



## Academic peer pressure in social media: Experiences from the heavy, the targeted and the restricted user by Barbara Kieslinger

### Abstract

The degree of social media uptake in research practice differs greatly, across and within disciplines. This qualitative study explores the use of social media within a specific target group of researchers working in the field of technology-enhanced learning. The individual cases reveal a range from heavy use, leading to addiction, to very restricted or no use of social media. One of the main implications of social media penetration in academia is the emergence of peer pressure. People adopt different strategies and different digital identities to cope with the perceived pressure. Based on individual cases, this qualitative study gives insights into current transformation processes related to the scholarly uptake of social media and leads to the establishment of further challenging research questions.

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### Introduction

Social media have started to penetrate and change academic practice in various ways over the past years. Academics currently make use of weblogs and Twitter to build networks and communicate within their profession as well as for the purpose of disseminating their research to a wider audience. In addition, a whole set of targeted social media portals offer researchers specific services for scholarly collaboration. This technology-enhanced facilitation of scientific collaboration and communication on a global scale is causing transformations in scholarship as it offers alternatives to traditional scholarly practices.

A number of scholars have started to study the uptake of social media by the scientific community (see, e.g., Harley, *et al.*, 2010; Nentwich, 2010; Moran, *et al.*, 2011; Procter, *et al.*, 2010; Rowlands, *et al.*, 2011; Weller, 2011). However, empirical work regarding the engagement of individual researchers in Web 2.0 practices is still sparse and more rigorous research on changes in scholarly communication is required (Harley, 2013).

There is still great variation in the degree to which Web 2.0 services such as social networks, research blogging or microblogging are used in academia (Nentwich, 2010). While researchers are increasingly aware of social media, the update and frequency of use in their daily practices is still low. There exists a gap between the awareness and the actual use of the majority of tools (Rowlands, *et al.*, 2011). Procter, *et al.* (2010) likewise acknowledge a very supportive attitude of researchers towards Web 2.0 but at the same time stress the low uptake of Web 2.0 tools by this specific target group. Harley, *et al.* (2010) provide a capacious perspective on scholarly communication in seven academic fields, stressing the importance of disciplinary conventions and cultures. We find evidence on differences in social media take-up by the various scientific disciplines in a number of studies (Harley, *et al.*, 2010; Rowlands, *et al.*, 2011; Andersen, 2004), but the authors also identify a general persistent tendency towards traditional means of scholarly publication across all disciplines.

Not much seems to have changed in the last few years. While the awareness of social media is growing, the adoption for professional purposes clearly lags behind personal use (Moran, *et al.*,

2012) and there seems to be little actual shift in how scholars around the globe disseminate their research (Harley, 2013).

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### Benefits of social media usage for researchers

Researchers participate in Web 2.0 for similar reasons as people in other professions as well as private users. Social relations, information retrieval, scientific marketing, reputation management and teaching support are amongst the main motives why researchers make use of Web 2.0 services (Nentwich, 2010). The fact that most of the tools and services are easy to use adds to the positive experience. Collaboration and communication are core elements in any scientific working environment. The most popular social media tools amongst researchers are those that support collaborative authoring, conferencing and scheduling of meetings (Rowlands, *et al.*, 2011). Peer pressure from outside one's own research institution is a key driver for the take-up of social media in terms of collaboration and communication support (Rowlands, *et al.*, 2011).

Academic institutions have started to promote social media practice amongst their staff members since they have realized that their reputation is largely created through their faculty's online identity. Those institutions encourage, recognize and support online participation such as academic blogging (Weller, 2012). An example is the London School of Economics, which offers a guide for academics and researchers on how to use Twitter in university research, teaching and impact activities (Mollett, *et al.*, 2011). However, the efforts that individuals put into such practice are often not directly rewarded by institutions and not reflected in the appraisal. Since social media practices are very diverse and rapidly changing, institutions have not yet established robust mechanisms for rewarding such activities (Weller, 2011).

Researchers repeatedly mention the positive networking effect and the possibility of finding and liaising with peers who deal with similar topics. Kjellberg (2010), for example, confirms that researchers use blogging activities to create relationships and expand their networks, not only within their defined disciplines, but also beyond. In addition, these relationships are not restricted to a specific tool or type of social media, but can be continued through other forms of communication, whether technologically mediated or not (Kjellberg, 2010; see also Efimova, 2009).

Benefits can also come from relatively unconstrained and rapid dissemination of ideas and findings. Researchers who use social media have confirmed that this usage has benefitted their reputation and raised the awareness of their work among peers (Procter, *et al.*, 2010). Thus, social media is certainly used by researchers to increase their visibility and reputation amongst their specific research community. Bergner (2010) has identified a group of researchers she calls "enthusiasts" who are using "fighting tools" to promote their career by creating online presence via online publishing, personal Web sites and personal weblogs.

'In progress' research communication, such as in weblogs, may positively affect archival publication, which is important in institutional reviews and for tenure (Acord and Harely, 2013; Harley, *et al.*, 2010). Blogging activities contribute to the reputation of the individual blogger, his or her fame in the community and respect within the profession. Even organizational blogging is associated with gain in reputation. According to Özler and McKenzie (2011) the impact of blogging on the downloading of scholarly articles is striking. And finally, blogging has an influence on attitudes and knowledge. It may lead to transformations in opinion amongst the target audience (Özler and McKenzie, 2011).

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### Barriers and constraints of researchers' social media usage

The most important barrier for the take-up of social media in research is the lack of clarity regarding the precise benefits for the researcher (Rowlands, *et al.*, 2011; Procter, *et al.*, 2010). Lack of time, the prevailing incentive system in academia, quality aspects, competition and transparency of research, the need to be constantly online, and so forth, are issues that have been identified as potential barriers for researchers to engage in Web 2.0 practices (Nentwich, 2009).

