Being Online, Living Offline: The Influence of Social Ties over the Appropriation of Social Network Sites

Bernd Ploderer
Dept. of Information Systems
The University of Melbourne,
Victoria 3010, Australia
berndp@pgrad.unimelb.edu.au

Steve Howard
Dept. of Information Systems
The University of Melbourne,
Victoria 3010, Australia
showard@unimelb.edu.au

Peter Thomas
Dept. of Information Systems
The University of Melbourne,
Victoria 3010, Australia
petert@unimelb.edu.au

ABSTRACT
Research on social network sites has examined how people integrate offline and online life, but with a particular emphasis on their use by friendship groups. We extend earlier work by examining a case in which offline ties are non-existent, but online ties strong. Our case is a study of bodybuilders, who explore their passion with like-minded offline 'strangers' in tightly integrated online communities. We show that the integration of offline and online life supports passion-centric activities, such as bodybuilding.

ACM Classification Keywords
H.5.3 Group and Organization Interfaces.

General Terms
Theory, Verification.

Author Keywords
Online communities, social network sites, appropriation, bodybuilding.

INTRODUCTION
Social network sites like Facebook, MySpace or Cyworld have attracted millions of users worldwide. On these sites people present themselves on profile pages, they establish ties with other users and exchange messages with them. These interactions on social network sites are often deeply entwined with people’s offline experiences [1, 5].

Many social network sites are used to keep in contact with people with whom someone already shares some form of offline connection [5]. Therefore people orchestrate interactions offline and online in order to maintain these friendships. Previous research has looked at these interactions with offline ties on socially-organized social network sites like Facebook [11, 16, 19], MySpace [4], Friendster [2] or CyWorld [18].

Permission to make digital or hard copies of all or part of this work for personal or classroom use is granted without fee provided that copies are not made or distributed for profit or commercial advantage and that copies bear this notice and the full citation on the first page. To copy otherwise, or republish, to post on servers or to redistribute to lists, requires prior specific permission and/or a fee.

CSCW’08, November 8–12, 2008, San Diego, California, USA.
Copyright 2008 ACM 978-1-60558-007-4/08/11...

http://www.bodyspace.com

Other social network sites connect people because of a shared passion [5], such as religion (e.g., MyChurch), pets (e.g., Catster, Dogster) or specific hobbies (e.g., Ravelry). Such passion-centric social network sites connect mostly people with no previous offline connection. Therefore, the integration of offline and online is not based on ties but depends on activities related to a shared passion. However, we only have limited knowledge about the integration of offline activities on social network sites, when previously established offline ties do not exist.

This paper addresses this gap by presenting the findings of a qualitative study on a passion-centric social network site for bodybuilders called BodySpace1. BodySpace is designed to provide bodybuilders with motivational support for their training regimes, diets, and the preparation for competitions. We present three major themes of current practices of integrating BodySpace with offline activities: Bodybuilders use BodySpace as a tool to enhance their activities, they engage in theatrical performances online or they engage in interactions with the BodySpace community.

This paper extends previous work on social network sites by providing empirical evidence that the absence of offline ties does not hinder the close integration of offline and online worlds. Passion-centric social network sites are deeply entwined with people’s everyday lives. This finding has practical implications for the design of future technologies in the context of promoting healthy lifestyles. The close integration of offline and online life makes passion-centric social network sites well suited to influence people’s lifestyles in order to promote body conscience, fitness training, and healthy nutrition. We close the paper by discussing design factors for social network sites that support the integration of offline and online activities in the context of healthy lifestyles.

WORK OF OTHERS
In this section, we discuss related work on technologies that support people with their passion to stay fit. We link these findings to online communities such as social network sites, and discuss qualities of social network sites that make them well-suited to influence the behaviors of individuals offline.

1 http://www.bodyspace.com
Technologies that Support Healthy Lifestyles
Research on persuasive technology investigates how technologies can be used to motivate people, e.g., to give up smoking or to exercise more. Fogg [13] established a framework of design principles for persuasive technology based on theories from social psychology. For example, the social facilitation theory states that people are influenced by the mere presence of others, which leads to heightened arousal and to increased performance [33]. Thus technology that allows other people to be virtually present can motivate users to perform a target behavior [13]. Based on this principle, Consolvo and colleagues [6, 7] developed several prototypes that encourage physical activity by sharing step counts with friends. Similarly, Mueller and colleagues [24, 25] developed prototypes to create a virtual co-preseence of people at different places in order to engage them in activities like soccer, table tennis or jogging.

