukee niiden reissukertomuksia aina silloin tällöin. Mä aika huonosti, ehkä kerran kuussa luen jonkun jutun. Mä en seuraa hirveän aktiivisesti mutta aina välillä.

Noi erinäiset useimmiten naiskiipeilijät. Kyllä mä jotain muutamaa mieskiipeilijääkin seuraan, mutta enemmän tietysti kun ite pystyy samaistumaan naiskiipeilijöihin, niin niitä kiinnostaa seurata. Lähinnä Instagramissa. Mä ehkä jonkun kaveri saatan olla

Facebookissa mutta noi on sellaisia maailman huippuja. On siistiä kattoa, että mitä ne tekee ja miten ne treenaa.

**Paljon sulla itellä on seuraajia?**

500 jotain.

**Se on melkoinen määrä.**

(naurahtaa) Joo.

**Kuin useasti sä laitat Instagramiin kuvia?**

Ehkä kerran viikossa.

**Minkälaisia kuvia?**

(naurahtaa) Yleensä mä pyrin laittamaan jotain kiipeilykuvia, mutta jos ei ole sattunut käymään kiipeämässä. Ulkokuvat on aina kivempia. Nyt viime aikoina mä oon joutunut laittamaan pärstäkuvia koska mä en voi laittaa kiipeilykuvia, koska mulla on sormi rikki (naurahtaa).

Mä kirjoitan yleensä jotain fiilistelyjuttuja. Tässäkin tää oli mun mielestä hauska kuva (näyttää puhelimella Instagramia), tää on otettu yksistä kisoista. Tähän juttuun mä kirjoitin ihmisille, että miksi mä kiipeän. Tolla viikolla oli tosi moni jotka ei kiipee, niin yliopistolla tai jossain muualla, että ”mikä siinä on se juttu?” Mä aattelin, että mä tälleen kollektiivisesti selitän, että miksi tää on kivaa.

**Mitä tää postaaminen sulle antaa?**

Mulla tulee jotenkin semmonen siisti olo siitä. Mun mielestä se on hauskaa tai mun mielestä on kiva laittaa. Toki mun mielestä on myös hienoa, että ne on mulla itellä muistot ja kuvat. Mut joku siinä tässä nykyajassa on, että sä haluat laajempaan levitykseen sen, että ”hei kaikki, mulla on kivaa” tyylillä. Siinä on joku sellainen tarve jakaa sitä fiilistä.

Sitten kun tietää, että sitä samaa kanavaa pitkin voi lähettää kuulumiset vaikka toiselta puolelta maailmaa niille samoille kavereille kotona. Se on sellainen tosi välitön kanava laittaa terveisiä sekä tutuille että tuntemattomille. Mun mielestä se on kivaa (naurahtaa).

**Onko se vaan niinä kertoina kun sulla on kivaa, että sä postaat? Vai laitoitko sä nyt vaikka tosta sun sormesta jotain?**

Laitoin joo. Mä en halua, että se on semmoinen ”tanssin vain ja ainoastaan ruusuilla.” Mä itekin tykkään enemmän seurata sellaisia ihmisiä, jotka on aidompia. Että ei ole vaan sellaista, että ”kylläpäs tänään taas oli hyvä päivä, ja kylläpäs tänään taas oli hyvä päivä. Aina kulkee kovaa ja voi että on kivaa.” Kyllä mä laitoin, että ”kylläpäs ärsyttää, että sormeni meni rikki kun just meni hyvin.” Mä myös huomaan, että ne menee, että ihmiset tykkää sellaisesta kun kertoo aidosti. Niin kun nyt voi muutenkin olettaa. Kyllähän me tykätään sellaisesta, mihin voi samaistua, jolla on hyviä ja huonoja päiviä. Eikä semmosesta joka ei koskaan tunne muuta kun iloa. Ihan yleisesti elämässä. Mutta en mä nyt tietenkään ihan kaikkea sinne vuodata, kyllä mulla joku suodatin on. Se on sitten

joku next steppi että laittais ihan kaiken ja kertois ihan kaiken. En mä ehkä sellaista halua tähän kuitenkaan.

**Mites sit noi kiipeilijät mitä sä seuraat. Miten he on valikoitunut sun seurattaviksi?**

Useimmat niistä on sisäkiipeilijöitä. Kisaa maailmancupissa eli tavallaan maailmanmestaruuskiertuekisoissa. Niitä järjestetään noin kahdeksan vuodessa ja sit ne kisaa siellä. Ne tulee IFSC:ltä, tää on tällainen nettisivusto.

**Okei. Katotko sä suoraan niitä kisoja netistä, livenä?**

Joo. Niin sieltä mä oon ne nimet bongannut ja ite ettinyt tuolta Instagramista. Sehän [Instagram] toimii sillä tavalla, että kun sä jotain seuraat se ehdottaa sulle samankaltaisia ihmisiä. Osa niistä on tullut sieltä. Tai sitten kun ne on kirjottanut, että ”kylläpäs tämä ystäväni kiipesi kovaa”, niin sit mä oon mennyt kattomaan sen tiliä.

**Onko nää ihan huipputason kiipeilijöitä kaikki?**

On.

**Mitä se heidän seuraaminen sulle antaa? Mitä sä saat irti siitä että sä seuraat?**

Ehkä motivaatiota. Välillä sellaista turhautumista, että ”olispa kiva olla itekin ammattikiipeilijä ja olla tekemättä mitään muuta.” Mä oon vähän ambivalentti ton mun koulun suhteen (naurahtaa). Olisi kiva tehdä vaan maailmassa sitä, mistä eniten tykkää. Sit taas mä en jossain määrin usko, että se on mahdollista Suomen kamaralla.

Mutta motivaatiota ja uskoa siihen, että naisetkin voi mennä pirun kovaa. Se on siistiä. Noista moni on parempia kuin suurin osa miehistä. Toki huippumieskiipeilijät on aina parempia, mutta että tämmösestä perustasosta. Kyllä noi räkittäis minä päivänä hyvänsä.

**Entä jos palataan siihen, kun sanoit että kiipeily on elämäntapa. Niin onko sosiaalinen media keskeisesti yhteydessä siihen, että kiipeily on elämäntapa? Linkittyykö ne yhteen ne kaksi asiaa?**

Ehkä väkisinkin. Kyllä mä luulen, että ilman sitä voisi ihan hyvin kiivetä. Ei se ole välttämättömyys. Mutta sit taas sen kautta, että sä löydät paikat mihin sä meet, löydät ne tyypit joiden kanssa sä haluat mennä.

Ilman internettiä olis vaikka aika vaikea suunnistaa mihinkään. Kaikki kartat. Meillä on semmoinen sivusto, mistä löytää kaikki kivet ja kalliot mihin voi mennä. Niin sitä kautta löytää kaikkialle. Sinne voi merkata mitä on kiivennyt ja se toimii vähän niin kuin päiväkirjana. Sä näät, että vuonna 2011 näin ja näin monta reittiä pääsin.

Kyllä mä sanon. Onhan ihmisissä. Varmaan ennen kun internetti on keksitty, niin onhan jengi jo kiivennyt. Ei se olisi välttämätöntä mutta mun mielestä se on kiva lisä, koska sä pystyt levittään sitä fiilistä laajemmalle. Sekä ite että kattoon just noilta muilta treenivinkkejä vaikka ja Instagramissa jaetaan jotain sellasia, esim EpicTV jakaa jotain treenivideoita, että ”te kaikki voitte tehdä näin että saatte enemmän peruskuntoa tai jotain.” Se on mun mielestä kiva lisä kyllä. Mä en sano, että se olisi välttämätön. Mutta koska se on olemassa niin miksi ei.

Sample interview 2

Date: February 11, 2017

Location: Skype

Duration: 100 minutes

Transcribed: 5554 words

Age: 32

Gender: Male

Sport: Trail running (intermediate)

Interview situation: Eighth interview. The interview situation was relaxed and there were no background or connection problems. The interviewee was glad, talkative and reflective. At the time of the interview he was on a business trip abroad.

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THEME: DIGITAL MEDIA AND SPORT

52:35

**Kerrotko vielä lisää siitä, että miten sä käytät sosiaalista mediaa osana sun polkujuoksuharrastusta?**

Mä aika aktiivisesti seuraan sitä, että mitä muut ihmiset tekee. (miettii) Oikeastaan poikkeuksetta kun käyn juoksemassa, niin mä tallennan mun treenit niin, että ne on näkyvillä verkossa. Ne interaktiot jotka liittyy siihen muiden ihmisten kanssa, niin ne motivoi liikkumaan. Mä oon erilaisia harjoituksia sieltä. Mulla on mahdollisuus löytää sieltä uusia paikkoja missä käydä juoksemassa ja erilaisia harjoituksia mitä tehdä, ja sen tyyppistä.

Mä voin olla yhteydessä myös varsinaisesti tuntemattomien ihmisten kanssa joista mä vaan tiedän, että meillä on yhteinen kiinnostuksen kohde. Erityisesti kisojen yhteydessä tulee seurattua sitä, että ”aa, ketäs muita täällä on ollut samalla reitillä?” tai ”ketä muita on ollut, jotka on vaikka postaillut Instagramiin jollain tietyllä hashtagilla?” Niiden kautta etenkin seurata sitä, että minkälaista muilla on.

Mä jonkin verran, se vähän vaihtelee että kuinka aktiivisesti. Se on vähän sellaista kausittaista hommaa. Niin käyn lueskelemassa myös sitä, että mitä ihmiset on kirjoittanut joistain tapahtumista joissa on itse olleet. Mekin itse asiassa siellä meidän ekassa tapahtumassa. Ne mun kaverit joiden kanssa mä menin sinne juokseen. Niin niillä oli järjestäjien kanssa sopimus silleen, että ne kirjoitti blogia siitä harjoittelusta sitä kohti. Mä osallistuin myös siihen kyseisen kirjoituksen tekemiseen loppujen lopuksi, vaikka en alun perin ollutkaan siinä silleen aktiivisesti.

Mut joo, kyllä sillä [sosiaalisella medialla] on aika paljon tossa merkitystä. Facebookissa eri ryhmät on sekä eri vinkkien vaihtamista ja vaan kuulumisia ja jotain tekniikkahommia silloin tällöin. Sit vaan jotain sellaista, että ”kävin juoksemassa

tällaisen." Ehkä se on vaan sellainen, että "aha, muutkin tekee jotain." Se tuo sitä motivaatiota itellekin.

(miettii) Ehkä sanoinkin jo että vähän seuraan sitä, että minkälaisia harjoituksia muut tekee myös. Se auttaa oman tekemisen suunnittelussa. Eri sosiaaliset mediat ja sillä tavalla. Siellä pystyy kysyyn myös tuntemattomilta ihmisiltä, jotka on jossain omaa tasoa paljon korkeammalla, että "aa, miksi sä teit tälleen?" tai "mikä tässä oli tavoitteena?" Ihmiset jakaa sellaisia kanssa ruokavinkkejä (naurahtaa) tai sellaista myös. Riippuu omasta ja kulttuurista, että kuinka pitkälle se menee.

Nyt mä vähän myös oon seurannut Yhdysvalloissa, missä tuntuu että se paljon isompi juttu. Pidemmän ajan, ehkä samalla tavalla mitä joku kiipeily on täällä aikanaan ollut. Sellainen vastakulttuuri-ilmiö. 50-luku on ollut tosi sellainen, että perheiden kanssa muutetaan lähiöön asumaan ja on hyvin vahvat mies- ja naisroolit. Tavallaan on ollut joku sellainen hippiliikettä muistuttava juttu meneillään sekä juoksun että kiipeilyn suhteen, ja varmaan monen muunkin asian. Musta tuntuu, että ne ihmiset on tarkoituksella halunneet positioida itsensä sen ulkopuolelle mitä yhteiskunnassa muuten tapahtuu. Että "eihän tossa ole mitään järkeä, että te menette tonne vuorille juokseen."

**Mitä se antaa sulle, kun sä jaat niitä omia harjoitustietoja? Minkä takia sä teet sitä ja minkä takia nimenomaan avoimesti, että kaikki näkee ne?**

Se avoimuus ainakin tossa Stravassa jota mä ensin käytin. Se avoimuus on lähtökohtaisesti se juttu. Sä pystyt laittamaan kaikki treenit yksityiseksi, mutta tosi harva tekee niin. Se on rakennettu niin, että se olisi sosiaalinen se verkosto. Se että ne on avoimia, se madaltaa kynnystä toimia muiden ihmisten kanssa yhdessä. Varmaan se itselle on sellainen motivaattori ollut.

Tietysti samaan aikaan tässä on se, että seurailee niitä lainalaisuuksia, jotka muutenkin pätee nykyajan digitaalisiin palveluihin tai sosiaalisiin verkostoihin. Siinä tavallaan, ehkä myös negatiivisella tavalla käyttäjä palkitaan siitä, että hän jakaa avoimesti. Palkinnot on niitä tykkäyksiä ja ne tuo taas käyttäjän uudelleen palvelun pariin. Stravan tapauksessa ne ei hirveästi yritä myydä tai koukuttaa mitään kamaa, eikä Sports Tracker myöskään. Mutta tavallaan se, miten Facebook ja Instagram toimii. Se koko liiketoimintalogiikka pohjaa sille, että asiat on avoimia ja sä saat jotain feedbackia sieltä ja palaat sen pariin.

**Koetko sä itse että se toimii niin, että se on just se palaute ja tykkäykset jotka motivoi sua tekemään sen uudelleen?**

Ei nyt täysin. Mutta kyllä siitä aina joku pieni hyvänolon tunne tulee, kun kaveri silleen (näyttää peukkua ja naurahtaa). Mutta että se. Ehkä se on vaan hauska silleen jollakin tavalla. Sanoisin että se osittain tulee myös siitä, että sitten kun nää on julkisia. Mun kaverit ja vanha valmentaja vaikka näkee, että "nyt sulla viikkokilsat laskee, että onko tapahtunut jotain?" (naurahtaa) Se on sellainen positiivinen paine olemassa.

**No mites sitten muiden treenien seuraaminen. Minkä takia sä teet sitä?**

(miettii) Oikeastaan se on yhtä lailla se, että kun mä näen että muut tekee jotain, se motivoi mua. Mä huomaan, että ”ahaa, toi on käynyt tota.” Ihan myös tavallaan vilpitön ilo muiden tekemisen puolesta. Kun pystyy näkemään sen, että kun kaveri saavuttaa jonkun tavoitteen. Että ”aa, toi oli sen nopein kymppikilsa.” Sellainen myötäeläminen. Sit tietenkin noiden tiettyjen ihmisten suhteen se on vaan mielenkiintoista nähdä, että kuinka käsittämättömiä ne niiden suoritukset on. Siis nää oman verkoston ulkopuolella, jota mä seuraan ykssuuntaisesti. Varmaan se on se pääasiallinen motivaattori siinä.

Sit yhtä lailla se että näkee vähän, minkä tyyppisiä harjoituksia muut tekee ja missä paikoissa ne käy juoksemassa. Hyvien reittien ja mielenkiintoisten maisemien löytäminen. Se on osittain myös se juttu. Nimenomaan (miettii) toi kuvien liittäminen harjoituksiin. Se on sellainen, että mä ite. No en mä tiedä. Omasta taustastani johtuen koen olevani jossain mielessä visuaalisesti painottunut. Saan irti siitä, että voin ottaa valokuvan. Sit mä koitan (miettii). Mä ajattelen sitä kokonaisuutta jonkinlaisena teoksena. Alkaa kuulostaa vähän hassulta kyllä.

**Ei jatka vaan.**

Kun mä en ole miettinyt tätä koskaan aiemmin tällä tavalla. Mutta että ehkä siinä on se kokonaisuuden. Tekee jonkun suorituksen. Sä saat siitä suorituksen aikana tiettyjä asioita irti. Sen jälkeen lähes poikkeuksetta tulee euforian tunne ihan vaan siitä, että miten keho toimii ja mitä kemikaaleja vapautuu. Mutta sen lisäksi, että sen dokumentoi kauniiseen pakettiin. Se on osa sitä. Musta tuntuu, että ei tää ole pelkästään mun omaa (naurahtaa) kuvitelmaa. Vaan kun ihmisethän tekee nykyaikana tollaisia kisavideoita, joissa ne johonkin valmistautuu tai istuu autossa ja reissaa johonkin, että ”noniin nyt viimeiset aamiaiset.” Kannettavat videokamerat on tulleet sellaisiksi, että ylipäätään on mahdollista juosta jossakin ja kantaa kameraa kädessään. Että ”hei täällä on tällaisia maisemia.” Ihmiset tekee sellaisia paketoidakseen ainakin kisakokemuksia. Ehkä se on osa siinä.

**Mites just kuvien ja videoiden jakaminen? Teetkö myös videoita vai pelkästään kuvia?**

Oikeastaan pelkästään kuvia. Videot on vähän hankalia. Näillä nykyaikaisilla puhelimilla ei saa niin hyvää videota kun mun aatoksissa.

Mä en muista, että mä olisin tehnyt yhtään varsinaista videopostausta Instagramiin. Paitsi nyt siihen Instagram Stories, joka on vastaavasti SnapChat periaatteessa. Mutta ne on vaan sellaisia, että ne pysyy siellä vaan 24 tuntia ja katoaa.

Mä postailen Instagramiin tosi harkiten yleensä. Ne videot, ne pakkautuu niin paljon, että mua häiritsee.

**Miten se kun sä postailet niitä kuvia polkujuoksuun tai liikuntaan liittyen. Niin antaako se sulle jotain erityistä?**

(miettii) Ei se varsinaisesti. Toi kuvien postaaminen on sellaista henkilökohtaisen päiväkirjan pitämistä, mutta avoimen sellaisen. Ilman muuta jossakin määrin myös hyvin kuratoidun. Ei se sosiaalisessa mediassa luotu kuva. Tai se kuva joka ihmisillä vois tulla vaikka minusta sen perusteella mitä sinne laitan, niin se ei välttämättä ole

paikkaansa pitävä. Ehkä se on vaan osa sellaista identiteetin rakentamista ylipäänsä. Päiväkirjan pitäminen, identiteetin rakentaminen, näiden rajamailla toimiva juttu.

