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Towards a digital adolescent society? The social structure of the Icelandic adolescent blogosphere

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The social structure of adolescent blogosphere

ABSTRACT

The adolescent production of blogs has created an adolescent public sphere that transcends both

intimate circles of friends and the adolescent communities of specific schools or neighborhoods.

Almost all 15–16 year old adolescents in Iceland regularly read blogs and many read blogs on

a daily basis. Blogs by best friends and adolescents in the concrete adolescent community are

most popular but a third of the population follows blogs that originate in the more abstract

adolescent society. About three out of four girls and one out of three boys maintain their own

blogpages and read blogs by other adolescents on a regular basis. Adolescents that write blogs

are more involved in various activities associated with higher status in adolescent communities

but lower status in the adult-controlled school community. The adolescent blogosphere may

constitute an emergent digital adolescent society where inequalities in adolescent communities

are reproduced.

KEYWORDS: Blog; Adolescent Society; Iceland

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INTRODUCTION

The existence of a society of adolescents that spans an entire country or even several countries is a thorny issue. In his seminal study, Coleman (1961) conceptualized adolescent society as a structured network of peer groups with an informal status hierarchy of groups and individuals within the groups. According to Coleman, this complex adolescent society operates relatively independently within the formal adult-controlled educational institutions and the adolescent hierarchies of prestige constitute a system of stratification that is only loosely connected to the stratification of ascription and achievement in adult society.

However, the spatial restrictions of a single school, the personal nature of interaction and the overlapping roles described by Coleman are more reminiscent of classical sociological concepts of a community than mainstream sociological notions of society. In its positive aspects Coleman's adolescent society has more in common with the emotional and personal aspects of Tönnies (1887) *gemeinschaft* than the rational and impersonal *gesellschaft* and in its negative aspect it is more reminiscent of the repressive uniformity of Durkheim's (1893) *solidarité mécanique* than the liberating diversity of *solidarité organique*. Similarly, contemporary research on crowds and cliques within specific schools (e.g. Bjarnason, 2000; Eccles and Barber, 1999; Eder and Kinney, 1995) can more accurately be considered to be studies of the processes at work in specific communities than a general adolescent society in the traditional sociological sense.

Beyond specific schools and other arenas of face-to-face interactions there has been limited evidence of a broad adolescent-controlled public domain that parallels the adult-controlled general society. There are few formal, nation-wide structures of adolescent interaction, no formal legal, executive or judicial institutions and no adolescent-controlled media that communicates news, opinions and values through such a society. The concept of youth culture is frequently used as if it is self-evident that adolescents themselves disseminate

attitudes, behaviors, fashion and overall worldviews across vast geographical and cultural distances (e.g. Jaafar et al., 2006; Pape et al., 2008; Pilkington, 2007). However, the dynamic of such cultural dissemination is not clearly understood. The global targeting and co-opting of youth by enterprising fashion and entertainment businesses may to some extent have shaped a global youth culture (Pecora, 1998), but the dynamics between marketing and market research do not constitute the level of communication and reciprocity necessary to maintain adolescent society beyond the level of an empty abstraction.

In recent years, however, the internet has transcended both concrete adolescent communities and vaporous cultural trends. Although there are substantial cross-national differences in youth access to the internet (Hasebrink et al., 2008), in many countries such access has become integral to all aspects of adolescent life. As Johnson-Smaragdi et al. (1998) have argued, the internet should not be considered a separate kind of media but rather as a medium of integration, reuniting different kinds of media, school, home, leisure and work in a process of communication. This includes maintaining and extending friendship networks (Blais et al., 2008), harassment and bullying (Slonje and Smith 2008), scoring drugs (Schepis et al., 2008), completing homework (Madden et al., 2007), sexual exploration (Cameron et al., 2005), plagiarizing (Stephens et al., 2007), health information (Borzekowski, Fobil, and Asante, 2006), and self-harm (Adler and Adler 2008) to name a few domains of adolescent daily life. In a very real sense, adolescents in many western societies are not only permanently online but their adolescent communities have literally become embedded in the internet.

In this paper we explore the intersection between traditional adolescent communities and the new public space created by the internet. Our study is conducted in Iceland, an independent island nation in the North Atlantic where over 90% of the roughly 300.000 inhabitants uses the internet regularly and 76% of all households are connected to the internet via broadband (Eurostat, 2010). As in most Northern European countries, internet use is near-

universal among children 12 years and older in Iceland (Hasebrink et al., 2008). The geographical boundaries of the island and linguistic boundaries of the Icelandic language provide an ideal case to study the new processes of communication that are transforming adolescent communities around the globe and may provide the infrastructure for a truly adolescent society.

Adolescent society and the adolescent blogosphere.