Although the ease of use of social media is widely confirmed and usually mentioned at the positive end of the scale, technical difficulties still seem to be a reason for researchers not to engage in the usage of such technologies (Bergner, 2010). More guidance and training in the use of social media are also suggested by Procter, *et al.* (2010). Quality aspects are repeatedly addressed in various studies. Grossek and Holotescu (2011) summarize a whole set of barriers under the category of quality, including aspects such as the reliability of the data source, the authors or poor linguistic quality, especially in restricted formats such as microblogging.

Perceptions of quality and trust are closely connected to the publication process. When it comes to publishing research results, a large majority of researchers still rely on the traditional channels, namely scholarly journals, conference proceedings and edited books. Although an increasing

number of academics are not happy with the current peer review process and do not think that it can be sustained in the long run, they do not see an alternative to the current peer review method (Harley, 2013; Harley, *et al.*, 2010; Harley and Acord, 2011; Rowlands, *et al.*, 2011). Trust plays an important role and social media publications can currently not compete with the long-established procedures of peer review of traditional scholarly publication channels, be it restricted or open access formats. The publication record in high-impact publications is still a primary criterion for appraisal in academia (Harley, 2013). Although gaining importance, as mentioned above, social media are not seen as a replacement for traditional scholarly publication channels yet but rather as complimentary (Harley, *et al.*, 2010; Rowlands, *et al.*, 2011).

The lack of recognition of online presence in academic standards is an open issue. Martin Weller, for example, promotes digital scholarship and its academic recognition in his book *The digital scholar* (Weller, 2011). David Stuart (2009) expressed a similar idea in his analysis of why researchers are not excited by Web 2.0. He suggests paying more attention to webometric indicators instead of pure bibliometrics when judging academic excellence. Priem and Hemminger (2010) talk about "scientometrics 2.0" when referring to new metrics that should account for scholarly impact via social media. According to their analysis, "one of the strengths of Web-based metrics is the ability to examine impacts of other, emerging forms of scholarly communication as well. Future work could compare and correlate impacts of scholars' blog posts and videos with the impact of their traditional articles" [1].

The use of altmetrics to measure scientific impact beyond the traditional journal impact factor including metrics from online scientific dissemination has gained attention in the scientific community and of policy-makers, such as the European Commission (2014). For example, The "San Francisco Declaration on Research Assessment" (American Society for Cell Biology, 2012), which requests an improvement in the evaluation of scientific research output and a move away from the use of journal impact factors, has been signed by thousands of scientists across the globe. However, moving away from the traditional channels for scholarly communication and institutional recognition is a complex issue. While alternative metrics are requested, there is still a lot of discussion on the quality and reliability of such new metrics.



## Research questions

This study set out to look at the very specific target group of researchers active in the field of technology-enhanced learning (TEL) and explore their practice of online presence. This multidisciplinary field of research is characterized by strong heterogeneity in terms of actors, including researchers from various domains, such as computer scientists, educational scientists, cognitive scientists, etc. In addition, this target group has a specific research interest in the latest information and communication technology from an educational perspective. Thus, the target group partly includes people who are not only using social media for their own scholarly practice, but who are also researching how to use social media in educational contexts. In addition, some actors in this specific target group include social media in their own teaching activities.

The driving research question was the following:

*What is the value of social media usage for the personal careers of researchers active in the field of TEL?*

During the preparatory work for this study, the literature review and fine-tuning of the core research question, potential influencing factors such as time, career status or reputation became apparent and helped to shape a set of related questions that contribute to finding answers to the overarching question:

- *What is the main purpose and motivation of an active use of social media?*
- *What factors influence and provoke change in the use of social media (e.g., career position, etc.)?*
- *How important is the use of social media for the work and career of TEL researchers and how much time and effort is dedicated to such practice?*
- *How important is online reputation?*
- *Does the use of social media have an effect on the researcher's professional network?*

The whole study and the specific research questions were primarily focused on an 'active' use of social media for professional purposes, which means that this work concentrates on how people are actively publishing content via social media, as well as creating their online presence and maintaining their social networks. This usage is different from what is generally called 'passive' use of social media, which refers to pure information/content retrieval via social media.



## Methods

This study was driven by the interest to explore hidden facets of active Web publishing practices and has a strong exploratory character. Thus, an interpretive qualitative approach was chosen overall. Following a grounded theory approach there was no clear hypothesis at the beginning to be verified or falsified (Silverman, 2006). The empirical exploration was an attempt to start with a few cases in an approximation to find answers to the specific research questions, to extend towards a set of complementary cases and to derive some new knowledge from the complete set of cases. As in grounded theory, there was no *a priori* pre-defined theoretical embedding. The approach applied in this study follows Charmaz's (2006) practical guidelines to implementing grounded theory. Exploratory and very openly led interviews proved to be the most appropriate source for the data collection.

The scientific community of TEL is the defined target group of this study. A main reason for choosing this research community is the fact that the use of social media in educational environments has been an important topic for the last few years in TEL research. Thus, while TEL researchers are looking at the implications of social media from a research perspective there is less knowledge about their personal usage of such media. A more practical reason for this choice was the personal accessibility to potential participants for the data-gathering process.

In the tradition of grounded theory, the investigation started with a small set of cases and applied a snowball system to obtain further cases. Originally, six typical cases of social media users in different career stages were identified (e.g., dean or full professors as well as junior researchers and Ph.D. students). Complementary cases of individual researchers who stopped or drastically reduced their participation in social media were added early in the recruiting phase. The initial set of participants covered the expected spectrum in terms of career stages as well as social media usage intensity and explicit changes in social media practice.