Aika usein kuvat mitä mä postaan vaikka juoksuun liittyen. Mä aika harvoin laitan omaa naamaa jonnekin. Mä ennemmin otan kuvan jostain maisemasta. Että tää on itselle muistona. Tää muuten on esteettisesti miellyttävä. Se on tuossa polkujuoksussa myös osa motivaatiota itselle, että menee sellaisiin paikkoihin juoksemaan missä ei normaalisti kävisi juoksemassa. Se maisema ja ympäristö ja se, että liikkuu luonnossa. Se on omaa showtaan tavallaan.

**Seuraatko sä paljon kuvia, joita muut laittaa polkujuoksuun liittyen?**

Jonkin verran. Mutta sanoisin, että suurin osa siitä mitä mä seuraan on jotain muuta.

**Mm. Se on nimenomaan niitä harjoitustietoja ja reittejä?**

Joo.

**Entäs ne kovan tason juoksijat joita sä seuraat. Niin mitä siihen seuraamiseen liittyy? Onko ne just noita treenitietoja vai onko jotain muutakin?**

Joo. Treenitiedot on oikeastaan se mitä mä kattelen. Se vähän vaihtelee. ... Kyllä se on tavallaan se, että mihin kisoihin ne on valmistautumassa. Ja ihan vaan se, että pystyy kauhistelemaan muiden vauhteja tai muuta tällaista (naurahtaa).

**Niin. Mitä se antaa se seuraaminen sulle?**

Jaa (miettii). Se antaa mulle. Mä en oikeastaan osaa sanoa. Siis se on mielenkiintoista tietää tai nähdä, että mitä joku joka on täysin suorituskyvyn ulkopuolella. Joka on tietyn alan huippu. Että kuinka paljon se eroaa heidän tekeminen siitä, mitä se oma juoksu vaikka on. On se välillä mielenkiintoista nähdä, että ”aijaa, noi juoksee jotain lumikenttiä tuolla jossain vuoren laidalla, että miten tohon päätyy?”

Ehkä toi on vähän silleen, että kun noi on tollaisia ammattiurheilijoita. Mä koen ylipäätään välillä tuolla juoksutapahtumissa, että ei mulla ole itellä valmiuksia tällaiseen. Vaikka mulla on jotain taustaa liikuntaharrastuksissa, niin se on aika rikkonaista. Se ei ole ollut sellaista, että se olisi valmistanut mua koko mun elämän ajan siihen, että musta tulee kestävyysurheilija (naurahtaa).

**Niin aivan. Minkälaista se kulttuuri on? Sä sanoit sitä, että joku on tehnyt jonkun harjoituksen ja sä mietit minkä takia ja voit kysyy sitä. Jos on joku sua selkeesti kovemmalla tasolla oleva tyyppi, niin jakaako ne avoimesti sen syyn siihen että minkä takia tein tätä?**

No sanotaanko, että musta tuntuu. Noi esimerkiksi maailman huiput tai he joita seuraan. En mä yleensä edes kommentoi. Se voi olla silleen, että 500 muuta kommentoi. Mä luulen että niillä on myös yksisuuntainen suhde sen koko yleisön kanssa. Nää on monesti sellaisia urheilijoita, joilla on joku sponssidiili jonkun palvelun kanssa. Ne käyttää sitä ja toimii siellä motivaattoreina muille.

Sanotaan, että noita jotain kotimaisia polkujuoksijoita. Suomessa ollaan kuitenkin vielä sellaisella tasolla, että ihmiset oikeesti. Piirit on niin pienet, että siellä voi mennä jutteleen

kisojen yhteydessä. Myös näissä kansainvälisissä kuvioissa ymmärtääkseni. Yleensä noitten tapahtumien alussa voi olla joku expo ja joku urheilija voi pitää siellä vaikka luennon jostain skabasta jossa se on käynyt. Lähtöalueella ja maalialueella ollaan tosi avoimia. Se on tosi vastaanottavainen ilmapiiri. Ei ole sellaisia samanlaisia rajoja, mitä jossain muussa urheilussa. Juoksijat voi käydä jutteleen juoksijoille tosta vaan, että ”mitäs tykkäät näistä kengistä?”

**Mitä polkujuoksu olisi sun mielestä ilman sosiaalista mediaa? Tai toisin päin ajateltuna, mitä se sosiaalinen media tai koko internet antaa siihen?**

No se mahdollistaa mun mielestä ton organisoitumisen nykyään niin helposti. Luulen että se [polkujuoksu] olisi paljon hajonaisempaa eikä välttämättä ilmiönä yhtään niin suuri, jos internettiä ja sosiaalista mediaa ei olisi olemassa. Se varmaan pyörisi enemmän tollaisten perinteisten seurojen ympärillä. Ja kyllähän urheiluseuratoiminnassa on olemassa maastojuoksu ja sillä tavalla. Mutta ehkä se on kuitenkin vähän eri juttu.

Varmaan aika moni muukin rakenne, uusi rakenne tai ryhmittymä yhteiskunnassa. Saattaisi kadota erilaiset ilmiöt, jos ei olisi olemassa tätä nykyisen kaltaista sosiaalista mediaa. Juoksun ja joidenkin muidenkin juttujen ympärillä on olemassa Facebookia edeltänyt aika, jolloin keskustelupalstat oli se sosiaalinen media silloin. Että kyllä sitä kauttakin varmaan pystyis pyöriin. Mutta kokonaan ilman internettiä. En mä tiedä. En mä varmaan tuntisi suurinta osaa ihmisiä (naurahtaa). Vaikea erottaa sitä oikeasti siitä, että kuinka paljon se on vaikuttanut kaikkeen muuhunkin elämään.

**Niin toki. Se on niin suuri osa arkipäivää tänä päivänä. Ei sitä ehkä näekään omana kokonaisuutena, vaan se on niin nivoutunutta kaikkeen toimintaan.**

Niin kyllä. Se on osa arkea. Mutta tavallaan jos se katois johonkin. En mä tiedä, että olisinko mä ylipäätään päätynyt tähän koko tilanteeseen jossa mä oon.

**Mm. Se on mielenkiintoista. Mä mietin vielä sitä harjoittelutietojen jakamisesta ja seuraamisesta. Niin onko se sun mielestä, pelkästään se osuus yhteisöllistä toimintaa? Tuleeko siitä joku sellainen yhteisöllisyyden fiilis?**

Joo kyllä. Jakaminen ja siihen liittyvä kommentointi. Joo on kyllä. Noissa palveluissa on olemassa erikseen ryhmiä, että sä voit seurata mitä jonkun ryhmän välillä tapahtuu. Mulla on vaikka sen alkuperäisen porukan jonka kanssa mä juoksin edelleen Stavassa ryhmä. Siellä ei ole mitään varsinaista keskustelua mutta mä saatan käydä silloin tällöin tsekkaan, että mites muilla etenee. Samalla tavalla täällä ollessa nää puistoissa juoksuporukat. Ne on myös silleen, että sitä kautta voi pitää yhteyttä. Jengi juttelee siellä [Stravassa] ja Google Groupsissa, että minkälainen lenkki on tulossa ja että aikooko joku juosta pidempään tai lyhyempään.

**Se on nimenomaan siis, ei pelkkä se jakaminen vaan ennen kaikkea se kommentointi, joka tekee siitä sen [yhteisöllisyyden] tunteen. Tai että se on vuorovaikutteista silleen, että kun sä postaat jotain ja joku kommentoi, niin se joka tekee siitä yhteisöllistä?**

Joo ja siis itse asiassa jo se vaivattomin ja tavallaan helpoin vuorovaikutuksen tapa eli tykkäys mun mielestä on jo se joka luo sinne sillä tavalla. Että, ”ahaa, tää tyyppi on seurannut tätä, että sekin on käynyt juoksemassa.” Siitä tulee se jonkinlainen yhteys.

**Onko sun mielestä verkossa tapahtuva yhteisöllisyys. Eroaako se jollain tavalla siitä, että sä oot jossain tapahtumassa tai lenkillä ja oot yhteisöllinen muiden kanssa kasvokkain?**

Joo kyllä. (miettii) On se toki erilaista. Oikeastaan mä tykkään siitä, kun näiden kahden raja poistuu. (miettii) En mä niin hirveesti osaa eritellä sitä. Mutta aika usein se on, että mä sovin muiden ihmisten kanssa, että mennään yhdessä juoksemaan ja sit me mennään yhdessä juoksemaan. Se on hyppimistä näiden kahden asian välillä meidän väliset ihmissuhteet.

# ORIGINAL PAPERS

# I

## COMMUNICATION PRACTICES AND SOCIAL TIE FORMATION: A CASE STUDY OF RECREATIONAL LIFESTYLE SPORTS CULTURES

by

Veera Ehrlén, 2017

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# Communication practices and social tie formation: A case study of recreational lifestyle sports cultures

This case study examines contemporary recreational sports practitioners' communication practices and social tie formation from the perspective of two lifestyle sports disciplines: climbing and trail running. Online survey results from 301 climbers and trail runners from Finland indicate that computer-mediated communication (CMC) has established its place in recreational lifestyle sports cultures; however, it has not done it at the expense of face-to-face (FtF) communication. Online interaction produces weak social ties with instrumental and informative value, but physical location is essential in establishing ties with emotional and appraisal value. This paper argues that it is the sports subculture and individual practitioners' needs that define how interaction is realized, and what importance different online and off-line communication practices have. Besides studying communication practices, this case study explores the social meanings practitioners attribute to their social contacts.

***Keywords:*** computer-mediated communication; social media; social networking; social support; sports practitioners

New communication technologies have changed the dynamics of social interaction (Baym, 2015; Rainie & Wellman, 2014). In the context of sports, practitioners share online sports-related material such as exercise data; information about events, locations, techniques, and equipment; and stories about success and failure. This process takes place in the form of text, pictures, videos, "likes," and shares on various social media sites. With the help of smartphones, action cameras, activity trackers, and mobile applications, the popularity of sports-related social media practices is growing (Millington, 2014; Thorpe, 2016). However, to a large extent it remains unclear how sports practitioners interact online, what meanings they attribute to their social interaction, and what relevance face-to-face (FtF) communication and joint physical activities still have in recreational sports cultures.

Previous literature shows that social interaction is strongly associated with physical and mental health enhancing outcomes (Berkman, Glass, Brissette, & Seeman, 2000; Seeman, 1996). Among the documented positive effects of social support are higher perceptions of self-efficacy, improved task performance, better coping, and better disease resistance and recovery (Burleson & MacGeorge, 2002). Furthermore, studies indicate that by influencing self-efficacy, social peer support subsequently impacts physical activity levels (Anderson, Wojcik, Winett, & Williams, 2006; Samson & Solmon, 2011). Recent research has additionally found that sports-related social media use can motivate people to increase their everyday sports practice (Mahan, Seo, Jordan, & Funk, 2015; Zhang, Brackbill, Yang, & Centola, 2015). Since physical activity levels among

Europeans continue to decrease (European Commission, 2014), further research on the value of social interaction in recreational sports is increasingly important.

This case study approaches the topic from the perspective of two lifestyle sports disciplines in the Finnish context. The focus of this study is on recreational sports. In this paper, recreational sports practitioners are defined as nonprofessional leisure-time physical activity enthusiasts whose main focus of practice is on physical and mental well-being and on individual development. Recreational sports practitioners engage in a range of exercise levels with varying goals, motivations, and actions. Based on empirical evidence, this study shows that social interaction is an essential part of recreational sports. Moreover, this paper argues that it is the sports subculture and individual practitioners' needs that define how interaction is realized, and what importance different online and off-line communication practices have.

## Literature review

### *Online communication practices in the context of sports*

A contemporary definition of computer-mediated communication (CMC) includes all digitally mediated and, to a growing extent, mobile communication (Herring, 2008). Today, a considerable part of interpersonal interaction is computer mediated and occurs in the form of instant messages, group discussions, and shared activities on social media sites. Following Wenger, Trayner, and de Laat's (2011) conceptual framework, this paper understands social media to include both interest-based online communities, such as YouTube and Reddit, and relationship-based social networking sites, such as Facebook and Twitter.

Previous studies on recreational sports practitioners' CMC practices are few. Most previous research on social media and sports has focused on sports fandom, professional athletes, and sports marketing (see Filo, Lock, & Karg, 2015). Studies have examined fan-to-fan communication (e.g., Boehmer & Tandoc, 2015; Clavio, 2008; Clavio, Burch, & Frederick, 2012; Frederick, Clavio, Burch, & Zimmerman, 2012), athlete-to-athlete communication (e.g., Hambrick, Simmons, Greenhalgh, & Greenwell, 2010), fan-to-athlete communication (e.g., Clavio & Kian, 2010; Frederick, Lim, Clavio, & Walsh, 2012), and consumer communication from the perspective of online sites (e.g., Hardin, Koo, Ruihley, Dittmore, & McGreevey, 2012; Hodge, Pederson, & Walker, 2015; Kwak, Kim, & Zimmerman, 2010; Wal- lace, Wilson, & Miloch, 2011) and event organization (e.g., Hambrick, 2012).

Hur, Ko, and Valacich (2007) are among the first to study communication practices from the viewpoint of sports practitioners. In their study, Hur et al. focus on practitioners' motivations and concerns with sports-related information retrieval and online shopping. Ojala and Saarela (2010) examine further the needs and motivations of practitioners to share exercise data in multisport online communities. Kang's (2014) research on endurance-sport online communities broadens the perspective from the needs and motivations to other factors that affect members' knowledge-sharing behavior. Most recent studies that investigate the relation between practitioners and online platforms include Geurin-Eagleman's (2015) research on master sports participants' use of online communities, and Stragier, Evens, and Mechant's (2015) research on practitioners' motivations to share physical activity status updates on social networking sites.

The reviewed studies emphasize the relationship between sports practitioners and diverse social media platforms. Most of the conducted research is grounded on a uses and

gratifications approach (Katz, Blumler, & Gurevitch, 1973). Studies have found that information gathering, interaction, experiences, and entertainment are the main gratifications for people to use social media services for sports-related purposes (Geurin-Eagleman, 2015; Hur et al., 2007; Kang, 2014; Ojala & Saarela, 2010; Stragier et al., 2015). Only two of the reviewed studies additionally suggest forming social contacts or gaining emotional social support (Hur et al., 2007; Ojala & Saarela, 2010) as a gratification.

Academics have brought up the one-sidedness of the previous research on social media and sports, and therefore they suggest that researchers move toward a more integrated application of theory and expand the methodological approaches of future studies (Filo et al., 2015; Pedersen, 2014). In the context of lifestyle sports (Wheaton, 2010), a more comprehensive approach on the role of social media in sports has already been adopted. Many recent studies rely on the conceptual framework that Woermann (2012) builds in his research on social media practices in freeskiing culture. At the heart of Woermann's analysis is the content that practitioners themselves produce and consume online. Woermann argues that recording and sharing sports activities enable practitioners to experience the technical details and the aesthetic nature of the performance, and thus help them develop their sports practice. However, reflection online is by no means an individually conducted activity. On the contrary, Woermann's research shows that sharing on social media is a unifying practice among members of a subculture (Woermann 2012).

Similarly, Jones (2011) and MacKay and Dallaire (2012) study skateboarders, Dumont (2014) climbers, and Olive (2015) surfers with the focus on production and consumption of self-produced material online. Reviewed studies on lifestyle sports strongly agree that the use of social media has been integrated into sports practice. Physical experiences and social media shape each other as practitioners increasingly and continuously share and consume media products (Dumont, 2014; Hutchins, 2011; Jones, 2011; MacKay & Dallaire, 2012; Olive, 2015; Woermann, 2012). In this process, the line separating producer and consumer is fading. Woermann (2012), following Dumont (2015), describes prosumption, the consumption of self-produced leisure content, as an ongoing process that challenges commercial sports media.

Research on sports practitioners' social interactions helps us understand practices of prosumption, identity formation, power relations, and cultural hierarchies in lifestyle sports cultures (Thorpe, 2016). This study attempts to broaden the scope of previous research mainly focused on proficient lifestyle sports by looking at recreational practitioners' social interactions online and FtF. Whereas all of the reviewed studies on lifestyle sports have been conducted with qualitative methods, this study takes a mixed-methods approach with the goal of extending understanding of contemporary lifestyle sports cultures. Furthermore, this paper looks at both communication practices in lifestyle sports and the reasons behind communicating and forming social ties with other practitioners.

### *Social ties and social support*

Social ties are "the links that bind individuals to other individuals, as manifested in the frequency and kinds of communications among individuals" (Pickering and King, 1995, p. 480). Using their social ties, people share various resources, such as information or goods. Social ties can be either weak or strong. People who are connected through strong ties are often willing to share more resources, compared with people who are connected

through weak ties (Wellman & Wortley, 1990). However, a group of people connected via strong ties are limited to the resources within the group unless some of the members have access to other groups through their weak ties (Burt, 1993). The strength of the weak ties is therefore that they provide more diverse resources than do strong ties (Granovetter, 1973).

When sharing resources, individuals also exchange social support. Social support can be informational, instrumental, appraisal, or emotional (Berkman et al., 2000). In the context of sports, informational support can be seen as providing information about sports gear, instrumental support as teaching sports techniques, appraisal support as encouraging a fellow practitioner to overcome a physical challenge, and emotional support as consoling a practitioner after an unsuccessful attempt.

Social support has been shown to impact physical activity behavior indirectly by influencing self-regulation and self-efficacy (Anderson et al., 2006; Samson & Solmon, 2011) or intention (Cavallo et al., 2013). Social support can be exchanged between two people or among many people. Network support "enables people to feel part of a group whose members have common interests and concerns" (Cutrona & Russell, 1990, p. 322). Mahan et al.'s (2015) research on social network support indicates that the use of running-related social media has an impact on running behavior, and overall life satisfaction. Furthermore, Zhang et al. (2015) conducted a controlled trial on online social networks and physical activity, which shows that adding a social comparison element to a support network increases participants' physical activity levels.

