Abstract. The rapid expansion of social networking websites (SNW) is raising several issues regarding the influence it has on the modern school. As many authors mentioned, the proliferation of social networks among university people is changing the educational processes. In order to find out how Facebook could support education, a social learning perspective is needed. In turn, this requires to measure the social capital and to analyze its educational potential. The aim of this research is to elaborate a theoretically grounded and empirically validated multi-dimensional model, measuring the social capital that is embedded in the Facebook networks of Lithuanian university students. This is a pilot research carried out between September and December, 2014. In this respect, the research limitation reveals itself; therefore, a wider theoretical and empirical research is necessary, analyzing the usage of Facebook in the university student population. The research is significant, because it is prepared and validated a multidimensional model of the bridging social capital as perceived by university students that are using Facebook.

Key words: science education, Facebook, multidimensional model, social capital, university students.

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Introduction

Over the latter two decades, education/study strategies and technologies have changed significantly both in comprehensive and in higher schools. There is no doubt, that a rapid development of information and communication technologies had a great influence on these changes. On the one hand, schools and universities rather intensively use modern ICT in the education/study process, as one of the main components of this process. On the other hand, both pupils and students spend quite a lot of time using technologies (e.g., social networking websites) independently and individually. An opinion exists, that this negatively affects pupil and university student academic achievements. Especially it is emphasized, when it is spoken about the use of social networking websites. The other position states that the usage of technologies, e.g., “Facebook” cannot have direct consequences on academic results. In spite of rather different positions, it is obvious, that the essential thing is not the time spent in social networking websites, but the character and content of the activity in them. Social networking websites are getting more and more popular at this time; their usage is increasing in the whole world. Their success is undoubted, because a man is a social creature, he tends to communicate, share information, get interested in each other or in the new information.

Arteaga-Sanchez et al. (2010) argued that the modern school should adapt the teaching strategies to student’s lifestyle. Moving from teacher-centred approach to learner-centred approach, it is no longer enough: social learning means meeting, active participation, critical thinking, information and content sharing, collaboration, and debate (Selwin, 2009; Brown & Adler, 2008). As Brown & Adler (2008) pointed out, learning is not only “learning about” the educational content, but also “learning to be” an active participant of the discussion.
Taking a social learning perspective, one needs to measure the social capital (Coleman, 1988; Putnam, 1995; Lin 1999) and to analyze its relationship with the university life. The research studies of the latest years draw attention to various types of social capital: bridging, bonding, and maintained (Williams, 2006; Steinfield et al, 2008).

Lamanauskas et al. (2014) carried on a qualitative study based on two focus groups, to investigate the use of Facebook by university people. Their results show that FB is a useful device for an individual and educational institution's image. FB is also suitable for the formation of the groups of like-minded people. In this moment, the educational possibilities are still not sufficiently used / revealed. More exhaustive investigations are necessary in this field. Iordache (2014) carried on a similar study in Romania based on structured interview. The results show that FB is useful for keeping in touch with people from home, facilitating of interactive activities, sharing of teaching and group-related materials, and formation of new groups. FB is easy to use and enables students to express themselves freely.

Based on these two qualitative studies from Lithuania and Romania, a new evaluation instrument has been developed in order to better understand why and how university students are using Facebook and which are the educational benefits of social networking websites in a university context. The underlying conceptual model extended and adapted several existing scales.

The main aim of this research is to develop and validate a multidimensional model of the bridging social capital as perceived by university students that are using Facebook. The study is using survey data, collected in 2014 in two Lithuanian universities. Additional goals of the research are to analyze the relationship between the perceived social capital and the perceived satisfaction with life at university, as well as the faculty profile differences and gender differences among university students.

Use of Social Networks by University Students

In their essence, social networking websites are described as internet social spaces, meant to facilitate/develop communication and corporation and various content exchanges. The consumers have a lot of various possibilities, e.g., to get in touch with one another, send letters and messages, create diaries, publicize various material, present information about themselves. Participation in certain community social networks provides a possibility to share the activity, examples, ideas and experiences with the whole community.

Belonging to one or another community, university teachers have an opportunity for lifelong learning. It is obvious, that both students and teachers rather actively use social networking websites. Technological development, as it was mentioned, is going on rather rapidly. However, the essence lies in the fact, that this changes education acquisition character in general. People always need better, wider, more qualitative education. Traditional university education is becoming more and more expensive, and very often controversial too in the true meaning of education. A rather big part of university youth combines their studies with the work. It is natural, that the other, more effective education acquisition ways are being sought, especially, having in mind, technological progress.

As an example, one can mention internet-based study programs and their realization (MOOCs, Massive Open Online Courses). Such programs use social networking website, e.g., FB, techniques. According to the European Commission's Open Education Europe initiative, as of January 2015 - there were over 3,842 MOOCs worldwide. The total Number of MOOCs grew 201% in 2014, and over the period 2013-2018, MOOCs are forecasted to grow at a CAGR of 56.61% (MOOCs Directory, 2015). Thus, the most important question remains the same – how to most effectively teach the students?

By the researches, carried out in Lithuania, in 2012 (Lamanauskas, Šlekienė, Ragulienė, 2012b) it has been stated, that more than one third of the respondents very favourably value social networking websites, they like them. Even those, who do not like them, they still periodically visit them.