Further research on technologies that encourage healthy lifestyles includes the use of heart rate monitors for runners [28], virtual agents for gym users [12] and the use of public displays to motivate moderate exercise [21]. All of these technologies are prototypes designed for single users or small groups to provide motivational support. However, these studies provide little insight into how technologies are used in larger social aggregations like social network sites.

Influence through Social Network Sites
Khaled and colleagues [17] discuss potentials for motivation and influence in online communities and thereby extend Fogg’s theoretical work [13]. They argue that lurking on online communities (e.g., reading information in a discussion forum) can motivate people to exert a targeted behavior like physical exercise. People compare themselves with others or they adopt behaviors and attitudes from role models. Active participation in online communities fosters the adoption of behaviors in line with the group norms to gain social approval, to uphold group identity and to maintain group harmony [17]. Furthermore, online communities can provide social support and thereby influence people’s well-being [31].

Social network sites inherit those characteristics, but they also incorporate additional qualities that set them apart from other community technologies like discussion forums. These qualities make them particularly useful to motivate individuals to maintain a healthy lifestyle. Most online communities are organized around a common interest, e.g., discussion forums provide a hierarchical structure for people to discuss topics. Instead, social network sites are primarily organized around people [3, 5]. When people log on, their view of the social network site is centered on their profile and the interactions with their networks of friends. This is especially relevant for socially-organized social network sites like Facebook where people log on to look up and keep in touch with their friends [16]. However, the organization around people on social network sites applies also for passion-centric social network sites. Although people log on to these sites to pursue a shared passion, their organizing scheme remains on people.

Furthermore social network sites constitute an environment for people to present themselves to an imagined audience of networked friends [3]. Research in sports psychology has confirmed that self-presentation offline impacts the motivation to exercise. Self-presentational concerns can increase as well as decrease motivation to participate in exercise behavior, usually depending on whether people feel comfortable with their bodies in a certain environment or not [15, 20]. Previous work on online social network sites for gym users investigated the relationship of self-presentation and recognition online [27]. However, it has not discussed the link to the offline world and the influence of online self-presentation on the motivation to exercise.

A third quality of social network sites is their integration with people’s everyday lives [1, 5]. Compared to most other online communities, social network sites like Cyworld or Facebook tend to be well integrated with people’s offline lives, because they are used to connect with people with whom people already share some form of offline connection [18, 19]. Previous scholarship has applied different theoretical lenses to investigate the maintenance of existing ties on social network sites, such as signaling theory [9], self-presentation [10], social capital theory [11], or the uses and gratifications approach [16]. However, there is a limited understanding of the integration of offline and online resources in the absence of previously existing ties on social network sites.

Gap and Research Question
Previous work states that social network sites inherit qualities like people-centeredness, self-presentation and close online-offline integration based on ties that link offline and online life. These qualities support individuals with passion-centric activities. However, it is unclear how these activities unfold on social network sites in the absence of ties that link offline and online life. This paper addresses this gap by investigating the following research question:

- How do people appropriate online and offline resources to support passion-centric activities where offline ties are absent?

STUDY CONTEXT AND METHODS
Context Bodybuilding
In our study we looked at a group of people who are passionate about bodybuilding. We use the term bodybuilders to refer only to those gym users who actively participate in bodybuilding competitions or who are planning to compete in the near future. Preparing and participating in bodybuilding competitions is extremely demanding, both physically and mentally. Therefore, bodybuilders can get overly passionate about their sport and sometimes develop pathological behaviors, such as overtraining, exercise dependence and the use of illegal

334
performance-enhancing drugs [23, 30, 32]. However, many bodybuilders are role models for living a healthy lifestyle based on training, healthy nutrition and sufficient sleep.

Many bodybuilders work out alone, because other gym users may not be able to relate to the mental and physical challenges involved in the preparation for competitions. Even when other bodybuilders are present in a gym, work atmosphere and competitiveness prevent conversations. To alleviate this isolation, many bodybuilders use online resources, e.g., to obtain information about training and nutrition or to socialize with other bodybuilders.

**Research Site**

We focused on BodySpace, which is a passion-centric social network site for bodybuilders. Currently BodySpace has more than 160,000 registered gym users and bodybuilders worldwide. Similar to other social network sites people on BodySpace can create a profile page to present themselves and establish publicly articulated friendships with other users. They can also leave comments on other people’s profile pages or exchange private messages.

