Cyberasociality and the Online Sociality Divide: Third Level Digital Divide?

Zeynep Tufekci, University of Maryland, Baltimore County

Hardly another month goes by in which there isn't a new article or book released on the question of whether the Internet brings us together or separates us. Alternating between lamentations by pundits on how social media tools are allegedly hollowing out our relationships (Deresiewicz 2009; Mallaby 2006, Turkle, 2011), or by breathless reporting in newspapers about how everything is now online, the debate refuses to die, and often seems unaffected by empirical research on these topics.

While some of the earliest studies on Internet users had suggested that introduction of Internet had increased loneliness, (Kraut et al. 1998; Nie & Hillygus 2002), there has since been a plethora of other studies show that people do acquire friends through the Internet (Bargh & McKenna 2004; Hampton & Wellman 2003; Wellman et al. 2001; Zhao 2006; Hampton 2009) and that the Internet often supplements existing relationships. However, recent empirical findings show that there is also increasing amount of new friendships being forged online and that some portion of those friendships even migrate offline in a phenomenon that has been dubbed "migratory friendships." (Gennaro & Dutton 2007; Wang & Wellman 2010). Still, these empirical findings have not deterred the naysayers. The refusal of the topic to die suggests that, for many people, the idea that one can meet friends online simply may not resonate.

Many of the earlier objections to why digital-mediation would be a poor medium for establishing new friendships were based on the idea that interactions on the Internet would be text-based, fleeting and based on anonymous or non-establishing identities (Turkle, 1995), and that the Internet would be a place where people were freed from restrictions of embodiment and

freely able to play with gender, race or age (Stone, 1991). However, the reality of today's Internet does not fit with those early theoretical concerns, based often on a very different kind of Internet also based on a population that was mostly white, male and technically-oriented as opposed to current trends in which digital sociality is a mundane part many people's lives in most of the world. Further, some of those concerns, i.e. emphasis on texts rather than on visual elements, the asynchronous nature of communication and the ability to post anonymously or pseudo-anonymously have been identified in some instances as contributing, rather than deflecting, the potential for forming deep bonds.

First identified by Walther (1996), the perspective of hyperpersonalization emphasizes the potentially liberating impact of lessening importance of appearance which often dominates people's first impressions of each other. Even though current social media applications such as Facebook often involve considerable levels of disclosure (Tufekci, 2008), much online interaction is still based on text rather than image. It remains to be seen whether the spread of faster broadband will cause a shift towards real-time video connectivity; so far, it does not seem to have produced that effect. Still, many of the earlier objections to Internet's deficiencies appear no longer to be relevant.

In this context, the tenacity of the claims that deep or real bonds cannot be established online, in spite of accumulating evidence to the contrary is worth probing. One possibility is that this is a mere cohort effect and that most of the established punditry and academia has not taken to digital tools and do not use them in an indigenous manner. Although there are notable exceptions, this could clearly be an effect. Another possibility is that this division reflects the subjective reality of a portion of the population, i.e. they are unable to experience digitally-mediated interactions as personal and real in the same manner as face-to-face or even voice-

augmented technologies such as the telephone. In other words, there might be an uneven distribution of how well these technologies speak to the predispositions of the population, resulting in a segment of people who feel puzzled as they are unwilling or unable to countenance the possibility of deep bonds being formed online. Such a disposition might be a complex phenomenon, affected by cohort dynamics as well as other psycho-social attributes.

To test the idea whether the acceptance of the idea of deep bonds and real friendships being established online was mostly a cohort effect, I undertook a rolling survey of undergraduate students in a mid-sized public university in the mid-Atlantic during 2007 and 2008. The students were fairly young and most had been online for at least a decade. The students were enrolled in multiple sections of an undergraduate introductory social science course, representing a variety of majors and disciplines, were asked a variety of questions including their social networking site use, their general Internet habits, their sociality in general as well as whether they believed that it was possible to establish a very close relationship with someone solely through online interaction.