Empirical data were obtained primarily via personal online interviews and some observations of users' online behaviors. In the context of Internet studies, such observations are usually referred to as *online ethnography*. However, no in-depth online ethnography was performed. Online observations were made rather randomly and can be interpreted as part of the researcher's own participation in social media. Nonetheless, the regular observations of those study participants who are active social media users helped to shape the analytical part of this work.

In total, 15 individual cases contributed to the analysis. The data-gathering process spanned from June 2011 to May 2012. The participants showed a rather balanced gender distribution with eight male and seven female researchers; the majority were working in European academic institutions at the time of the interview. The academic position of the study participants ranges from some very senior positions (three full professors and two associate professors) to senior research fellows (five) and research fellows in the earlier stages of their careers (three lecturers and two junior fellows).



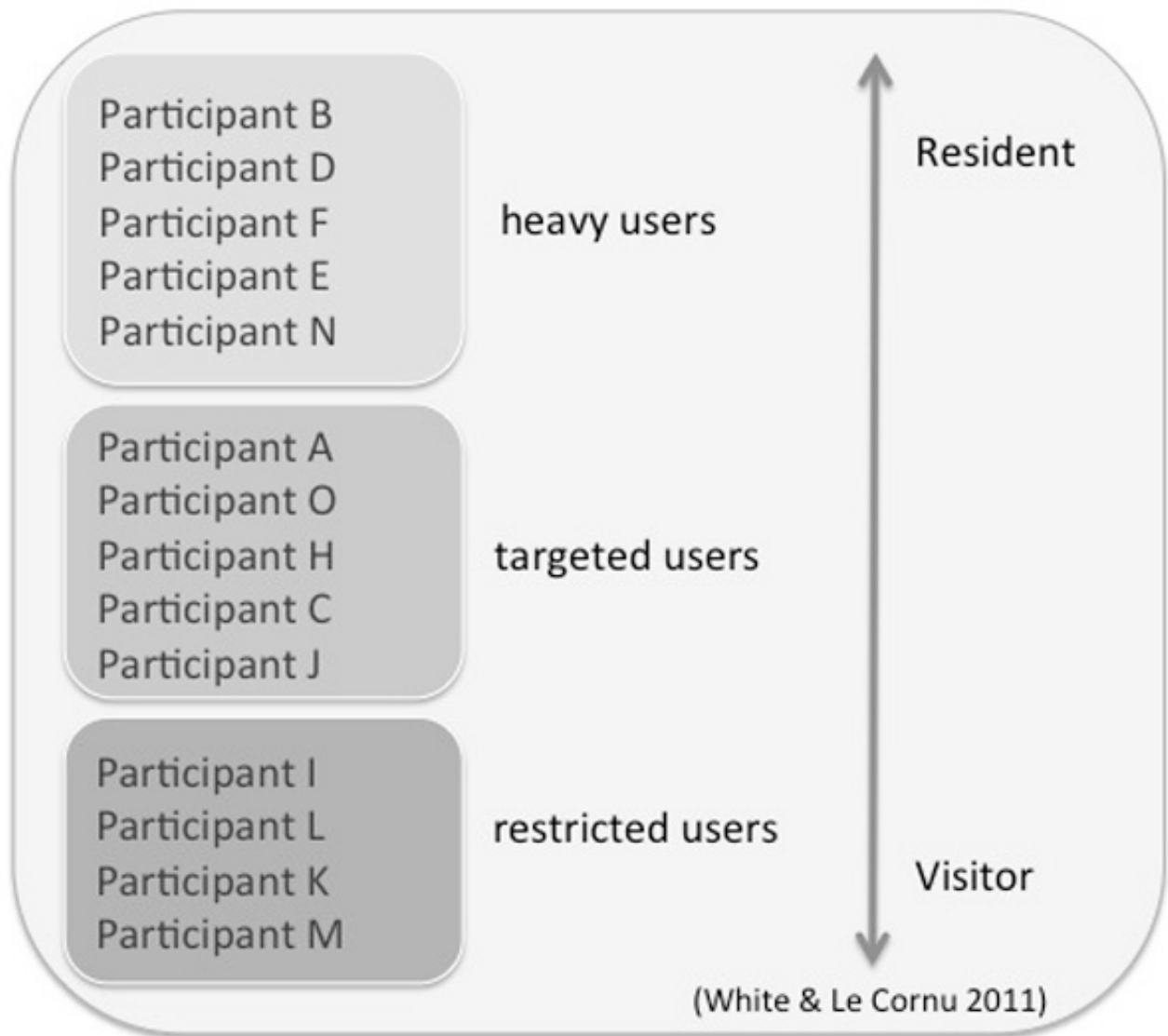
## Discussion of results

### *Types of social media users*

The use of social media by TEL researchers in their professional practice is very heterogeneous and the cases show great diversity in their uptake for professional purposes. Twitter and weblogs are the core instruments for personal Web publishing practice and online profile building. However, interviewees also spoke about their use of social networking sites such as Facebook or LinkedIn.

The social media practice and online presence of the study participants reflects White and Le Cornu's (2011) spectrum of digital residents and digital visitors seen as a continuum. Contrary to Prensky's (2001) much criticized distinction between digital natives and digital immigrants, White and Le Cornu (2011) do not consider users' age or background but rather their motivation and context of usage in their attempt to explore usage patterns. They describe two types of users at the two extremes of a continuum. Visitors, on the one side, are considered as making use of specific tools in specific contexts to achieve certain goals. They have little to no online presence and consider the Web as just another tool. On the other side of the scale, the online residents consider the Web as a place where they live part of their lives, where they meet friends, where they have a specific identity or identities and where they belong to a community or communities. The boundaries between online and off-line get blurred.