The concept of a blog covers a wide range of texts, graphics, and audio posted over time on the internet. The challenge of finding a precise technical definition of a blog and distinguishing it from all other types of online communication (boyd, 2006; Efimova et al. 2005) has been further complicated in recent years by the phenomenal growth of commercial enterprises such as Facebook, MySpace, LinkedIn and Twitter. Such highly structured social networking sites have further lowered the threshold for online sharing of personal and public content and introduced brief status updates as a form of continuous "microblogging" (Gudmundsson and Stefansdottir, 2008; Lenhart et al., 2010).

The development of blogs as a distinct class of online publishing was greatly facilitated by the evolution of free, accessible software for posting articles in reverse chronological order and millions of personal blog pages are now considered a normal part of the digital information society (Technorati 2008). In some cases the writing of blogs can be considered as an individualistic, intimate form of self expression in an anonymous virtual reality where the intrusion of family or friends is both unexpected and unwelcome (Herring, 2004; Reed, 2005). Others use blogging as a deliberate method of maintaining and strengthening existing face-to-face relationships within their local community or across vast geographical or social distances (Postill, 2008; Reed 2005; Wellman, 2003) or creating widely dispersed communities of shared interests (Efimova et al. 2005; Wei, 2004; Wellman, 2003).

Drawing upon Giddens' (1984) structuration theory, Schmidt (2007) argues that the individual actions of blogging are framed by the social structure of the blogosphere, which in turn are (re)produced by such micro-level actions. This social structure of the blogosphere can be conceptualized as a densely interconnected conversation with relatively few nodes of popular blogs and overlapping blog communities around distinct cultures and shared interests (Efimova et al., 2005; Herring et al., 2005; Schmidt, 2007). Such blog communities sometimes have visible boundaries and a single shared space but more commonly emerge from connections between blogs and their authors (Efimova et al., 2005). Each blog community has its own practices and behaviors, some of which are shaped by explicit community guidelines (Wei, 2004).

While blogs do influence traditional media and provide decentralization and democratization in public communication (e.g. Gibson, 2005; Gillmor, 2004), they impact different social groups in different ways in a complex stratified society. As a form of public deliberation, blogs form a part of the multiple public spheres of contemporary life (Fraser, 1994; Haas, 2007). Blogging by adolescents has radically expanded the spatial limits of this deliberation processes, and thus created a domain of the public sphere that is more similar to an "adolescent society" than an "adolescent community". The recent popularity among adolescents of social networking sites such as Facebook, MySpace and Twitter at the expense of formal blog pages (Lenhart et al., 2010) reflects the fluid nature of this electronic public space.

The personal homepages and online journals or blog pages created by adolescents have become means of exploring, forming and expressing personal identities as well as a channel for socializing and reinforcing existing relationships and social networks (Schmitt, Dayanim and Matthias, 2008; Subrahmanyam and Greenfield, 2008). The online journals, commentaries and photographic records that constitute adolescent blog pages have been

described by one observer as "...sometimes tedious, frequently dramatic, and occasionally hilarious ... [descriptions of] ... of adolescent drinking, drugs, sex, eating disorders, parental strife, skipping school, suicide, and self-mutilation" (Mazur, 2005:181). Gudmundsson and Stefansdottir (2008) found that about 70% of all blog entries by Icelandic adolescents related every-day experience in a form of a dairy. The study also reveals two types of adolescent blog sites. On the one hand there were sites administered and written by individuals and on the other hand and more commonly there were joint sites that were produced in collaboration between two or more individuals. The individual blog sites tend to be more personal and focus on the writer's own activities while the joint blog sites emphasize communication, news and announcements that are of interest to peers in a particular school, a particular neighborhood or to adolescents in general (Gudmundsson and Stefansdottir, 2008).

While there has been increased interest in the content, structure and context of adolescent blogs (e.g. Mazur, 2005; Schmitt, Dayanim, and Matthias, 2008; Stern, 2004; Stokes, 2007), the intersection with adolescent communities or adolescent society has received limited attention. In this paper, we approach adolescent blogging as an emergent form of an adolescent public sphere, a crowd communication with a potential for becoming mass communication that is truly rooted in adolescent society, in contrast to the pre-packaged MTV approach. Personal web pages have considerable potential for anyone to become a producer as well as a consumer of mass communication (Dominick, 1999) but the extent to which this potential for mass communication is realized in the daily lives of adolescents remains unknown. In a society where legislative, executive" and judicial powers are diffusely located and executed at the interactional level, the adolescent blogosphere may very well constitute the truly fourth estate of mass media.

Objectives of the study.

This study contributes to the interdisciplinary literature on adolescent blogging and the sociological literature on adolescent societies by examining the structure of the adolescent blogosphere in the context of traditional adolescent communities. This involves three distinct but related objectives that are pursued through detailed analysis of survey data collected among almost an entire birth cohort of 15–16 year old students in Iceland. The near-universal internet access in Iceland and well defined geographical and linguistic borders provide the ideal settings for such a study.