The BodySpace profile offers various bodybuilding specific features: It contains descriptions about the motivation to start bodybuilding, goals and achievements, workout programs, reviews of food supplements, as well as a history of results in competitions. The profile is integrated with a photo gallery and a progress picture section, which provides a timeline of photos and related comments. Users can integrate their own videos from YouTube in their profile or link to other people’s bodybuilding videos. Furthermore, BodySpace provides users with the opportunity to keep statistics about the weights they lift in their training as well as measures of their body, e.g., the size of their arms. Finally, BodySpace is integrated with a so-called BodyBlog, on which people report on their experiences in trainings, competitions and other aspects of their lives. All this information is freely accessible and searchable.

BodySpace is part of the larger bodybuilding website Bodybuilding.com, which provides comprehensive information on all aspects of bodybuilding from training methods to competition results. BodySpace and Bodybuilding.com are free to use because they are integrated with an online shop that sells food supplements and accessories for fitness training.

**Data Collection and Analysis**

We used a qualitative approach to explore how bodybuilders appropriate BodySpace and integrate it with passion-centric activities offline. We used a triangulation of methods to look at the integration from different points of view: We conducted semi-structured interviews and participant observations – both online on BodySpace and offline in gyms and bodybuilding competitions.

Participant observations allowed us to familiarize ourselves with the various contexts of bodybuilding. This was crucial because we did not have any previous experience in bodybuilding. It allowed us to observe people’s actions and to evaluate the interview findings in the field. We conducted these observations during regular workouts in 7 different gyms over 4 months. The gyms varied from “fitness spas” to “hardcore bodybuilding gyms”. Furthermore, we visited two bodybuilding competitions. We captured our observations in field notes, which contain photos, maps and our reflections concerning the questions that arose in the course of our study.

Similarly, we conducted online participant observations on BodySpace. Although BodySpace supports covert observation (“lurking”) on the website, we decided for ethical reasons [22] to create a BodySpace profile that discloses our identity and affiliation. For 4 months we participated in interactions with the BodySpace community, observed the behavior of people online and captured our observations in reflexive field notes.

We conducted semi-structured interviews with bodybuilders to elicit rich information concerning our research questions. Depending on the scope of the research, samples of 6 to 12 participants have been found to be sufficient to establish the main themes [14]. Using a purposive sampling strategy [26], we sought to recruit participants with varying degrees of experience in their passion, ranging from beginners to professional bodybuilders. Bodybuilders face different challenges at different stages of their bodybuilding career, which affects the motivation and support they seek [29] and thus leads to richer results concerning the appropriation of BodySpace.

We conducted 10 interviews with BodySpace users and 3 further interviews with experienced bodybuilders who are not on BodySpace, as a way to verify our findings (4 female, 9 male; aged between 20 and 56 years). This sample size led to theoretical saturation regarding our research question. The participants had between 2 and 36 years bodybuilding experience with a mean of 12.5 years (SD=10.8). Nine participants had actively participated in bodybuilding competitions, one of them on a professional level. All BodySpace users had established mutual friendship connections with other users on BodySpace, ranging from 8 to 147 friends (mean=56, SD=46). Two participants reported to have a preexisting offline friend on BodySpace. However, in both instances these friends had registered but did not actively use the social network site.

The participants were recruited through a private message on BodySpace and through personal contacts. Our interview guide consisted of open-ended questions about the participants’ bodybuilding careers, their use of BodySpace and other websites, and their integration with other activities. We also used information from our participants’ profiles as a probe to elicit further discussion on the use of BodySpace. The interviews lasted between 45 and 60
minutes. When possible, we conducted our interviews face-to-face (3), otherwise on the telephone (7) and via email (3). We created verbatim transcripts of all interviews, and we also collected data from the participants’ BodySpace profiles. The profiles included personal descriptions, photos, lists of friends and a mean of 89 comments received (SD=67) and 108 comments left (SD=114).

Our analysis was based on a grounded theory approach [8]. We imported the rich set of data including interview transcripts, BodySpace profiles of the participants, field notes from bodybuilding gyms and competitions and field notes from online observations in NVivo 7.0. In an iterative coding process we derived theoretical constructs from the data and created a hierarchical set of themes.

FINDINGS
This section shows how bodybuilders appropriate BodySpace and integrate it with other activities. We give an overview of nine prominent themes, which we combined to three main categories. We use the metaphors of a tool, a theatre and a community to describe these three categories of social networking.