In the present paper, social ties and contacts are used as synonyms, and defined as interpersonal weak or strong connections to other practitioners within the same sport. In this study, both interpersonal and network support are taken into consideration. Instead of measuring the relationship between online activities and sports behavior (as in Mahan et al., 2015; Zhang et al., 2015), this study aims to gain a better understanding of the social motivations that lie behind them. Moreover, to identify which social norms are products of sports subcultures, this study makes comparisons between two sports disciplines.

## Purpose of the study

This case study examines contemporary recreational sports practitioners' communication practices and social tie formation from the perspective of two sports disciplines: climbing and trail running. The purpose of this paper is to investigate practitioners' social interaction, and the meanings they attribute to it. This study looks at similarities and differences between the selected sports. The comparison is done to find out which factors affect social tie formation and, consequently, social support exchange. The following research questions are posed to meet the goals of the study:

(1) What is the role of CMC technologies in the context of recreational lifestyle sports?
(2) How and why do recreational lifestyle sports practitioners form social ties with each other?
(3) What are the relationships among practitioners' communication practices, social tie formation, and the meanings attributed to social ties?

## Method

### *Sample and procedure*

This study is limited to individual recreational sports practice; in other words, elite sports, team sports, and sports clubs are excluded from the study. Moreover, this research has its focus on physical activities that can be labeled as lifestyle sports (Wheaton, 2010). The central common factor in lifestyle sports is practitioners' holistic orientation toward the practice. In lifestyle sports, participants' physical and mental as well as cultural, emotional, and existential needs are taken account (Atkinson, 2010).

Two lifestyle sports disciplines, climbing and trail running, were selected for the study. A choice was made among lifestyle sports disciplines that have a long tradition of practice, have gained popularity in recent years, are practiced around the globe, and are clearly visible online. To some extent, comparisons between the two sports enable generalization of the results to other lifestyle sports disciplines. Climbers and trail runners were studied in Helsinki, Finland. Helsinki was chosen for this study because both climbing and trail running are practiced widely and have strong communities in the region.

### *Data collection and distribution*

Data collection took place from March to May 2016. The online questionnaire was promoted on sports-specific Facebook groups and online communities, and directed toward practitioners living in the Helsinki area. Permission for promoting the questionnaire was given by the administrators of the sites and specific groups. The questionnaire was available in Finnish and English. Participants were not asked to disclose their nationalities or promised any rewards for participation. As the questionnaire was only promoted online, the collected data were limited to people who use social media as part of their sports practice.

In the questionnaire, participants were asked questions related to their climbing or trail running communication practices and sports-specific social contacts. Social contacts were defined in the questionnaire as "people you know through climbing/ trail running." Most questions were close ended and had multiple choices as well as space for supplementary answers. Different perspectives for examining social interaction were how, where, with whom, and how often it took place. Following, participants were given Likert-scale statements regarding their social contacts in the context of a sports discipline. The used statements measured to what extent practitioners receive informational, instrumental, appraisal, and emotional support from other practitioners. In closing, participants could answer two open-ended questions about the meaningfulness of their social ties related to climbing or trail running.

Altogether, 301 climbers and trail runners answered the questionnaire. Of these participants, 59% were climbers and 42% were trail runners. Regarding gender, 53% were male, 46% female, and 1% other. In terms of age, 18% were in the age group 15–29, 49% in 30–39, 27% in 40–49, and 6% in 50–69. A combined variable of practice length, frequency, and self-estimated competence shows that 16% of participants can be classified as novice practitioners, 60% as intermediate practitioners, and 24% as advanced practitioners.

### *Data analysis*

Questionnaire data were analyzed using statistical analysis (SPSS) software. Statistical analysis was used to summarize and describe the empirical data and to investigate relationships among different variables. Descriptive statistics and independent samples t test were calculated for these purposes. Open-ended questions (256 answers) were coded inductively and analyzed using qualitative content analysis. The purpose of the inductive analysis was to identify themes that may not have been taken into account in the questionnaire design. Coding required reading through all the answers three times. Sample responses were selected from each emerging theme. Some of the sample responses were translated from Finnish by the author.

## Results

### *Face-to-face communication*

On average, 90% of practitioners in both sports interact FtF with other practitioners (Table 1). However, climbers communicate comparatively more FtF. Almost 60% of climbers interact at indoor or outdoor sports sites once a week or more, whereas less than 20% of trail runners do it as often. In comparison, trail runners interact more at sports events. However, because the number of events practitioners participate in yearly is limited, the overall amount of trail runners' FtF communication with other practitioners is considerably lower, compared with that of climbers.

**Table 1. Frequency of FtF communication (%; *N* = 301).**

| | | Never | Less than once a month | Once or twice a month | Once a week or more | Total |
|---|---|---|---|---|---|---|
| **Interact at indoor or outdoor sites** | Trail runners | 11 | 44 | 29 | 16 | 100 |
| | Climbers | 2 | 17 | 24 | 56 | 100 |
| **Interact at sports events** | Trail runners | 9 | 79 | 11 | 2 | 100 |
| | Climbers | 32 | 62 | 6 | 0 | 100 |

The reason why climbers engage more FtF with each other is likely because climbing is geographically more defined and limited compared with trail running, and thus climbers have a higher probability of meeting other climbers while they practice the sport. Moreover, indoor climbing halls provide a year-around location for climbers to frequently meet and engage FtF. A question about participants' sports practice supports this reasoning. Almost 80% of trail runners state that they practice alone at times, whereas only slightly over 40% of climbers ever practice alone. As for trail runners, the lack of well-defined locations may explain the importance of sports events as FtF interaction locales.

### *Computer-mediated communication*

The results show that most practitioners who took part in the questionnaire are active users of social media (Table 2). On average, more than 90% of practitioners follow and over 70% take part in sports-related discussion online. Furthermore, more than 90% of practitioners read and 30% write sports-related articles, reviews, or blog posts online. The frequency of consuming textual content is significantly higher compared with the frequency of producing it. Most practitioners consume content weekly but produce it only occasionally. Trail runners both consume and produce textual content somewhat more actively, compared with climbers.

Apart from textual content, practitioners frequently consume visual content online. More than 90% of practitioners watch sports-related pictures and videos online, and most do it on a weekly basis. Climbers consume visual content slightly more often, compared with trail runners. Besides consuming, on average 80% of practitioners occasionally take sports-related photos and/or record sports-related videos.

In addition to consuming and producing textual and visual content, practitioners share it too. Over 60% of practitioners share sports-related articles, reviews, or blog posts online. Moreover, 70% of practitioners share photos and videos they have watched, and more than 70% of practitioners share photos and videos that they have taken themselves. However, the average frequency of all sharing activities is less than once a month.

The only CMC practice that shows a significant difference between the two sports is recording and sharing sports exercise data with the help of technology such as sports watches, activity trackers, or mobile applications. Of trail runners, 90% record and almost 60% share exercise data, whereas only over 30% of climbers record and less than 20% share data with other practitioners. Most trail runners record exercise data weekly but share it only occasionally.

A review of mediated communication channels (Table 3) reveals that social networking sites provide the main channels for practitioners to communicate personally with each other. By contrast, online communities and e-mail are not widely used for one-on-one communication. Comparison between the sports shows that trail runners communicate slightly more via online communities than do climbers. Conversely, the results indicate that climbers use more personal communication channels, as they communicate more via phone calls, text messages, and mobile applications. The results thus suggest that climbers form more personal social connections with other practitioners than do trail runners.

**Table 2. Frequency of CMC (%; *N* = 301).**

| | | Never | Less than once a month | Once or twice a month | Once a week or more | Total |
|---|---|---|---|---|---|---|
| **Follow discussion** | Trail runners | 1 | 6 | 16 | 78 | 100 |
| | Climbers | 5 | 10 | 20 | 66 | 100 |
| **Participate in discussion** | Trail runners | 13 | 34 | 30 | 24 | 100 |
| | Climbers | 26 | 31 | 16 | 26 | 100 |
| **Read articles, blog posts etc.** | Trail runners | 0 | 16 | 24 | 60 | 100 |
| | Climbers | 2 | 17 | 28 | 53 | 100 |
| **Write articles, blog posts etc.** | Trail runners | 58 | 28 | 9 | 5 | 100 |
| | Climbers | 80 | 15 | 2 | 2 | 100 |
| **Share articles, blog posts etc.** | Trail runners | 40 | 37 | 15 | 8 | 100 |
| | Climbers | 33 | 43 | 13 | 11 | 100 |
| **Watch photos or videos** | Trail runners | 2 | 23 | 30 | 45 | 100 |
| | Climbers | 2 | 9 | 29 | 61 | 100 |
| **Take photos or videos** | Trail runners | 22 | 31 | 27 | 20 | 100 |
| | Climbers | 7 | 34 | 39 | 19 | 100 |
| **Share photos or videos seen** | Trail runners | 31 | 43 | 18 | 9 | 100 |
| | Climbers | 29 | 40 | 22 | 9 | 100 |
| **Share photos or videos taken** | Trail runners | 28 | 40 | 22 | 10 | 100 |
| | Climbers | 18 | 44 | 29 | 8 | 100 |
| **Record exercise data** | Trail runners | 10 | 10 | 11 | 69 | 100 |
| | Climbers | 63 | 11 | 10 | 17 | 100 |
| **Share exercise data** | Trail runners | 44 | 27 | 9 | 20 | 100 |
| | Climbers | 83 | 11 | 2 | 3 | 100 |

**Table 3. The use of mediated communication channels for personal communication (%; *N* = 301).**

| | Social networking sites | Online communities | Phone call | Video call | Mobile applications | SMS | E-mail |
|---|---|---|---|---|---|---|---|
| **Trail runners** | 78 | 26 | 19 | 2 | 30 | 22 | 25 |
| **Climbers** | 84 | 3 | 47 | 1 | 64 | 46 | 20 |

### *Social ties*

The results presented above show that practitioners have an evident need to interact with each other. As a consequence of interaction, practitioners may form social ties. The results of the questionnaire reveal that most practitioners in both sports form social ties with other practitioners (Table 4). However, the locations where ties are formed vary between the sports. In line with the previous findings, the results show that most climbers form ties at indoor or outdoor sports sites, whereas most trail runners form ties at sports events and online.

**Table 4. Locations for forming social ties (%; *N* = 301).**

| | Indoor or outdoor sites | Sports events | Online | Elsewhere | I do not form social ties with other practitioners |
|---|---|---|---|---|---|
| **Trail runners** | 45 | 60 | 59 | 15 | 14 |
| **Climbers** | 89 | 31 | 42 | 13 | 5 |

#### *Meanings attributed to social ties*

A five-point Likert scale was further used to measure what meanings practitioners attribute to their social ties. Average scale values were counted for each sport, and a t test was used to measure statistical significance between the mean values. Table 5 shows the extent to which practitioners of each sport agree on the statements about their social ties.

The results of the questionnaire indicate that practitioners attribute many instrumental and informative meanings to their social ties. For practitioners, sports-related contacts provide information about indoor and outdoor sports sites, events, and gear. Moreover, social ties provide sports-related news and entertainment as well as advice on training techniques.

Apart from informational and instrumental support, social ties provide emotional and appraisal support. When it comes to emotional and appraisal support, the results show significant differences between the sports. Climbers more often feel that their social ties are caring and motivating, provide a sense of belonging, and help them develop in their practice. Consequently, climbers find their social ties more important than do trail runners. The reason for this is assumingly because climbers interact more FtF.

To test the assumption of FtF communication being crucial for forming contacts with emotional value, practitioners in both sports were divided into two groups, depending on how often they interact FtF with other practitioners. The previous statements about social contacts were used, and with the help of a t test, the counted means were compared between the practitioners who interact with other practitioners FtF less than once a week and at least once a week. The results (Table 6) reveal that those practitioners who interact more FtF attribute stronger emotional meanings to their social contacts, and thus, presumably, form stronger social ties with other practitioners. It is however relevant to note that a comparison between practitioners in the similar categories shows that climbers in both categories attribute stronger emotional meanings to their social contacts than do trail runners.

Explanations for the perceived differences between climbing and trail running can be found from the specific and cultural variations between the sports. For example, in climbing, forming contacts is often a necessity because of security reasons. While climbing partners secure each other, they are likely to give technical advice too, and thus help each other to develop in their practice. Moreover, as noted earlier, training conditions in each sport affect how and where practitioners interact, and thus what kinds of ties they form with each other. If conditions make interaction difficult during practice, practitioners look for interaction elsewhere. In this regard, social media offer many possibilities for practitioners to get connected.

**Table 5. Statements about social contacts.**

| | | Mean | *SD* |
|---|---|---|---|
| **My contacts provide me information about indoor or outdoor sports sites** | Trail runners | 4.19* | *0.66* |
| | Climbers | 4.38* | *0.65* |
| **My contacts provide me information about sports gear** | Trail runners | 4.14 | *0.67* |
| | Climbers | 4.24 | *0.65* |
| **My contacts provide me information about sports events** | Trail runners | 4.17* | *0.64* |
| | Climbers | 3.86* | *0.89* |
| **My contacts provide me sports-related news** | Trail runners | 3.82 | *0.70* |
| | Climbers | 3.74 | *0.83* |
| **My contacts provide me sports-related entertainment** | Trail runners | 3.98 | *0.64* |
| | Climbers | 4.02 | *0.76* |
| **My contacts provide me advice on techniques** | Trail runners | 3.50* | *0.78* |
| | Climbers | 4.08* | *0.78* |
| **My contacts provide me a sense of belonging** | Trail runners | 3.62* | *0.76* |
| | Climbers | 4.04* | *0.76* |
| **My contacts care about me** | Trail runners | 3.26* | *0.68* |
| | Climbers | 3.88* | *0.71* |
| **My contacts are important for me** | Trail runners | 3.34* | *0.71* |
| | Climbers | 4.02* | *0.69* |
| **My contacts motivate me to practice the** | Trail runners | 3.62* | *0.97* |
| | Climbers | 4.05* | *0.82* |
| **I am a better practitioner because of my contacts** | Trail runners | 3.17* | *0.98* |
| | Climbers | 4.09* | *0.91* |

*Note*. Based on a 5-point Likert scale (from *strongly disagree* to *strongly agree*).

* indicates statistical significance between trail runners and climbers, $p<0.05$.

**Table 6. Statements about social contacts.**

| | | Mean lessftf | *SD* | Mean moreftf | *SD* |
|---|---|---|---|---|---|
| **My contacts provide me a sense of belonging** | Trail runners | 3.55* | *0.78* | 3.90* | *0.63* |
| | Climbers | 3.83* | *0.81* | 4.21* | *0.68* |
| **My contacts care about me** | Trail runners | 3.19* | *0.66* | 3.62* | *0.74* |
| | Climbers | 3.79 | *0.75* | 3.94 | *0.66* |
| **My contacts are important for me** | Trail runners | 3.27* | *0.69* | 3.62* | *0.74* |
| | Climbers | 3.88* | *0.67* | 4.13* | *0.68* |
| **My contacts motivate me to practice the sport** | Trail runners | 3.52* | *1.00* | 4.10* | *0.44* |
| | Climbers | 3.92* | *0.73* | 4.17* | *0.87* |
| **I am a better practitioner because of my contacts** | Trail runners | 2.98* | *0.93* | 4.10* | *0.63* |
| | Climbers | 3.92* | *0.95* | 4.21* | *0.87* |

*Note*. Based on a 5-point Likert scale (from *strongly disagree* to *strongly agree*).

* indicates statistical significance between practitioners who interact face-to-face less than once a week (lessftf) and at least once a week (moreftf), $p<0.05$.

*Reasons for forming social ties*

An inductive analysis of all open-ended questions revealed additional meanings and reasons for why practitioners form social ties with other practitioners. Most of these reasons could be found in both trail runners' and climbers' answers. Categorization of the coded data brought out the following six main reasons for forming social ties:

*Friendship and family relations.* The most frequently coded reason for forming social ties is the fact that practitioners want to form deeper friendships and relationships with other practitioners. For many climbers and trail runners, these relationships extend beyond physical practice. A 29-year-old male said, "I spend time with my climbing friends even when I'm not climbing." Similarly, a 46-year-old female noted: "Some of my trail-running contacts have become friends also outside trail running."

Besides friends, some practitioners have a partner or family members with whom they practice. A 23-year-old female climber stated, "Me and my spouse share climbing as a lifestyle." Other practitioners express a wish for a partner. For example, a 32-year-old female said she would "like to find a like-minded partner among trail runners."

*Companionship and community.* For many practitioners, other people provide training company. Especially in climbing, forming social ties is related to security. As stated by a 28-year-old female, "The more climbing partners you have, the better chances you have that you don't need to climb alone without belayers." Trust and security are topics that climbers often mention together. A 34-year-old female said, "I want to practice with people whom I can trust." Also, many trail runners think that training companionship increases security during the practice. A 40-year-old male runner stated, "It's more fun and safer to practice in a group."

Besides providing security, many practitioners think that sports-related social ties provide added motivation for practice. A 56-year-old male runner reflected thus: “They [other runners] make me do harder and longer training sessions that I couldn’t complete alone.” Likewise, a 39-year-old female noted: “Other climbers help me challenge myself in climbing without taking unnecessary risks.”

For some practitioners, joint practice provides a sense of community. A 37-year-old male climbers stated: “We have experienced small and big adventures together. Those are the memories that connect people.” Similarly, a 46-year-old female trail runner noted: “It’s nice to share experiences and to belong to a group.” A 35-year-old female climber contemplated further: “Climbing contacts provide a community that might only be bound by climbing. It’s refreshing because in no other context do I have such differing types of friends.”

*Extended training possibilities.* Many practitioners state that forming social contacts considerably extends their own training possibilities. For example, a 34-year-old female said, “Climbing alone wouldn’t work with my children, but with climbing friends we have spent many nice days outdoors.” For trail runners, training company often enables running on unknown grounds. A 46-year-old female noted: “I would be fine without social contacts, but the practice would be lonely and limited to the paths that I know.”