First, we place blogs in the more general context of adolescent use of other media, such as books, newspapers, talk radio and television. In this context both the frequency of reading blogs and the source of such blogs are of significant interest. Ties with family and the circle of close friends may be strengthened and deepened by frequent and reciprocal sharing of blog entries, in particular when face-to-face communication is constrained in time or space. Indeed, prior research suggests that a substantial part of cyberspace is dedicated to such communication with significant others (Blais et al., 2008; Gross, 2004; Subrahmanyam and Greenfield, 2008). The concrete adolescent communities of specific schools or neighborhoods may also be strengthened by regular communication through the blogs produced by schoolmates or other adolescent acquaintances. The potential for an internet-based national or transnational adolescent society transcending face-to-face adolescent communities is however dependent upon the regular exposure of adolescents to the opinions, thoughts and facts disseminated by peers that they do not know personally.

Second, we will examine the production of knowledge in the adolescent blogosphere and explore its connections with various forms of adult-controlled media. There is considerable evidence that the adult blogosphere supplements and expands the world of mainstream media in various ways (Gorgura, 2003; Haas, 2007; Technorati, 2008). Adolescent mass communication through blogs can similarly be considered to be linked to mainstream media

to the extent that regular blogging is associated with regular reading books and newspapers, listening to talk radio or watching television. Conversely, however, the blogosphere can be considered a separate public sphere to the extent that regular blogging is unrelated or even negatively related to mainstream media consumption. Furthermore, the distinction between the public spheres of adolescent and adult blogs may hinge upon the extent to which adolescent bloggers are regular readers of blogs produced in their concrete adolescent community or abstract adolescent society, rather than the blogs produced in adult society.

Third, we will examine the social context of producing blogs, in particular in terms of concrete adolescent communities and processes of social status attainment within such communities. Following Coleman's (1961) lead, the social worlds of adolescence have been conceptualized as structured networks of peer groups with an informal status hierarchy of groups and individuals within the groups. Social mobility within adolescent society takes place in a complex negotiation of individuals seeking prestigious peer groups, and peer groups seeking prestigious members (Bjarnason, 2000). The regular production of opinions and facts carries considerable social risks and can be expected to be associated with higher social status, although it may also involve some counter-cultural potential for dissidents in adolescent communities.

The socio-economic status of the family of origin has rather consistently been found to have a moderate, positive effect on adolescent status, in part through valued symbols of status, such as designer clothes, exotic vacations and expensive cars (Bjarnason, 2000). To the extent that a family advantage of parental education and family economic status can be translated into a stronger voice in the communication process, this can be considered a form of cultural capital in the sense outlined by Bourdeau (e.g. Bourdieu and Passeron, 1979). The main predictors of adolescent status attainment are, however, rooted in the unstructured activities of everyday life. This is a highly gendered process (Bjarnason, 2000; Eder, 1995) and the

reproduction of gender inequalities in the adolescent blogosphere may be partially gauged from the extent to which girls are limited to the passive role of consumers rather than active producers of knowledge. Given the relative gender equality of Icelandic society (see e.g. Bjarnason and Hjalmsdottir, 2008), Iceland provides an interesting case for the study of such a gendered public sphere.

As Talcott Parsons (1959) pointed out long ago, the informal social status gained by fellow students can be relatively independent from the formal social status awarded by the school system. We will evaluate to what extent the production of blogs is associated with activities pertinent to status attainment in adolescent communities rather than activities rewarded by adult-controlled school society, such as good school attendance, a high grade point average and academic track placement. Sport participation has consistently been found to be the major predictor of higher social status, in particular among males (Coleman, 1961; Bjarnason, 2000), while for instance heavy involvement in computer games may be taken as an indicator of a relatively marginal status in the adolescent community or being 'a nerd' (Nugent, 2008). The extent to which the production of blogs is an integral part of the status hierarchy of adolescent communities can thus be partly gauged by its association with sport participation and more generally with active participation in the social life of adolescent communities. Similarly, the association between high self-esteem and regularly writing blogs may reflect status-based communication differences in a blogosphere that is formally open to everyone.

DATA AND METHODS

The following analysis was based on a national population survey among almost all 10th grade (15–16 year old) students in Iceland. The survey employed a standard school survey methodology with questionnaires administered anonymously with a blank envelope procedure (Bjarnason, 1995; Hibell, 2003) to all students present in class on the day of the surveys.

About 55% of the respondents lived in the capital of Reykjavík or the surrounding capital region and 12% had at least one parent of foreign descent. The survey was conducted in March 2007 and yielded responses from 1,867 males and 1,752 girls or 82% of all Icelandic students born in 1991. It can thus be considered a population survey rather than a survey based on a sample in the conventional sense. Tests of significance were calculated under the assumption of a sample drawn from an infinite population, in effect treating the empirical population of Icelandic adolescents as a particular realization of a theoretically infinite number of adolescents that could have been born into these particular circumstances.