Social Network Site as a Tool
Bodybuilding is not a passion that is related to fun. In order to accomplish their main goal of constant improvement of their bodies, most people have to keep a strict diet and work hard in the gym: “Working out isn’t a hobby or a fun time for me. It is a necessity to stay fit, and I’ve decided to try and do the best I can with it.” (BodySpace user\(^2\) in an online article). Therefore, some participants use BodySpace mainly as a tool that provides them with some advantage to ease their burden. The advantage arises from the site’s capability to store, process and provide information. This includes knowledge about workouts and nutrition, as well as information that helps individuals to judge their progress in the transformation of their bodies.

Knowledge Is Key
“Some think bodybuilders overall are dumb or they just talk, are egotistical and vain, narcissistic. But the truth is, you have to be fairly clever about nutrition, you have to be amazingly dedicated as far as training is concerned.” (George, 43, interviewed face-to-face).

Knowledge about the principles of training, nutrition and rest is essential for bodybuilders. Usually, bodybuilders retrieve information from magazines, books, or personal experiences from other bodybuilders. Many bodybuilders have adopted websites like BodySpace as a vital source of information. They obtain information from other bodybuilders who publish details about their training regimes, diets and reviews of food supplements on their BodySpace profile. Several participants reported a blend of such online information with other sources: “My current training is based on advice from a trainer, stuff I’ve read online and stuff I’ve read in magazines.” (Lenny, 22, interviewed via telephone).

A major issue in online information is the question of source credibility. The participants reported high trust in information provided by other BodySpace users. They argued that claims made on BodySpace about the effects of supplements and training can be evaluated with the photos and statistics provided on the profile.

Progress-Monitoring
“Well, we are never happy with our bodies...we always want more and more” (John, 28, BodySpace profile).

Bodybuilders aim for continuous transformation of their bodies. Many of them set specific goals for their improvement, e.g., adding 8kg of muscle mass, or reducing the bodyfat to 8 percent. The goals guide them along their transformation, however they also need tools to monitor if they are on track. Some bodybuilders use paper diaries or keep statistics concerning their body measures and lifting stats. Both of these features have been integrated in the BodySpace profile: “I like how you can compare, how you were and how you are now. And for example, BodySpace has stats. And you can just look and see immediately where you’ve come and what progress you’ve made.” (Jarvis, 23, interviewed face-to-face).

However, bodybuilding is about the aesthetics of the human body rather than about the performance in lifting weights. Since improvements are not visible to oneself in the daily training, photos documenting the progress play a vital role in the process of self-monitoring. One participant keeps pictures of herself before she started bodybuilding. When she finds it difficult to motivate herself, these photos reassure her of the progress that she has made: “I use my before-photos a lot. I have them printed out and I use them to look at those and basically see how far I’ve come” (Catherine, 24, interviewed via telephone).

Progress pictures on BodySpace help people to track their own progress. They are also a way of letting other people examine one’s accomplishments. The participant who uses her before-pictures at home, shares them also online (see figure 1), which has resulted in a series of comments left on

---

\(^2\) We anonymized all data in this paper and use pseudonyms for the participants in our interviews.
Comparing oneself with others is essential in any competitive sport including bodybuilding. Whereas other sports use quantitative measures such as time, distance, height or other numerical values for comparisons, bodybuilders rely on subjective judgments of the size, symmetry and proportion of their physiques.

Comparisons can serve various purposes: Firstly, comparisons with people on a similar level help people to evaluate their own performance, e.g., to evaluate their chances in an upcoming competition. Such comparisons take place in the gym as well as online: “I used to look at competitors to see some photographs from previous competitions to see any photos from guys in my categories. And then I would say, ‘Yeah, I think I'll be ok’, or ‘it's going to be hard’. I mainly do that.” (James, 56, interviewed face-to-face).

Secondly, people carry out downward comparisons. This means they compare themselves with others who are in a worse position in order to enhance their self-esteem. Downward comparisons take place offline, online or even with people in TV shows. Catherine (24) posted on her BodyBlog, that she was motivated by watching a TV show, which presents teams of overweight contestants trying to lose weight: “As sad as this sounds, I think watching the biggest loser got me motivated.”

Finally, people engage in upward comparisons, which means they compare themselves with role models that they look up to. Our participants reported various people who they saw as role models: It can be parents, who bring their kids to bodybuilding shows and initiate them to the gym. In other cases, training partners in the gym serve as mentors and role models. For many participants, famous current and former professional bodybuilders have played an important role in their process. Several bodybuilders reported that they started bodybuilding because they were inspired by famous bodybuilders like Arnold Schwarzenegger: “When I started, the thing that got me into bodybuilding I remember vividly was when I was probably 13, 14 years old, and I saw Arnold [Schwarzenegger] on TV. And he had a body shirt on. I still remember it. He had like this rope things through his arms that were veins. And I had never seen anything like that. I was in a country town, you know, I was never really exposed to anything like it. I remember that night - it changed my world.” (George, 43, interviewed face-to-face). Others express their admiration of role models online: “My church is a gym, services conducted by Lee Priest, Arnold is god, J.C. Stands for Jay Cutler and Ronnie is Moses! For confessinals, the preacher bench is open!” (BodySpace user in an online article).