The result, reported in Tufekci (2010) showed that there was a substantive segment of even this population, about 51 percent, who believed that an online-only deep friendship was not possible. Statistical analyses also showed that this was not a byproduct of offline sociality, i.e. some people who were sociable offline were also sociable offline and vice versa. In fact, the analyses showed that online sociability of this nature was orthogonal to offline sociability in a manner that discounted both of the dominant hypothesis in this topic, i.e. the rich-get-richer (McKenna et al. 2002; Kraut et al. 2002; Vergeer & Pelzer 2009; Buchanan 2002) or social compensation (Kraut et al. 2002). In the rich-get-richer hypothesis, it is suggested that those who already have strong social networks are most likely to benefit from online sociality whereas

social compensation models argue that who otherwise have difficulty in maintaining offline social networks might benefit disproportionately from digitally-enabled sociality. However, analysis in Tufekci (2010) showed that neither factor was related to the odds of having made new friends online. The only demographic factor that emerged as relevant was race, with African-Americans having almost twice the odds of White people of having established new relationships online. Other than that, the strongest predictor of having met new friends online was this disposition towards online sociality. In other words, rather than rich-get-richer or social-compensation, what emerged was a model of "seek and ye shall find."

Qualitative responses, also collected part of that dataset, revealed support for a disposition that appeared to match some elements of the hyperpersonal model developed by Walther (1996). Data also showed that this was not a universal disposition but rather reflected a divided population with some segments deeply opposed to the idea. About half the sample reported that lacking face-to-face interaction and inability to develop trust would cripple attempts at online friendships while the other half proposed that conversation was key to real relationships and being freed from distractions of face-to-face sociality enhanced such conversations. (In depth results are available in Tufekci (2010).

This paper attempts to develop a new concept to try to understand this phenomenon: cyberasociality, defined in the following manner:

> *Cyberasociality* is the inability or unwillingness of some people to relate to others via social media as they do when physically-present. (Tufekci, 2010)

In this paper, I expand this conceptualization and empirically develop a preliminary scale that probes this concept and report results from a sample of a survey of 457 students that was undertaken in December of 2010 which used this scale along with other indicators of online and offline sociality and Internet use.

Cyberasociality: The Concept

Face-to-face interaction is of great importance for human beings who have lived as group animals throughout all of their existence. Babies as young as a week old are known to react positively to icons arranged in the shape of a face as opposed to the same icons arranged in a different manner. Facial recognition also appears to be an innate capacity of the brain, the failure of which produces the tragic results popularized by neuroscientist Oliver Sacks in his bestseller "The Man Who Mistook His Wife for a Hat." Our facial muscles range in the hundreds and are able to produce an intricate array of expressions which produce an equally array of emotional responses in people. Lack of a face presenting a person may potentially impede the deep social response that is produced in people when interaction with other people.

The Internet is hardly the first technology to replace face-to-face interaction with a symbolic representation. Two technologies, in particular, stand out: the technology of writing and the telephone. Writing itself was famously condemned by Plato as robbing words of their soul by freezing them into an immutable medium rather than the flesh and blood human who can talk, respond and listen (Plato, 1997, p.552). This unease stems from the fundamental duality of being human: we are at once embodied and symbolic and our technologies allow us to separate those two aspects and create the problem Plato laments: words without physically-present faces and bodies. The telephone, too, faced its opponents and was criticized especially for being trivializing and distracting (Fischer, 1992). Yet, both of them have been incorporated into the sociality albeit in different ways. Clearly, some, if not most, people are able to transcend the barrier posed by lack of an embodied, physically-present person and accept the representation both symbolically and viscerally as the person with whom the words originated.

This does not, however, mean that this leap was possible or easily available for everyone. It remains a possibility that there are people for whom text is unable to evoke the same deep reaction embodied physically co-present interaction arouses. Such an inability, or an unwillingness, could be seen akin to another modern ailment, that of dyslexia (Wolf, 2007). The ability to convert alphabetical symbols to words, and then to seamlessly convert those words into meanings, is one of the more remarkable feats of the human brain and is mastered by most who are given persistent and competent instruction. However, for some segment of the population, this leap may remain unattainable and pose great difficulty even though the person in question may not suffer from any other disadvantage such as technological incompetence or inability or fear of using computers for instrumental purposes.