These data were analyzed in three stages. First, we mapped the prevalence of blog reading and blog writing in the context of traditional media consumption with special attention to gender differences. In the second and third stage, we used multinomial logistic regression techniques (Pampel, 2000) to draw distinctions between adolescents that never, occasionally or regularly write their own blog pages. In the second stage the focus was on the media environment in which adolescent blog pages are produced, including both the extent to which blog writers follow the mainstream media and the extent to which they follow blogs written by family, friends, acquaintances or unknown adolescents or adults. In the third stage the focus was on different aspects of daily life in the adolescent community, school performance and self-esteem.

Writing blogs was measured by the question *How often* (*if ever*) *do you write your own blog page*? (1: Never; 5: About every day). For the multivariate analysis the population of adolescents was grouped into three categories; (1) those who rarely or never write blogs, (2) those who write blogs a few times a month and (3) those who write blogs at least once a week.

Table 1 about here

The education of father and mother was measured on a five-point scale (1: primary school or less; 5: university degree). *Parental Education* was defined by the education of the parent with the higher level of education. Perceived *Family Economic Status* was measured by asking respondents how well off their families are compared to other families (1: much worse off; 7: much better off). Both measures were then standardized with a mean of 0 and a standard deviation of 1.

The frequency of media use was measured by the series of questions *How often* (*if ever*) do you ... (1) read books other than schoolbooks; (2) read newspapers; (3) listen to radio other than music; (4) read other people's blog pages? (1: Never; 5: About every day). In the multivariate analysis these ordinal categories were recoded into an interval measure of estimated days on annual basis and then standardized with a mean of 0 and a standard deviation of 1. The source of blog pages read was indicated by the question *Which blogs do* you usually read...(1) I don't usually read other people's blogs; (2) somebody in my family; (3) my best friend or best friends; (4) acquaintances or school mates; (5) young people I don't know personally; (6) adults that I don't know personally (mark all that apply).

Self-esteem was indicated by Rosenberg's (1989) ten-item scale with four-point response categories (1: Strongly agree; 4: Strongly disagree). The relevant items were recoded so that higher values indicated higher levels of self-esteem. Scores were calculated by standardizing the sum of the ten items with a mean of 0 and a standard deviation of 1.

Participation in adolescent community was measured by the series of questions *How often* (*if ever*) *do you* ... (1) *play computer games*; (2) *participate in sports*; (3) *go around with* friends, e.g. in the street or mall; (4) go out at night, e.g. to a disco, café or party? (1: Never; 5: About every day). In the multivariate analysis these ordinal categories were recoded into an

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interval measure of estimated days on annual basis and then standardized with a mean of 0 and a standard deviation of 1.

Academic status was measured by the three questions. *Truancy* was measured by the questions *How often* (*if ever*) have you skipped or cut classes in the past 30 days? (1: Never; 5: 7 or more days). *Grade point average* was measured by the question 'What grade best describes your average grade on the last Christmas exams? (1: 5 or less; 6: About 10). *Academic track* was measured by responses to the question How likely is it that you will go to the gymnasium (the four-year Icelandic school level between compulsory school and university) to study for Gymnasium exam? (1: Very unlikely; 5: Very likely. These measures were standardized with a mean of 0 and a standard deviation of 1.

RESULTS

Blog and other media. The results shown in Table 2 demonstrated the domination of television in the adolescent media consumption. About 97% of Icelandic adolescents watched television every day, with a slightly higher proportion of girls than boys (p_{Δ} : 1.8% \pm 1.1%).

Table 2 about here

Newspapers and blog pages came second and third with 42% and 38% daily reading, respectively. However, there was a substantial gender interaction with respect to these two forms of media. About 55% of the girls read blog pages daily compared to 23% of the boys $(p_{\Delta}: 32.0\% \pm 3.0\%)$. In contrast, 40% of the girls and 44% of the boys read newspapers daily $(p_{\Delta}: 3.9\% \pm 3.2\%)$. Radio and printed books were distinctly in fourth and fifth place with 13% and 10% daily use, respectively. While television was thus still by far the dominant form of

mass communication among adolescents, the blog pages were a strong contender in second place among girls and third place after newspapers among boys.

Although only 38% of adolescents read blog pages daily, an overwhelming 94% followed somebody's blog on a regular basis. Only 2% of the girls and 10% of the boys did not read blogs regularly (p_{Δ} : 7.4% $\pm 1.5\%$). Blogs written by acquaintances and schoolmates were most popular with 87% readership among girls and 66% among boys (p_{Δ} : 20.5% $\pm 2.7\%$), followed by blogs by best friends that 78% of all girls and 49% of all boys read regularly (p_{Δ} : 28.2% $\pm 3.0\%$). Blogs by adolescents that the readers did not know personally commanded the third place with 43% regular readership among girls and 22% among boys (p_{Δ} : 21.6% $\pm 3.0\%$). Blogs by family members included a mix of adults and children and were read regularly by 26% of the girls and 13% of the boys (p_{Δ} : 13.1% $\pm 2.5\%$). Blogs by adults who were complete strangers were much less popular, with only 3% of the potential adolescent audience.

