This article focuses on practices of online content creation among young Internet users in Estonia. The data are derived from a questionnaire survey carried out in schools in 3 cities in autumn 2007 (N = 713) among 11- to 18-year-old students. Our findings suggest that content creation practices in more structured online environments such as social networking sites, forums and news portals are much more widespread than practices in less structured technical interfaces such as blogs and homepages. Cluster analysis brought out 6 types of young content creators. We conclude that active and versatile content creation in less structured online environments contributes more to advancing media literacies than participation in more structured technological interfaces does.

doi:10.1111/j.1083-6101.2009.01489.x
constraints, regulations, and norms. Hence, content creation practices in diverse online environments vary according to the degree of agency and freedom exercised by people engaged in user-led content production. This opens up an analytical horizon for having a deeper insight into the overarching category of “online content creation”.

Online content creation practices of young Internet users in Estonia are rooted in high Internet penetration among the Estonian population. Internet usage is particularly high among the young generation, reaching 97% among 15- to 19-year-olds (Pruulmann-Vengerfeldt, Kalmus & Runnel, 2008). This phenomenon owes much to several policy decisions in the field of ICT and education that were made during the period of Estonian transition. Bringing computers and Internet connection to schools has been among governmental priorities since 1997. Also, together with the market liberalization and abolishment of state monopoly in the telecom sector, the Internet entered homes quickly, especially families with children.

This empirically oriented article focuses on different practices of online content creation (profiles on social networking sites, blogging, personal homepages, participating in forums and commenting news) among teenage Internet users in Estonia. Previous analyses of creative online practices have mostly focused on one particular type of activity (for instance, blogging or social networking sites). The aim of this paper is to look at content creation practices in the context of empirical relationships among them, rather than as individual practices. We will analyze what kind of content creation practices are predominant among teenagers, to what extent certain activities are mutually exclusive and to what extent they can coexist in young people’s lives and communication habits. Additionally, we will look at students’ attitudes, opinions, and experiences regarding some content creation activities as well as their reasons for being or not being engaged in creating content online. We will also present a typology of young online content creators.

Background
“Generation C” and Produsage
Several authors (Bruns, 2006, 2007b; Burgess, 2007; Livingstone, 2004) have been talking about a continuing “paradigm shift” brought along by the new generation of Internet users who have been named as the “digital generation” (Papert, 1996), the “Net generation” (Tapscott, 1998), or the “digital natives” (Prensky, 2001). These classifications, however, cannot be taken for granted. Susan Herring (2008), for example, has criticized the notion of generational divide as being constructed by adults themselves, that is, new media producers, journalists and researchers. The labels are also problematic because they apply a too-powerful role to technology and a particular medium (cf. Buckingham, 2006).

Although the critical debate about these generational classifications has been quite active in recent years, yet another term, originally coined by the international public relations speaker Trendwatching.com, was brought to the academic field by
Axel Bruns (2006). According to this notion, the new group of Internet users is called “Generation C,” where C stands for both “content creation” as well as for “creativity” more generally (Trendwatching.com, 2004–2005). Youngsters belonging to “Generation C” have managed to create a wide array of alternatives for traditional content creation areas and introduced user-led content creation to various online environments. According to Lenhart, Madden, Macgill and Smith (2007), 64% of 12- to 17-year-old teens online are engaged in at least one type of content creation. This age group is especially active in keeping blogs, playing multiuser online games, sharing files, and contributing to online journalism as well as to various creativity websites like Flickr or YouTube.

These new possibilities for creating content have also changed the understanding of the concept of consumer of the content or audience. Alvin Toffler (1970) first envisioned this change by introducing the term “prosumer” to describe the blurring of difference between producers and consumers. More recently, Henry Jenkins (2004) has elaborated the discussion of the merging roles of producers and consumers in the larger context of media convergence. We, however, prefer to use the concept of “produser,” introduced by Axel Bruns (2007b), to emphasize the role of user rather than that of consumer. The term implies that members of “Generation C” are no longer just passive readers or users of online content but they “occupy a hybrid, user-and-producer position” (Bruns, 2007b, p. 3).

User-led content production, collaborative engagement, evolutionary development, heterarchical community structures, and alternative approaches to intellectual property are all the common traits of produsage (production + usage) that occurs in various instances and environments. In other words, “produsage demonstrates the changed content production value chain model in collaborative online environments: in these environments, a strict producer/consumer dichotomy no longer applies” (Bruns, 2007a, p. 4).

“Generation C,” however, is not ubiquitous. Globally, “most children are not growing up digital” (Tapscott, 1998, p. 12). There are several very powerful political, economic, social, and cultural factors, among them religion, ethnicity, social class, and gender, as well as individual differences that are intervening with the developments outlined above (Tapscott, 1998). Moreover, international research suggests that creative work of 12- to 18-year-olds is limited: only few young people develop their own web sites or blogs, and these products can easily become dormant (MEDIAPPRO, 2006; see also Kanoh, 2008; Lenhart et al., 2007 for similar findings). There is a “participation gap” in user-led content creation, as the majority of the people usually prefer to “lurk around” than to participate actively (Jenkins, 2006, p. 23; cf. Nielsen, 2006). Thus, empirical data from different countries suggest that the notion of “Generation C” and its equivalents have to be used with necessary caution and criticism.

Previous research in Estonia, based on representative survey data from 2005 and 2008, has shown that young Internet users (aged 15 to 19) are, compared to older age groups, most active in all kind of practices of online content consumption.
and creation (Pruulmann-Vengerfeldt et al., 2008; Kalmus, Keller, & Pruulmann-Vengerfeldt, 2009). According to the same surveys, however, teenage Internet users in Estonia tended to be predominantly passive content consumers. Orientation towards audiovisual content (uploading photos and downloading movies and music) was strong among this age group, while more sophisticated activities in terms of digital literacy (for instance, updating one’s blog or homepage) were less common. Thus, against the background of older age groups, Estonian teenagers may be distinguished as “Generation C” while acknowledging that the consumer/user aspect is still more predominant than that of producer in their online practices.

Creativity in Online Content Production

In conceptualizing produsage, one of the central concepts is creativity. Also, in media education research, a paradigm shift has been taking place since the 1980s. Creativity, along with communication and production skills, access to media and media content, and the critical ability to decipher media messages, now tend to be seen as central components of media literacy (Zacchetti & Vardakas, 2008, p. 119).