Some practitioners travel far away to do sports together. A 40-year-old male runner stressed the importance of “organizing and participating in events together, and all kinds of practical things such as sharing travel or accommodation.” Likewise, a 28-year-old nonbinary climber said, “We organize climbing trips and get-togethers and share rides to climbing sites.”

*Sharing.* Many practitioners highlight a shared passion, values, or lifestyle as a common ground for forming social ties within a sport. A 29-year-old female reflected thus: “I often realize that I and other trail runners share many similar values such as respect for nature, equality between people, liberalism, etc.” Similarly, a 31-year-old female stated: “It’s very easy to spend time with other climbers because we share a passion and a lifestyle and enjoy similar things.”

In line with the quantitative findings, sharing knowledge and experience emerged as a theme from the qualitative data, and was used as a reason for forming social ties. A 33-year-old nonbinary climber said, “It’s nice to exchange beta with other climbers and, for example, information regarding security.” Similarly, a 46-year-old female stated: “It’s nice to hear about experiences and get advice from other runners.” Sharing knowledge is especially appreciated by practitioners at lower levels of competence. A 39-year-old female climber stated: “I want to learn from people who are more experienced than I am.”

*Social nature of humans.* Some practitioners reason that forming social contacts is a part of human nature. A 31-year-old male runner stated: “Relations with other people are important.” Similarly, a 36-year-old male climber said, “I think social contacts are important no matter with whom you form them.”

Some climbers stress the social nature of the sport. A 29-year-old male said, “I want to form social contacts because climbing is a social sport. Most often you practice climbing together, even when bouldering alone.” Similarly, a 40-year-old male explained: “Climbing is above all a social sport. Failure is a big part of the sport and the few moments of success in climbing are worth sharing with someone.”

*Time used for practice.* Some practitioners want to form social ties because they dedicate a considerable amount of their free time to practice. A 28-year- old female noted: "Climbing is a time-consuming sport, and that's why there is not much time for other social contacts." Similarly, a 52-year-old male said, "I spend half of my free time on trail-running paths, and so it's natural to form contacts." Practice can also provide time to disengage from everyday life. A 28-year-old female climber put it this way: "Sometimes it's good to have contacts who are completely outside of work and my 'other life.'"

*Reasons for not forming social ties*

As the quantitative analysis shows, not all practitioners form social ties with each other. Categorization of the coded qualitative data brought out the following three reasons for this:

*Lack of interest.* The most common reason mentioned was lack of interest. Some practitioners see forming contacts as too much work. A 25-year-old female explained: "Sure it wouldn't be bad to have more contacts, but so far I haven't had the energy to try to find contacts through trail running." Others are satisfied with their existing social network. A 24-year-old female climber said, "I have a nice social circle now, so why would I change the surroundings?"

Lack of interest can also be due to a dislike toward other practitioners. A 48-year-old male stated: "Those who have sacrificed their lives for trail running can be very self-centered people." Similarly, a 35-year-old female noted: "There are many friendly climbers, but also nasty ones. Some climbing groups are very clannish. People can be scornful or even try to make climbing harder for others."

*Forming contacts is challenging.* For some practitioners, forming social ties feels challenging. A 43-year-old female trail runner said, "I'm a lone wolf and it's hard for me to take initiative to form social contacts." Similarly, a 33-year-old male climber stated: "I would like to [form social ties], but it feels challenging. I haven't done anything to form contacts."

For some practitioners, a lower level of competence makes forming social ties harder. A 51-year-old female explained: "I haven't been that active in running during the past year, and so I haven't joined any practice, partly because I think I'm too slow." Similarly, a 27-year-old female said, "I don't feel like I'm a climber. Therefore, it feels hard to create any contacts with others, and I don't really want to do it either."

Challenges can also arise from lack of time. A 28-year-old male climber noted: "The time reserved for the hobby isn't enough for forming new contacts." Likewise, a 37-year-old male runner stated: "I have other hobbies too, and don't have time to form contacts with everyone."

*Practice for individual development.* Some practitioners focus solely on their individual development, and thus do not see forming social ties as important. A 32-year-old male climber explained: "I'm more focused on developing myself than on forming social contacts." Similarly, a 24-year-old male runner stated: "This hobby is more for myself."

Other practitioners stress the meditative aspects of sports practice. A 42-year- old male runner said, "During practice I want to be by myself, surrounded by my own thoughts—or even better without any thoughts." Likewise, a 34-year- old female stated: "For me, climbing is like meditative yoga or 'a dance on the walls.' I don't practice

climbing because of social contacts or to become technically skillful. My goals are different."

## Summary of the results

The results of this study show that both trail runners and climbers interact actively and in various ways with other practitioners. Through interaction, practitioners form social ties with one another. For the participants in this study, online activities have become a natural part of sports practice. Practitioners frequently follow sports-related social media content, and occasionally post or share content online. Online communication supports weak ties with instrumental and informative value. High online activity does not however diminish the relevance of FtF communication in contemporary recreational sports. The results show that in the context of sports, location still plays a central role when it comes to establishing social ties with emotional and appraisal value.

Comparisons between the sports indicate that climbers form stronger ties with other practitioners. Climbers communicate more FtF, use more personal mediated communication channels, and attribute more emotional meanings to their social contacts than do trail runners. Explanations for the perceived differences between climbing and trail running can be found from specific and cultural variations between the sports.

A qualitative content analysis reveals that recreational lifestyle sports practitioners form social ties because of a need to develop friendships, family relations, training companionship, and community. They also form social ties to gain extended training possibilities and share life values and experiences with other practitioners. In addition, social ties are formed purely because practitioners spend a considerable amount of time in sports practice. The identified reasons for not forming social contacts are the fact that practitioners do not have interest in it, feel it is challenging, or that they practice sports solely for individual reasons.

## Discussion and implications

The present paper investigated recreational lifestyle sports practitioners' communication practices and social tie formation. The results of this case study support earlier findings on CMC in lifestyle sports (Dumont, 2014, 2015; Jones, 2011; MacKay & Dallaire, 2012; Olive, 2015; Woermann, 2012) by showing that for the studied population, social media practices have integrated with the physical activity. Practitioners consume, produce, and share information, entertainment, and experiences online. However, this paper argues that even though CMC has established its place in recreational lifestyle sports cultures, it has not done it at the expense of FtF communication. Whereas online interaction produces weak social ties with instrumental and informative value, physical location is essential in establishing ties with emotional and appraisal value.

Furthermore, this paper shows that online activities are not limited to proficient lifestyle sports practice but rather reach across the whole sports culture. Recreational practitioners frequently follow sports-related social media content, and occasionally post or share content online. When compared to previous studies on content production and sharing, the quantitative findings of this study indicate that, on a larger scale, these activities may not be as common and frequent as previous qualitative studies (e.g., Jones, 2011; Olive, 2015; Woermann, 2012) on lifestyle sports suggest.

In the present paper, CMC has been examined as a separate entity from FtF encounters. The division was made to clarify the role of CMC technologies in recreational

lifestyle sports cultures. However, in everyday life, physical activities are often highly mediated, as practitioners record data, photos, and videos while they engage in the sports practice. Online activities should thus be seen as an extension of the physical activities, and vice versa.

Concluding, this paper supports a social shaping approach (Baym, 2015) as a useful perspective for understanding the role of CMC technologies in recreational lifestyle sports. Using this perspective, new communication technologies are seen to provide affordances that guide the actions of practitioners. However, it is the sports culture, situational impacts, and personal choices that shape how practitioners use these technologies.

The overall comparison between sports disciplines shows that communality and a "doing together" mentality are stronger in the climbing than in the trail- running culture. However, a subculture does not define the actions of individual practitioners. As this study shows, some trail runners build stronger supportive contacts with other practitioners, even though the subculture is not necessarily conducive to that. Moreover, both climbers' and trail runners' reasons for forming or not forming social ties within the sport vary between practitioners because they are based on individual needs, goals, and motivations for the practice.

These notions are indications of the power of individualism in contemporary Western societies. In recreational sports, the lack of stable organizational structures gives individual practitioners an authority to decide how and to what extent they want to interact with fellow practitioners, and with whom they want to form social ties. Following this line of argument, this paper suggests that, rather than simply looking at practitioners as members or products of a certain subculture, it may be more prudent to view them as networked individuals (see Rainie & Wellman, 2014) who rely on the network support provided to them by their sports-related social contacts.

Drawing a practical implication, this paper emphasizes the need for sports- related social media platforms and services that awaken individuals' interest for sports and, more importantly, encourage people to practice together. Encouraging recreational sports practitioners to meet FtF is an initial step in helping them develop stronger influential ties that provide motivation and support to maintain a physically active lifestyle.

## Limitations and future research

The most notable limitation concerns the sample of this study. The data used in this study were collected online only, which means that all practitioners who participated in the questionnaire use social media as a part of their sports practice. Therefore, those practitioners who do not use social media at all as a part of their practice are outside the scope of this study. The results cannot be generalized to include all sports practitioners in the selected sports. In the future, a comparative study between the users and nonusers of social media would supplement the results of this study.

Furthermore, the sample of this study was limited to one city. Therefore, the results cannot be generalized to nonurban settings or other regions. For future reference, a comparative study conducted in another European city could be used to verify or challenge the conclusions drawn from this study.

As the role of networks in everyday lives of people is growing more important (Rainie & Wellman, 2014), future research is needed on the network support that recreational sports practitioners provide one another. One future line of research is to look more carefully at what kind of communication and what kind of social support have the

best impacts on physical activity levels. Furthermore, research on networked individualism in the context of recreational sports would help deepen the understanding of new organizational structures in contemporary leisure-time cultures.

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# II

# ‘I SHARED THE JOY’: SPORT-RELATED SOCIAL SUPPORT AND COMMUNALITY ON INSTAGRAM

by

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# ‘I shared the joy’: Sport-related social support and communality on Instagram

The popularity of sharing photographs on digital platforms has increased significantly due to the communicative affordances of mobile media and the emergence of photo- sharing applications, such as Instagram. In this paper, we examine how social support and communality can be built and reinforced through digital visual communication. We focus especially on photo sharing in the context of recreational climbing and trail running. In a qualitative study with Finnish climbers and runners, we asked what meanings sports practitioners ascribe to the practice of sharing and observed how they communicate these meanings through photographs. The results indicate that different types of visual content build and reinforce communality in distinct ways. Whereas inspirational photographs drive practitioners to explore, motivational photographs pull practitioners to keep going through goal setting and peer support. We conclude that visual communication on Instagram mediates a stream of momentary encounters between practitioners that merge into communally meaningful experiences. Thus, we assert that in the context of recreational sport subcultures, photo sharing not only facilitates social relationships but can be perceived as a meaningful social practice that is integral to reinforcing physical activity.

## Introduction

Photography has always been inherently tied to sharing (Lobinger 2016). With the rise of social media, the popularity and ease of sharing photographs has increased significantly. The key reasons for this are the communicative affordances of camera phones (Villi 2010) and the emergence of photo-sharing applications, such as Instagram. Today’s ubiquitous mobile devices and applications can be said to ‘push individuals to think visually of events, people and surroundings’ (Serafinelli and Villi 2017, 165). As user statistics of photo-sharing applications demonstrate, we are witnessing an extraordinary phase in the history of photography: Instagram alone has over a billion global users (Systrom 2018), who share more than 100 million photographs and videos, on average, every day (Aslam 2020). Yet photo sharing can also lead to unwanted consequences, such as loss of privacy (Serafinelli and Cox 2019) and the social media platforms’ commoditisation of relationships (van Dijck 2013).

Recreational sport provides a rather unexplored yet important context for the study of visuality. Images of sport in general have historically been an integral part of visual cultural production (Finn 2014). In addition, sport- related visual content has become increasingly popular on social media in recent years (Thorpe 2017), as not only

professional athletes but also recreational practitioners[1] share photographs and videos of themselves participating in sports. Practitioners create educational, experiential, and entertaining visual content both for their own consumption and for others with similar interests. Sharing one's physical performance visually can make practitioners feel connected; for them, photography is a connective interface (Gómez Cruz 2016). However, what exactly makes visual communication online evoke a feeling of connectedness has not been studied intensively.

In this paper, we examine how recreational climbers and trail runners can build and reinforce a sense of communality by sharing photographs on Instagram. To that end, we ask what meanings practitioners ascribe to photo sharing and we observe how they communicate these meanings through photographs. We understand meaning making as a hybrid outcome of individual interpretations and interpersonal and cultural negotiations of life events and objects. According to Lomborg (2015, 1), meaning making 'evolves in the meeting between the communicative potentials and constraints of a text or a medium and individuals' pre-existing mental modes, expectations and intentions in context'. To analyse meaning making, the present study focused on Instagram as a platform, the practice of photo sharing, and shared photographs. The results shed light on how photo sharing can be used to create communality among social media users.

## Literature review

Sharing photographs online or in other ways fulfils different purposes in different contexts and for different people. Lobinger (2016) differentiates between three modes of photo sharing: (1) sharing photographs to talk *about* images, focusing on the situation or context that occurred when a photograph was taken; (2) sharing photographs to talk *with* the images, meaning to communicate something visually; and (3) sharing photographs to maintain connections, meaning the practice of phatic photo sharing that Lobinger (2016, 481) defines as sharing 'for the sake of visual connectivity and thus in order to confirm and strengthen bonds and relationships' (see also Villi 2010). According to Lobinger (2016), these three photo- sharing modes are situational – that is, people rapidly switch between different modes depending on their circumstantial purposes and needs.

Studies on online and mobile visual communication highlight that when it comes to creating connections or communality through photographs, the practice of phatic photo sharing is of utmost importance. In his study on visual mobile communication, Villi (2012) shows that mobile phone users share photographs primarily to maintain connections in a ritual manner. He argues that phatic photo sharing stems from the practices of mobile (telephone) communication and is best understood as a habitual act between users.

Similarly, in her study on the use of photographs in transnational families, Prieto-Blanco (2016) shows that for physically distant family members, the act of sharing photographs through digital platforms is as important as, or even more important than, the content of the photographs. She argues that family members engage in phatic communication in search of immediacy and closeness despite physical distance, and she concludes that phatic communion 'opens up space for further and deeper interaction' (Prieto-Blanco 2016, 14). Likewise, regarding visuality on Instagram, Serafinelli (2017)

[1] In this paper, the term 'practitioners' is used in reference to leisure physical activity enthusiasts, and particularly in reference to recreational climbers and trail runners.

argues that the practice of photo sharing is not socially deeply meaningful as such but should be perceived as an activator of deeper social interaction and relationships. Her research shows that users may create initial social connections by sharing photographs on Instagram; however, rather than using the platform to maintain their relationships, they tend to subsequently move to other social media platforms or face-to-face settings.

In the context of sport, visuality is often studied and seen as an extension of the physical experience. Research shows that recreational sports practitioners use photo-sharing practices to engage in the collective reproduction of style (Woermann 2012), assert their place as part of the sports community (Olive 2015), and curate their athletic self-presentation (Gray et al. 2018). Regarding community building among mountain bikers, McCormack (2018) argues that mediated rituals, such as photo sharing, extend and strengthen social relations between practitioners. More specifically, on the role of photo sharing in building communality, McCormack (2018, 573) concludes as follows:

> The necessity of telling those [visual] stories, which are stories of technical accomplishment but also of friendship and community, suggests the centrality of these [social media] platforms for creating, sharing, and strengthening the ties between participants.

These notions of the importance of visual stories indicate that sports practitioners share photographs online to talk *with* and *about* the images and, consequently, strengthen their interpersonal ties. This partially contradicts other studies (Prieto Blanco 2016; Villi 2010) advancing the view that it is predominantly the element of phatic communication that creates connection and communality between users on the more intimate digital platforms (e.g. visual messaging and WhatsApp).

In this paper, we examine what roles phatic communication and communicating visual stories play in building communality online, particularly in the context of recreational sport. Moreover, we contribute to the discussion on whether visuality online is merely an activator of social relationships or can be seen meaningfully as such. Thus, the key contribution of this paper to visual studies lies in the study of meaning making and communality in online photo sharing. The paper addresses the following research question: *How do recreational sports practitioners exchange social support and build communality through photo-sharing practices online?*

## Materials and methods

Data for this study consist of interviews with 10 Finnish recreational sports practitioners, five of whom practise climbing and five trail running as their main sport, and 165 Instagram photographs posted by the interviewees. These recreational sports were selected because both disciplines have a long tradition of practice, they have gained popularity in recent years, they are practised around the globe, and they have a visible presence online. Moreover, in contrast to team sports, where practitioners form a well-defined entity and regularly meet face-to- face, individual or solitary sports practitioners may more frequently lack a sense of belonging and connection with other practitioners. Thus, they may be more inclined to seek alternative ways of connecting with peers, such as through photo sharing.

Participants were recruited through an online survey that had been used for another case study in 2016. The study (Ehrlén 2017) investigated climbers' and trail runners' communication practices, social tie formation, and social support exchange in

online and offline settings. At the end of the survey, participants were asked about their willingness to take part in further interviews regarding social and visual media use related to physical activity. Separate consent forms concerning interview and observation guidelines were sent to all participants after an initial email exchange and prior to data collection. Permission to observe participants' Instagram accounts [2] and use their photographs in scientific publications was obtained via email.

Data analysis (Figure 1) utilised Schreiber's (2017) framework for analysing visual communication on social media. The framework accounts for practices, photographs, and platforms as three relevant dimensions for analysis. According to Schreiber (2017), a multidimensional approach is needed to bring out the relevance, meaning, and communicative context of visual data (see also Lobinger 2016). At the same time, visual data can draw out meanings that are difficult to put into words (Rose 2014). Schreiber's (2017) general framework was accompanied by Schreier's (2014) detailed guide for analysing interview data and Grittmann and Ammann's (2009) approach for analysing meaning in photographs.

Semi-structured interviews with the 10 participants were conducted in February–April 2017. The participants' age range was 24–45 years, and they included six male and four female practitioners. Interview data were analysed inductively using qualitative content analysis according to Schreier's (2014) model.