The gender difference became even more pronounced when it came to writing one's own blog pages. About three out of every four girls wrote their own blog page, compared to about one out of every three boys (p_{Δ} : 41.2% ± 3.0 %). Among girls who ever blogged, the mode was at least every week with 36% of the total population and 48% of the population of bloggers. Among boys the mode was a few times a month with 10% of the total population and 32% of the blogging population. Daily blogging was limited to a relatively small group with 9% of total population of girls and 3% of the total population of boys (p_{Δ} : 6.0% ± 1.6 %).

Media use among bloggers. Table 3 shows the results of a multinomial logistic regression model distinguishing between those who never wrote blogs, those who occasionally wrote blogs and those who were regular blog writers by patterns of traditional media consumption and reading blogs by others.

Table 3 about here

The model controlled for differences in blog writing by gender and family background. Girls were found to be four times as likely as boys to be occasional bloggers and more than six times as likely to be regular bloggers. The economic status of parents, foreign background or living in Reykjavík or the surrounding capital region were not related to adolescent blogging. However, regular blogging decreased by a factor of .90 for each standard deviation increase in parental education. In other words, adolescents with the least educated parents were 1.6 times as likely to be regular bloggers as those with the most educated parents.

Somewhat surprisingly, those who wrote blogs occasionally or regularly did not differ significantly from non-bloggers in their consumption of traditional media. They did however differ significantly in terms of reading blogs written by others. Occasional bloggers were 2.2 times as likely as non-bloggers to read blogs by friends and 1.9 times as likely to read blogs by acquaintances or school mates. Similarly, regular bloggers were 2.6 times as likely to read blogs by friends and 1.7 times as likely to read blogs by acquaintances or school mates. In addition, regular bloggers were 1.4 times as likely to read blogs by kids they did not know personally, but such differences were not found among occasional bloggers.

Bloggers in adolescent community. Table 4 shows the results of a multinomial logistic regression model distinguishing between those who never wrote blogs, those who occasionally wrote blogs and those who were regular blog writers by status in adolescent community and adult-controlled school community.

Table 4 about here

This model again controlled for differences in blog writing by gender and family background. Controlling for gender, adolescents who played computer games were

significantly less likely to write blog pages. For each standard deviation increase in playing computer games the odds of writing blog pages occasionally decreased by a factor of .84 and the odds of writing blog pages regularly decreased by a factor of .88. Those who never played computer games are thus 1.5 times as likely as the most frequent players to blog occasionally and 1.3 times as likely to blog regularly. The negative association between computer games and blogging was somewhat stronger for girls than boys in the case of occasional blogging but weaker in the case of regular blogging (results not shown).

In contrast, blogging was positively related to the routine activities that predict higher social status in the adolescent community. Each standard deviation increase in sport participation, socializing during the day and socializing at night was associated with an increase of about 1.1 in the odds of occasional or regular blogging. Those who played sports the most were thus 1.3 times as likely to blog occasionally and 1.7 times as likely to blog regularly, compared to those who never played sports. Those who socialized most frequently with other kids during the day were similarly 1.5 times as likely to blog occasionally and 1.8 times as likely to blog regularly, compared to those who never socialized with others during the day. Finally, those who socialized most frequently with other kids in the evenings were 1.4 times as likely to blog occasionally and 1.9 times as likely to blog regularly, compared to those who never socialized with others during the day.

The association between status in the formal school society and blogging was less pronounced. Occasional bloggers did not differ from those who never blogged in terms of truancy, grade point average or likelihood of pursuing an academic track. However, the odds of being a regular blogger increased by a factor of 1.09 for each unit increase in truancy. Those who were truant the most were thus 1.6 times as likely to be regular bloggers as those who never cut classes. Similarly, regular bloggers had a lower GPA by a factor of .76 for each standard deviation increase in GPA. Those who had the lowest GPA were thus 2.3 times as

likely to be regular bloggers as those who had the highest GPA. In contrast, those who were most likely to pursue an academic track were 1.5 times as likely to be regular bloggers as those least likely to pursue an academic track. Finally, contrary to expectations, self-esteem was not found to be associated with blogging.

DISCUSSION

Icelandic television was first introduced in 1966 and initially only covered the most urban parts of the country for a few hours a day, six days a week (Broddason, 1996; Fridriksson, 2000). From 1968 to the present day the increased availability of national television programming, VCRs and later DVDs, satellite television and finally downloading and streaming via broadband has been accompanied by Icelandic adolescents spending an increasing number of hours in front of the screen and a corresponding decrease in reading books and newspapers as well as listening to talk radio (Broddason, 1996; Olafsson, 2008). The results presented above show that television continues to be the dominant form of media as nearly all Icelandic adolescents watch television on a daily basis.