Nevertheless, the concept of “creativity” has been used rather vaguely in the context of media education and media literacy. Buckingham (2003) has pointed out that the usage of the term in educational programs often seems to imply a romantic conception where creativity is seen in individualistic terms, as the emanation of some kind of “personal vision”—a matter of an authentic “self” finding its “expression” (Buckingham, 2003, p. 127–128). Academic approaches to media literacy, however, increasingly recognize the social, collaborative dimensions of creative production, theorizing about media literacy in the form of a social theory.

The social approaches to media literacy also stress the complex relationships between “creative expression” and “technical skills,” and the importance of reflection and self-evaluation (Buckingham, 2003, pp. 127, 128). Relying on his studies with young people, Buckingham argues that student production is inherently and necessarily social, both in the sense that it is generally collaborative and in the sense that it uses socially available resources (“languages” and genres) for meaning making (2003, p. 137).

Creative activities online are related also to other concepts, relevant in the current discussion. It can be argued that “Generation C” and its produsage habits are a perfect example of putting Tim Berners-Lee’s concept of “intercreativity” (1999) into practice. That is, rather than just being interactive and using the possibilities that are made ready for them, the “intercreative” Generation C uses the potential of the Internet to the fullest by communicating, collaborating and creating together.

One may also use Jean Burgess’ concept of “vernacular creativity” to refer to “one way of looking” [italics original] at everyday cultural production that makes sense in the context of contemporary transformations in culture and new media technologies” (2007, p. 29). According to Burgess, vernacular creativity, that is, the creative content produsage by “ordinary” people online, is making a significant contribution to the cultural public sphere.
In this way, Burgess puts creativity in the service of effective social communication. She sees vernacular creativity as a productive articulation of consumer practices and knowledge (of, say, television genre codes) with older popular traditions and communicative practices. Accordingly, one of the most useful questions cultural studies can ask about new media is: Which technologies, practices and forms most effectively communicate vernacular creativity (Burgess, 2007)?

The connection between creativity and various content creation environments online is related to the complex relationships between creative expression and technical skills. John Quiggin (2006, p. 485), when discussing content creation environments like blogs and wikis, points out that from the point of view of innovation, the subtle differences between blogs and static websites are crucial. Blogs have provided ordinary people with no special skills or capital a vast range of opportunities for publishing all kinds of materials. Most obviously, the openness of these media allows for innovation in the content and style of the uploaded text and other materials. This, in turn, produces new genres of writing, as models based on pre-existing media turn out to be inadequate.

Other approaches to creativity point out that multiple components must converge for creativity to come into being. M. Csíkszentmihályi and I. S. Csíkszentmihályi (1988) take a “systems” model approach to creativity, according to which creativity is a result of the interaction of the individual person who uses the symbols of a given domain, has a new idea or sees a new pattern; a domain consisting of a set of symbolic rules and procedures, and a field which contains all individuals who act as gatekeepers to the domain. An individual draws upon information in a domain and transforms or extends it via cognitive processes, personality traits, and motivation (Csíkszentmihályi, 1996). This novelty, presented by the individual, has to be selected by the appropriate field for inclusion into the relevant domain. Creativity is, thus, something inherently social, emerging from mutual interaction with others. This definition of creativity also sees it as an essential part of innovation and invention. Available (cultural) resources (genre conventions, shared knowledge) “are recombined in novel ways, so that they are both recognizable because of their familiar elements, and create affective impact through the innovative process of this recombination” (see Burgess, 2007, p. 37).

Structure and Agency in Online Content Creation

The variety of online content creation can also be described by means of the theoretical notion of structure and agency. The concept of agency has been associated with a long list of terms including freedom, creativity, self-hood, choice, motivation, will, initiative etc. (Emirbayer & Mische, 1998). According to Anthony Giddens, the most important aspects of structure are resources and rules, which implies that “structure is always both enabling and constraining, in virtue of the inherent relation between structure and agency” (Giddens, 1984, p. 169). We find a number of similarities between the notion of agency and structure and Csíkszentmihályi’s systemic approach to creativity that focuses on the interaction between the individual,
a domain, and a field. Both theoretical notions, when applied to content creation, allow assuming that youngsters’ creative online practices are, on the one hand, enabled and encouraged by existing online spaces and communities and, on the other hand, regulated and constrained by the structures of technological interfaces as well as by social norms and expectations that prevail in online communities and peer cultures. We have depicted this dual relationship as a heuristic model (see Figure 1).

In many instances, it is impossible to delineate clear dominance of structure over agency or vice versa. Speaking about the structural aspect of online activities, Sonia Livingstone observes that teenagers acting on social networking sites “are constrained in two ways: first, by the norms and practices of their peer group and, second, by the affordances of the technological interface” (Livingstone, 2008b, p. 400). Susannah Stern also names social networking websites and commercial software packages as the main examples that encourage personal expression mainly “through fill-in-the-blank templates” (2008, p. 101). In addition, Livingstone brings various information resources and commercial sites as examples of “textual closure rather than openness” that can be described as “acting in effect as walled gardens” and thus “tend to discourage the very exploration that a network structure could and should afford” (2008a, p. 116). Livingstone, however, argues that in terms of affordances, “social networking sites frame but do not determine” (2008b, p. 403). She ascribes greater importance to young people’s peer culture, observing that partial neglect of social networking site affordances (e.g. blogs, forums or groups) by interviewed teenagers “reflects the shaping role of social expectations in the peer group” (Livingstone, 2008b, p. 407).
According to Rebekah Willett, “young people’s voices online can also be seen as highly constrained and constructed through particular discourses” and therefore she claims, “young people’s agency is nevertheless framed within commodified spaces” (2008, p. 56). Following Nikolas Rose’s (1999) ideas, Willett goes on to argue that “online spaces are framed by a kind of compulsory individuality, where the ‘freedom’ to express oneself becomes a requirement, which then allows identities to be managed and regulated” (2008, p. 56).

Nevertheless, new media literate youngsters have found a way to exploit the security holes of SNS, e.g. MySpace, in order to personalize their profiles by adding multimedia links and changing the backgrounds of their profiles (boyd, 2008, p. 128).