The three types of users that emerged from the empirical data, namely the *heavy user*, the *targeted user* and the *restricted user*, can be considered along White and Le Cornu's (2011) continuum from more to less involvement in social media as shown in [Figure 1](#).



**Figure 1:** Visitor and resident continuum of all study participants.

Following a dense description model (e.g., Ziegler, 1998), as common in qualitative research, the findings lend themselves to the creation of three personas, each representing one of the user types. Personas [2] are not real persons but represent archetypical users (Cooper, 2004) described by their specific behavioral patterns and salient characteristics. While this approach has been previously applied in marketing studies and product design, there are current tendencies to combine personas with grounded theory and embed the persona in traceable empirical data (Faily and Flechais, 2011; Johansson and Messeter, 2005). In the following, the three emerging personas – Helen, Tom and Rose – are presented highlighting their social media usage.

*Helen: The heavy user*

Helen is a junior lecturer of educational technology and is especially concerned with the use of social media in secondary education. Her academic background is in education and she has a Ph.D. in educational technology. Her current research focuses on personal learning environments, digital identity, social networking, social networks and the behavior people display in social networking. She has about six years experience in TEL research and she started lecturing around five years ago.

Helen has a very outgoing and communicative personality. She likes to add a personal flavour to her online profile, but is consciously keeping parts of her private life restricted to a close circle of friends and family. Helen considers herself a resident of the Web who is connected all the time, 24 hours a day, seven days of the week. She is herself aware of a certain addiction or dependency on social media. Her family and friends are sometimes complaining about her constant connectedness. Helen draws a lot of parallels between online and off-line behavior, which she observed in her own practice as well as by observing other people's online behavior.

Social media are an integral part of her daily work practice. It is the first thing that she turns on in the morning and she is constantly connected. She has a browser window with all her main social media continuously open: FriendFeed, Flickr, Google Reader and Google Docs. In addition, she is continuously online on Skype, Messenger, Twitter and via e-mail. This is the minimum set of tools that she uses continuously on her computer. On her mobile devices, the iPhone and iPad, the basics are Twitter, e-mail, Google Reader, Google Docs and Dropbox. Helen is also interested in trying out a lot of new tools, from personal as well as a professional interest. She calls herself an early adopter and beta user. Overall, Twitter is her main preferred social media tool and she publishes at least over 10 tweets daily and reaches up to 60 tweets on days of heavy Twitter usage. She tends to tweet work-related content, but mixes it with some more personal statements. In addition to Twitter, Helen also maintains her own weblog where she discusses work-related topics and reflects on her research.

Social media have become an integral part of her life, professional and private. The media penetrate her whole life and she notices a complete fading of boundaries between private and professional usage. For Helen, social media is foremost an information and communication channel. It gives the feeling of being connected and even gives her affective support. She uses social media in a very active way to communicate, collaborate and for self-marketing. Her very active use of social media and her deliberate creation of her own online social identity have importantly influenced Helen's reputation and visibility in the research community. It has increased the size of her network and has made her relationships more intensive. Participating in a worldwide online community is very important for her. For Helen online presence is important for a career in research and she complains about the lack of TEL researchers and TEL projects in social media. She considers personal Web publishing an important part of her work and sees a clear return on investment from her online participation.

*Tom: The targeted user*

Tom is a senior researcher and holds a Ph.D. in information systems applied to collaborative online learning. He has been involved in studying and teaching in the field of TEL for approximately 10 years and is well connected in the community. Currently he is working at a private research organization, being involved mainly in TEL research projects funded by the European Commission. Previously he worked in higher education institutions.

Time is a prominent factor influencing Tom's social media usage. His online presence is very targeted towards specific objectives. Thus Tom accesses social media especially when looking for specific information or when providing information to the community of peers. As time is an important aspect Tom does not spend a lot of time on social media. In addition, he stresses the fact that the majority of people he works with in his TEL research projects do not use social media extensively and thus he misses a social media culture in his close working context.

Tom accesses social media only via his computer, not via any mobile device. The main tool that Tom uses is Twitter. In addition, he has a weblog, which he updates only occasionally. As mentioned above, time is an important factor which influences Tom's social media usage and thus his preferred tool is Twitter. Twitter has a double time saving function for him. On the one hand it is not very time consuming in terms of usage. On the other hand Twitter helps him save time because the information obtained via Twitter is filtered, mainly via social filters. These filters, stemming from trusted sources, save time that he would otherwise have spent on looking for high-quality information. Tom also tries out new tools, triggered by his research interest, but does not use them for personal Web publishing. Finally, he also uses Facebook, where he tries to keep the content and network part of his private life. However, he notes that private and work-related contacts overlap and that there are no clear boundaries. The most important factors for Tom, in using social media, are being able to get quality information in a short amount of time and promoting his own work. When he posts something on Twitter, he is aware of his target audience and also posts things that might be interesting either for his target community or for himself. He refers to this special use of Twitter as a personal "thought repository" and reputation management tool.

Generally, Tom considers that social media have restricted value for his specific career as a TEL researcher, but admits a certain importance for his personal reputation management. He also has a clear professional interest in social media for their potential in education and thus wants to participate. Tom feels that most TEL research projects and certain TEL-related topics are underrepresented in social media.

*Rose: The restricted user*

Rose is a senior researcher and professor at a technical university. She has a background in computer science and has been working intensively in the area of knowledge management and on related topics since completing her Ph.D. She considers herself clearly part of the TEL research community.