Whatever causes dyslexia, it would not have been detectable in a pre-literate population as among such people, words are always and only just sounds. In fact, linguists often caution against our tendency to equate words with letters and remind us that language is primarily aural and the transition to visual language is a late development. (Ong, 2004). Dyslexia emerges as a disadvantage only as a society incorporates the ease of use of the written word into the expected competencies into its portfolio, similarly, the increasing incorporation of online-sociality may expose a segment of the population that is similarly disadvantaged from being able to use these technologies as effectively as others.

Thus, conceptually, I propose a modern condition, named cyberasociality, which represents the possibility that some segment of the population remain unable or unwilling to relate to others via social media as they do when physically-present; and that this is not necessarily related to their general levels of sociality or to their competence with or use of computers or similar digital devices.

The Sample and Methods

This study was undertaken in a mid-sized public research university in the mid-Atlantic during December of 2010. The school is among the most diverse in the country. The participants were students enrolled in multiple sections of an introductory social science course. A total of 457 usable surveys were collected. Demographic characteristics of the sample are described in Table 1. The university is a diverse school with amicable race relations; it is nationally renowned for high levels of minority participation across disciplines. The student body is drawn from across the socio-economic spectrum. About 16 percent of the student body is African-American (compared to 17.5 percent of the sample). The course in question is a popular choice to fulfill graduation requirements and draws from majors across the school. The sample was fairly diverse, with sizable White, Black and Asian populations as well as a smaller Hispanic group. The sample was evenly split between men and women and closely matched the demographics of the school. There were 410 surveys with complete data which were used in the analyses.

Table 1. Demographic Descriptive Variables (n=410)

	N	(%)
Male	219	(53.3)
Female	184	(45.6)
White	172	(43.0)
Black	70	(17.5)
Hisp./Other	52	(13.0)
Asian-Ame.	106	(26.5)

Cybersociality: The Scale

Qualitative results reported in Tufekci (2010) showed that particular themes clustered among those who thought online friendships to be possible while other themes resonated with those who disagreed. Based on qualitative analyses of these answers (Tufekci, 2010), I developed a potential scale of 14 items that reflected the subjective experiences of the

respondents. Seven of the questions reflected propensity towards cybersociality and seven towards cyberasociality. These questions are listed in Table 1.

Factor analysis revealed that the scale had a single factor structure (with only one factor having an Eigen value greater than one, explaining .83 of the variance.). Varimax rotation showed that questions 1, 2, 5, 7, 8, 11, 12, 13 and 14 formed the best scale (Cronbach's alpha=0.75) with factor loadings above 0.40. Interestingly, the only question with a distinctly low loading was question 9 indicating that people's fear of misrepresentation online do not drive their disposition towards or away from forming deep bonds online. Questions 3, 4, 6 and 10 had factor loadings above .30 but were dropped for ease of analysis and simplicity of scale as substantive results appeared almost identical using scales that included them as well as those that excluded them.
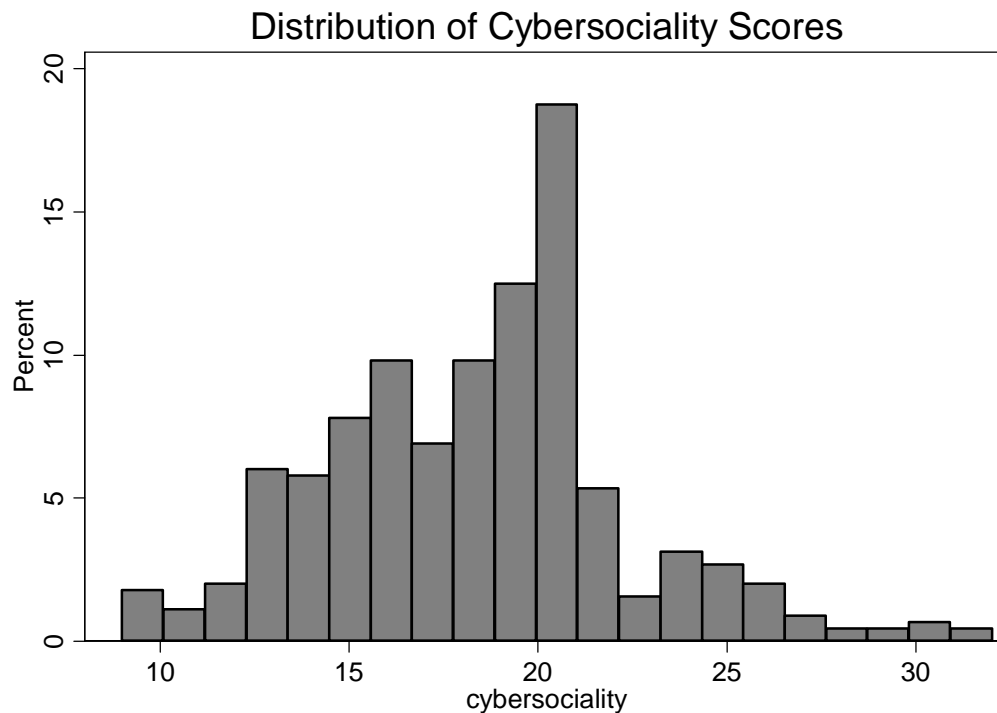
TABLE 2. Cybersociality Scale (n=444)