Newspapers have nevertheless retained a relatively strong position in Iceland with two of the biggest newspapers being read by an average of 32% and 63% of the general population in January 2010 (Capacent, 2010). However over a longer period newspaper reading has declined amongst children from 1968 when an impressive 96% of children aged 10-15 years read newspapers on a daily basis down to some 40% in 2003 (Broddason, Olafsson and Gudmundsson, 2004). At the time of the survey there were four daily newspapers published in Iceland, two of them delivered free of charge to every home in the country on a daily basis. The results presented above show that 42% of Icelandic adolescents continue to be daily readers of newspapers. In this context it is also noteworthy that a similar proportion of adolescents reads blogs on a daily basis and only a very small minority never reads blogs. It

thus appears that while the hegemony of television remains unchallenged, the blogosphere has reached similar coverage as newspapers among adolescents in Iceland. The rate of internet access is very high in Iceland (Eurostat, 2010) and results obtained in this study may to some extent be fostered by conditions unique to Iceland. However, in terms of patterns of internet use amongst children and youth Iceland falls very much into the category of high internet use countries in Europe such as the other Nordic countries but also the Netherlands and the UK (Livingstone and Haddon, 2009).

Adolescents who write their own blog pages are equally likely as other adolescents to read books or newspapers, listen to talk radio and watch television. They are also equally likely to read blogs by family members or unknown grown-ups. This suggests that the adolescent blogosphere is a relatively independent public sphere that neither complements nor competes with either the adult blogosphere or the mainstream media. Most Icelandic adolescents regularly read blogs that are written by their friends or schoolmates and thus originate within the adolescent community. This is in line with previous research that suggests that blog pages created by adolescents have become an important channel for reinforcing existing relationships and social networks (Schmitt, Dayanim and Matthias, 2008; Subrahmanyam and Greenfield, 2008). Adolescents who regularly read blogs by their best friends or acquaintances or school mates are more likely to be occasional or regular bloggers. Furthermore, adolescents who write blogs on a regular basis are also the most likely to read blogs by adolescents they do not know personally.

The potential for regular communication throughout a nationwide adolescent society depends on the extent to which adolescents regularly follow blogs written by adolescents outside their specific adolescent communities. Our results suggest that such generalized communication between adolescents reaches 43% of all girls and 22% of all boys in Iceland on a regular basis. The present study does not allow us to examine the content of the most

widely read blogs or audience of particular bloggers. We are therefore not able to assert that the most regular bloggers produce the most influential and widely read blog pages. Indeed, the structure of popular nodes (Efimova et al, 2005; Schmidt, 2007) and the flow of information across the adolescent blogosphere calls for further qualitative research and content analysis.

Interestingly, we find that girls dominate both blog production and blog readership. Three out of four Icelandic girls maintain their own blog page and more than half of that group writes blogs at least every week. Among boys only a third of the population maintains their own blog page and out of that group only a third writes blogs at least every week. Girls also outnumber boys three to one among the most active bloggers that contribute daily to the blogosphere. The same trend is also clearly evident in other studies of Icelandic teenage blogging (e.g. Gudmundsson and Stefansdottir, 2008). Girls are thus clearly at the forefront of this new form of adolescent mass communication in Iceland. Somewhat paradoxically, however, recent research suggests that time spent on the internet is associated with more traditional attitudes towards the role of women in society among Icelandic girls (Bjarnason and Hjalmsdottir, 2008). The gendered aspects of the adolescent blogosphere need to be further clarified in the context of social relations in adolescent and adult society in general.

This prevalent new form of mass communication has important implications for the form of adolescent society. As Livingstone (2005) has pointed out, the media transforms an audience into a public to the extent that it shapes identities and lifestyles. The diffusion of adolescent attitudes and behaviors across wide geographical and cultural distances may operate in part through marketing and the mainstream media, and in part through increased youth travel. However, with the advent of the internet and the adolescent blogosphere in particular the potential for diffusion and direct, reciprocal mass communication among adolescent has been realized to a considerable extent. This creates a potential for an emergent

adolescent society that transcends specific adolescent communities and is separate from the marketing of 'youth culture'. In a sense the recent growth in commercial arenas of communication such as MySpace, Facebook and Twitter can be seen as an attempt to co-opt this development for corporate profits. However, the highly individualized format of accepting friends into a predefined network and interacting with them in structured ways lends itself better to maintaining weak ties within the adolescent community than either deepening strong personal relationships or building a public space of adolescent society. The extent to which such commercial arenas may decrease the vitality of the adolescent blogosphere should be addressed in future studies.