In summing up all those ideas and observations we suggest that young people may be engaged in two types of discursive practices in online content creation: contributing to reproducing existing norms and discourses, and modifying those discourses by inventing new forms and conventions of self-expression and social interaction (cf. Fairclough, 1992).

**Comparing Content Creation Environments**
The relationship between different online environments (homepages, blogs, community sites, various SNS environments, etc.) and users’ creativity is complex. We may suppose that the more flexible and usable the software and the more hybrid the web format, the more possibilities for creative uses it entails, as it can be applied to a larger variety of people’s daily communicative challenges and needs. This may result in a bigger number of genres connected to one particular online environment. At the same time, however, flexibility of the software does not necessarily trigger creativity, as creativity can occur also in technologically more structured environments. If we conceptualize creativity as something happening in the interaction of an individual’s thoughts and her social environment, creativity is not determined merely by the creative freedom of the individual. The question of the relationship between creativity and technological structures is rather a question about the nature of the interrelationship between the expertise and literacy of the individual user, the norms and expectations deriving from her social environment, and technological structure.

It has been claimed that “both structural and content features of online communities affect individuals’ intent to participate in the community” (Wise, Hammann & Thorson, 2006, n.p.), as is the case, for instance, with commenting in forums. Furthermore, research on blogs suggests that the use of blogs is “framed by the three structural aspects of rules, relations, and codes, which in turn are constantly (re)produced in social action” (Schmidt, 2007, n.p.). For instance, positive feedback (sympathy, support, or encouragement) from readers has been found to be one of the major reasons to continue writing (Miura & Yamashita, 2007).

In order to compare static web pages, blogs, and asynchronous CMC, Herring, Scheidt, Bonus, and Wright (2004) focused on three dimensions: frequency of updating, symmetry of communicative exchange, and multimodality. They depicted
the relationships among the three online environments schematically as a continuum, placing static web pages at the one end of the axis as the most fixed and leaving the constantly updated, asynchronous communication based web environments such as discussion forums at the other end of the axis. Blogs, which rely more on asynchronous exchange, are placed in the middle of the axis. Various other studies have investigated also the phenomena related to multimodality in various online environments such as blogs (Pedersen & Macafee, 2007; Trammell, Tarkowski, Hofmokl & Sapp, 2006), personal homepages (Park & Thelwall, 2003), SNS (Kim & Yun, 2007), and dating websites (Ellison, Heino & Gibbs, 2006).

In the following empirical analysis, we will provide a detailed description of Estonian youngsters’ activities in different online environments where content creation occurs. We will focus on five environments (SNS, forums, news portals, blogs, and personal homepages) that differ from each other in terms of the technical interface, the level of skills needed from users, multimodality of the content, peer-group pressure over the content, the author’s control over agenda, frequency of updating, and symmetry of communicative exchange. In very broad terms, we differentiate between more technologically structured environments (such as SNS, forums, and news portals) and the respective practices where content creation is more constrained by pregiven formats and limitations of the interface, and less structured environments (such as blogs and homepages) and the respective practices.

Methodology

The data are derived from a questionnaire survey “Youth and the Internet” carried out by Institute of Journalism and Communication of University of Tartu. The survey was conducted in schools with Estonian as the language of instruction in three cities in Estonia (Tallinn, Tartu and Pärnu) in autumn 2007 (N = 713) among 11- to 18-year-old students. The distribution of students by level of schooling was as follows: 34% in grades 6–7 (mean age 12.6 years), 32% in grades 8–9 (mean age 14.6 years), and 34% in grades 10–11 (mean age 16.5 years). The sampled schools included primary schools and gymnasiums, municipality schools and private schools, smaller and bigger schools in terms of the number of students, and more and less prestigious schools in terms of the assumed quality of instruction and the level of competition for entering the school. Due to limited resources, it was not possible to draw a fully representative sample of the student population in Estonia; by selecting the schools according to the aforementioned stratifying criteria we, however, attained the sample that represents Estonian-speaking urban student population reasonably well.

The survey was carried out in the form of a paper-and-pen questionnaire during 1 academic hour in the sampled school classes. We decided to use paper questionnaires instead of an online survey to avoid biased results that might have stemmed from a self-selected sample of respondents. All students present in class at the time of the survey participated in the study.
The questionnaire included 316 indicators, among them the measures of students’ online activities, attitudes, and opinions on the Internet; reasons for being or not being engaged in online content creation; and self-evaluated computer, Internet, and English-language skills. Engagement in seven creative online activities was measured on frequency scales ranging from “0–never” to “4–almost every day” in case of updating one’s SNS profile, adding postings to one’s blog and updating one’s homepage, and from “0–never” to “2–often” in case of commenting on forum topics, posing topics in forums, commenting on news, and commenting on blog postings. Based on the seven indicators, we composed the sum index of the activeness in online content creation: being engaged in an activity “often” (or “almost every day” or “once or twice a week”) added two points to the index, being engaged “sometimes” (or “once or twice in a month” or “less often”) added one point (the score range of the index was 0–14).

We used the analysis of frequencies and comparison of means in processing the data. Also, we analyzed answers to open-ended questions about the reasons for being or not being engaged in content creation activities. In order to find out the types of content creators we carried out cluster analysis by using seven indicators of online content creation as input variables. Two-step cluster analysis was most suitable to our purposes by providing the clearest and best interpretable solution.

Results

Online Activities
Practically all Estonian schoolchildren, aged 11 to 18, use the Internet: in our sample, 99% of the students spend at least some time on their typical days online.

We studied the frequency of being engaged in 33 different Internet activities, a selection of which is aligned in Table 1 according to the popularity of the activity (based on the proportion of students who are engaged in the activity at least several times a year or sometimes).

One can find the activities related to communication, entertainment, and searching for information at the top of the chart. The most popular activity and also the one the youngsters are most often engaged in, is communicating via the MSN messenger. It should also be noted that discussing school-related matters with one’s friends and peers or asking for as well as giving advice and help regarding homework are very popular and frequent Internet activities among the youngsters.