The online presence of Rose is very restricted and she does not make any active use of social media for personal publishing. Her Web presence is defined by the information given on her static profile Web site provided by her institution and a number of project websites. Rose is involved in various TEL research projects which she also considers as her main source of online identification. Her main argument for not participating actively in any social media communication is her lack of

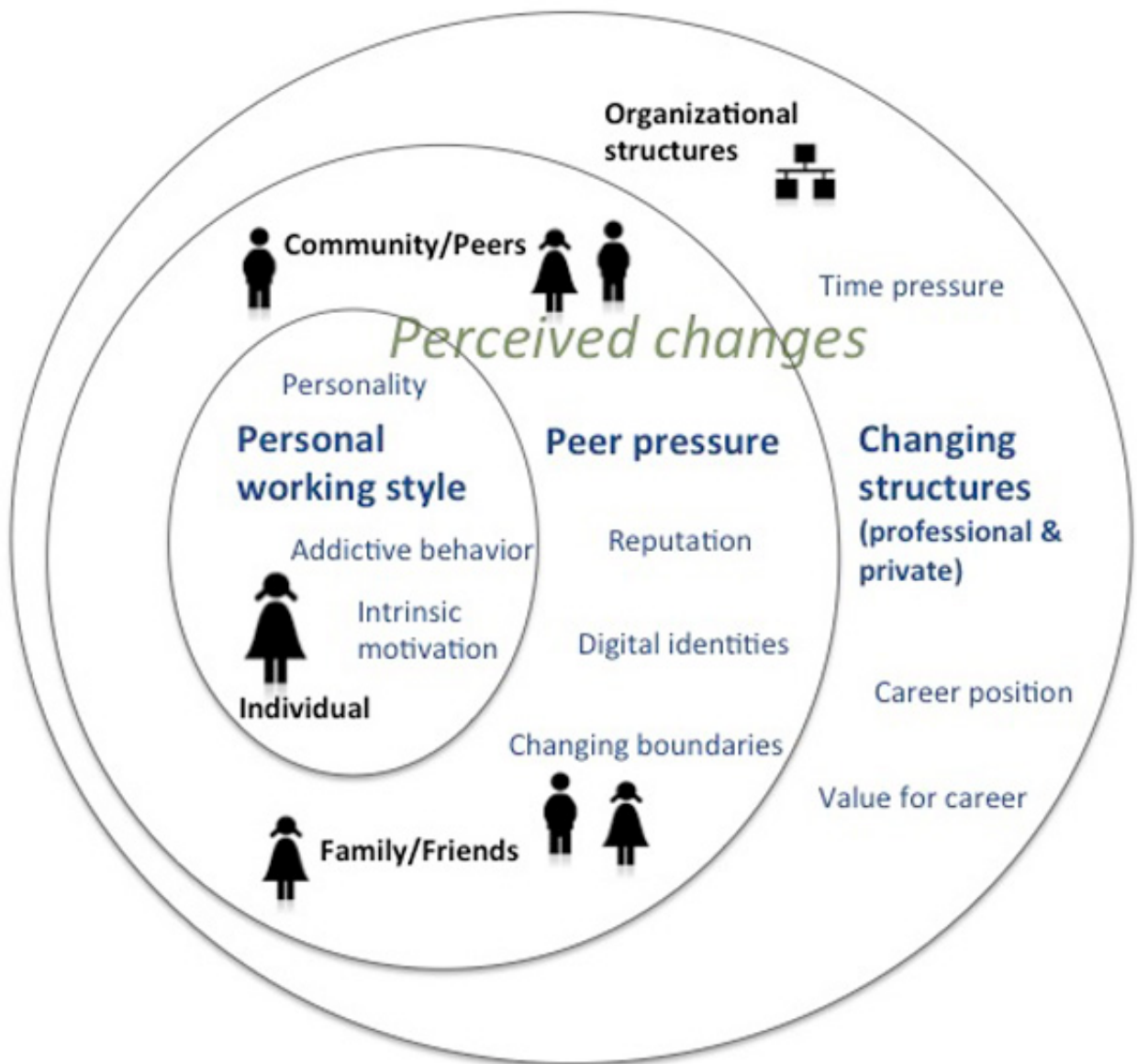
time. She also makes a clear distinction between professional and private life and tries to keep her online profile purely professional. She does not provide any personal/private information online. Rose acknowledges a certain potential to gain reputation in the community by actively using social media and sees it as somehow problematic not to benefit from this. On the other hand she just does not have the time to dedicate to such practice and also has not noticed any great disadvantage so far as she is already very well connected in the academic community.

Rose does not make use of any social media tools for personal publishing or active participation in any online TEL-related networking activity. She makes use of wikis in closed environments, for project work, for internal collaboration at institute level as well as for teaching. E-mail is her main communication tool and she confessed a certain addiction to e-mail. Rose is also registered on social networking sites such as LinkedIn and Xing but, again, the usage of these portals is rather passive. She is not registered on Facebook as she does not like the data privacy policy of the site.

Rose lacks a clear motivation to participate in online personal publishing via social media. The main reasons are that the benefits are not clear to her and on the other hand she lacks time. But there is a certain ambiguity in her statements, as she points out herself that she regrets not being more active on social media and she expresses a feeling that she should be more present online. Due to the nature of her research, which is clearly situated in TEL, where social media have also become one of the popular technologies to be studied for teaching and learning, she has a certain professional interest in trying out new tools. She does not, however, integrate them into her daily work practice. In terms of publications, Rose prefers the traditional/conservative approach of standard publication formats, such as peer-reviewed journals, and prefers exchange with peers during face-to-face encounters at conferences and other scientific events. She does not show any indications towards adapting a more digital scholarly approach in the near future.