Q		Factor Loadings (Varimax Rotation)
1	**I need face-to-face interaction before I can decide someone is trustworthy**	0.5643
2	**I prefer to communicate online when discussing important or deep issues**	0.5674
3	I feel that body language is key to really understanding someone	0.3967
4	People are more open-minded online	0.3497
5	**I find it difficult to express emotions through online communication**	0.4146
6	In face-to-face interactions, people are often distracted by physical appearances and cannot "see" the real you	0.3435
7	**You just cannot get to know someone through only online interaction**	0.5423
8	**I think deep bonds can be established through online communication**	0.6083
9	I feel that a lot of people pretend to be someone different online than who they really are	
10	Sometimes not being face-to-face makes it easier to communicate	0.3377
11	**Online communication just does not feel real to me**	0.4827
12	**It is easier to be yourself online**	0.5035
13	**I need to do things offline with people before making up my mind about them**	0.5111
14	**It's easier to share secrets with a stranger online because they won't be able to tell your friends**	0.4254

Retained items are shown in bold. Factor loadings less than .20 are left blank.

The scale was scored as a *cybersociality* scale, i.e. the higher the person's score the more cybersocial they are; i.e. more inclined to socialize and establish real bonds online. (It was done so for ease of interpretability; obviously it can easily be rescored as a cyberasociality scale). Figure 1, below shows the distribution of cybersociality scores which range from 9 to 36.

Distribution of Cybersociality Scores

Belief in the possibility of Online Bonds and the Cybersociality Scale

Confirming the value of the scale, the respondent's belief in the possibility of establishing deep bonds online very much correlated with the cybersociality scale (a mean score of 16.6 versus 20.0 for those who don't believe versus those who do, p=0.000). A logistic regression (Table 3) showed that disposition towards cybersociality was the only relevant factor in predicting whether a person would believe in true friendships being forged online. The controls

were cybersociality scale, gender, race, number of friends that the person keeps in touch with by

talking at least once a week (Friends), time spent socializing with friends outside of school (Time

Socializing), concerns about privacy scored on a 1-5 scale, Time spent on the Internet (Time on

Net), whether the person uses dial-up access at home and whether the respondent uses a smart

phone.