Downloading audiovisual materials (music and films) from the Internet is very popular among the students. Downloading study materials and term papers is less often used; however, the opportunity is seized by a considerable number of respondents (73%). Also, the students themselves often create audiovisual texts in order to publish them on the Internet: 88% of the youngsters upload photos and pictures and 62% upload videos. Texts are less often uploaded (43% of the students upload term papers and other kind of homework, and 24% of the youngsters upload one’s own poems or stories).
<table>
<thead>
<tr>
<th>Place in the chart</th>
<th>Activity</th>
<th>Is engaged in</th>
<th>Is often engaged in</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Communicates via the messenger</td>
<td>96.8</td>
<td>89.4</td>
</tr>
<tr>
<td>2</td>
<td>Downloads music, films</td>
<td>94.4</td>
<td>72.5</td>
</tr>
<tr>
<td>3</td>
<td>Discusses school-related topics with peers and friends</td>
<td>93.0</td>
<td>69.1</td>
</tr>
<tr>
<td>4</td>
<td>Sends e-mails</td>
<td>92.2</td>
<td>40.4</td>
</tr>
<tr>
<td>5</td>
<td>Uses search engines</td>
<td>91.7</td>
<td>73.8</td>
</tr>
<tr>
<td>6</td>
<td>Asks for or gives advice and help regarding homework</td>
<td>91.5</td>
<td>58.0</td>
</tr>
<tr>
<td>7</td>
<td>Uploads photos, pictures</td>
<td>87.9</td>
<td>41.9</td>
</tr>
<tr>
<td>8</td>
<td>Reads comments accompanying news</td>
<td>82.2</td>
<td>16.8</td>
</tr>
<tr>
<td>9</td>
<td>Visits Internet forums</td>
<td>74.4</td>
<td>52.9</td>
</tr>
<tr>
<td>12</td>
<td>Downloads study materials, term papers</td>
<td>73.0</td>
<td>12.2</td>
</tr>
<tr>
<td>15</td>
<td>Uses the SNS Rate.ee</td>
<td>70.0</td>
<td>57.3</td>
</tr>
<tr>
<td>18</td>
<td>Uploads other materials</td>
<td>62.3</td>
<td>23.7</td>
</tr>
<tr>
<td>19</td>
<td>Uploads videos</td>
<td>61.7</td>
<td>18.1</td>
</tr>
<tr>
<td>20</td>
<td>Comments on forum topics</td>
<td>61.4</td>
<td>19.6</td>
</tr>
<tr>
<td>21</td>
<td>Updates information or photos on one’s Rate.ee profile</td>
<td>59.9</td>
<td>10.8</td>
</tr>
<tr>
<td>23</td>
<td>Poses topics in forums</td>
<td>49.9</td>
<td>8.8</td>
</tr>
<tr>
<td>24</td>
<td>Makes co-operation projects with others</td>
<td>45.6</td>
<td>9.4</td>
</tr>
<tr>
<td>25</td>
<td>Comments on news</td>
<td>43.1</td>
<td>3.4</td>
</tr>
<tr>
<td>27</td>
<td>Uploads term papers or other homework-related materials</td>
<td>42.5</td>
<td>5.5</td>
</tr>
<tr>
<td>30</td>
<td>Uploads one’s own stories and poems</td>
<td>24.0</td>
<td>4.7</td>
</tr>
<tr>
<td>31</td>
<td>Comments on blog postings</td>
<td>23.5</td>
<td>2.2</td>
</tr>
<tr>
<td>32</td>
<td>Updates one’s homepage</td>
<td>18.0</td>
<td>6.4</td>
</tr>
<tr>
<td>33</td>
<td>Adds postings to one’s blog</td>
<td>15.5</td>
<td>5.5</td>
</tr>
</tbody>
</table>

In general, content creation practices in more structured technological interfaces where users can only fill in forms, add comments, etc. are much more widespread than the practices, which would require and enable young Internet users to employ greater skills and freedom. The majority of students are at least “sometimes” engaged in content creation in forums, SNS Rate.ee and news portals; whereas only 18% of the students “sometimes” update their homepage and 16% “sometimes” add blog postings. Furthermore, even smaller numbers of students are engaged in these two practices “once or twice a week”.

In the following, we discuss creative online practices in a greater detail, including students’ attitudes and experiences regarding some content creation activities.

In the SNS Rate.ee, people can upload photos and fill in textual parts of their profiles in order to receive social feedback from other users. That type of
content creation is practiced by 60% of the students. Rate.ee also provides the users with additional opportunities such as keeping a blog, chatting in forums, and joining different “clubs” (i.e., communities). One of the most popular forms of communicating in the environment is leaving comments to each other’s profiles, which is considered important by 34% of the profile owners and not important by 66%. Thus, while communication with peers is an important aspect of young people’s engagement in social networking sites, social feedback expressing peer group norms and expectations is not recognized as highly relevant. This disregard may also be considered a self-defense mechanism, as negative and flaming comments are not uncommon.

We asked also about the reasons why a particular photo is chosen for the profile. The prevalent reason, picked by 68% of the profile owners, is looking good on the photo; furthermore, 53% choose the photo because it has been taken in a beautiful location. Aesthetical characteristics of the photo and depiction of one’s personality are also important reasons for choosing a photo for the profile (cf. Siibak, in press). At the same time, a number of respondents say that they do not upload any photos of themselves. We interpret this as a resistance to a predominant trend of the peer culture in the social networking site. Thus, not all norms of the online community are duly conformed to, indicating the functioning of agency also in a more structured online environment.

Belonging to SNS clubs has also a variety of reasons. Most importantly, young people consider belonging to such communities as a form of self-expression and identity construction—as a possibility to “show what I am” (43%). Secondly, clubs are seen as forums for discussions (37%) and getting advice (23%). The third group of reasons is related to networking and a sense of belonging to a community. However, not all users of Rate.ee are members of clubs; instead, their presence in the SNS is mostly passive and referential—more by name than by actual engagement.