Social Network Site as a Theatre
For many bodybuilders social network sites serve as a stage like in a theatre, where they present their achievements and gain attention and applause from the audience. The presentation of one’s body is a fundamental aspect of bodybuilding online and offline. Bodybuilders train for years to bulk up and then go through months of severe dieting to get in shape to step on stage in a bodybuilding competition. The preparation and the participation in competitions are essential for the identities of many bodybuilders, because they distinguish bodybuilders from other gym users: “I believe everyone can agree upon the fact that those who choose to compete are a different breed than all other people who call themselves ‘bodybuilders’. (...) Not many people want to do what it takes to get onstage. Dieting 12-20 weeks, never missing a meal, cardio everyday, and energy levels so low that you don't feel like getting off of the couch because you are constantly hungry waiting for your next meal does not appeal to the masses.” (BodySpace user in an online article).

Self-Promotion
The main motive of this target group to present themselves is self-promotion, whereby they point out their accomplishments in order to be seen as competent by observers. The accomplishments of bodybuilding lie in the aesthetics of the human body, which some bodybuilders compare with an art form: “I think, when I'm on there I'm displaying art in motion. Yeah, and it's beautiful, the human body is beautiful. And it is meant to be that way.” (David, 32, interviewed via telephone).

In a similar way BodySpace provides people with an environment to display their accomplishments on their profile through photos, embedded videos and lists of achievements in bodybuilding competitions. Photos show competition photos or favorite parts of their bodies, whereby the quality of the photos varies from professional shots to photos taken in underwear against a mirror in the bathroom (see figure 2).

The motivational value of self-promotion on BodySpace has been indicated by several participants, although not all
participants were as bold in their expression as the following statement: “Another thing I’ve got to say about BodySpace which I think is the most important thing to most of us - It gives us a place to post our picture for the whole world to see. Bodybuilders need to be noticed. It feeds our muscle ego; it motivates us. There are thousands of guys who show photos of themselves in their bathroom in their underwear flexing. They aren’t thinking about anything but to show off what they look like and to see for themselves what they look like. This all might be strange to the non-bodybuilding world but not to us – it’s normal.” (John, 28, via Email).

Appraisal
Self-presentation is not just posing on stage or posting pictures or videos online; it is an element of social interaction in the process of which the audience provides some sort of feedback. In bodybuilding shows competitors earn applause from the audience, get votes from the judges and feedback from comparisons with other competitors. Furthermore, some people get feedback in the gym from other bodybuilders. However, in many cases bodybuilders work out in gyms with no fellow bodybuilders or the culture in the gym prohibits open feedback. In such cases, BodySpace can be an environment to display pictures of one’s body and to exchange feedback via comments on the profile or personal messages: “You won’t exactly walk up to a person at the gym and ask ‘Hey, how do I look’ and expect an honest answer. Here [on BodySpace], you will get judged on how you really look. Then you can improve on the negatives, and get the motivation from positive comments.” (BodySpace user comment to a blog).

We identified various functions of appraisal in the comments left on BodySpace profiles. The comments included expressions of empathy, e.g., “We all know how much dedication, determination, discipline go into creating the ultimate body! You’re well on your way to perfection.,” praise, e.g.: “Hey great upper body, great bulk on the arms and chest definition!!!”, and reinforcement of behavior like: “Great Traps! You are looking great, keep at it, it’s working!”

Some people used the comments to actively seek appraisal. They left multiple comments on other people’s profiles, e.g., to point out their achievements in a current competition or draw attention about photos they recently posted online. We also found instances of BodySpace comments of people requesting critical examination of their progress, in order to improve their physiques for a competition “I’m getting ready for a big competition in May, check my profile and gallery and give me feedback and constructive criticism. Tell me where I need to improve. Thanks!” (BodySpace user comment).