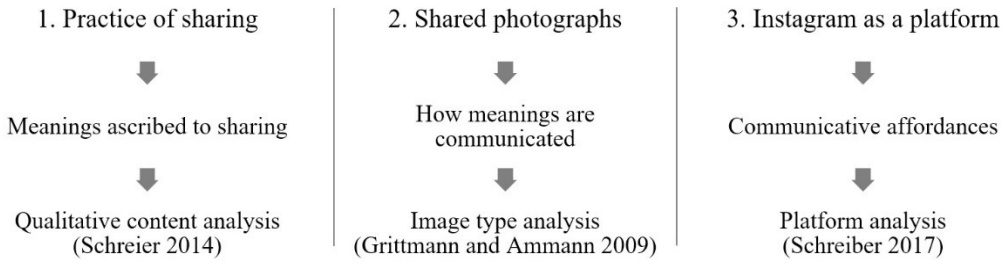


**Figure 1. Analytical framework adapted from Schreiber (2017, 41).**

Qualitative content analysis of the interview data identified four main categories of meanings that practitioners ascribe to photo sharing: *inspiration*, *motivation*, *information*, and *identity*. All categories emerged inductively from the data. The four main categories included three to six subcategories specifying what made sharing photographs inspirational, motivational, informational, or identity-related. In the first round of coding, there was a fifth additional main category of togetherness that was merged with motivation before the final coding because the categories overlapped considerably. The four main categories of meanings are elaborated in Table 1.

Instagram was chosen as the platform for observing photo sharing because it emerged during the research interviews as a widely used mobile application among practitioners. Whereas the interview data were used to identify meanings that

[2] Nine of the 10 observed Instagram accounts were public. At the time of submission, all photographs included in the analysis were publicly accessible.

practitioners ascribe to visual communication, observation data were used to demonstrate how these meanings manifest through actual photographs.

Practitioners' Instagram accounts were observed for one month in the spring of 2017 and again for one month in the summer. Observation was limited to photographs that participants posted about their sport- related activities. A photograph was included in the data if it, the related caption, or used hashtags indicated sport-related activities. Only photographs that appeared in participants' feeds were included in the data collection; that is, Instagram stories (content that disappears after 24 hours) were not observed. Captions and hashtags of the selected photographs[3] were studied via qualitative content analysis (Schreier 2014) and categorised deductively into the categories that emerged from the interview data. As comments from other practitioners were often limited to emojis or simple phrases, such as 'lovely' or 'well done', they did not provide rich textual data and were, thus, left out of the analysis.

**Table 1. Descriptions of the main coding categories.**

| Coding category | Description of the category |
|---|---|
| **Inspiration** | Interviewees express that they share or follow sport-related visual content on Instagram to inspire or to be inspired by others. They talk about inspirational sports sites and landscapes, about sport-related experiences, and about practitioners whose performance and lifestyle they admire. They also associate positive emotions and visually satisfying photographs with inspiration. |
| **Motivation** | Interviewees express that they share or follow sport-related visual content on Instagram to motivate or to get motivated by others. They post content about personal goals or set goals after seeing others' photographs. They consider photographs that portray moments of togetherness as a source of motivation. They express that by sharing motivational photographs and reacting to them, practitioners encourage each other not to give up despite challenges, and to believe in themselves. |
| **Information** | Interviewees express that they share or follow sport-related visual content on Instagram to inform or to get informed about sport-related issues. This can be information about different locations for practice, conditions of different sports sites, or training tips and advice. Additionally, they use Instagram to inform others about and keep up with others' personal life events and to follow more generally what is happening in the sport subculture. |
| **Identity** | Interviewees express that sharing and following sport-related visual content on Instagram enables them to build their (sport) identity. They do this by following and sharing photographs of a lifestyle they identify with. Additionally, some practitioners mention that sharing photographs on Instagram serves simultaneously as a personal diary. |

The 165 photographs were analysed using image type analysis (Grittmann and Ammann 2009). Image type analysis is based on Panofsky's (1972) iconographical approach. Rather than just classifying photographs, image type analysis goes deeper into analysing social and cultural meanings that photographs bear and interpreting their intrinsic values and ideas (Grittmann 2014). An image type emerges when an overreaching idea repeatedly appears in the material (Grittmann and Ammann 2009).

[3] The study participants used both Finnish and English in the captions and hashtags that they posted on Instagram.

The analysis procedure included five stages. First, the first author created a file for each Instagram post. Each file included one or more photographs, captions, hashtags, and comments from other users. The first categorised as inspirational because they portray motifs that the practitioners named in their interviews while discussing photo sharing as a source of inspiration. Likewise, photographs are categorised as motivational when they portray motifs that the practitioners named in their interviews while discussing photo sharing as a source of motivation. author inspected all files thoroughly before conducting the image type analysis to get an overview of the data and comprehend each photograph in its original context. Second, the first author created a list of 10 potential image types and categorised all photographs by type. At this point, a photograph could represent one or more image types. Image types were named so as to describe the focal ideas in the photographs. Captions and hashtags were used to confirm the ideas in the photographs and, thus, to define the image types. Third, the authors reviewed all image types together and reduced their number to six. Additionally, the authors labelled eight photographs 'undefined' because they portrayed motifs that were not visible in any of the other studied photographs. Fourth, the first author recategorised all photographs under the remaining six image types. At this point, each photograph was categorised under one image type only. When there was uncertainty about the image type, captions and hashtags were inspected more thoroughly. Fifth, the authors examined the image types in relation to the interview categories to understand how the practitioners visually communicate the meanings that they ascribe to photo sharing. Finally, Instagram as a platform was descriptively analysed. Platform analysis (see Schreiber 2017) accounted for the structural elements, defaults, and interfaces of Instagram. The analysis was intended to reveal the communicative affordances that shape how participants use Instagram. For the purpose of the overreaching analysis, the three analytical dimensions were finally brought together.

Figure 2 provides an overview of the image types and their respective quantities. The analysed photographs are divided into two main groups: they convey either inspiration or motivation. Most photographs are categorised as inspirational because they portray motifs that the practitioners named in their interviews while discussing photo sharing as a source of inspiration. Likewise, photographs are categorised as motivational when they portray motifs that the practitioners named in their interviews while discussing photo sharing as a source of motivation. Many photographs also provide information or communicate one's identity. However, upon examining the photographs together with their captions and hashtags, it became clear that participants were not using the photographs solely for information sharing or identity building but that these are by-products of sharing inspiration or motivation. Therefore, we do not discuss information sharing and identity construction as thematic entities but as overreaching themes in the analysis.

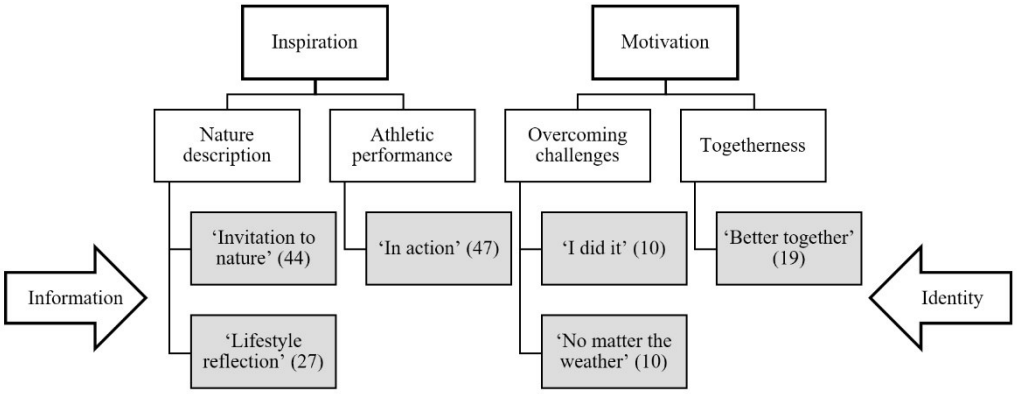


**Figure 2. Image types and their respective quantities.**

Such categorisation of image types is strongly supported by Hinch and Kono's (2018) analysis of ultramarathon runners' perception of place. They identify nature, competition, community, and introspection as four themes that the runners photographed during sport-related travel. The only image type that is not clearly visible in their study is 'lifestyle reflection'. The results of Hinch and Kono's (2018) study are reflected throughout the following analysis.

In our analysis, we discuss the interview and observation data in parallel. We go through the data one image type at a time and present illustrative examples and explanatory extracts from the interviews.[4] The analysis begins with a discussion of the role of inspirational photographs and moves on to explore the role of motivational photographs in sports practitioners' Instagram use. In our study context, inspiration can be seen as a driving force and motivation a pulling force. We distinguish between these two categories because the interviews revealed that the practitioners experience social support emerging from both directions. The difference between these categories is discussed in detail in the following analysis.

## Results

### *Inspiration*

The main reason why participants follow others and share photographs on Instagram is to inspire and be inspired by other practitioners. Inspiration is evoked through photographs that portray either nature or athletic performance.

#### *Nature description*

Figure 3 shows a typical example of the first image type, called 'invitation to nature'. It is taken from the practitioner's perspective in the course of sport practice. The photograph depicts a sunny day in a forest and a path leading to the horizon. It invites the viewer to

[4] The extracts were translated from Finnish to English by the authors.

observe the landscape and imagine taking the position of the practitioner in the quiet beauty of the moment. Other photographs in this category feature landscapes of forest, water, rock, and snow. There is often abundant space and a horizontal line with a clear blue sky visible in the photographs.

**Figure 3. An example of the 'invitation to nature' image type. Permission for use obtained.**

Apart from landscape photographs, nature is depicted in another image type called 'lifestyle reflection'. A typical example of this type (Figure 4) features a practitioner sitting alone on a stone by the water. The practitioner is looking at the sunset on the horizon and reflecting on the immediate surroundings. There is an open sleeping bag in the foreground, indicating that the practitioner will spend the night outdoors. The photograph conveys the idea of sport as a lifestyle that reaches beyond the physical practice and affects daily life activities. Other photographs in this category feature other accommodations, such as a tent or a van, or practice-related gear, such as a rope, shoes, or backpack in nature. These items are displayed together or without the practitioner. If the practitioner is visible, they are in a still position and are most often portrayed as camouflaging and, thus, belonging to the natural surroundings. As in Hinch and Kono's (2018) study, the display of nature in the lifestyle and landscape photographs is portrayed as sublime.

**Figure 4. An example of the 'lifestyle reflection' image type. Permission for use obtained.**

By describing nature through photographs, practitioners inspire each other to explore new surroundings. In the interviews, climbers and trail runners said that they use Instagram to get inspiration or concrete ideas for locations for their practice. Likewise, practitioners share nature photographs on Instagram to inspire others. A 38-year-old climber, Peter,[5] described this as follows:

> It doesn't matter whether it's climbing or travelling. What I like about social media is that when people post [photographs], I get ideas like 'maybe should I go there?' … For me, it's about whether someone can benefit from [my photographs] in a way that they stimulate ideas.

For Peter, climbing and travelling are closely related. Data from other interviewees, as well as other studies (e.g. Getz and McConnell 2014; Rickly-Boyd 2012), confirm that trail runners and climbers often combine leisure travel with sport practice. Importantly, instead of looking for sources of travel inspiration from commercially produced media, practitioners make use of user-generated visual content on Instagram. For 32- year-old trail runner Jesse, photographs have a pivotal role in determining travel destinations:

> The way I plan my future practice or running events I want to participate in … Often I first look at the photos, what kind of landscapes there are … For me, it's a part of the motivation in trail running that I can run in such places where I wouldn't

[5] To protect participants' privacy, pseudonyms are used when presenting examples from the interview data.

> go otherwise. The landscape and the surroundings, and that you practice in nature … It's a show of its own.

Jesse's description indicates that he feels connected to the natural surroundings where he practices. Sport- related literature (e.g. Bale 2003; Hinch and Kono 2018) suggests that physical activity gives meaning to places. Consequently, by sharing a place visually, practitioners can also share their connection to the place with others. Simultaneously, mobile phone photography changes the understanding of physical surroundings because they are constantly mediated through phone screens (Serafinelli and Villi 2017). Thus, an established and shared connection to a specific place is both a physical and a mediated experience of the surrounding nature.

Instagram allows users to tag their photographs and videos with a specific location (for early accounts on location-based media, see e.g. Lapenta 2011). Eighty-five per cent of all analysed photographs include location information in the captions or used hashtags. In line with previous research (e.g. Olive 2015), this shows that revealing one's geographic location is an important part of climbers' and trail runners' photo-sharing practices. Villi (2016) argues that mobile phones' location-aware aspects not only mediate physical but also social presence. Therefore, as a viewer of a photograph, one can experience 'being *there* and *with you'*.

Using landscape photographs, practitioners not only share information about the location but also about the conditions at a specific sports site. A 32-year-old climber, Tomas, explained:

> I seek inspiration from Instagram and I use it to study … Ice climbing is very sensitive to conditions, and it's nice to know what the situation is at different sites in Southern Finland. Instagram lets me know, for instance, that 'ah, someone climbed there a week ago – cool – so it should be in good condition'.

According to the interviewed climbers and runners, open information sharing strengthens communality among them. Tomas also expressed what it means for him to be able to share knowledge and inspire others:

> A friend of mine wrote to me a while ago that he saw a photo I'd posted about a climbing site we had been to, and they got enthusiastic about it. The night after I posted it on Instagram, I got a message: 'Cool, we saw your photo and the conditions were good there, and we went there the day after'. For me, it was like 'okay, now this hits home; this is what I wanted to do'.

Like Tomas, many participants conveyed the joy of inspiring others through visual media. Thus, reciprocity is a key value that guides recreational sports practitioners' Instagram use (see Serafinelli and Villi 2017). Practitioners seek out sources of inspiration and information that benefit them while carefully weighing what kind of information would be beneficial for others. This shows that informational support (see Berkman et al. 2000) is an important form of social support in trail runners' and climbers' photo-sharing practices.

Moreover, by sharing lifestyle photographs, practitioners construct a common identity and idea of what it means to be a practitioner of lifestyle sport. By definition, lifestyle sport is about practitioners' holistic orientation towards the practice (see Wheaton 2010). One of the core values of lifestyle sport is being out in the wilderness

(see van Bottenburg and Salome 2010). For 45-year-old trail runner Matias, communality in lifestyle sport arises among 'like-minded people who value nature as they value their physical condition'. Lifestyle photographs reinforce these values and symbolise practitioners' connection to nature.

Besides constructing a shared identity, practitioners use lifestyle photographs to build and communicate their personal identity. The default setting on Instagram enables anyone to see a user's profile and posts. Only one participant had limited his audience by making his profile private. Sharing lifestyle photographs to a larger community of practitioners may partly be an attempt to give an impression that one is a lifestyle sport practitioner and, thus, constitute an effort to belong to the community.

Using Instagram, practitioners can depict how a sporting lifestyle is connected to and guides many aspects of their everyday lives. A 36-year-old trail runner, Isla, elaborated:

> I hope I can inspire others because I get so inspired by what others do. The places where people have been and their everyday lives … I've noticed that sometimes when I think 'this is probably nothing; it's something mundane' … For someone else, it might be inspiration for something.

As Isla noted, the small act of sharing a photograph can have large or unexpected effects. Thus, inspirational photographs have a driving force: they attract the viewer to explore.

Through visual communication, practitioners inspire each other to explore their external surroundings as well as their internal worlds and to negotiate the limits of their individual and shared lifestyle sport identities. In this process, they exchange appraisal support, which is useful feedback for self-evaluation (see Langford et al. 1997). By recurrently describing nature through photographs, practitioners strengthen common values and reflect their relation to the sport and to the natural surroundings that enable their practice.

### *Athletic performance*

Inspiration is also conveyed through photographs that portray athletic performance. Figure 5 shows a typical example of the third inspirational image type, 'in action'. It features a deeply focused climber bouldering on a rocky shore. The photograph represents a strong, capable, and disciplined athlete's body in practice. Similarly, other photographs in this category feature climbers and trail runners practising in landscapes that are often picturesque. In contrast to image types depicting the tranquillity of nature, photographs in this category illustrate movement and vibrancy. People in the photographs are either portrayed as practising alone or with others.

**Figure 5. An example of the 'in action' image type. Permission for use obtained.**

Sharing photographs of their physical practice allows practitioners to visually demonstrate what they are capable of. Climbers and trail runners said that they typically share photographs if their practice has been remarkable. A 31-year-old trail runner, Anton, elaborated:

> Often, when I take photos, they are either about a tough or a long workout. The practice itself was special in some way. Like, if I run four kilometres in the morning, it's not something I post.

Posting photographs about the practice is not only about demonstrating skills but also about visualising the aesthetics of the performance. Woermann (2012, 628), who studied visual prosumption in the context of freeskiing, argues that social media 'enhance the skiers' abilities of retention, reflection, and apperception.' These three aspects are also realised in Jesse's (32, runner) description of performance photography:

> I make something out of shooting a photo. I think about the whole process as a kind of work of art … You perform and, during the performance, you get something out of it. And almost every time afterwards, you have a feeling of euphoria just because of the chemicals releasing into your body. But that you additionally document [the performance] into a beautiful package is a part of it.

By editing and 'packaging' performances, practitioners create products. In consuming these products, the audience, including the performer, has a secondary experience of the performance, attributes new meanings to it and, in turn, recreates the subculture (Snyder 2011; Woermann 2012). Instagram supports productisation by allowing users to add filters to modify the aesthetics of photographs and videos. However, users may prefer not

to use them. For 33-year-old climber Mia, aesthetics cannot be created by using Instagram's photograph- enhancing functions but must be found in the moment:

> I don't like to edit photos that I share on Instagram … Most often, I put them there pretty much raw. At the most, I balance the light somewhat. They [photographs] must look good in my eye already when I take them.

Aesthetic appreciation and delight of the physical practice frequently surfaced in the interviews as a theme that practitioners want to communicate through photo sharing. A 24-year-old climber, Julia, summarised:

> I often write about current vibes. I like, for instance, this [shows a photograph on Instagram]. Here, I told people why I climb … I thought I could explain to everybody why this is great … There is something about our behaviour today – you want others to know, 'Hey everyone, I'm having a good time!'