Online forums are very popular among Estonian students: 61% comment on the topics raised by others and 50% pose new topics for discussion. Similarly to SNS clubs, students’ experiences with and reasons for participating in forums are more related to information and knowledge retrieval and usability, and less to social belonging and friendship. For instance, a vast majority of students who visit online forums agree that it is comfortable to search information on sensitive topics (78%) and other participants in forums add to their knowledge (79%). Additionally, 66% agree that forums provide information that can be used in everyday life. Anonymity is another crucial aspect of forum discussions: Only 14% of students claim to use their real name, 58% use mostly the same nickname, and 21% change nicknames or post anonymously. Although only 33% of forum users agree that they trust anonymous postings, 72% consider the possibility to write anonymously liberating. This suggests that students consider online forums as valuable resources for both information retrieval and self-expression, and the “cloak of anonymity” helps young Internet users to discuss sensitive topics.
Estonia has a lively newspaper commenting culture. The young generation participates in this actively: 82% of the students read comments on online news at least sometimes and 43% comment news, demonstrating that at least in this area, user-generated content has found its place next to the institutionally provided content. Most of the students (71%) believe that the value of comments is in the discussion and debate they initiate while 41% agree that comments help them to understand the news better. The youngsters’ attitudes towards online comments are rather normative: 59% of the students agree that comments should be more strictly regulated, and 64% claim to think thoroughly upon a comment before posting it. Still, 21% of the students agree that one may post a comment without delving into the content of the news story.

In contrast to online forums and news commenting where students enjoy anonymous participation, young bloggers prefer publicity and frankness: 75% of the students’ blogs are publicly accessible, 81% blog under their real name, 60% do not conceal their age, and 28% even tell where they live. The social aspects of creativity, indeed, come into play also in technically less constraining environments such as blogs. Young self-publishers take their audience into account: 74% agree that they have to bear in mind the fact that many other people may read their blog, 68% reply to the comments on their postings, and 36% consider a great number of readers important when blogging. Still, a fairly high level of the author’s control over the agenda is discernible through the fact that 43% of the young bloggers have chosen a certain topic area to write about.

When it comes to the content of personal homepages, students seem to be most keen on visuals: 59% of homepage owners publish photos taken by themselves and 50% upload photos taken by others. The popularity of video (48%) and audio files (56%) indicates that personal homepages are truly multimodal media for students. The importance of social connectedness in homepage creation is visible through a frequent use of links to other sites (52%).

The analysis of creative practices in five different environments indicated that they perform different functions related to information retrieval, communication with peers, self-expression, and identity construction. Creativity in these different online environments is, indeed, related to a variety of social aspects and considerations. Regardless of the limitations of quantitative survey data, we could detect both the trends of conforming to the norms of peer culture and instances of resistance to it.

**Reasons for Being or not Being Engaged in Creative Online Activities**

The reasons for participating in the more structured content creation environments differ from the motives for practicing those activities, which allow more individual freedom. The motives that have a distinctly social focus prevail among the reasons for creating a profile in the SNS (67% of the profile owners were influenced by their friends’ already having the profiles and 55% wanted to find new friends and acquaintances).
In the answers to open-ended questions, young people also mentioned novelty and curiosity as the reasons for creating a profile in Rate.ee. Quite a few people saw the SNS portal as a way to communicate with friends. Interestingly, several respondents said that they initially made the profile “just so” or out of boredom showing that the media hype around the portal might have generated enough interest and social pressure to check out the phenomenon.

The reasons for keeping a blog, however, emanate from the need to be original and different from others (82% of the bloggers keep a blog in order to express their opinion, 73% want to offer their readers something original, 70% love writing, and only 26% follow the example of other bloggers). This suggests that online environments having less rigid forms and technological constraints are more attractive to the young people who are more inclined to expressing their creativity and agency.

The most often mentioned reason for students who do not have a profile in the SNS Rate.ee is the lack of interest in such portals (57%), while 37% said that they were principally opposed to social networking sites. That kind of opposition is also reflected in the open-ended answers where young people mostly reckoned that Rate.ee “sucks,” “is pointless,” or just boring. Quite a few respondents also stressed their opposition to Rate.ee, in particular: they had profiles in other environments (mostly in Orkut.com). Students also indicated that they had “outgrown” Rate.ee, stressing that the portal stands for “mass hypnosis and idiot culture” or “Rate.ee is not life!” In the context of the society where about two-thirds of the youth population have a profile in the SNS Rate.ee, nonparticipation in that environment can also be regarded as a form of alternative self-expression.

The main self-reported reason for not being engaged in creative online activities that allow more individual and creative freedom (such as blogging and making one’s homepage) is lack of need: 84% of the students who do not have a blog and 79% of the students who do not have a homepage mentioned that reason (Figure 2). Having no time for these activities was also named by quite a few respondents: 38% and 43%, respectively. Having no content to upload or not enough skills were less often named as the reasons for not being engaged in these content creation practices. Still, as could be expected, the lack of necessary skills was named as a reason for not having a homepage more often than in case of not keeping a blog.

Lack of skills was also reflected in the open answers: Quite a few students admitted that they did not know what blogs are: “I don’t know quite well what this stands for.” In case of homepage creation, alongside with a typical answer “Couldn’t be bothered to,” some ideas of perfectionism were expressed: “My IT skills aren’t good enough to make a good homepage, but I don’t see any point in making just another website.” Some respondents pointed out that they did not see any point in writing a blog, however, they still liked to read them. A few young people did not see a point in making their lives public. For these students blogs represented, first and foremost, individual diaries published online, rather than channels for participating in the community and the cultural or political public sphere.
The reasons for not keeping a blog or making a homepage among 6th- to 11th-grade students in Estonia, 2007 (%).

Table 2 The proportion of the types of content creators and their general activeness in online content creation

<table>
<thead>
<tr>
<th>Name of the type</th>
<th>N</th>
<th>Proportion (%)</th>
<th>Activeness in online content creation (index means; max = 14)*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Versatile, blog-centered</td>
<td>107</td>
<td>15.0</td>
<td>6.57</td>
</tr>
<tr>
<td>Homepage centered</td>
<td>48</td>
<td>6.7</td>
<td>5.50</td>
</tr>
<tr>
<td>SNS-centered</td>
<td>73</td>
<td>10.2</td>
<td>3.75</td>
</tr>
<tr>
<td>Forum-centered</td>
<td>202</td>
<td>28.3</td>
<td>3.61</td>
</tr>
<tr>
<td>News comments centered</td>
<td>87</td>
<td>12.2</td>
<td>2.26</td>
</tr>
<tr>
<td>Indifferent</td>
<td>196</td>
<td>27.5</td>
<td>0.88</td>
</tr>
<tr>
<td>All respondents</td>
<td>713</td>
<td>100</td>
<td>3.28</td>
</tr>
</tbody>
</table>

Note: The difference in means between the types is significant at p < .001.