Self-Presentation beyond Bodybuilding
Due to the desire to promote their accomplishments, bodybuilders are often associated with stereotypes of vanity, or the impression that their lives evolve exclusively around bodybuilding. However, one participant said: “We are like anyone else, just a little bigger” (George, 43, interviewed face-to-face). The lives of most bodybuilders also include families, careers, and other interests as central aspects. Therefore, people appropriate BodySpace also beyond the intended purpose of bodybuilding. On the fringes people present and discuss family issues, soldiers in Afghanistan mingle political and fitness issues (see figure 3a), and others create profile photos according to special events, such as Christmas (see figure 3b).

An issue under debate on BodySpace is whether some of the photos on BodySpace show bodybuilding or sexual poses. This issue has been fostered by the design of the BodySpace start page, which presents recently updated and the 6 most popular profiles. Therefore users are persuaded to update their profiles regularly and some post provocative photos to gain popularity: “All the girls on the top profiles have semi-pornographic shots of themselves or there faces, It’s like a popularity contest. If you make it to the top 6 or whatever it is it should be because you have a phenomenal physique or made a great transformation not only for your face or porn pic.” (BodySpace user comment to a blog).

Social Network Site as a Community
Many bodybuilders see BodySpace not just as a theatre to present their accomplishments in order to get applause and appraisal. They describe a feeling of belonging to a community, resulting from ongoing discussions that have led to personal relationships with others.

The personal relationships among bodybuilders are a complex subject matter. Bodybuilding magazines, books and documentaries often describe a sense of strong camaraderie among bodybuilders in the gym, which has been supported by some participants: “It was not just about being strong and fit. It was a lifestyle sort of thing. It was a way of being a part of a community almost. Through working out you develop new friendships in the gym.” (Mario, 20, interviewed via telephone). At the same time the bodybuilding literature describes bodybuilding as a competitive, individualist activity, which creates an interesting mix at bodybuilding competitions: “And there is a psychological battle going on backstage when you pump up in the pump up room. You look at the other guy and
assess his physique. Hey, I've got better legs than him, or bigger biceps. (...) There is a sense of camaraderie at the same time. (...) When you are lining up just to go on stage, we all turn to each other and say 'Good luck man!' You can't really touch each other, because there is the tan and you don’t want to mark your body, so you shake your hand. It's a genuine appreciation of each other's physique and good luck.” (David, 32, interviewed via telephone).

Furthermore, bodybuilding is a minority sport. Therefore, many bodybuilders report bodybuilding competitions are a place to meet like-minded, whereas they lack contact with like-minded people elsewhere: “In my work life people have no idea I'm a competitive bodybuilder, they mostly think I may lift weights to stay in shape. Even at the gym I train at there are only one or two fellow competitors who understand the discipline and mindset involved in bodybuilding competition.” (Simon, 40, interviewed via email). Therefore, many people use the BodySpace community to alleviate isolation from other bodybuilders by fostering friendships, the exchange of support and the maintenance of shared values.

### Online Friends

Bodybuilders usually develop friendships with peers in the gym: “People pretty much work out at the same time on the same day. So when you are regular you tend to see the same people. You can form friendships around the training, which is good.” (Bill, 27, interviewed via telephone). Two of the participants work out with a friend as training partner to support them in their training. However, due to convenience all other participants work out alone. For them the gym is a place to work out, social aspects are secondary and conversations occur only before and after the workout.

Due to the limited number of offline relationships in the gym, the participants in this study did not use BodySpace to keep in contact with friends from the gym or other aspects of their everyday lives. Only two participants reported to have an offline friend on BodySpace, but these friends had only registered without using the social network site. Four participants reported to use other social network sites in order to network with offline friends. They used MySpace or Facebook to keep in contact with their offline friends, whereas they used BodySpace to make new acquaintances with like-minded peers: “On BodySpace everyone is there together for the same purpose. And you know mostly that the people who have joined are going to give you vital information, or people are going to ask. And people are motivated by the same thing. And I find that a great way to find people with the same goals and aspirations.” (Mario, 20, interviewed via telephone).

Most relationships remain limited to BodySpace. In the interviews, the participants often referred to them as “acquaintances” rather than “friends”. Acquaintances keep track of each other’s progress and exchange comments concerning informational and motivational aspects. Some participants used acquaintances as a resource that they could ask for advice on training and nutrition.

In addition to online acquaintances, some people formed relationships with others online which over time transgressed the boundaries of BodySpace. People interact with those friends either via other communication technologies, e.g., instant messengers, or they even meet face-to-face. One participant reported that he found several bodybuilders from his area on BodySpace who he met offline: “One has become a really special close friend whom I never would have met if I wasn’t on BodySpace.” (John, 28, interviewed via email).