Furthermore, adding captions (including emojis) and hashtags to their photographs allows users to explain or specify what their photographs are about, convey different feelings, or categorise the content so that other users can find the photographs that are relevant to their interests. A content analysis of the captions and hashtags confirmed that through inspirational photographs, practitioners communicate feelings of *appreciation* (e.g. #nofilterneeded), *joy* (e.g. photo caption: 'checking out the playground of the day'), *happiness* (e.g. #thehappynow), *expectancy* (e.g. #herewegoagain), and *excitement* (e.g. caption: 'super excited to get to run some trails again'). Thus, practitioners use inspirational photographs to fulfil what Julia called the need 'to share good vibes'.

### ***Motivation***

Apart from inspiration, climbers and trail runners engage in photo sharing on Instagram to motivate themselves and each other to undertake physical activity. In contrast to inspirational photographs that drive practitioners to explore, sharing motivational photographs encourages practitioners to keep going. Motivation is evoked through photographs that portray either overcoming challenges or togetherness.

#### *Overcoming challenges*

Figure 6 shows a typical example of the first motivational image type, 'I did it'. In the photograph, a practitioner is sitting on a cliff and looking at a mountain on the horizon. The practitioner is flexing an arm to signal success. Other photographs in this category feature practitioners making different signs of victory, such as a V-sign hand gesture or upraised arms. Photographs presenting tangible proof of accomplishments, such as of a map with a marked route on it or of a display that quantifies a successful performance, also belong to this category.

**Figure 6. An example of the 'I did it' image type. Permission for use obtained.**

In addition to posting photographs of athletic challenges, practitioners share photographs of challenges related to the conditions. Figure 7 shows a typical example of the second motivational image type, 'no matter the weather'. It features a close-up photograph of a practitioner's feet from above. On the left foot is a muddy sneaker, while the right foot is bare and equally dirty. The photograph conveys the idea that practice may not always be easy, but if a practitioner is passionate about it, they can perform regardless of the conditions or outcomes. Similarly, other photographs in this category feature rainy, muddy, or snowy conditions in which practitioners perform. The photographs are of practitioners, landscapes, or dirty equipment.

**Figure 7. An example of the 'no matter the weather' image type. Permission for use obtained.**

By sharing photographs of challenges and accomplishments, practitioners demonstrate the results of hard work and motivate each other to continue training despite challenges in order to reach practice- related goals. Matias (45, runner) explained that motivation acquired through visual communication is based on identification with other practitioners' experiences:

> When people post photos of their practice or if they have been running in beautiful landscapes, and when you support and enjoy someone else's experience through likes and comments … These things strengthen communality and they're important for keeping up my own motivation.

Instagram allows users to comment and 'like' other users' posts with a heart-shaped symbol. The reciprocal feedback in the form of comments and likes generates appraisal support through which practitioners gather self-insight into their capabilities (see Langford et al. 1997). Research on social support on social media indicates that perceived social support is connected to the quantity and perceived quality of comments and likes that a user receives from others (Seo, Kim, and Yang 2016; Wohn, Carr, and Hayes 2016). By commenting on and liking each other's posts, Instagram users confirm the focal ideas behind the photographs and accordingly collaborate in meaning making (see Schreiber 2017). Therefore, the value of an athletic accomplishment is validated by other practitioners' reactions to the shared photograph.

Apart from appraisal support, sharing photographs of challenges and accomplishments rouse emotional support. Emotional support is manifested as expressions of sympathy and caring, and it is most commonly exchanged by strong social ties (Berkman et al. 2000). Anton (31, runner) elaborated:

> When it comes to photos of people who are close to me, I'm interested in knowing that 'ah, he had a good long run'. Those photos give me emphatic joy … the closer the person is to me the more, of course.

Isla (36, runner) explained how sharing photographs of less glamorous experiences stimulates emotional support. Her comment shows that the openness which practitioners highly value is not only related to open information sharing but also to honesty about the experience:

> [Sharing photographs] is peer support with good and bad things … It's more interesting to know that this person can also have a bad day. Somehow, it's more supporting that 'yeah (laughs), I don't always have to be in top condition'. It's somehow nicer.

The range of emotions that these 'challenge' photographs convey is also visible in the captions and hashtags. The analysis shows that through 'challenge' photographs, practitioners communicate feelings of *amusement* (e.g. caption: 'Finnish spring surprises us again'), *annoyance* (e.g. caption: 'we planned to climb this beauty today, but nature did not quite agree with the plan'), *success* (e.g. #irock), and *contentment* (e.g. caption: 'what an educational journey'). Thus, practitioners use photographs to depict the ups and downs of physical practice. These photographs are highly motivational because, on one hand, they provide social support for practice and, on the other hand, they give examples of accomplished ambitions and, thus, encourage other practitioners to set their own goals for practice.

*Togetherness*

Figure 8 shows a typical example of the third motivational image type, 'better together'. The photograph features a group self-portrait of four practitioners. One is in the foreground taking the photograph while the other three are standing closely behind holding each other. The photograph communicates that practice is more fun with others. Other photographs in this category feature groups of practitioners often with close intimacy and grinning faces. Similar to Hinch and Kono's (2018) analysis of ultrarunners' photographs, the images in this category portray group energy.


**Figure 8. An example of the 'better together' image type. Permission for use obtained.**

By posting group photographs, practitioners both mediate their presence and demonstrate the solidarity that is present at a given moment. Jesse (32, runner) described how practitioners use photo sharing to communicate a heightened sense of communality in sports events:

> Nowadays, people produce these kinds of event videos in which they are preparing themselves for something or they sit in a car on their way somewhere, like 'yeah now we are having our last breakfast before the run'. … People do that to wrap up their experiences in events. I guess it's a part of it.

Practitioners not only use group photographs to mediate current events but also to reconnect and recollect experiences of physical practice. Instagram allows users to tag or mention other users in the posts they share, which may further build communality among the people in the photographs. Mia (33, climber) explained how reliving shared experiences strengthens connections to others:

> Often, when I share, there is someone else in the photo with me. Even when the photo is taken of me or a climbing wall, I share it with those – sure, with others too – but mainly with those who were there.

An analysis of the captions and hashtags confirms that practitioners communicate feelings of *connection* (e.g. #outdoorwomen) and *gratitude* (e.g. caption: 'I want to thank you all for making it so wonderful') through group photographs.

However, group photographs may not only be directed at those who were present in a given situation. Isla (36, runner) described how she uses them to encourage newcomers to join:

> Yesterday, I shared a photo of our run. It was nothing special, but the weather was great. We had a good workout, the group was nice. I shared the joy … that we had a good group and a great time, that it felt easy. About togetherness (laughs), my main point about that post was that you should come along. I often share photos about joint practice. It brings people together.

Isla's comment indicates that she readily welcomes new participants into the trail-running community. Further, other runners and climbers emphasised the culture of inclusivity. McCormack (2017) finds a similar ethos in a study on subcultural identity formation among recreational mountain bikers. This contrasts with previous studies on lifestyle sports (e.g. Dupont 2014; Wheaton and Beal 2003), which highlight the exclusivity of subcultures.

Being open to new people echoes practitioners' own need to belong – a need that is clearly manifested in runners' and climbers' photo-sharing practices. First of all, providing social support through visual communication makes practitioners feel needed. Secondly, by mediating their existence through photographs, practitioners assert themselves as part of the larger community of trail runners or climbers (see Olive 2015). Finally, by sharing the 'better together' photographs, practitioners can prove that they belong to the community and to the lifestyle sport subculture. This qualitative study, thus, resonates with Wong, Amon, and Keep's (2019) quantitative research showing that a desire to belong positively affects Instagram use and perceived social support from other users.

## Conclusion

This study calls attention to the value of visual communication online in inspiring and motivating behaviour, in informing and affecting decision-making, and in constructing identities. In and through the process of photo sharing, the study participants exchange social support and build communality within their social networks.

The analysis has shown that climbers and trail runners use Instagram to tell visual stories about natural surroundings, athletic performance, togetherness, and overcoming challenges, and through these stories, they mediate their location and presence. In other words, they share photographs to communicate *with* and *about* the images while maintaining connections with others through phatic communication (see Lobinger 2016).

The study demonstrates that multiple types of photographs posted on Instagram have the potential to evoke feelings of connection and to reinforce a sense of communality. At first glance, only group photographs ('better together' image type) may seem important for solidarity. However, the study makes an important contribution by indicating that other types of 'visually less communal' photographs also strengthen communality, evidenced by the meanings that practitioners ascribe to the practice of *sharing* them. Therefore, we agree with McCormack's (2018) view that the practice of sharing visual stories online has the potential to strengthen social ties and create communality within subcultural social networks. Furthermore, we argue that this happens at its root because members of the networks consider the practice of sharing these stories meaningful in subculture-specific ways.

We conclude that visual communication on Instagram mediates a stream of momentary encounters between practitioners that merge into communally meaningful experiences. As such, photo sharing may provide alternative means to build connections with others in the era of networked individualism (Rainie and Wellman 2014). Online

visual communication alone is not sufficient, however, to satisfy individuals' need for a social life (Serafinelli 2017). In the context of recreational sport, face-to-face contact and shared physical experiences are also important for establishing emotionally meaningful social relationships (Ehrlén 2017).

That said, the value of online visual communication lies in its ability to maintain connection to other practitioners, not just through mediated presence (Villi and Stocchetti 2011) but through communal reflection on the values and meanings of physical activity, on the individual experiences of this activity, and on the natural surroundings in which such activity is performed. Therefore, we argue that in the context of recreational sport subcultures, visual communication is not only a facilitator of social relationships (cf. Serafinelli 2017) but can also be perceived as a meaningful social practice that is integral to the activity in question (see Woermann 2012).

As this study was limited to two sports disciplines, the results cannot be generalised to all sport-related or interest-based Instagram use. To draw more general conclusions about the role of visual media in communality building, more research is needed on the social networks that emerge around diverse leisure-time interests. Thus, this study should be seen as a signpost for future research on the potential of visual communication online in bringing people together and generating social support.

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# III

# TRACKING ONESELF FOR OTHERS: COMMUNAL AND SELF-MOTIVATIONAL VALUE OF SHARING EXERCISE DATA ONLINE

by

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# Tracking oneself for others: Communal and self-motivational value of sharing exercise data online

Self-tracking is increasingly popular in recreational sport. Leisure sports practitioners use wearable devices that are connected to online platforms to record, analyse, and share their exercise data. While doing that they interact with a digital system, with themselves, and with peers. Drawing on van Dijck and Poell's (2013) framework on social media logic and Frandsen's (2020) theorising on mediatisation of sport, this paper examines social-communicative aspects of self-tracking, and the support that these aspects and their associated practices may provide for physical activity behaviour. Data for the study was collected using an online survey and in-depth interviews with Finnish trail runners. The results indicate that sharing exercise data with others on a regular basis can support physical activity behaviour because it is mediated by social peer support. The analysis identified information sharing, comparison, and recognition as the main social-communicative aspects that motivate sharing physical activity data online, and ordinariness and privacy as reasons that limit data sharing. This paper contributes to the discussion on digital leisure by showing that for many users, communal and self-motivational values of self-tracking practices surpass the concern of surveillance and commodification of leisure-time.

***Keywords:*** self-tracking; social support; physical activity; recreational sport

## Introduction

Monitoring health and physical activity with the help of technology continues to grow in popularity. In Europe, the market for wearable devices is estimated to grow from 28 million unit shipments in 2018 to 53 million shipments in 2023 (International Data Corporation, 2019). Self-tracking, as this kind of monitoring is often called, is defined by Lupton (2018, p. 1) as 'a form of personal knowledge creation.' People create this knowledge by recording and analysing data about their everyday life events such as exercise routines, bodily functions, eating patterns, or sleeping habits. For individuals, self-tracking serves the purposes of self-care and self-improvement (Lomborg & Frandsen, 2016; Lupton, 2016). These values intertwine with western cultural expectations of the importance of self-awareness, which partly explains the popularity and the hype around the phenomenon (see Lupton, 2016).

Self-tracking as a practice is not new. For example, in the context of goal-oriented sport the use of exercise diaries goes a long way back. What is new, however, is that self-

tracking today is increasingly connected with mobile digital media (Lomborg & Frandsen, 2016; Lupton, 2016). People record, analyse, and share self-tracking data using smartphones, smartwatches, wrist computers, fitness trackers, and their respective software. Moreover, self-tracking data can be moved across software and online platforms and shared on diverse social networking sites such as Facebook[1] and Twitter.[2]

This paper examines self-tracking in the context of physical activity. In the sport sector, tracking physical performance with the help of technology used to be limited to professional sport. However during recent years, leisure sports practitioners have increasingly become engaged in self-tracking practices. Arguably, this is largely due to the pervasive mobile media that provides communicative affordances for recording, analysing, and sharing exercise data on the go. In Finland, where this study was conducted, 39% of 16 to 54-year-olds use smartphone applications to track their physical activity and 6% share their exercise data online (Official Statistics of Finland, 2018). In comparison with Finnish data from 2016 (Official Statistics of Finland, 2016), recording exercise data with a mobile phone has increased 35% and sharing exercise data 53% in two years.

This paper approaches self-tracking as a *social and communicative phenomenon*. According to Lupton (2014, p. 77), self-tracking is a 'profoundly social practice' meaning many individual trackers experience that they are a part of a larger tracking community. Furthermore, Lomborg and Frandsen (2016, p. 1016) conceptualise self-tracking as 'a social and cultural practice that is fundamentally communicative.' They propose a three-dimensional framework that sheds light on the different aspects of self-tracking communication: it is about communicating 1. with the digital system (i.e., technological feedback), 2. with the self (i.e., personal reflection), and 3. with the peers (i.e., social network communication). Lomborg and Frandsen (2016) argue that the three dimensions of self-tracking communication help practitioners to construct their sporting identity and agency, which consequently makes self-tracking attractive and meaningful for them.

Previous research on self-tracking is mainly focused on the first two dimensions of self-tracking communication. Aspects that have received special attention from researchers include health care, user experience design, and surveillance (Lomborg & Frandsen, 2016). Recently, self-tracking has also been studied from the perspectives of gamification (e.g., Maturo & Moretti, 2018), e-coaching (e.g., Lentferink et al., 2017), and digital materiality (e.g., Esmonde, 2019). Many studies have taken as their premise the assumption that self-tracking devices and platforms influence individual behaviour (Smith & Treem, 2017). Some scholars (e.g., Lomborg & Frandsen, 2016; Smith & Treem, 2017) have called for more empirical studies that examine how individuals actively engage with diverse platforms and with each other through self-tracking practices that are embedded in their everyday lives. This study seeks to increase the understanding of the choices made around self-tracking as well as the social side of tracking physical activity.

Moreover, this study explores how the social-communicative aspects of self-tracking may support physical activity behaviour. Some of the reviewed studies (e.g., Malinen & Nurkka, 2013; Pinkerton et al., 2017) imply that the social-communicative aspects of self-tracking prompt physical activity. While this may be true, previous literature does not explain where the motivation comes from and to which extent it is

[1] https://www.facebook.com/

[2] https://twitter.com/

experienced. This study aims at filling this gap of knowledge by looking at the social motivations and limitations of data sharing, and the associations between background variables, self-tracking practices, and motivations for physical activity.

Understanding contemporary leisure (sport) cultures 'necessitates understanding digital culture and the ways in which digital forms, structures and platforms have seismically shifted leisure practices, cultures and experiences' (Silk et al., 2016, p. 721). The key contribution of this paper to leisure studies is to advance the discussion of how digitalisation shapes social, organisational, and communicative leisure-time practices. Instead of focusing on a specific device, platform, or software, the paper approaches sharing physical activity data as a whole. Using a multimodal approach, this study addresses the following research questions:

(1) What are the social-communicative motivators and limitations of sharing exercise data?
(2) How can the social-communicative aspects of self-tracking support physical activity behaviour?

## Social and communicative aspects of sport-related self-tracking

The increasingly growing phenomenon of tracking, analysing, and sharing physical activity data can be understood through van Dijck and Poell's (2013) framework on social media logic. According to van Dijck and Poell (2013, p. 2), social media 'have changed the conditions and rules of social interaction' because they have a unique set of 'norms, strategies, mechanisms, and economies' that are 'gradually invading all areas of public life.' The four grounding principles of social media logic are programmability, popularity, connectivity, and datafication (van Dijck & Poell, 2013). When approaching self-tracking from the perspective of social network communication (see Lomborg & Frandsen, 2016), the logic of connectivity is of most importance.

Connectivity refers to the affordances of social media platforms to connect humans with each other and with personalised advertising (van Dijck & Poell, 2013). Self-tracking devices, platforms, and software often support this kind of connectivity in both directions; they encourage users to share their physical activity data with others while, simultaneously, they value partnering with other brands.[3] On one hand, this supports networked individualism[4] (see Rainie & Wellman, 2012) and the formation of light sport communities[5] (see Borgers et al., 2018). On the other hand, it increasingly connects leisure sports practitioners with commercial interests (Frandsen, 2020).

[3] For example, Movescount (http://www.movescount.com/) encourages users to 'share your best Moves with your friends in Movescount and beyond', whereas Strava business (https://business.strava.com/) asserts that 'brands on Strava connect with athletes like no-where else.' Retrieved 2020, April 1.

[4] Rainie and Wellman (2012) describe networked individualism as the 'new social operating system' that is rooted in what they call 'the triple revolution'. By that they mean the se-quential revolution of social networks, the internet, and mobile media. In leisure context, networked individualism means that people move from organised recreational groups to shifting networks of recreational friends (Rainie & Wellman, 2012).

[5] Light sport communities comprise of self-organised informal sport groups. In contrast to heavy sport organisations (such as traditional sport clubs) that value rules and commit-ment, light sport communities are flexible in their nature (Borgers et al., 2018).

Millington (2016) points out that 'the second fitness boom' propels both old and new forms of commodification: first, there is a whole industry of hardware and software suppliers around the self-tracking culture and second, self-tracking data that users produce using hard- and software is often sold to third parties.