#### *Influencing factors for social media usage*

The descriptions of Helen, Tom and Rose reflect the most relevant aspects associated with the researchers' social media usage on three different levels ([Figure 2](#)). Firstly, on the individual level, personality and personal preferences exert a great influence on how the individual researcher makes use of social media. The second level relates to the social embeddedness of the person with regard to the research community, peers, as well as family and friends. Thirdly, the level of organizational structures accounts for the contextual factors that exert an influence on the use of social media.



**Figure 2:** Factors influencing social media practice of TEL researchers.

On the individual level, personal preferences, attitudes, working styles and personality traits play an important role. As described, Helen shows more open and communicative behavior than Rose, who tends to describe herself as less outgoing and shy in her communication style. Previous studies looking into personality types of users reveal similar trends (e.g., Amichai-Hamburger and Vinitzky, 2010). While these authors differentiate, in more detail, five different personality traits and corresponding online communication behavior, two main poles basically emerged from the current study. An inclination towards conservativeness and caution on the side of the restricted users as opposed to the openness and communicativeness of the heavy users can be observed.

The intensity and the way in which social media are integrated into the scholarly practices of TEL researchers are very much questions of personal preferences and personal working styles and there is great variation as to how certain tools are used. On a very general level, one may speak about the conservative approach of restricted users, such as Rose, versus the pioneering approach of heavy users, such as Helen. For heavy users the integration of social media into daily or regular work processes is important. They tend to oscillate between a range of tools they have continuously open during their daily working routines. Social media form an important part of their daily work process or have even changed their scholarly practice as one of the participants reflected on her own weblog: "I think the implications of this are potentially profound." (Participant B). Other researchers, especially those that fall under the classification of restricted users, express a preference for a more traditional or conservative approach to their scholarly practice. Although some of the restricted users still report a targeted use of social media, for example in the context of a specific project, these tools are not part of an integrated daily practice.



Time, which is assigned to the organizational or contextual level in [Figure 2](#), is a very prominent factor that determines the intensity and range of social media involvement. Especially restricted users claim that lack of time is one of the main obstacles affecting their limited participation in social media. Previous studies have likewise mentioned time as one of the main barriers to social media usage (e.g., Moran, *et al.*, 2011; Nentwich, 2009; Procter, *et al.*, 2010). However, targeted and heavy users note that social media have time-saving properties in certain instances. According to Nentwich and König (2012) the time-saving effect stemming from social filters is especially prominent in microblogging practices. Researchers experience information retrieval from trustworthy peers on Twitter as time saving. Hence, the importance of time for social media involvement of TEL researchers has a dual manifestation. On the one hand, the use of specific social media, especially microblogging services, is assigned a positively connoted time-saving property. On the other hand, involvement in social media practice is considered a time-consuming activity, which constitutes a barrier for many scholars as the following statement reveals:

But one could also say that I enjoy it, but I just don't find the time for it and need to neglect it [...] there was a phase when I also regretted that very, very much, but now I suppose I have already grown a thick skin (Participant H).

In the presented data the complaint of lack of time, expressed across all user types, prevails over the more positive effects of time saving experienced by some targeted and heavy users.

Study participants tend to agree that social media participation may contribute positively to the career development of researchers, and especially to those researchers who are still at early stages in their careers. The following statement clearly summarizes this point from an individualistic perspective:

Yes, social media has enormous value for my personal development to stay in touch and to know what's happening; to take part in conversations to know what's going on in the field and also to contribute to it. So it is very important for my personal development and for career development as well (Participant E).

Depending on their position, researchers may however find restrictions when it comes to openly publishing their opinions and thoughts. When a personal opinion is not in line with the institutional policy or when the individual researcher may voice some critical opinion on institutional policies or practices, they may find themselves in a conflicting situation, as one of the interviewees confirms: "[...] definitely your position forces you to maintain some way to publish on the Web. You cannot say whatever you want" (Participant D). The influence that a researcher's position and role in an organization have on their online practice was also confirmed by Costa (2013). According to her current findings, this may even lead to tensions between the institutional expectations and what the individual researcher considers as their academic freedom.

#### *Peer pressure in social media usage amongst researchers*

One of the unique findings of this work is the perceived peer pressure in its various facets and the strategies applied to deal with it. Peer pressure is understood in this context as social influence of members of a peer group leading others to take certain actions or adopt certain practices. Literature on peer pressure in social media is not very abundant and tends to relate to social pressure young Internet users may experience. With regard to the existence of peer pressure in academic communities, there is very little evidence. Only implicit indications can be found in some of the studies that look generally into the use of social media by academics (e.g., in Procter, *et al.*, 2010) or in the study of e-mailing lists (Matzat, 2009).

Peer pressure is noticeable in many different facets and on different levels. It is an issue, conscious or unconscious, for all interviewees, be it heavy users or researchers with very limited social media practice. One of the most obvious indications of peer pressure is the awareness about the limited involvement of TEL researchers in online discourse via social media. There seems to be an agreement amongst study participants that TEL researchers, at least in Europe, do not show as broad a representation in online social media as they should. TEL-related communication on Twitter, weblogs, etc., still seems to be dominated by a few pioneers, while others are either lacking clear motivation or experiencing personal and structural boundaries in entering the public stage. As we saw in the case of Rose, many tend to rely on more traditional means of research practice, such as traditional journal publications or face-to-face encounters at conferences and specific project meetings. Nonetheless, she shares the feeling that participation in social media is important, in general for TEL researchers, as well as for her personally. One of the participants even defined their low online presence as problematic as exemplified by the following statement:

My Web presence is rather low and that might be a problem. I also see it as a problem. I am not so much into this kind of self-marketing and this is something where I should probably improve (Participant I).