Family economic status does not appear to be related to the production of blog pages and the children of more educated parents are surprisingly somewhat less likely to write blog pages on a regular basis. This is however in line with findings that suggest that the effect of family affluence on status in adolescent communities is largely limited to expensive symbols of status (Bjarnason, 2000). Adolescents most active in producing blogs are those most active and are more likely to enjoy a higher status in their local adolescent communities. They are more likely to play sport and they are more likely to spend more time socializing with others during the day and during the evenings. There is a moderate negative association between playing computer games and occasional or regular writing of blog pages. Despite the electronic medium, the proverbial 'computer nerds' (Nugent, 2008) thus do not seem to be among those most active in the production of blogs and self-esteem does not appear to affect the production of blogs. Although the regular bloggers are more likely to be on an academic track, they tend to be more truant and have a lower grade point average than other students. In short, they seem to be more tightly integrated into various adolescent communities, somewhat at the expense of academic status but not necessarily at the expense of academic aspirations. Contrary to the hopes of the most optimistic proponents of the electronic revolution (e.g.

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Gillmor, 2004), the status inequalities in specific adolescents communities may thus translate directly into this new social sphere. This needs to be further explored in future studies.

Profound global changes in the adolescent blogosphere can be expected as broadband internet connections become prevalent in more countries around the world. These developments also have a clear potential for translating into direct political action. This was for instance demonstrated by the key role of the Icelandic blogosphere and commercial networking sites such as Facebook in organizing and sustaining the mass protests that brought down the Icelandic government in January 2009 (see e.g. Associated Press, 2009; Gissurardottir, 2009; Leynithjonusta gotunnar, 2009). Future research must explore this potential for community building and social change at both the local and the global level.

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Table 1
Descriptive statistics for multinomial logistic regression models of blog page writing among 15–16 years old students in Iceland, 2007

| | Range | Mean | s.e. | St. dev. |
|---|------------|------|-------|----------|
| Gender | | | | |
| Girls | 0 - 1 | .48 | .008 | .50 |
| Background | | | | |
| Capital region | 0 - 1 | .55 | .008 | .50 |
| Parent of foreign descent | 0 - 1 | .12 | .005 | .33 |
| Parental education | -2.1 - 1.0 | .00 | .016 | 1.00 |
| Family economic status | -3.3 - 2.4 | .00 | .016 | 1.00 |
| Media use | | | | |
| Frequency of reading books | 47 - 3.0 | .00 | .016 | 1.00 |
| Frequency of reading newspapers | -1.1 - 1.2 | .00 | .016 | 1.00 |
| Frequency of listening to radio news or | 57 - 2.5 | .00 | .016 | 1.00 |
| talk radio | 1 6 2 7 | 00 | 016 | 1.00 |
| Hours per day watching television | -1.6 - 2.7 | .00 | .016 | 1.00 |
| Regular blog reading | | | | |
| Blog by family | 0 - 1 | .19 | .006 | .39 |
| Blog by best friend(s) | 0 - 1 | .63 | .008 | .48 |
| Blog by acquaintances or school mates | 0 - 1 | .76 | .007 | .43 |
| Blog by unknown young people | 0 - 1 | .32 | .008 | .47 |
| Blog by unknown grown-ups | 0 - 1 | .03 | .003 | .18 |
| Self esteem | | 0.0 | 0.4.5 | 4.00 |
| Self esteem | -3.4 - 1.4 | .00 | .016 | 1.00 |
| Adolescent community | | | | |
| Frequency of playing computer games | 78 - 1.6 | .00 | .016 | 1.00 |
| Frequency of sport participation | -1.394 | .00 | .016 | 1.00 |
| Frequency of socializing at night | 64 - 2.9 | .00 | .016 | 1.00 |
| Frequency of socializing during the day | 91 – 1.5 | .00 | .016 | 1.00 |
| School community | | | | |
| Truancy | 30 - 6.3 | .00 | .016 | 1.00 |
| Grade point average | -1.9 - 2.1 | .00 | .016 | 1.00 |
| Academic track | -3.253 | .00 | .016 | 1.00 |
| Writing blog pages | | | | |
| Never | 0 - 1 | .56 | .008 | .50 |
| Occasionally | 0 - 1 | .16 | .006 | .36 |
| Regularly | 0 - 1 | .28 | .007 | .45 |
| Sample size | 3,619 | | | |

Table 2 Blog activity and other media use among 15–16 year old students in Iceland