### Exchanging Support

A major challenge for bodybuilders is the preparation for a contest. Especially the combination of training and dieting constitutes a physical and mental challenge: “Towards the end it is real hell.” (James, 56, interviewed face-to-face). Thus, some bodybuilders interact with the community to obtain or to provide some sort of support.

We distinguish between three forms of support: Firstly, emotional support includes esteem support, validation of progress as well as companionship. Secondly, instrumental support contains all forms of tangible or material aid, such as spotting (assisting) in weight training or slapping up fake tan backstage in competitions. One participant even reported an instance of financial (and emotional) support. Her fiancée supported her in giving up her job so that she could concentrate exclusively on her training. Finally, we refer to informational support in instances where people exchange advice, such as training regimes or experiences with food supplements.

BodySpace cannot provide instrumental support. However, for many people it provides more convenient access to emotional and informational support. One professional bodybuilder used BodyBlog to thank another professional bodybuilder for his emotional support in response to steroid allegations on an online discussion forum: “Last night I stumbled upon a forum thread basically devoted to whether or not I was natural. Now I don't know a single person who posted, but there were over three pages of statements that I am a liar and a cheat who uses steroids! Initially I was enraged, but soon realized just who these cowardly internet people are. To my surprise, Jay Coleman emailed me a short note of support, as he must have seen some of these same forum posts. This guy has been dealing with this sort of thing his whole career, so I really appreciated his help.” (Simon, 40, on his BodyBlog).

The participants stressed the perceived quality of informational support on BodySpace as compared to other bodybuilding websites. The profile information allowed participants to find out more about the support provider and to see if the support providers were successful bodybuilders or not. Thus people reported a higher degree of trust in people’s advice as compared to online forums, which have
a high degree of anonymity. Bodybuilders appreciated the opportunity to ask for information from more experienced or even professional bodybuilders on BodySpace: “When I first started I browsed through a lot of the profiles to see who was the elite on the site. I was very surprised that most of them if not all would reply pretty quickly. You come across a bloke that has a great back and send a message to him and ask: ‘What methods do you use for your back?’ And they would send you a message back, mostly pretty detailed as well.” (Mario, 20, interviewed via telephone).

Community Values
Underlying the interactions within every community is the co-creation and maintenance of common values. Basic principles of bodybuilding are for example the “3 D’s”, which stand for “Dedication, Determination, Discipline” regarding training, nutrition and rest. This norm is shared in the bodybuilding world in interactions with peers as well as through articles in bodybuilding magazines, interviews of role models or through slogans posted in the gym (see figure 4). Bodybuilding gyms present the accomplishments of successful bodybuilding stars on the walls all over the gym to reinforce the principles (see figure 4).

Similarly, profiles and comments on BodySpace reflect the values of the community. The BodySpace profile displays the user’s goal as a headline on top of the page, which carries slogans like “Train Harder, Faster. Eat Better and Feel Leaner!” (Catherine, 24, BodySpace profile). The profile self-description also includes a forum signature, which many users appropriate to communicate slogans like “Nothing is impossible!” (Monica, 35, BodySpace profile). Finally, the comments left on profiles frequently contain slogans that reflect the general attitude of bodybuilders, like “If it was easy everyone would do it.” (Rhonda, 24, BodySpace profile).

Like in other communities, some topics are a taboo and not talked about in public spheres such as BodySpace. In the case of bodybuilding, the use of performance-enhancing drugs like steroids constitutes such a taboo. Steroids support the building of muscle, but they are illegal in most countries due to the associated health risks. Many bodybuilders argue that without steroids it is impossible to create a physique to compete on a professional level in bodybuilding: “Everyone knew, as unwritten knowledge, everyone who wanted to compete at the highest level, you either took the steroids or you couldn’t compete, you weren’t going to win. And everyone still understands that.” (James, 56, interviewed face-to-face). However, steroids are not discussed on BodySpace, because most information on BodySpace is publicly available and can be tracked back to a person’s profile.

DISCUSSION
The question we seek to answer is how people appropriate online and offline resources to support passion-centric activities where offline ties are absent.

The findings in the context of people passionate about bodybuilding show that they appropriate the social network site for three main purposes: Firstly, people use the social network site as a tool to extend their capabilities. They exchange knowledge online and integrate it with information from magazines, books, and accounts of other people’s experiences. The social network site helps them to monitor their progress in the pursuit of their passion and to compare their progress with others. Secondly, like on a stage in a theatre, people appropriate the social network site to promote accomplishments. The social network site provides them with a place to show off their results and an audience to appraise the accomplishments. Thirdly, people form new relationships with others on social network sites. Thus the social network site provides them with a community of like-minded that extends their offline connections with peers, friends and coaches. The online community provides support and reinforces the values underlying the passion.