Table 3. Logistic Regression Modeling the Odds a Person believes in the Possibility of Deep Online Friendship

```
                        exp(b)              *
Cybersociality         1.299***
Female                 1.135
Black                  1.530
Hisp/Other             1.861
Asian                  0.752
Friends                1.011
Time Socializing       1.006
Privacy                1.145
Time on Net            1.001
Uses Dial-up           0.800
Uses Smartphone        1.085
_cons                  0.004***
N                        410
ll                    -239.711              *
```
* p<0.05, ** p<0.01, *** p<0.001

Cyberasociality and Specifics of Social Network Site Use

In this section, I explored behaviors only of users of online social networking sites which

compromise 92 percent of the sample (and of those, nearly 100 percent have a Facebook profile

while some also maintain other profiles in Myspace, Orkut, etc. These details not shown due

limitations of space). First, I explore whether people chose to use social network(ing) sites based

on their preference to cyberasociality. Table 4 shows this is not the case, an unsurprising finding

since SNS usage is a fairly strong norm in most college campuses, i.e. respondents likely feel

compelled to use these sites regardless their personal attitudes towards online socializing.

Table 4. Logistic Regression Modeling the Odds that a Person is using Social Network(ing) Sites

	exp(b)	*
Cybersociality	0.955	
Female	1.988	
Black	1.039	
Hisp/Other	1.741	
Asian	1.411	
Friends	1.039	
Time Socializing	1.035	
Privacy concern	0.955	
Time on Net	0.993	
Uses Dial-up	0.811	
Uses Smartphone	**2.185***	
_cons	9.768	
N	410	
ll	-110.231	*

* p<0.05, ** p<0.01, *** p<0.001

However, it is possible that respondents use these sites differently depending upon their propensity for cybersociality. In other words, once on the site, they make undertake different kind of activities on these sites depending on their disposition towards cybersociality. First, I probed whether cybersociality was associated with spending more time on social network sites, updating one's profile more often, and writing on other people's walls more often. As can be seen from Table 5, it was only associated with spending more time on social network sites but not with the other two variables.. Also, women spent more time on social networking sites and wrote more frequently on their friends' walls (but updated their profiles less often) while Black and Asian respondents spent less time. Number of friends and smart phone ownership was also positively associated with time on social networking sites. Time on the Internet was also related but the effect size was fairly small. Privacy concerns were unrelated to all these behaviors, echoing earlier findings by Tufekci (2008) and Raynes-Gold (2010) that disclosure and activity on these sites occurs in spite of privacy concerns, likely reflecting strong normative pressure on college students to participate in these platforms.

```
 Table 5. Regression modeling the amount of time and other activities
performed on SNS
                     Time on SNS    Update Profile    Write on Wall    *
                          b               b                b
Cybersociality         0.050*          -0.006           0.012
Female                 0.745***        -0.430***        0.269***
Black                 -0.918**          0.120          -0.097
Hisp/Other            -0.476            0.010           0.002
Asian                 -0.576*           0.398**        -0.025
Friends                0.026**         -0.023***        0.012***
Time Socializing       0.011           -0.013*          0.007*
Privacy concern        0.113           -0.024          -0.066
Time on Net            0.005***        -0.001*          0.000
Uses Dial-up           0.031            0.068          -0.118
Uses Smartphone        0.375*          -0.186           0.031
_cons                  3.951***         1.876***
N                      385              385             382
ll              -764.053          -590.274         -353.071         *
* p<0.05, ** p<0.01, *** p<0.001
```

The following questions (Table 6) were posed to respondents regarding the different

ways that they use social networking sites. (4=Very often, 3=Sometimes, 2=Rarely, 1=Never).

Table 6. Questions Probing Different orientations towards using Social Network Sites.

Title in Regression	Question Wording
Other School	Keep in touch with friends who don't live nearby or who don't go to your school
Same School	Keep in touch with friends in your school
Make Plans	Make plans with your friends
Future date	Check out someone who has asked you out or you are thinking of asking out
Potential	Find potential friends
For Classes	Find people in your classes to get help with homework, assignments, or notes
Seek Similar	Find people who have similar interests
Anticipate	Check out someone's profile in anticipation of meeting them in the future (On a blind/future date, as a future roommate, etc.)
Don't Expect	View profiles of people that you do not expect to ever meet

A series of regressions were run predicting the likelihood that the respondent engaged in these activities on social network sites. The controls were gender (female=1), race (Black, Hispanic or Other, Asian), number of friends that the person keeps in touch with weekly, time spent socializing outside of school, time spent on the Internet, time spent on social network sites, concerns about privacy (with 5=very concerned and 1=never thought about it, whether the respondent uses a dial-up connection at home, whether the respondent uses a smart phone) The results are shown in Table 7a and 7b.