Peer pressure is exerted either directly or more often indirectly and unconsciously. In our data it is

mainly the heavy users who exert peer pressure, as they seem to be convinced about the benefits and even the necessity of being part of a global online social network. These are the evangelists within the community. The frequent users are also the most enthusiastic ones according to Procter, *et al.* (2010). Heavy users, such as Helen, tend to convince their peers, mostly their close colleagues or collaboration partners, about the advantages of social media for their professional lives. Although she admits a certain tendency towards addiction she sees social media as something great and indispensable for academic work today and wants to convince others about the positive aspects of social media. In addition, she also exerts peer pressure in more subtle ways. By suggesting specific tools to colleagues and collaboration partners she gets others to adapt to her preferred tool and practice of collaboration.

Peer pressure is perceived in different ways. Awareness about a potentially big audience itself puts certain pressure on the individual once they decide to enter the public scene. Some people have great expectations regarding the quality of their contributions and thus they project this quality request onto others. However, expectations may turn into disappointment if the author does not receive any reaction to their Web publishing efforts. If a post does not trigger any response, disappointment may set in and the activity might be dropped. One interviewee reported on her experience of maintaining a weblog for a while and how she gave it up again because she did not receive the expected feedback on her posts.

Another type of peer pressure has become noticeable when people are confronted with the increasingly blurred boundaries between private and professional networks. All interviewees seem to be very aware of the audience they are addressing. This awareness, however, may put certain constraints on the content that is being published. Some authors want to add a personal flavor to their tweets while they need to be very cautious about what is being revealed to whom. They want to have presence online, but they also want to separate their professional life from their private life and find themselves in a personal conflict. The awareness of different audiences may restrict the individual researcher in their online publishing behavior as one participant confesses:

And then it was also that those people, who then, where I used to get work-related information, started to publish also private messages, which is OK and which is nice — don't get me wrong on this — but it is really not relevant for the professional purpose. For me, these Web 2.0 tools lost their relevance in the sense that the information they deliver is so motley and then you cannot process this information anymore or otherwise the information may not be relevant for the specific purpose. That is the professional part, yes (Participant K).

Although some researchers deliberately add a personal flavor to their postings, their peers may not be interested and actually demand a clearer separation between private and professional posts. It can even have a negative effect when exposing too much private life. A small anecdote from the interviews exemplifies this very nicely. One of the interviewees, a heavy user, boasted about his social media use and the ways his very active personal Web publishing practice had already gained him some — presumably positive — reputation in the community. At the same time another interviewee, a restricted user, was complaining about this specific heavy user and his publishing style, saying this person had lost his reputation in the community for being too prominently online, for careless posts and for blogging about personal activities that interfere with professional commitments. Clearly, in this case the two perceptions of how active online participation, combining professional and private contexts, can influence one's reputation are completely contrary. Digital identity management can be seen as an attempt to avoid such clashes of contexts.

#### *Digital identities: A strategy to cope with peer pressure*

How do individuals deal with the perceived peer pressure? Digital identity management and the maintenance of distinct digital identities seem to play an important role in this respect.

As danah boyd already outlined in 2002, when social media were in their infancy, people maintain multiple accounts to manage context online and to regain control and privacy. By creating multiple e-mail addresses or personas in discussion forums people present different facets of themselves which would otherwise be provided by contextual clues in the physical world. Although Facebook and Twitter did not exist at the time of her study, boyd had already foreseen a dilemma for people wanting to manage separate facets of their own in an online world. Certain technological advancements create a sense of urgency among users to integrate their various accounts and want to reveal a unique online profile (boyd, 2002). Facebook or Google are typical examples of platforms where users are urged to merge their various accounts into one single user profile that becomes increasingly transparent.

In the context of this study the participating TEL researchers revealed various digital identity management strategies reflecting their overall online behavior. Peer pressure and the awareness of audience draw people's attention to their digital identity and the creation of multiple digital identities addressing different target groups. Being aware of their respective audience(s) on different social media and the need for privacy and trust have a strong influence on how the study participants manage their digital identities. One participant summarizes it the following way:

Awareness of audience is very important for social media. One of the key things of social media is that you have to work out what your digital identity is going to be and to what extent you are going to be humorous or serious and to what extent you are going to be open and talk about all aspects of your life. [...] I tend to be very open. I post a lot of personal things as well as professional ones and so I think we need to work out our digital identity and be aware of the audience; sometimes you are posting particularly to get the attention from someone and other times you post more generally and the fact that people could not like statements shows that they are talked about or you get people commenting and stuff (Participant B).

Basically, participants revealed various approaches to digital identity management, ranging from those researchers who intend to create one unique online profile to those who manage multiple identities, and finally those who try to maintain a rather restricted, static online profile. Experts refer to this flattening out of distinct audiences and subsequent merging into one group of message recipients as "context collapse" (Vitak, 2012). Since the interviewees tend to be very aware of this collapse of contexts they have developed different strategies to cope with it.

The most prominent differentiation participants make with regard to their digital identities is between a private and professional audience. While in e-mail communication it is still rather easy to switch between different accounts, such as professional or private, the management of multiple identities becomes increasingly difficult on social media where you are often faced with a global audience. Boundaries between professional and private networks are fading. A typical example of a platform for which it is necessary to deal with context collapse is Facebook. There is a tendency amongst the participants to use Facebook for their private network and other social media, such as Twitter or weblogs, for their professional networks. However, all participants in this study who try to practice this approach confirmed that the boundaries are increasingly blurred and they have difficulties in keeping their private digital identity purely restricted to their family and friends.

Instead of struggling with the fading boundaries between professional and private identity management some researchers deliberately decide to reduce the visibility of their private life online. Various participants stopped using Facebook and deleted their profiles. A main motivation for this step was clearly a wish for more privacy, either for themselves, or also possibly for others. As one participant put it: "I was feeling that I was looking at things that I was not supposed to look at" (Participant E).