Frandsen (2020) links the logic of connectivity to the concept and discussion of mediatisation in the sport context. Mediatisation can be defined as the 'process whereby society to an increasing degree is submitted to, or becomes dependent on, the media and their logic'[6] (Hjarvard, 2008, p. 113). According to Frandsen (2020, p. 109), connectivity 'reflects aspects of mediatization that have extensive implications for sport as an institution.' Frandsen (2020) argues that the current wave of mediatisation, led by digitalisation, gives impetus to recreational self-organised sport, strengthens commercialisation of sport, and thus challenges formal democratic models of organisation.

Mediatisation is a multi-level and multi-dimensional process that not only affects sporting cultures and structures but, importantly, individual sports practitioners (Frandsen, 2020; Kopecka-Piech, 2019). Sport-related digital media services are multiplying, however, individual practitioners' responses to new media environment vary. For individuals, mediatisation may manifest itself as increased use of physical activity technologies, as growing sport media consumption or content production, or as conscious decrease or non-use of sport technologies and platforms (Frandsen, 2020; Kopecka-Piech, 2019).

For individual users, self-tracking platforms provide an interactive and customisable environment that enables self-reflexivity (see Millington, 2016). They support practices of selfhood; these are practices directed to self-care and self-awareness that fulfil a western ideal of a good citizen (Foucault, 1988; Lupton, 2016). Furthermore, practitioners who make use of the social features on self-tracking platforms engage in voluntary peer-to-peer surveillance; they allow other user to watch that they fulfil their personal responsibility as citizens (Lupton, 2016; Millington, 2016).

Previous empirical studies on self-tracking have focused on sharing exercise data either on self-tracking platforms or via social networking sites. All the reviewed studies agree that users of self-tracking platforms find the social features less interesting compared to features that support personal data documentation and analysis. Furthermore, the studies suggest that there are many users who do not see any value in sharing their exercise data on self-tracking platforms or social networking sites. Reasons for not sharing include *lack of interest* (Fritz et al., 2014; Pinkerton et al., 2017), *shame or hesitations regarding others' interest* (Lomborg & Frandsen, 2016; Malinen & Nurkka, 2013; Pinkerton et al., 2017; Smith & Treem, 2017), *privacy concerns* (Ahtinen et al., 2008; Fritz et al., 2014; Ojala & Saarela, 2010; Pinkerton et al., 2017), *lack of social support* (Pinkerton et al., 2017), and *strategy* (i.e., withholding information that could benefit others for one's disadvantage; Smith & Treem, 2017).

Even though many users experience self-tracking 'as a relationship between "me", "my data", and "my device"' (Lomborg et al., 2018, p. 4601), the reviewed studies indicate that those practitioners who make use of the social features of the platforms find it beneficial for their practice. According to previous literature, perceived social benefits

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[6] Media logic means that each media has their own set of steering logics that impact and direct the activities of other societal institutions and that are 'both influenced by the media themselves and by the institutional logics in the area concerned (e.g., politics or sport)' (Hjarvard, 2018, p. 66).

of using sport-related self-tracking platforms include *finding new routes* (Ahtinen et al., 2008; Malinen & Nurkka, 2013), *seeing content and learning from others* (Malinen & Nurkka, 2013; Ojala & Saarela, 2010), *getting feedback and guidance* (Malinen & Nurkka, 2013; Ojala & Saarela, 2010), *comparing and competing against others* (Ahtinen et al., 2008; Ojala & Saarela, 2010; Smith & Treem, 2017), and *maintaining social networks* (Ahtinen et al., 2008). Additionally, studies show that people share their exercise data on social networking sites to *keep other people informed* (Lomborg & Frandsen, 2016; Pinkerton et al., 2017; Stragier et al., 2015), to *inspire and motivate others* (Lomborg & Frandsen, 2016; Pinkerton et al., 2017; Stragier et al., 2015), to *gain recognition* (Pinkerton et al., 2017), and to *get motivation for the practice* (Lomborg & Frandsen, 2016; Pinkerton et al., 2017).

Drawing from previous literature, this paper aims to provide a comprehensive picture of self-tracking activities within one group of practitioners and seeks to understand in depth their different needs, levels, and motivations for mediated communication of physical activity. The paper concludes with a discussion of the effects of mediatisation and connectivity to leisure-time sport practice.

## Materials and methods

Data for the study was collected using online surveys and in-depth interviews with Finnish trail runners. Survey data were collected to recognise broader patterns of the use of self-tracking technologies and platforms, whereas interviews were conducted to go deeper into the meanings that trail runners ascribe to self-tracking. A multimodal approach was applied for complemental and developmental purposes. Complementarity means that multiple methods are used to enrich and elaborate the understanding of a phenomenon, whereas development means that results from one method are used to develop or to inform another method (Greene et al., 1989). In the context of this study, the survey results were used to define the interview questions and the research problem that guided the interview data analysis.

Trail running as a sport discipline was selected for this study because trail runners actively track their sport activity and are present on multiple online self-tracking platforms such as Movescount[7] and Strava[8]. Moreover, in contrast to team sports where practitioners form a well-defined entity and meet face-to-face on a regular basis, trail runners who often practise alone may lack a sense of belonging and connection with other practitioners. Thus, they may be more inclined to look for alternative ways such as online platforms to connect with their peers.

The research was conducted according to the guidelines of the Finnish National Board on Research Integrity (TENK). Participants were briefed about the research in the beginning of the online survey that formed the first part of the study. The survey was open from March to May 2016 and available in Finnish and in English. It was promoted on trail running Facebook groups and online communities and directed toward practitioners living in the Helsinki area in Finland. Permissions for promoting the survey were given by the administrators of the sites and specific groups. At large, the survey investigated recreational lifestyle sports practitioners' communication practices, social tie formation, and social support exchange in online and offline settings (see Ehrlén, 2017). The survey

[7] http://www.movescount.com/

[8] https://www.strava.com/

included questions about the use of self-tracking devices and platforms and about practitioners' motivations to be physically active. As the survey was only promoted online, the collected data were limited to people who used digital media platforms as a part of their sport practice.

Altogether, 125 trail runners took part in the survey. More than half of the participants were male, and the majority were between ages 30 and 49. The respondents were most often highly educated and full-time employed. Most participants had been practicing trail running for two to five years and perceived themselves as intermediate practitioners. Only 10% of the respondents reported that they are members of a sport club that organises trail running practice.

To test the motivations for practicing trail running, a five-point Likert-scale[9] with 10 pre-named variables was used. These variables were 1) *Physical effects of training* (endurance, strength, motoric skills, flexibility), 2) *Mental effects of training* (stress reduce, cognitive skills, relaxation), 3) *Physical and mental challenges*, 4) *Risk-taking*, 5) *Spirituality of trail running*, 6) *Nature experiences*, 7) *Social contacts*, 8) *Trail running community*, 9) *The popularity of trail running*, and 10) *Possibility to record and/or share trail running exercise data with the help of technology* (e.g., mobile application, sport watch, activity tracker). Mean values and standard deviations were counted for each of the scale variables.

Chi-square analysis, correlation analysis, and independent sample t-tests were used to investigate relationships among background variables, variables that tested patterns of the use of self-tracking devices and platforms, and variables that tested what motivates trail runners to be physically active. To further study the extent to which social contacts motivate physical activity, a new derived variable *social contacts as motivators* was introduced. The new variable was calculated as the mean value of two questions that measured the extent to which one experiences social contacts being motivational for the sport practice,[10] and thus it revealed more subtle variations between the answers regarding the importance of social contacts in motivating physical activity behaviour. The Spearman–Brown coefficient that is considered the best indicator of the reliability of a two-item construct (Eisinga et al., 2013) was found to be .65.

At the end of the survey, participants were asked about their willingness to take part in interviews regarding physical activity related digital media use. The selection of interviewees was made among the 25 trail runners who were willing to take part. The aim was to collect a varied sample with regards to age, perceived trail running competence, and frequency of recording and sharing self-tracking data. Gender, nationality, level of education, or employment status were not given priority in the selection of interviewees because the focus of the current study was not on these identity characteristics. A separate consent form concerning interview guidelines was sent to all participants after an initial email exchange, and prior to data collection.

Semi-structured interviews with seven participants were conducted in February–April 2017. The participants' age range was between 31 to 52 years, and they included five male and two female runners. Three of the interviews were conducted face-to-face

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[9] Question format: to what extent does variable x motivate you to practice trail running? Scale: not at all, to a little extent, to a moderate extent, to a great extent, to a very great extent.

[10] Question 1: to what extent do your social contacts motivate you to practice trail running? Scale: not at all, to a little extent, to a moderate extent, to a great extent, to a very great extent. Question 2: my sport-related social contacts motivate me to practice trail running. Scale: strongly disagree, disagree, neither agree nor disagree, agree, strongly agree.

in semi-public or private spaces and four over online video calls. The interviews lasted between 55 and 100 minutes. All interviews we recorded and later transcribed using intelligent verbatim form. The purpose of the interviews was to identify meanings that the practitioners ascribe to social interaction, different digital media platforms, and diverse sport-related content. One theme in the interviews was recording and sharing physical activity data. The focus was especially on the social motivators and limitations that trail runners ascribe to sharing exercise data online. All predetermined questions were asked in each interview, but the order varied and they were supplemented with other questions depending on the course of discussion (see Kvale, 2007).

Interview data were analysed inductively using qualitative content analysis according to Schreier's (2014) model. The aim of the content analysis was to identify meanings and mindsets embedded in the interviews. Following Schreier's (2014) steps, the author *first* decided on a research question (what are the social-communicative motivators and limitations of sharing exercise data?); *second,* selected all interview material that was related to recording and sharing physical activity data; *third,* read through all relevant material twice and built a preliminary coding frame with definitions of each main and subcategory; *fourth,* segmented all material into coding units; *fifth,* coded all material twice; *sixth* evaluated and modified the coding frame; and *seventh,* coded all material according to the modified coding frame.

An inductive content analysis of the interview data identified three social-communicative aspects that motivated the use of self-tracking platforms. These were information sharing, comparison, and recognition. Additionally, the analysis identified ordinariness and privacy as reasons that limited data sharing. Table 1 shows the coding schema with descriptions and examples of each main and subcategory. In the first round of coding, there were two additional subcategories, *1.3 Need for help* and *3.3 Empathy*, that were merged with *1.2 Guidance* and *3.2 Identification* before the final coding because the categories overlapped considerably. The interview extracts that are presented in the results section were translated from Finnish to English by the author.

**Table 1. Social-communicative motivators and limitations of sharing exercise data.**

| Category | Description | Example |
|---|---|---|
| **1 Information** | Interviewees share exercise data to give information about their practice and to gain information that supports their practice. | |
| 1.1 Utilisation | Interviewees share information so that it can be utilised, or they utilise peer provided information in their own practice. | *Also the majority of top-level athletes share. It's not a secret what they do. It's not the workout routine itself but how someone executes the routine individually that is a reason for success. (male, 31)* |
| 1.2 Guidance | Interviewees ask for practice-related assistance and guidance from others, or they guide other runners. | *Sometimes I get some training advice. I can set goals like 'okay, why not try that too?' (female, 36)* |
| **2 Comparison** | Interviewees share exercise data to compare their data to other runners' data. | |
| 2.1 Positioning | Interviewees compare their exercise data to peer data in order to define their own level and to position themselves within the subculture. | *I like to compare if someone who is on the same level has been training harder than me. It helps me to define my level and where I stand right now. (female, 36)* |
| 2.2 Admiration | Interviewees compare their exercise data to top-level athletes' data in order to understand the level difference between them and the athletes. | *Those runners who are completely outside of my capacity, it's interesting to know how what they do differs from what I do. Sometimes I want to know how they end up running on a snowfield on the side of some mountain somewhere. (male, 32)* |
| **3 Recognition** | Interviewees share exercise data to give and gain recognition. | |
| 3.1 Acceptance | By sharing exercise data interviewees seek for recognition and acceptance from others. | *Sometimes people are like 'oh this was such a bad result', but actually they just want others to tell them 'no it wasn't.' (female, 36)* |
| 3.2 Identification | By reacting to other runners' posts interviewees express recognition and empathy. | *When I see that a friend of mine hits her record on 10k I feel sincerely glad for her. (male, 32)* |
| **4 Limitations to data sharing** | Interviewees prefer not to share their exercise data. | |
| 4.1 Ordinariness | Interviewees prefer not to share their exercise data because they regard their performances too ordinary. | *I just don't think that anyone would be interested in my data. Really who would? (female, 46)* |
| 4.2 Privacy | Interviewees prefer not to share their exercise data because they regard the data as private information. Some interviewees express specific privacy concerns. | *I wouldn't like it if I had to think every time I share if there is something that I don't want the whole world to see. (male, 52)* |

## Quantitative results

Table 2 shows the distribution of the survey data by gender, age, self-perceived competence, and patterns of exercise. Nearly all trail runners who took part in the survey recorded their exercise data with the help of technology and almost 70% of runners did it at least once a week. Men recorded exercise data more often compared to women. Persons under the age of 50 recorded data more often compared to older practitioners. There were no statistically significant associations between recording exercise data and level of education, employment status, frequency of trail running practice, perceived competence, or patterns of exercise.

More than half of the trail runners who participated in the survey also shared[11] their exercise data with others, and over 20% did it at least once a week. Men shared data more often than women. In terms of age, 30 to 39-year-olds shared data most often compared to other age groups. Regarding competence, those who perceived themselves as intermediate or advanced practitioners shared data more often compared to those who perceived themselves as novice practitioners. Additionally, those who exercised together with others were more likely to share their data than those who practised only alone (see Lomborg & Frandsen, 2016). There were no statistically significant associations between sharing exercise data and level of education, employment status, or frequency of trail running practice (cf. Pinkerton et al., 2017). The three most popular self-tracking platforms that the respondents used for analysing and sharing their self-tracking data were Movescount, Sports Tracker,[12] and Garmin Connect.[13]

[11] In the survey, sharing was not limited to any specific self-tracking device or platform or any other communication channel. Also with whom one shares exercise data was not defined meaning both public and private sharing were included.

[12] https://www.sports-tracker.com/

[13] https://connect.garmin.com/

**Table 2. Distribution of data.**

| | | *N* % | Record exercise data % | Share exercise data % | Are motivated by data recording and sharing % | Are motivated by social contacts % |
|---|---|---|---|---|---|---|
| **All (*N* = 125)** | | 100 | 90 | 56 | 58 | 88 |
| **Gender** | Male | 54 | 96 | 66 | 58 | 87 |
| | Female | 46 | 85 | 46 | 59 | 90 |
| $\chi^2$* | | | $\chi^2$ (1, *N*=125) =4.4, *p*=.037 | $\chi^2$ (1, *N*=124) =5.0, *p*=.025 | | |
| **Age** | 20-29 | 12 | 93 | 36 | 67 | 73 |
| | 30-39 | 34 | 95 | 74 | 64 | 91 |
| | 40-49 | 41 | 94 | 55 | 56 | 88 |
| | 50-69 | 13 | 63 | 31 | 40 | 94 |
| $\chi^2$* | | | $\chi^2$ (3, *N*=125) =16.5, *p*=.001 | $\chi^2$ (3, *N*=124) =12.3, *p*=.006 | | |
| **Perceived competence** | Novice | 36 | 93 | 40 | 62 | 84 |
| | Intermediate | 44 | 91 | 63 | 62 | 94 |
| | Advanced | 21 | 85 | 69 | 46 | 80 |
| $\chi^2$* | | | | $\chi^2$ (2, *N*=123) =7.6, *p*=.022 | | |
| **Patterns of exercise** | Only alone | 11 | 93 | 31 | 71 | 57 |
| | Alone and with others | 67 | 91 | 55 | 52 | 92 |
| | Only with others | 22 | 89 | 74 | 69 | 93 |
| $\chi^2$* | | | | $\chi^2$ (2, *N*=124) =7.0, *p*=.030 | | $\chi^2$ (2, *N*=125) =14.2, *p*=.001 |

A comparative analysis of the mean values of the motivations for practicing trail running showed that nature experiences and physical and mental effects of training motivated trail runners most in their practice. The majority of participants also experienced social contacts and data recording and sharing as motivational for their practice. Almost 90% of trail runners were at least to some extent motivated by their social contacts, and almost 60% of runners were at least to some extent motivated by data recording and sharing.

Being motivated by social contacts or data recording and sharing showed no statistically significant associations with any of the demographic background variables. However, the two motivational variables correlated ($r_s$ = .36, $p$ < .001). In other words, those trail runners who were more motivated by their social contacts tended to be more

motivated by data recording and sharing, and vice versa. This indicates that motivation for physical activity comes not only from personal tracking but, importantly, also from communicating about self-tracking with other practitioners.

Figure 1 shows a visualisation of the data distribution in relation to social contacts as motivators and the frequency of sharing exercise data. The visualisation indicates that the frequency of sharing exercise data is connected to the extent one experiences social contacts as being motivational for the sport practice. A correlation analysis confirmed that there is a moderate correlation between the two variables ($r_s$ = .32, $p$ < .001). Additionally, an independent samples t-test showed that those trail runners who shared their exercise data perceived their social contacts as being more motivational ($M$ = 3.49, $SD$ = 0.82) compared to those runners who did not share their data ($M$ = 2.98, $SD$ = 0.95, $t$(122) = -3.18, $p$ = .002).