As can be seen in Table 7a and 7b, propensity towards cybersociality impacts specific types of behavior on these sites. Functions like keeping in touch with friends in other schools, making plans, coordinating classes or homework are not associated with cybersociality while using SNS more to keep in touch with friends within the same school, finding potential friends, looking for people with similar interests, looking up people in anticipation of meeting them or acting based on information gleaned from social media to make decisions such as changing dorm mates or canceling future dates. (Checking out potential dates is marginally significant). These results hold after controlling for time spent on social networking sites and other demographic and internet access related variables. Since the cybersociality scale ranges from 9 to 36, and the propensity to seek potential friends is scored from 1-4, the person with the lowest cybersociality scale will score 1.5 less than the person with the highest score, corresponding to the difference between "very often" and "rarely."

This results provide confirmatory validity to the scale as well as highlighting the importance of cybersociality/cyberasociality as a concept. Those who have a propensity towards (or the ability to) establish friendships online are more likely to use social network sites in ways that broaden their social networks, looking to forge new weak ties and which may potentially

become stronger over time. They are more likely to seek people with similar interests and expect to be able to judge information about future interactions (dates and friends) that is obtained online. They also use Facebook in a supplementary manner in their interactions with their friends in the current school.

Significantly, time spent socializing with friends is completely orthogonal to all these ways of using Facebook, while cybersociality is not, strongly suggesting that cybersociality is not just a side effect construct of offline propensity towards sociality. As can be expected, time spent on social network sites correlates positively with most of these activities but cybersociality continues to be significant even after it is control for. Other demographics variables play a fairly light role. Women are more likely to use Facebook to stay in touch with friends in other schools and they are more likely check out people with whom there is a possibility of dating. However, they are less likely to use Facebook to discover people with whom they share interests. Race and ethnicity appear to be largely irrelevant to the ways that people use Facebook.

Limitations: This is a cross-sectional study of a college population and the results are specific to college students. Since the study is cross-sectional, causality cannot be firmly established. However, the sample was heterogeneous with regard to race, gender, and major. Further, it is likely that causality runs both-ways for many of the results, i.e. that these processes are mutually-reinforcing. Last, this study was undertaken very recently, in December of 2010, and these results are necessarily preliminary. While the data have been checked (and rechecked) for errors and other potential issues, there are other relevant variables which may further help highlight these trends which have not yet been included in the analyses. The longer version of the paper will feature more in-depth and multivariate and descriptive analyses, as well as longer reporting on all the variables as well properties of the scale.

TABLE 7a. OLS Regressions Modeling the Predictors of Whether a Person Uses Social Network Sites in Different Ways (To keep in touch with friends in other schools, in the same school, to make plans, to check out future dates)

	Other School	Same School	Make Plans	Future Date
	b	b	b	b
Cybersociality	0.004	**0.024***	0.000	**0.024+**
Female	**0.153***	-0.051	-0.125	**0.212***
Age	-0.016	-0.008	-0.016	-0.015
Black	-0.103	-0.016	-0.010	0.038
Hisp/Other	-0.099	-0.142	-0.043	0.024
Asian	-0.151	0.038	0.107	-0.107
Friends	0.004	**0.008***	0.004	**0.011***
Time Socializing	0.005	0.001	-0.006	0.007
Privacy	0.006	0.063	-0.036	0.054
Dial up	-0.225	-0.016	-0.085	**-0.537****
Smart phone	-0.035	-0.061	-0.043	-0.142
Time on Net	0.000	0.000	-0.000	-0.000
Time on SNS	**0.078*****	**0.108*****	**0.165*****	**0.066***
_cons	3.228***	2.090***	2.728***	2.004**
N	372	372	359	371
ll	-341.549	-391.724	-384.412	-502.522

* p<0.05, ** p<0.01, *** p<0.001

TABLE 7b. OLS Regressions Modeling the Predictors of Whether a Person Uses Social Network Sites in Different Ways (to find potential friends, for help with classes, to seek other people with similar interests, in anticipation of meeting someone, and viewing profiles of people they do not expect to meet).