Types of Content Creators

In order to have a detailed look into the relations between different practices and to find out the types of content creators we carried out cluster analysis. A six-cluster solution we obtained in the course of two-step cluster analysis turned out to be the clearest and the best for interpretation (see Figure 3).

In Table 2, the six types of content creators are ordered according to the activeness-passiveness scale, based on the sum index of the frequency of being engaged in seven content creation activities. In the following we shall give a short description of the types of content creators, starting from the most active and ending with the most passive type.

The Versatile, Blog-Centered Type

At one extreme point of the activeness-passiveness scale of online content creation lays a type whose average activeness (6.57) is more than twice higher than the sample...
average (3.28). The group is the third largest, consisting of 15% of the students (see Table 2). The students included in this type are engaged more frequently than the average in all seven content creation activities. They are especially active in keeping blogs and commenting the postings of others’ blogs (Figure 3), which is the reason why we named the type “Versatile, blog-centered.” This type has the largest number of students who keep a personal blog (53%); furthermore, 7% of them add postings to their blog almost every day, 18% add postings once or twice a week, 18% once or twice in a month, and 11% do it less often. Moreover, 80% of the students included in this type sometimes comment the others’ blog postings and 12% comment the postings by others frequently. Almost one-third (31%) of the versatile content creators have their own homepage; furthermore, the majority of them (82%, that is, 27 students) also update their own blog every once in a while (among them, six students are engaged in both of the content creation practices frequently).

The Homepage Centered Type
The second place on the scale of general activeness in online content creation is held by a type whose activity level also considerably exceeds the sample average (the index mean of the type is 5.5; see Table 2). This small group, consisting of only 7% of the students, is remarkably highly active in updating their homepages, which is why we named the type “Homepage centered”. All the youngsters belonging to this group have their own homepage, which is updated almost daily by 23%, once or twice in a week by 33%, and once or twice in a month by 44% of the students in this cluster.
Homepage centered content creators are also more active than the average in terms of commenting in forums and news portals. However, they are less likely to participate in the other online environments (none of the students belonging to this type has his/her own blog, 81% never comment on the others’ blog postings and 67% update their Rate.ee profiles less frequently than once or twice in a month, or do not update it at all).

The SNS-Centered Type
The type, which ranks the third on the scale of activeness in creating content online, is similarly to the Homepage centered type quite a small one, consisting of only 10% of the students (Table 2). This type is distinct from the others by a considerably greater activeness in using the SNS Rate.ee, which is why we called it the “SNS-centered type”. Most of the students belonging to this type (86%) have a profile in Rate.ee, which is often updated by 27% and sometimes by 58% of the members of the group. The SNS-centered type can also be characterized by quite an active participation in the blogosphere: 79% of the students belonging to this type comment at least sometimes on the others’ blog postings, 44% update their own blog; furthermore, 18% of them update it once or twice a week. Compared to the other clusters, the type is also relatively active in making homepages: 27% of the youngsters belonging to the SNS-centered type update their personal homepages and 8% update it often. Participation in forums and news portals among the SNS-centered type is, however, lower than the sample average.

The Forum-Centered Type
The largest group, consisting of just over 28% of the students, ranks the fourth in terms of the activeness in producing online content; the index mean in this cluster exceeds, similarly to the previous three types, the sample average (Table 2). Compared to the previously described types, the members of this cluster create content in the more structured online environments: in forums and news portals. The type is especially active in online forums, which is why we named it “Forum-centered”. Still, the average activeness in posing topics for discussions in forums or commenting on forum topics posed by others is somewhat lower than the forum-related activity of the members belonging to the two most active content creation types (the Versatile, blog-centered type, and the Homepage-centered type). The students belonging to the Forum-centered type are more active than the average in commenting news, though, again, they are not as active as the versatile content creators. The members of the Forum-centered type are considerably more passive than the average in the blogosphere, in making homepages, and in using the SNS Rate.ee (Figure 3).

The News Comments-Centered Type
The activeness in producing online content of the fifth and quite a small group (12% of the students) is considerably lower than the sample average (Table 2). The members of this cluster are remarkable in their high average activeness in commenting
online news; therefore we named the cluster “News comments-centered type”. All the students belonging to this type comment at least sometimes the news, 2% of them do it often. The type is also somewhat more active than the average in the SNS Rate.ee: 67% of the members of this type update their profile and 13% do it often. Regarding all the other content creation practices, the activeness of the type is lower than the sample average (Figure 3). For example, none of the students belonging to this type comments the others’ blog postings, 97% never pose topics for discussion in forums or keep a blog, and 92% do not have a homepage.

The Indifferent Type
On the last place in terms of the activeness in online content creation lays the second biggest type, which consists of just under 28% of the students. The index mean of the activeness in creating content in this cluster is 7.5 times lower than the index mean of the most active type—the versatile content creators (Table 2). The sixth type is considerably more passive than the sample average in terms of all the activities under scrutiny (Figure 3). Therefore we named this type “Indifferent”. None of the students belonging to this cluster comments the news or the others’ blog postings; 97% do not have a homepage nor pose topics for discussion in forums; 96% do not keep a blog. The most frequent content creation activity among the members of this type is updating the profile in the SNS Rate.ee, which is practiced by 53% of the members; 6% update their profile often. There are 69 students in the Indifferent type (35% of the cluster and 10% of the overall sample) who are not engaged in any of the online content creation activities measured in this study. The very existence and size of this type allows questioning the overarching notion of “Generation C”: The creative online practices of the students in the Indifferent type are minimal and more focused on consuming the content rather than contributing it by themselves.