| | Cial- | Darr | C: | A 11 |
|--|--------------|-------------|--------------|------------|
| Daily media use | <u>Girls</u> | <u>Boys</u> | <u>Sign.</u> | <u>All</u> |
| Read books daily, school books excluded | 11.6 | 7.7 | p. < .001 | 9.6 |
| Read newspapers daily | 40.0 | 43.9 | p. < .01 | 41.9 |
| Listen to radio news or talk radio daily | 13.7 | 13.1 | n.s. | 13.4 |
| Watch television daily | 98.2 | 96.4 | p. < .001 | 97.2 |
| Read blog pages daily | 54.8 | 22.8 | p. < .001 | 38.3 |
| Regular reading of blog pages | | | | |
| None | 2.1 | 9.5 | p. < .001 | 5.9 |
| Blog by family member | 25.6 | 12.5 | p. < .001 | 18.8 |
| Blog by best friend(s) | 77.6 | 49.4 | p. < .001 | 62.7 |
| Blog by acquaintances or schoolmates | 86.6 | 66.1 | p. < .001 | 75.7 |
| Blog by young people I don't know personally | 43.2 | 21.6 | p. < .001 | 31.9 |
| Blog by adults I don't know personally | 3.4 | 3.2 | n.s. | 3.3 |
| Writing own blog page | | | | |
| Never | 26.7 | 67.9 | p. < .001 | 47.6 |
| A few times a year | 7.4 | 9.7 | p. < .01 | 8.5 |
| A few times a month | 21.9 | 10.2 | p. < .001 | 15.9 |
| At least every week | 35.6 | 9.1 | p. < .001 | 22.1 |
| About daily | 9.1 | 3.1 | p. < .001 | 5.9 |
| Only those who ever write blogs | | | | |
| A few times a year | 10.0 | 30.2 | p. < .001 | 16.2 |
| A few times a month | 29.6 | 31.8 | n.s. | 30.3 |
| At least every week | 48.1 | 28.3 | p. < .001 | 42.2 |
| About daily | 12.3 | 9.7 | n.s. | 11.3 |
| N | 1,752 | 1,867 | | 3,619 |

Figures are percentages. Differences indicated by n.s. are non-significant.

Table 3 Multinomial logistic regression model of media use and blog page writing among 15–16 years old students in Iceland, 2007

| | Occasional bloggers ^{a)} | Regular bloggers ^{a)} |
|--|-----------------------------------|--------------------------------|
| | OR (95% CI) | OR (95% CI) |
| Gender | | |
| Girls | 3.96 (3.21–4.90) | 6.30 (5.22–7.60) |
| Background | | |
| Capital region | 1.09 (.89–1.35) | 1.08 (.90-1.30) |
| Parent of foreign descent | 1.10 (.81–1.49) | 1.15 (.88–1.50) |
| Parental education | .95 (.86–1.06) | .90 (.8298) |
| Family economic status | 1.00 (.91–1.11) | 1.08 (.99–1.18) |
| Media use | | |
| Frequency of reading books | .94 (.85–1.04) | .96 (.88–1.05) |
| Frequency of reading newspapers | 1.04 (.94–1.15) | .97 (.89–1.06) |
| Frequency of listening to radio news or talk radio | 1.05 (.95–1.16) | 1.06 (.97–1.15) |
| Hours per day watching television | .92 (.83–1.03) | 1.05 (.96–1.14) |
| Regular blog reading | | |
| Blog by family | 1.03 (.79–1.34) | 1.20 (.96–1.51) |
| Blog by best friend(s) | 2.16 (1.69–2.76) | 2.59 (2.08–3.21) |
| Blog by acquaintances or school mates | 1.88 (1.40-2.51) | 1.69 (1.32–2.16) |
| Blog by unknown young people | 1.20 (.95–1.50) | 1.42 (1.17–1.73) |
| Blog by unknown grown-ups | 1.10 (.64–1.88) | .79 (.48–1.29) |

Explained variance
Nagelklerke: .287

Coefficients are odds ratios, 95% confidence intervals.

a) Adolescents who do not write blogs are the contrast group

Table 4 Multinomial logistic regression model of routine activities and blog page writing among 15–16 years old students in Iceland, 2007

| | Occasional bloggers ^{a)} | Regular bloggers ^{a)} | |
|---|-----------------------------------|--------------------------------|--|
| | OR (95% CI) | OR (95% CI) | |
| Gender | | | |
| Girls | 4.06 (3.18–5.17) | 7.93 (6.36–9.90) | |
| Background | | | |
| Capital region | 1.04 (.85–1.28) | .97 (.81–1.17) | |
| Parent of foreign descent | .96 (.71–1.29) | .97 (.74–1.26) | |
| Parental education | .97 (.88–1.08) | .93 (.84–1.01) | |
| Family economic status | 1.02 (.92–1.13) | 1.10 (1.00–1.20) | |
| Self esteem | | | |
| Self esteem | .90 (.81–1.01) | .96 (.87–1.05) | |
| Adolescent community | | | |
| Frequency of playing computer games | .84 (.74–.95) | .88 (.78–.98) | |
| Frequency of sport participation | 1.11 (1.00–1.23) | 1.14 (1.04–1.24) | |
| Frequency of socializing at night | 1.12 (1.01–1.25) | 1.26 (1.15–1.37) | |
| Frequency of socializing during the day | 1.19 (1.08–1.32) | 1.33 (1.22–1.46) | |
| School community | | | |
| Truancy | .99 (.89–1.11) | 1.09 (1.00-1.19) | |
| Grade point average | .92 (.82–1.03) | .76 (.69–.84) | |
| Academic track | 1.10 (.98–1.24) | 1.13 (1.02–1.26) | |

Explained variance
Nagelklerke: .267

Coefficients are odds ratios, 95% confidence intervals.

a) Adolescents who do not write blogs are the contrast group