Theoretical Implications
This paper contributes to our understanding of online communities, in particular social network sites, in two ways: Firstly, it provides empirical evidence for the claim that social network sites are deeply entwined with people’s offline experiences [1, 5]. The novelty of this study is that it is focused on passion-centric social network sites, whereas previous work has investigated socially-organized social network sites like Facebook or MySpace. On these sites people usually socialize with their current circle of friends or keep in touch as they move from one offline community to another [4, 11, 16, 19]. Our findings indicate that the close integration of offline and online life does not rely on preexisting offline ties. In the absence of such ties, passion-centric activities become the link between offline and online life. People engage in interactions with strangers online to exchange information, discuss their progress or provide support for activities related to their passion. In some instances friendships established online have migrated also to offline environments.

Secondly, this study contributes to our understanding of social support amongst competitors through social network
sites. Competitiveness in gyms and contests often prevents mutual support and can lead to social isolation offline. While bodybuilders compete offline, they collaborate online and exchange social support. The ways in which bodybuilders exchange social support are similar to other online communities, e.g., in health-related contexts [31]: Bodybuilders look for similar people online, they provide various forms of support and thereby they create a sense of belonging to a community. Related to social support, our findings indicate that the ability to identify people through public profiles and their links with friends on the social network site facilitate trust, as stated by Donath [9, 10]. Beyond that, competitiveness may enhance online collaboration because it fosters self-promotion. Self-promotion is a form of self-presentation whereby people show their accomplishments in order to be seen as competent by observers. Self-promotion on social network sites triggers appraisal, which motivates individuals for their offline activities. Thus, our findings extend previous theory on motivational and social support through online communities [13, 17, 31] with the theme of self-promotion.

Practical Implications
The finding that passion-centric social network sites are closely integrated with offline activities provides an important contribution to practice. This is significant, because passion-centric social network sites can help people to develop aspired behaviors, such as the development of healthy habits. In the absence of offline ties that share or support these habits, social network sites can help to alleviate the isolation and foster offline behaviors.

Our findings highlight several design factors that are based on a close integration of offline and online life in order to support passion-centric activities. Indeed, for some bodybuilders the passion may lead to undesirable outcomes, e.g., overtraining or steroid use [23, 30, 32]. However, many bodybuilders are role models for a healthy lifestyle based on regular training and a healthy diet. We believe that the following design factors are applicable to the design of passion-centric social network sites for other groups that aspire such a healthy lifestyle, such as people who want to lose weight or improve their fitness.

From a tool perspective, passion-centric social network sites can facilitate a close integration of offline and online life by integrating offline tools in the profile page. BodySpace, for example, uses the start page to promote recently updated as well as the most popular profiles. In such a way, social network sites persuade people to update their profiles frequently and thereby support a close integration of online and offline statuses, which helps people to stay on track.

From a community perspective, low degrees of anonymity and high transparency are critical factors for the formation of relationships among strangers on passion-centric social network sites. Photos, personal descriptions and links to friends on the profile hinder anonymity. BodySpace achieves transparency by displaying interactions like comments and login dates on the profile and by prohibiting options that would constrain the visibility of people’s profiles. As a result BodySpace has developed a very positive and supportive atmosphere with hardly any negative comments. At the same time, transparency and low anonymity help to restrict the discussion of controversial issues, such as performance-enhancing drugs.

CONCLUSIONS
We studied a passion-centric social network site for bodybuilders and investigated how activities online and offline are integrated in the absence of ties that link these worlds. The findings show that the social network site is deeply embedded in activities related to the users’ passion of bodybuilding. The site helps them to get motivation for their trainings and in the preparation for competitions.

This paper extends previous work, which looked at socially-organized social network sites and emphasized the importance of preexisting offline connections with friends. Our findings show that in the absence of such ties on passion-centric social network sites, people use passion-centric activities to link offline and online life.

The close integration of online and offline life makes social network sites well suited to help people develop aspired behaviors. Looking at the successes and the problems of bodybuilders, we present design factors for social network sites that foster the development of healthy habits.

ACKNOWLEDGMENTS
We are very grateful for all the experiences and insights shared by the participants of our study.

REFERENCES
   http://www.firstmonday.org/issues/issue11_12/boyd/
18. Kim, K.-H. and Yun, H. Crying for me, Crying for us: Relational dialectics in a Korean social network site.