Relations with Skills, Internet Usage and Attitudes
Table 3 describes the types of content creators according to their members’ self-evaluated skills, time spent on the Internet and attitudes towards the language and content of the Internet. The shaded cells in Table 3 stand for the higher means than the sample average, forming interesting patterns. The results show that three of the four most active types of content creators—the Versatile, blog-centered type; the Homepage centered type; and the Forum-centered type—stand out in their self-evaluated computer and Internet skills as well as the knowledge of English. Furthermore, the Homepage-centered online content creators regard their skills in all of the three categories higher compared to the rest of the students. Among the Homepage-centered type, there is the highest proportion (96%) of those who claim that they can mostly manage all by themselves, that is, without the help of others, when using the computer or the Internet. An analogous tendency holds in case of the time spent on the Internet. The results can be explained by the fact that active engagement in online content creation requires adequate computer and Internet skills. Furthermore, technical proficiency is especially important while
<table>
<thead>
<tr>
<th></th>
<th>Versatile, blog-centered</th>
<th>Homepage centered</th>
<th>SNS-centered</th>
<th>Forum-centered</th>
<th>News comments centered</th>
<th>Indifferent</th>
<th>All respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self-evaluated computer skills (max 5)</td>
<td>4.21</td>
<td>4.48</td>
<td>3.99</td>
<td>4.16</td>
<td>4.00</td>
<td>3.83</td>
<td>4.06</td>
</tr>
<tr>
<td>Self-evaluated Internet skills (max 4)</td>
<td>3.33</td>
<td>3.68</td>
<td>3.24</td>
<td>3.39</td>
<td>3.14</td>
<td>3.10</td>
<td>3.27</td>
</tr>
<tr>
<td>Self-evaluated English language skills (max 3)</td>
<td>2.37</td>
<td>2.42</td>
<td>2.14</td>
<td>2.36</td>
<td>2.20</td>
<td>2.21</td>
<td>2.28</td>
</tr>
<tr>
<td>Time spent on the Internet (max 4)</td>
<td>3.18</td>
<td>3.21</td>
<td>2.69</td>
<td>2.76</td>
<td>2.48</td>
<td>2.49</td>
<td>2.74</td>
</tr>
<tr>
<td>Time spent in Rate.ee (max 4)</td>
<td>1.21</td>
<td>0.60</td>
<td>1.53</td>
<td>0.68</td>
<td>0.90</td>
<td>0.66</td>
<td>0.86</td>
</tr>
<tr>
<td>Using the correct written language on the Internet (max 3)</td>
<td>2.08</td>
<td>2.21</td>
<td>1.83</td>
<td>2.07</td>
<td>1.94</td>
<td>1.94</td>
<td>2.00</td>
</tr>
<tr>
<td>Agrees with the need for stricter regulations for online commenting (max 4)</td>
<td>2.87</td>
<td>3.07</td>
<td>2.75</td>
<td>2.97</td>
<td>2.66</td>
<td>2.71</td>
<td>2.83</td>
</tr>
</tbody>
</table>

*Note:* The difference between the types (in case of all variables in the table, estimated by ANOVA) is statistically significant at $p < .01$. The shaded cells stand for the higher means than the sample average.
making homepages. It can be assumed that extensive and versatile Internet usage both requires as well as develops the knowledge of English: For instance, the students engaged in making homepages have largely learned the necessary skills either by themselves, by trial and error (78%), or by reading manuals from the Internet or books (70%), which often means becoming acquainted with materials in English.

The linearity of correlations between the activeness in creating content online and computer and Internet skills, the knowledge of English, and the time spent on the Internet is most deviated by the SNS-centered type. Self-evaluated technical skills and the time spent on the Internet of the students belonging to the SNS-centered type are a bit lower than the sample average, and their self-assessment of the English language skills is lower than that of all the other types. Smaller technical skills and the knowledge of English may originate from the specific Internet usage: participating in their favorite online environment Rate.ee does obviously not require as good computer, Internet or foreign language skills as, for example, making a homepage does. The fact that youngsters belonging to the SNS-centered type spend on average less time on the Internet than the youngsters belonging to the other active types of content creators do, indicates that the Internet usage among this type is quite one-sided. Furthermore, 41% of the members of the SNS-centered type visit Rate.ee several times a day and 29% do it almost every day. The News comments centered type also seems to be quite one-sided in their activities as the members of this type spend quite a lot of time in Rate.ee and their average time spent on the Internet is rather limited. The versatile, blog-centered content creators, however, spend on average more time in Rate.ee as well as in other online environments.

All four more active types of content creators, except for the SNS-centered type, are stricter and more normative than the sample average in their attitudes regarding the language and content of the Internet (that is, they tend to use the correct written language on the Internet and agree with the need for stricter regulations for online commenting). The attitudes of the youngsters belonging to the Homepage centered type are the strictest of all. Participation in the online environments that require greater creativity and credibility (such as blogs, homepages, and forums) obviously entails responsible behavior towards linguistic correctness of one’s own postings as well as the content of online comments in general, both of which probably contribute to forming the respective attitudes. The youngsters belonging to the SNS-centered type are the least demanding about the netspeak. As anticipated, the students belonging to the News comments centered type are least likely to agree with the stricter regulations for online comments.

**Conclusions and Discussion**

Our survey indicated that communication and entertainment related activities as well as searching for information are the most frequent Internet activities Estonian schoolchildren engage in. Discussions about school and studies are also very common when talking with one’s friends and peers on the Internet. Furthermore, youngsters
also give as well as ask for advice in homework-related issues while communicating with their peers on the web. Considerable number of students also downloads and uploads their homework, term papers and other study materials. Therefore, it can be claimed that a part of the time spent on the Internet is used for the study-related activities. Furthermore, in the course of the processes of remediation (Bolter & Grusin, 1999) going on in children’s life-worlds, the Internet has turned into a new, genuine type of educational medium. Quite probably, we have a reason to talk about the development of informal, democratic learning communities on the Internet where students rely on one another for doing their homework and debate everything online (Tapscott, 1998).

More structured forms of online content creation, constrained by limitations of the concrete online environments, are much more widespread among the students than the practices, which require and enable young Internet users to employ greater creative skills and freedom. The main motives for creating a profile in the SNS Rate.ee are clearly socially oriented while the reasons for keeping one’s own blog are more self-centered and derive from the need to be original and distinct from others. Thus, we may claim that different levels of exerting one’s agency play a crucial role already in the choice of the type of online environment for content creation: A stronger orientation to conforming to peer group norms and expectations is a likely reason for choosing a more structured online space whereas the youngsters with a stronger inclination to individuality and originality tend to pick a less structured environment for self-expression.