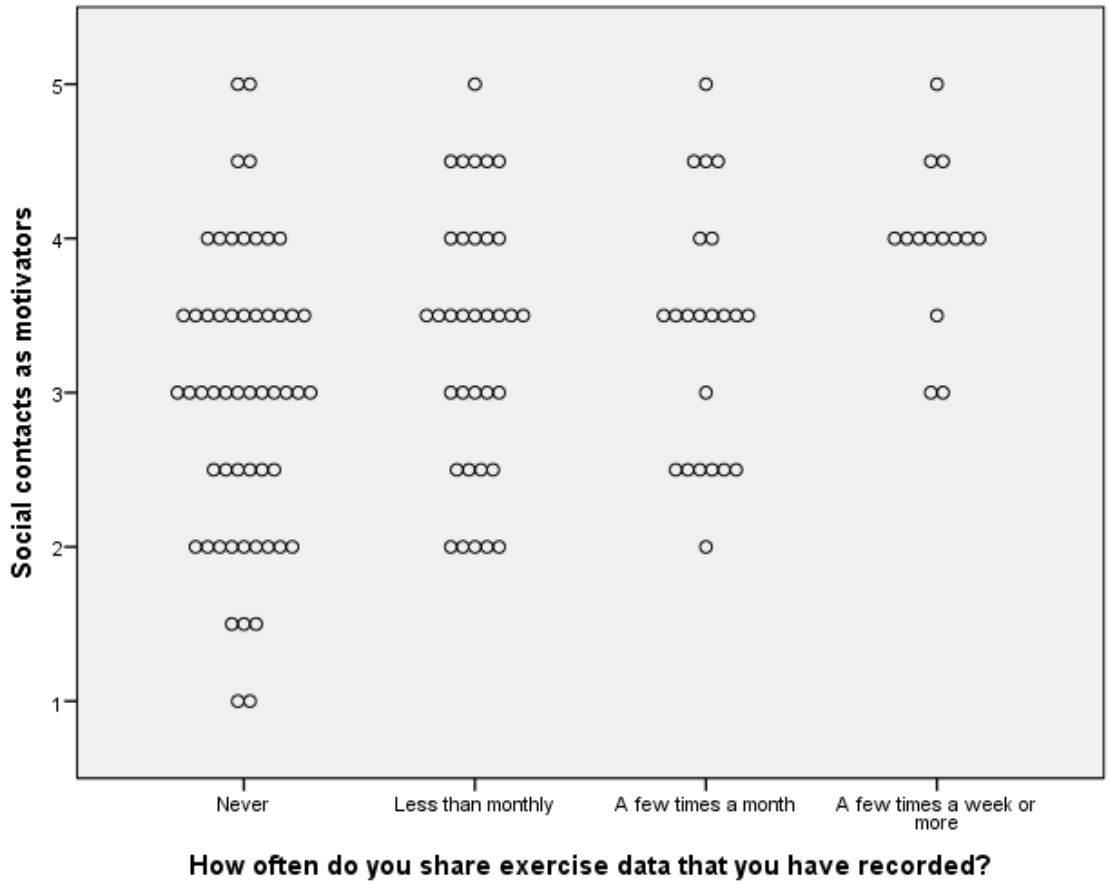


**Figure 1. Visualization of data distribution in relation to social contacts and sharing exercise data.**

Previous studies show that social peer support positively impacts physical activity levels (Anderson et al., 2006; Samson & Solmon, 2011). Recent research has also found that the use of self-tracking technologies has the potential to promote behavioural changes in the direction of increased physical activity (Sullivan & Lachman, 2017). In light of these results, the current study suggests that sharing exercise data with other practitioners on a regular basis can have a positive effect on being physically active because it is mediated by social peer support.

When considering the more widespread impact that data sharing may have for physical activity levels, it must be stated that as such the effect may be low. As this study shows, those who perceive themselves as novice practitioners share less often compared to more advanced practitioners. Consequently, the positive effect of data sharing may not reach those practitioners who would need more support for their practice.

The following qualitative section takes a closer look at the social-communicative meanings that trail runners ascribe to sharing exercise data. The section sheds light on how the interviewed practitioners understand social peer support in the context of mediated communication of physical activity.

## Qualitative results

The qualitative analysis identified information sharing, comparison, and recognition as the main social-communicative aspects that motivate sharing physical activity data online, and ordinariness and privacy as reasons that limit data sharing. In the following, each category is discussed in more detail using an exploratory typology of three modes of sharing. These are no sharing, selective sharing, and open sharing. What sets the three types apart is the representatives' attitude towards and their practice of sharing self-tracking data. The exploratory typology of the three modes of sharing can be applied to all seven interviewees: one interviewee was a non-sharer, three interviewees were selective sharers, and three interviewees were open sharers.

### *No sharing*

As the survey results showed, more than a third of those participants who record their physical activity data refrain from sharing it with others. Tina[14] is a 46-year-old trail runner who records exercise data regularly but who never shares her data with other practitioners. For Tina, the most important reason for not sharing is ordinariness: 'I just don't think that anyone would be interested. Really who would? Because I'm not interested in anyone's data, I really don't see the point of sharing my data.'

Tina regards her practice as too ordinary for anybody to have interest in her exercise data. She is also not following other practitioners' performances online unless they appear on her Facebook newsfeed. Therefore, she experiences both lack of interest towards the sharing culture (see Fritz et al., 2014; Pinkerton et al., 2017) and hesitations regarding others' interest towards her training (see Malinen & Nurkka, 2013; Smith & Treem, 2017). Moreover, because Tina is not sharing her exercise data, she also does not experience following others' performances online as motivational for her practice. Thus, she lacks the feeling of reciprocity, which would allow an online sport network to provide her with support in physical practice (see Ehrlén & Villi, 2020; Xie et al., 2020).

Tina explained how her relation to data collection has changed through the years of practice:

> In the beginning I recorded data nearly every time I went running. But after a while I felt I was tied up to my wrist computer. I experienced a feeling of freedom when I started running without [the device]. I was too attached to it. Half of the enjoyment

[14] To protect participants' privacy, pseudonyms are used.

> of running went to staring at my watch. For a long period of time I didn't save any data. Now that I use [the device] more again I notice I can run better with it.

Communication with the digital system took over Tina's trail running experience and she needed to regain control of communication with the self. Her data collection device did not support self-reflexion. Rather, it gave her unnecessary pressure during physical practice, which she could only avoid by not recording her exercise data at all. In like manner, she may use no sharing as a means to avoid the social pressure that performing under the gaze of peer practitioners may cause. Hence, for non-sharers, peer-to-peer-surveillance is likely to appear as more of a discouragement than a benefit for physical practice.

### *Selective sharing*

Selective sharers share their physical activity data within their individually defined boundaries. For a 36-year-old Anni, selectiveness happens on two levels. First, she selects which exercise fulfils the definition of being interesting:

> If there is something bad or especially good about [the practice], I can share. Or if someone asks me something, I let them know. I also think that probably no one is interested if I run 10k on asphalt. I'm hardly interested in that.

Like a non-sharer Tina, Anni chooses not to share the practice she perceives ordinary, such as running on asphalt instead of trails. However, unlike Tina, she does not perceive all her practice ordinary to the extent that it would not be interesting for other practitioners. When Anni started trail running she 'gathered information from all kinds of sources' and found 'every single grain of information interesting.' Gradually, she realised that 'what other people share is nothing special' compared to her and started sharing more. The increase in her sharing behaviour was thus caused by a realisation of the value of her data in comparison to other runners' data.

Secondly, Anni selects the audience with whom she shares her data. Anni regards her exercise data primarily as private information and chooses to share it only with a select few. For similar reasons, a 52-year-old Frans has limited who gets to see his data:

> First and foremost, I use [a self-tracking platform] to make notes to myself. That others see my notes is a secondary matter. … I wouldn't like it if I had to think every time I share if there is something that I don't want the whole world to see. Starting from where I'm located, which the GPS-trace would reveal.

Frans shares data with 'friends with whom I'm in contact with also outside the practice.' Thus, for him sharing exercise data and interacting around it is also a way to keep contact and to communicate about everyday life activities with his closer social ties (see Pinkerton et al., 2017; Stragier et al., 2015).

Whereas Frans sees exercise data as information that could potentially violate one's privacy, a 45-year-old Samuel emphasises the value of sharing GPS-files:

> Finding good trails is a special characteristic in trail running. … When someone plans a route and shares the GPS-file people can run it in their own time. … Sharing this kind of information improves others' conditions for practice. It creates

> more reasons to be involved in that community and a will to contribute in some way to the opportunities of others.

Samuel shares self-tracking data selectively when he feels that sharing could benefit others. Apart from utilising data and information that is available online, he also asks for direct guidance and gives advice to others if asked. Samuel explained further the value of peer-to-peer guidance:

> In this kind of community, where there are no coaches or anyone who would be available to instruct, voluntarily or compensated, we have to turn to our peers. … People may post their heart rate graphs and ask, 'what should I do? I exercise a lot but my pace doesn't improve'. Then the audience gives feedback and tips. I think this works really well.

For selective sharers, data sharing is likely to fulfil the feeling of reciprocity: sharing pieces of information that can be valuable for (a selected few) others is done because practitioners see value in gaining information. At the same time, selective sharing means that practitioners are withholding information and, consequently, they can manage what is communicated about their practice to others (see Smith & Treem, 2017).

### *Open sharing*

For open sharers, data sharing a habitual practice that immediately follows and is thus an integral part of the physical activity. Some open sharers allow self-tracking technologies automatically transfer their exercise data to self-tracking or social networking platforms. A 32-year-old Jonas highlighted the intrinsic value of openness:

> I always save my running data so that it's publicly visible online. It's about being open. You can set your data private but only few people do that. That [the data] is public lowers the threshold to co-operate with others.

For Jonas, sharing exercise data openly with everyone 'brings positive pressure' that motivates his practice (see Ojala & Saarela, 2010). Apart from peer motivation, open sharing increases chances of being seen. In other words, by sharing data leisure practitioners look for attention and reassert their place as a part of the trail running subculture. On many self-tracking platforms other practitioners may comment and like the posts, and thus express recognition and empathy. Jonas told how 'it feels good when a friend is like [raises a thumb and laughs].' A 31-year-old Tom explained how expressing recognition is, in turn, based on identification with peer practitioners: 'Yesterday there were many who did a long run. For some it went better and for some worse. We spurred each other regardless.'

Similar to Jonas, Tom sees 'no reasons for not sharing.' He relies on a larger network of practitioners that organise themselves on digital media and self-tracking platforms to find diverse resources that support his practice (see Ehrlén, 2017; Smith & Treem, 2017). Tom is especially interested in workout routines, motivations, and goals of top-level trail runners:

> I look for motivation from them. Calling it being a fan or having an idol might be the wrong way of putting it, but with some [athletes], I'm so inspired by what they do and amazed by how they make the impossible possible.

Upward comparison helps Tom to realise what is required of him to reach a higher level of running practice. Through peer comparison practitioners can model what they are supposed to be doing in order to reach practice-related goals (see Smith & Treem, 2017). Some self-tracking platforms strongly encourage users for comparison. A 44-year-old Henrik explained:

> There are segments from where I can see how it went for others. For example, here [shows a segment on Stava] I can see that on the route I did today I ranked 17th on it and all-time 247.

Peer comparison helps practitioners to define their level as a runner and to position themselves within the trail running subculture. Comparison can either have positive or negative effects on the practice. Henrik elaborated: 'It's like it is with Facebook. I get to see that others have been training again and I ask myself "don't they ever rest?" [laughs]'. Accordingly, practitioners' choice of a reference framework affects how they evaluate their exercise data and what meanings they ascribe to it (see Kneidinger-Müller, 2018).

Where open sharers differ from selective and non-sharers is how they approach their data. Open sharers share their ordinary practice with their peers not necessarily because it would always be interesting for others, but because they think that sharing everyday life routines brings people closer. Moreover, they are not trying to manage what they communicate about their practice because they enjoy the social pressure that comes with communication with a larger, unknown audience. In conclusion, this suggests that perceiving exercise data as communally valuable and sharing it for self-motivational reasons may separate a non-sharer from a sharer. What may furthermore distinguish an open sharer from a selective sharer is the value that a practitioner sees in sharing ordinal exercise data in a ritual manner.

## Discussion

This paper has investigated the social-communicative aspects of self-tracking, and the support that these aspects and their associated practices may provide for physical activity behaviour. The results show that sharing exercise data with others on a regular basis can support physical activity behaviour because it is mediated by social peer support. Moreover, the results indicate that for those trail runners who regularly share their physical activity data, sharing has both a communal and a self-motivational value.

The communal value of data sharing manifests itself when practitioners share information about their workout routines and routes. Information sharing has surfaced also in many previous studies (e.g., Malinen & Nurkka, 2013; Ojala & Saarela, 2010) as a motivating factor for the use of self-tracking platforms. Depending on the sport culture, situational impacts, and personal choices (see Ehrlén, 2017), practitioners share information openly or selectively using a range of self-tracking platforms, social networking sites, and instant messaging applications.

The self-motivational value in data sharing emerges in activities that support social comparison or recognition. Previous literature has identified that comparison (e.g., Ojala & Saarela, 2010; Smith & Treem, 2017) and recognition (e.g., Pinkerton et al., 2017) motivate the use of self-tracking platforms, and as a possible outcome, the sport practice. As Lomborg and Frandsen (2016) point out, the dynamics of recognition are of importance both in social media and in sport. In agreement with previous research (Ahtinen et al., 2008; Fritz et al., 2014; Lomborg & Frandsen, 2016), this study shows

that leisure sports practitioners are comparing their data with and searching for social recognition from a knowledgeable audience, their peer practitioners.

Social-communicative motivators for data sharing that did not surface in this study were informing and maintaining larger social networks (see Ahtinen et al., 2008; Lomborg & Frandsen, 2016; Pinkerton et al., 2017; Stragier et al., 2015) and inspiring others by example (see Lomborg & Frandsen, 2016; Pinkerton et al., 2017; Stragier et al., 2015). Presumably, this is because unlike in the above-mentioned studies, the participants of this study identified themselves as members of a specific sport subculture. Again, this indicates that they are not using data sharing to reach a larger network of people but as a means to communicate with those peers who belong to the same subcultural sporting network.

This study suggests that sharing exercise data generates peer support that motivates trail runners to carry on their sport practice. The prerequisites for peer support are, however, that the sharer has a knowledgeable audience that includes at least some known social ties, and the sharing is at least partly a reciprocal activity. This study shows that social-communicative practices around self-tracking and exercise form a positive circle where more is more: those who practise with others are more motivated by their sport-related social contacts and often, as a consequence, share more data because they are surrounded by a knowledgeable peer network that is expecting reciprocity in terms of sharing. Additionally, being social around peers, face-to-face and online, makes practitioners feel more competent and a greater sense of belonging to the subculture. This further strengthens the social interaction and support around the practice.

It is, however, not straightforward or even plausible to argue that sharing physical activity data with peer practitioners has only positive effects. As van Dijck (2009, p. 47) states, 'it is crucial to understand the new role of users as both *content providers* and *data providers*.' As noted earlier, self-tracking devices, platforms, and software follow the logic of connectivity and function as a connecting interface between users and advertisers. Furthermore, many critical self-tracking scholars subscribe to Hutchins' (2019, p. 477) notion of that 'the quantified self is indivisible from the commodified self' (see also Lupton, 2016; Millington, 2016). Even though privacy surfaced in the interviews as a limiting factor for data sharing, the participants of this study did not reflect on the issue of sharing exercise data with third parties alongside their peers. A recommendation for future studies is to investigate in detail the consequences of sharing exercise data with third parties for individual users and for networks of practitioners.

On a theoretical note, this paper supports the argument that mediatisation affects sport not only on institutional but also on interpersonal and individual levels (see Frandsen, 2020; Kopecka-Piech, 2019). At the individual level, prolonging the experience of physical performance through data analysis and visualisation gives added meaning to the practice (see Lomborg & Frandsen, 2016). Moreover, the added meaning is not created in a void but through social-communicative exchanges within a reference framework that consists of peer practitioners and top-level athletes (see Kneidinger-Müller, 2018). For some trail runners, sharing exercise data is a form of ritual communication: it is done for the sake of connectivity to peers and to a larger community of practitioners. Other practitioners are more focused on the content they share and find meaning in the selective process of communicating their identity as sports practitioners. Yet others experience that this causes unnecessary social pressure for their practice and avoid sharing exercise data entirely. Thus, a key effect of mediatisation to individual sport practice seems to lie in the ability of practitioners to choose their level and style of involvement with digital media platforms.

Looking at this from a broader perspective, it can be noted that individual practitioners' digital media use indeed 'reflects broader cultural and social changes brought about by networked media in general' (Frandsen, 2020, p. 102). Recreational sport is to a growing extent organised around digital media and self-tracking platforms. These platforms function as connecting hubs for sports practitioners to get together, to communicate, to create social ties, and to exchange social support. At the same time they operate as sites for identity construction and communication. On the platforms users form momentary experiences of belonging to the subculture and to networks of practitioners, which keeps bringing them back to the platforms. This both increases individual practitioners' connection to commercial interests and strengthens commercialisation of sport at large.

This paper contributes to the discussion on digital leisure by showing that for many users of self-tracking platforms, the communal and self-motivational values surpass the concern of surveillance and commodification of leisure-time. Mediatisation creates novel social environments where networked individuals can gather and interact around a common interest without binding attachments and, at the same time, actively manage 'the social fabrics of their everyday lives' (Wang et al., 2018, p. 683). In conclusion, this study suggests that many leisure sports practitioners rely on digitally mediated commercial platforms because they meet their individuated needs for selfhood and social interaction, even when that comes at the cost of privacy.

## Limitations

The most notable limitation of this paper is that it examines self-tracking from the perspective of only one sport discipline and from the perspective of practitioners who, at least on some level, identify belonging to the subculture of trail runners. In some other sport disciplines where the practice is organised in more formal settings, the importance of social support provided by peer practitioners might be less evident. Also for those leisure sports practitioners who do not identify belonging to any specific sport subculture, the concept peer practitioners might be more vague, and thus it might affect how social they are around their sport practice, and what meanings they ascribe to sharing exercise data with other people.

The second limitation is that the participants of this study were recruited online meaning that they use digital media as a part of their sport practice. Thus, it is unclear how well they represent the overall population of trail runners in Finland. Those trail runners who are outside the scope of this study might experience technology use in general as non-motivational and ascribe more limitations to data recording and sharing. Therefore, in order to make more general conclusions about self-tracking and social support in relation to physical activity, more comparative research is needed in diverse settings.

The third limitation of this paper is the small sample size, especially regarding the interviews. The sample did not allow drawing any general conclusions for example about the role of age or gender in self-tracking activities. For future studies, it would be interesting to investigate the role that these two variables have in sports practitioners' data-sharing practices.

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