	Potential	For Classes	Seek Similar	Anticipate	Don't Expect	*
	b	b	b	b	b	
Cybersociality	**0.050*****	0.014	**0.030****	**0.048*****	**0.049*****	
Female	-0.107	0.062	**-0.166***	0.103	0.044	
Age	-0.007	-0.005	0.005	-0.025	-0.010	
Black	0.163	0.019	0.192	0.145	0.138	
Hisp/Other	0.176	0.165	0.119	-0.117	-0.158	
Asian	**0.249***	**0.295***	0.162	-0.248	0.023	
Friends	0.006	0.003	0.000	0.007	0.000	
Time Socializing	-0.003	-0.004	0.003	0.002	0.002	
Privacy	0.089	-0.011	-0.020	0.119	0.102	
Dial up	0.245	-0.078	0.246	-0.372	0.196	
Smart phone	0.031	-0.025	-0.051	-0.044	-0.096	
Time on Net	-0.000	0.000	-0.000	-0.000	-0.000	
Time on SNS	**0.070****	**0.117*****	0.038	0.053	**0.098*****	
_cons	0.411	1.704**	0.951	1.121	0.568	
N	371	371	369	372	371	
ll	- -459.487	-480.784	407.909	-523.050	-503.477	*

* p<0.05, ** p<0.01, *** p<0.001

Discussion

These preliminary results show that propensity towards cybersociality is not evenly divided among the population--even among a fairly young cohort with fairly lengthy exposure to the Internet (mean years of using the Internet among the respondents was 10.3). This suggests that cyberasociality might not merely be a cohort effect which will disappear with time. The strength of the social norm of having a profile on Facebook has meant that most of the sample (about 92 percent) had a profile on this platform. However, looking their responses to the questions on the newly-proposed cybersociality scale reveal a much more complicated picture, perhaps a third-level digital divide on top of the first level divide of access and use as well as the second level divide of skill and competence.

Respondents who were more cybersocial reported using Facebook in ways that differed from those who were less cybersocial. They were more likely to find new friends, seek others with similar interests and use social media to gather personal information about future and potential friends and acquaintances. Significantly, these results were not related to a propensity of offline socializing at all and only weakly, and only in a few cases, related to the number of friends a person has kept in touch with weekly. This suggests that cybersociality is not just a byproduct of offline sociality, just as dyslexia is not just a side effect of higher or lower levels of cognitive capacity but rather an ailment that may strike across a broad range of people with different abilities. In other words, those who spent more time with their friends offline did not also try to seek more friends through online methods independent of their propensity to cybersociality. Thus, it appears that it is not the case that the naturally gregarious are also always naturally gregarious in online environments.

These results show that cyberasociality, defined as the inability or unwillingness of some

people to relate to others via social media as they do when physically-present, may be emerging as a modern disadvantage and a new level of the digital divide: the sociality divide. There have been much concerned expressed about the idea that Americans may be suffering from declining social networks (Hampton 2009; McPherson et al. 2006) and there have been speculations that this may be due to Internet use. However, the relationship might be the opposite of what has been proposed, i.e. it might be that those who are able to use the newest information and communication technologies to their social advantage might be best placed to strengthen and expend their social networks while those who suffer from the digital divide(s) of access, skill *or* cyberasociality might be the ones who are most disadvantaged by the widespread adoption of these tools for social purposes. In fact, a study of General Social Survey (author, under review) finds that Internet users have significantly larger social networks of both weaker and stronger ties. However, my results here suggest that this benefit may not accrue equally to all Internet users and provides some clues to the manner in which these divisions may be playing out.

