

Topic: Structural vs perceived social capital online: effects of privacy behaviors and attitudes

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### *Rationale and background*

The positive effect of networking and maintaining social ties via social media on individual social capital has been revealed in many studies [1]. However, since information sharing and disclosure of personal data lies in the basis of communication on social networking sites [2], the issue of security and preserving users' privacy becomes acute.

Natural reactions to those risks from the users' side are privacy concerns and privacy protective behaviors, which produces a dilemma between the desired level of social capital, on the one hand, and security of personal information, on the other. Nevertheless, previous studies revealed an ambiguous relationship between users' privacy attitudes and online behaviors: users might express their concerns about privacy but do not engage in privacy protective behavior [3]. In addition, this relationship is understudied in connection with online social capital. Existing studies of this kind were done on the samples of students from the USA and on Facebook users [4-5]. Finally, there are several approaches toward conceptualization and measurement of social capital [6-7], which have never been tested jointly in relation to privacy issues.

The contribution of this paper is thus in relating online social capital to a range of important factors such as privacy attitudes and behaviors. In our research we use a sample from Vkontakte social networking site representative of a middle-sized Russian city. Thus, in addition to asking new research questions, we get a chance to test whether earlier findings can be generalized to a different age distribution, a different SNS and a different society.

Among other things, we have investigated the relationship between online structural social capital embedded in an offline geographical community and self-reported measures of individual social capital. This has given us a unique opportunity to deeply understand the concept of social capital. It was done, first, by comparing local and global metrics of structural social capital. Second, the correspondence between social capital metrics of different types – observed (structural) and self-reported - was explored.

### *Methodology*

We combine two theoretical perspectives on social capital by extracting the values of six structural capital types from a full network of social media-based friendship covering an entire middle-size city in Russia - Vologda (N = 196,684) and then collecting the values of perceived

capital from a survey of a representative subsample from the same city (N=366). Structural social capital metrics were assessed via social networking analysis method (SNA), while Internet Social capital scale [8] was adopted to measure perceived social capital. During the survey respondents were asked also about their online behaviors and privacy attitudes. In order to estimate how users protect their privacy online, the information on current VK profile privacy settings were downloaded through Vkontakte API. Multiple linear ordinary least squares regression was used to test the effect of privacy concerns and privacy protective behavior on online social capital of Vkontakte users.

### *Results*

It was found that no type of privacy behavior is related to privacy concerns; this provides strong evidence for the privacy paradox phenomenon. At the same time, the lack of relation between privacy protection behavior and the number of friends suggests that, in fact, users do not have to choose between safety and visibility/connectedness since protective measures do not seem to hinder tie accumulation. In light of this, the privacy paradox may look not so much a paradox or a dilemma.

Privacy concerns have an independent positive effect on user's structural social capital, specifically to brokerage capacity and general number of social connections within the city. Thus, users concerned with the privacy loss are not embedded in the tightly connected or small social groups as expected; instead, they possess higher visibility in the city network than those unconcerned with privacy risks.

Despite the positive effect of privacy concerns on social capital seems counterintuitive, it is in line with the findings of previous studies [4-5]. The possible explanation is that users, who are more privacy cautious in controlling their privacy online, feel comfortable exposing more information and thus gain more social capital. As privacy protection via maintaining strict privacy settings is an insignificant factor, it might be that such privacy control is performed via alternative strategies of keeping privacy, e.g. decreased self-disclosure.

Perceived and structural social capitals turned to be unrelated, thus measuring different phenomena, while most types of structural capital are closely correlated. First, we can see that degree, betweenness, eigenvector and closeness centralities are strongly and positively related. A second group of measurements includes transitivity coefficient and constraint index that are both negatively related to the first group, so that constraint appears to be nearly an inverse value of the former four, while transitivity coefficient being weakly related to other measures seems to have a content of its own. Thus, while among structural metrics the only empirical difference is

between transitivity coefficient and all the rest, the bonding and the bridging scales, at least in Williams' version, appear to measure the concepts that have no structural equivalents.

### *References*

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