Another strategy, mainly followed by restricted users, such as Rose, is to show reduced online presence and maintain a rather static digital identity. This static representation of a profile is usually presented in the form of a static Web page, typically managed by the institution. Researchers following this strategy may be regarded as not giving in to the peer pressure they are experiencing. This resistance may however also have unintended consequences. As one participant expressed it: "If you chose not to be part of this social media you have to be aware of the impact that it has on your presence in the community" (Participant B). While losing visibility in the community could be one consequence of ignoring peer pressure, Barbour and Marshall (2012) speak about another undesirable effect stemming from not participating online. They call it the "uncontainable self", meaning if you do not participate and do not construct your online identity others may do it for you and you cannot be sure if it is a positive or negative image others create of you. In a similar vein, Weller (2011) warns about a possible loss of ownership.

Hence, individuals construct their identities in reaction to specific contexts and their networks. There is some evidence that the construction of digital identities amongst TEL researchers is not purely voluntarily or self-motivated but rather forced onto them by the dynamics of the community. We find confirmation in related research which attempts to reveal the mechanisms of digital identities. A number of contemporary scholars relate this behavior of identity construction to the work of Erving Goffman, who, in 1959, used a theatrical metaphor to describe how individuals perform their identities in social interaction. Identities are thus constructed and re-constructed depending on the specific audience and the specific context or stage. While Goffman (1959) referred to identity construction purely in the physical world, experts seem to agree that the shaping of identities online follows a similar pattern (boyd, 2002; Pearson, 2009; Pepe, *et al.*, 2012; Vitak, 2012). People show different facets of their identity in a given situation, which leads to fragmentations of their social identities (boyd, 2002). Just as in the physical world, the management of these different facets may become difficult when contexts collapse. In the case of this study, many of the interviewees were struggling with the fading boundaries between their professional social network and their private contacts. Facebook would be a typical stage where contexts collide, which obviously causes some unease amongst members of the target group.



## Conclusions

Tensions and conflicts are typical phenomena in times of change and today researchers clearly find


themselves confronted with a number of changes triggered by the possibilities of digital scholarship. Transformations are taking place on various levels and new practices emerge. This may create a conflict between modern and conservative approaches to research scholarship. While it may be considered a personal choice of a researcher to embrace the new digital practices or not, the uptake of social media also has to be seen in its disciplinary context. Costa (2013), for example, stresses the different collaborative nature of the various academic disciplines and concludes that the online practices of academic researchers typically represent the different practices and conventions defined in each particular research discipline. This study set out to question the value of social media for the personal careers of researchers in the specific field of TEL, which constitutes a very particular disciplinary context. In TEL research there is clearly not one single discipline dominating. Actors come from very diverse fields of research. What commonly defines this specific target group is a genuine scientific interest in educational technology, which implies a certain basic digital media savvy. Maintaining an online presence is considerably easier if a given academic is teaching on or researching the media (Barbour and Marshall, 2012).

The present study contributes to our understanding of how researchers in the field of TEL deal with the increasing pressure that is emerging within the academic community to adopt social media practices and increase their online presence. Across the different user types, peer pressure leads to a strong awareness of audiences and also results in different strategies for dealing with digital identities and context collapse. The strong awareness of multiple audiences may be typical for this specific target group since TEL researchers are scientifically engaged in the use of the latest information and communication technologies for education and related digital literacy. Still, the distinct approaches to online presence and identity management are closely associated with the researchers' perceptions of the status of social media in the community and across their peer network.

While this qualitative approach brought genuine insights into social media practice within the specific target community, a complementary quantitative study could provide a more complete picture of the current situation of social media take-up by TEL researchers. A broader approach would be needed to identify and describe potential transformation processes on a community and organizational level. Whereas this study described particular practices of individuals, it gives only limited insights into how far, in quantitative terms, such behavior has already penetrated and changed the academic practice of the target group. Overall, the perceived peer pressure can be interpreted as one indicator for a certain level of penetration of social media practice. More quantitative data on the diffusion of social media would be necessary to provide a more complete picture of the current situation.

Apart from the fact that a purely qualitative approach was taken in this study, the phenomenon was only approached from an individual perspective. Influential factors emerged, however, not only on the personal, individual level but also on a community, organizational and structural level. It seems worth following up on these aspects from a different stakeholder perspective. Additional insights might be gained from exploring contextual factors that are changing and influencing individual practice in specific environments. One might consider institutional or organizational views on the implementation of social media in academic practice. The focus of impact may even be expanded to other stakeholders such as the scientific publishing industry or the broader public as an increasingly important target audience of scientific communication.

Another potentially stimulating line of research worth being followed up relates to the encountered influence of personality traits on the social media engagement of individuals. The data in this study combined with findings from other scholars seems to indicate that extroverted people may have an advantage over introverts in terms of online reputation. However, more research would be necessary to make any such claims about whether the benefits of social media usage are greater for people with certain character types and whether personality traits really play a critical role in this process. Further investigations into the influence of personality on social media involvement may not only expand the scientific knowledge base in theoretical terms but might even be of relevance for the practical implementation of digital scholarship.

Finally, the aspect of peer pressure, a genuine outcome of this study, could be given more scientific attention in future related research. More intense studies across other target groups and for longer terms may add valuable insights on the on-going convergence of social spaces and media practices. The possibilities for interaction of peers are clearly expanding with the convergence of technologies as Papacharissi (2013) contends. The social dynamics of these new spaces and practices remain still somewhat unclear and provide an exciting field of research as they are emerging. 

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## Notes

1. Priem and Hemminger, 2010, p. 5.
2. Sometimes also referred to as *personae*.

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