The main reason for not being engaged in content creation practices that require as well as allow greater creativity is the lack of necessity. Not having enough time for that kind of activities is also often mentioned by the students while not having enough skills or content to upload are mentioned less often. One explanation to this may be that the young people in our survey did not want to admit to their ineffectiveness in technical matters and their lack of creativity. Nevertheless, our data do not fully support Jakob Nielsen’s (2006) argument that the capacities and unequal skills of individual users are the main reasons why a number of people are only consuming the online content but not contributing anything from their side. Rather, we maintain that the lack of specific motivation as a part of agency is at least as crucial as the lack of skills in determining nonengagement in online content creation. This conclusion definitely has some implications in the context of media education. Young people’s perceptions of the opportunities provided by different online environments and the functions they can perform for an individual and the community are as important as technical skills in contemporary media literacy. Exploring the full range of those opportunities in the course of media education could be seen as a way to foster students’ motivation for creative online activities.

Cluster analysis brought out six types of young content creators: the Versatile, blog-centered type; the Homepage-centered type; the SNS-centered type; the Forum-centered type; the News comments centered type; and the Indifferent type. Quite a big membership in the Versatile, blog-centered type shows that different content creation
practices do not necessarily exclude each other: A number of students use all kinds of possibilities and online environments to express their creativity and identity. To some extent, this may be due to the fact that some online environments incorporate different forms of communication and content creation (cf. Livingstone, 2008a, 2008b): For instance, the SNS Rate.ee has the facility of blogging and commenting others’ blog postings; also, some students may interpret updating their SNS profile as “website creation.” Still, there is a clear tendency that those youngsters who are most active in less-structured creative practices such as keeping a blog and making one’s homepage are also most active in online content creation in general. Thus, in addition to “gradations and continuum in digital inclusion” (Livingstone & Helsper, 2007) we may talk about continuum in online content creation.

This continuum is, moreover, characterized by the fact that the largest number of young people exert their creative activity while participating in just one or two online environments. The number of students in the Indifferent type, not actively engaged in online content creation, is also quite large. Thus, a great variety in user-led content production among the students exists and there is also a reason to speak about the “participation gap” (Jenkins, 2006) in the age group of 11 to 18.

The types of content creators differ from each other to a statistically significant extent with regard to students’ self-evaluated skills, time spent on the Internet as well as the attitudes about the language and content of the Web. Those differences imply that active engagement in online content creation requires both time as well as adequate computer and Internet skills. Furthermore, participation in the online environments, which require greater creativity and credibility, supposedly demands more responsive behavior towards linguistic correctness of one’s own postings as well as the content of online comments, and contributes to forming the respective attitudes.

We may conclude that less structured and more versatile and creative content production activities are tightly related to the development of advanced media literacy in new media environments. Indeed, as Sonia Livingstone claims, we can no longer talk about the media literacy in singular but “we must consider the possibility of literacies in the plural” (2004, p. 6). In addition to access, analysis and evaluation that are usually named as the main components of media literacy, Livingstone suggests adding content creation as another aspect that is crucial for becoming literate. Axel Bruns (2007b, p. 5) also argues that a “significantly altered set of literacies and capacities” is needed in order to overcome the “empowerment divide” (Nielsen, 2006) between the ones who belong to “Generation C” and the ones who do not. Bruns (2007b, p. 6) has defined the main capacities one needs to have in this context as the “C4C” standing for critical, collaborative, creative, and communicative. Amongst these important capacities Bruns emphasizes the “ability to act as collaborative cocreator in flexible roles” (2007b, p. 6–7) as well as the need to evaluate the information produced by oneself and other collaborators critically. Our analysis suggests that active and versatile content creation in less structured online environments such as blogs and homepages offers a better alternative for attaining
critical media literacy than participation in more structured news portals or social networking sites does. However, as we have shown elsewhere by using regression analysis, the frequency of blogging and website creation is best predicted by active participation in more structured environments (Kalmus, Pruulmann-Vengerfeldt, Runnel, & Siibak, in press). Thus, media educators might consider creating content in news portals or social networking sites as a necessary motivational step on the way to more advanced media literacies.

Our research indicates that further analysis is needed to interpret the complexity of the coexistence and simultaneous use of different environments for online content creation. It is important to analyze the cross-environment participation also qualitatively to understand more deeply the ways and reasons why people create content in various environments. Moreover, it would be interesting to observe whether the same discursive elements are treated differently in various environments; in other words, how do the processes of recontextualization and intertextuality occur in different social and technological contexts of online content creation? Furthermore, creative online activities are becoming increasingly common among different social groups (for instance, elderly people or various professional groups), thus opening up a wide new horizon for investigation. In many ways, online content creation is challenging researchers to keep up to date with the new activities, while refining the theoretical perspectives on these practices.

Notes

1. The preparation of this paper was supported by the research grants No. 6968 and No. 7162 financed by the Estonian Science Foundation and the target financed projects No. 0180017s07 and No. 0181774s01.

2. The social networking site Rate.ee was opened on May 1, 2002, being based in Estonia. Rate.ee is not only a popular website but, due to media convergence, has turned into a phenomenon of a kind, having various monthly parties for users, a special weekly radio show, a special column in a popular entertainment magazine, and co-operation projects with TV shows.

References


About the Authors

Veronika Kalmus is Associate Professor in the Institute of Journalism and Communication at the University of Tartu. Her areas of research include children and young people in the emerging information and consumer society, and values and value change in the context of the Estonian transitional society.
Address: Ülikooli 18, 50090 Tartu, Estonia. E-mail: veronika.kalmus@ut.ee

Pille Pruulmann-Vengerfeldt is a senior researcher in the Institute of Journalism and Communication at the University of Tartu. Her research explores Internet users and uses with the focus on applications of the knowledge in the area of cultural heritage communication in museum and e-participation context. She also works at the Estonian National Museum as a part-time researcher.
Address: Ülikooli 18, 50090 Tartu, Estonia. E-mail: pille.vengerfeldt@ut.ee

Pille Runnel works as the Research Director at the Estonian National Museum and as a researcher in the Institute of Journalism and Communication at the University of Tartu. Her research interests include sociocultural practices in the information society, media anthropology, and visual anthropology.
Address: Ülikooli 18, 50090 Tartu, Estonia. E-mail: pille.runnel@erm.ee

Andra Siibak is a researcher in the Institute of Journalism and Communication at the University of Tartu. Her research focuses on online content creation practices and self-presentation strategies of young people in new media environments.
Address: Ülikooli 18, 50090 Tartu, Estonia. E-mail: andras@ut.ee