Finally, these findings may shed light on why the debate about the possibility of establishing deep bonds online refuses to die in spite of empirical findings that show that this is actually happening, at least for a segment of the population. It is possible that there are people who are deeply cyberasocial and are universalizing their subjective experience as the human norm, and thus are persistent in their claims that it is simply not possible to establish meaningful friendships using these technologies. Almost akin to a colorblind person insisting that all this talk of red and green must just reflect something superficial or made-up, and simply does not reflect a real division, the cyberasocial continue to write newspaper articles and even books lamenting the spread of these technologies. That is not to say that these technologies are not ever disruptive of sociality but that their effect may be much more complicated as some of the critics would claim.

References

Bargh, John A., and Katelyn Y. A. McKenna. 2004. "The Internet and Social Life." *Annual Review of Psychology* 55:573-590.

Deresiewicz, William. 2009. "Faux Friendship." *The Chronicle Review*, December 6

Fischer, Claude S. 1992. *America calling: a Social History of the Telephone to 1940*. Berkeley: University of California Press.

Hampton, Keith N. 2009. "Social Isolation and New Technology: How the Internet and Mobile Phones Impact Americans' Social Networks.".

Kraut, Robert et al. 1998. "Internet paradox: A social technology that reduces social involvement and psychological well-being?." *American Psychologist* 53:1017-1031.

Mallaby, Sebastian. 2006. "Sebastian Mallaby - Why So Lonesome?" *The Washington Post*

McPherson, Miller, Lynn Smith-Lovin, and Matthew E. Brashears. 2006. "Social Isolation in America: Changes in Core Discussion Networks over Two Decades." *American Sociological Review* 71:353-375.

Nie, N. H., and D. S. Hillygus. 2002. "The Impact of Internet Use on Sociability: Time-Diary Findings." *IT & Society* 1:1-20.

Ong, Walter J. 2004. *Orality and literacy: the technologizing of the word*. Routledge.

Raynes–Goldie, Kate. 2010. Aliases, creeping, and wall cleaning: Understanding privacy in the age of Facebook *First Monday*, Volume 15, Number 1 - 4 January 2010 http://firstmonday.org/htbin/cgiwrap/bin/ojs/index.php/fm/article/viewArticle/2775/2432

Stone, Rosaenne. 1991. "Will the Real Body Please Stand Up?" in *Cyberspace: First Steps*, edited by Michael Benedikt. Cambridge, Mass: MIT Press

Stutzman, Fred. 2011. Networked Information Behavior in Life Transition. Unpublished Dissertation. Available at: http://fredstutzman.com/dissertation.html

Tufekci, Zeynep 2008. "Can you see me now? Audience and disclosure regulation in online social network sites," *Bulletin of Science, Technology & Society*, volume 28, number 1, pp. 20–36.

Turkle, S. 1995. *Life on the Screen: Identity in the Age of the Internet*. Simon & Schuster.

Turkle, Sherry. 2011. *Alone Together: Why We Expect More from Technology and Less from Each Other*. Basic Books.

Vergeer, M., and B. Pelzer. 2009. "Consequences of media and Internet use for offline and online network capital and well-being." *Journal of Computer-Mediated Communication* 15:189–210.

Walther, Joseph. 1996. "Computer-Mediated Communication: Impersonal, Interpersonal, and Hyperpersonal Interaction." *Communication Research* 23:3-43.

Wang, Hua, and Barry Wellman. 2010. "Social Connectivity in America: Changes in Adult Friendship Network Size from 2002 to 2007." *American Behavioral Scientist* 53.

Wellman, Barry, Quan-Haase, A., Witte, J, and Keith N. Hampton. 2001. "Does the Internet Increase, Decrease, or Supplement Social Capital?: Social Networks, Participation, and Community Commitment." *American Behavioral Scientist* 45:436-455.

Wolf, Maryanne. 2007. *Proust and the Squid: The Story and Science of the Reading Brain.* 1st ed. Harper.

Zhao, Shanyang. 2006. "Do Internet Users Have More Social Ties? A Call for Differentiated Analyses of Internet Use." *Journal of Computer-Mediated Communication* 11:844-862