It has been stated, that though the respondents know quite a lot of social networking websites, the most frequently visited and the most popular are three: YouTube, Facebook, Google+. The most important functions are: communication, learning and exchanging information, texting messages. Certain sex differences revealed themselves in the evaluation of social networking websites. More female students than male communicare in the social networks, the latter more attention devote to advertising, exchanging information, while for male students, flirting is more important.

It is worrying, that only a small part of the respondents know how social networking websites use publicised personal or other type of information. Besides, male students more than female orientate, where SNW use their presented information.
Though SNW is a perfect means of communication, an excellent possibility to find out various news, find friends and so on..., students are firmly convinced, that communication in the virtual space will never replace direct human relations. Such their position has been evaluated as positive. On the other hand, it is obvious, that educational social networking website potential has a rather weak expression in the students’ evaluations and this raises a grounded concern. Though SNW is, undoubtedly, a new educational space (Lamanauskas, 2012), however, its usage possibilities from the point of view of education remain slightly known. This, namely, forms the essence and perspective of the further socio-educational research (Lamanauskas, Šlekienė, Ragulienė, 2013).

A recent study showed that university students highly value social networking websites (Lamanauskas et al., 2013). SNW can be useful for communication and leisure time, finding friends, communicating with them, acquiring knowledge and getting the newest information from the whole world.

The research, carried out by G. Tautkevičienė (2012) showed, that according to the usage, at a frequency of at least once per month from the WWW 2.0 technologies, the most popular are social networking websites and graphic recording cafes. The mentioned research also showed, that 14.8% of students use social networking websites as a purposeful means of learning, and as a means of information safekeeping and information creation – 9.8% each (Tautkevičienė, 2012). This shows that social networking website usage possibilities are not fully exploited. It is obvious, that students can create their personal learning environments not only from specially formed study educational environments, but also from other potential educational environments, e.g., social networking websites. Unique possibilities occur to integrate university educational environment with other potential learning environments (Valinevičienė, 2013). One can assert, that social networking websites is a perfect means facilitating teachers’ work and helping to create an interesting and motivating study environment for the university students.

Social Capital

Social capital has been largely researched in the last decades. The concept is elastic and slippery and has been defined in many ways from many perspectives. For Coleman (1988), the social capital is defined by its function and has many forms, such as obligations and expectations, information channels, and norms accompanied by sanctions. For Putnam (1995), social capital means features of social life (networks, norms and trust) enabling people to act together more effectively.

Lin (1999) defines the social capital as resources embedded in a social network that can be mobilized for purposeful actions. This definition considers social capital as assets in social networks. Lin (1999) distinguishes between two kinds of actions that bring returns to the investment in social capital: instrumental actions and expressive actions. Instrumental actions are taken to increase the social capital (get resources not possessed by the actor). Expressive actions are taken to maintain the existing social capital.

Putnam (2000) distinguished between bridging social capital (BRSC) and bonding social capital (BOSC). Bridging social capital means weak ties. It is inclusive and occurs when individuals make connections between social networks; it broadens the social horizons and perspectives on the world and opens new opportunities for information and resources. He suggested four criteria as starting points for theorizing the dimension of BRSC: (1) outward looking and horizons broadening (trying new things, being curious about differences in others and different parts of the world), (2) contact with a broad range of people having different backgrounds (gender, religion, classes, profession), (3) a view of oneself as part of a broaden group, and (4) diffuse reciprocity within a broader community (givingness).

Although there is a large consensus that social capital is a multi-faceted concept (Putnam, 1995; Scheufelle & Shah, 2000; Williams, 2006; Elisson et al., 2007, Valenzuela et al. 2009) there are many approaches to the conceptualization of its dimensions.

Scheufelle & Shah (2000) conceptualized and validated a three-dimensional model of the social capital: social trust (interpersonal dimension), life satisfaction (intrapersonal dimension), and social engagement (behavioral dimension). Valenzuela et al. (2009) adopted this framework and found that there is a positive association between Facebook use and these three dimensions of social capital.

Starting from the distinction between bridging and bonding social capital, Williams (2006) proposed a set of four scales. The first two scales are measuring online and offline BRSC and the last two online and offline BOSC. In his operationalization the social capital is an outcome of the social network. He argued that the separation between online and offline is a more rigorous approach, since it avoids conflating the source of the effects.

In a more recent work, Jung et al (2013) unpacked the dimensions of social capital and found out that some
sub-dimensions play an important role in getting favours from Facebook (FB) friends while the two dimensions (bridging and bonding) do not significantly predict getting favours. They used the structured 10-item scale defined by Williams (2006) and tested it along three dimensions: outward looking, broader group, and meeting new people.

**Research Methodology**

*Research Model and Hypotheses*

Based on existing research on social capital, a multidimensional model for the bridging social capital (BRSC) is proposed in this study. This model describes three dimensions that manifest in a Facebook network: Outward Looking (OL), Broader Group (BG), and Meeting New People (MNP).

Outward looking (OL) is measuring the extent to which interacting on FB with university people makes them curious about university life, other places in the world and what other people are thinking as well makes them want to try new things. The returns are more information, more experience and awareness. Broader group (BG) is measuring the extent to which interacting on FB with university people makes them feel a sense of connectedness, membership, and participation. The returns are a better integration in the university community and a more holistic view on university activities. Meeting new people (MNP) is measuring the extent to which interacting on FB with university people is enlarging the number of contacts and interlocutors. The return is increased communication between university people.

The items were adapted for a university context and Facebook use based on the scale proposed by Williams (2006) and the sub-dimensions tested by Jung et al. (2013). The operationalization of each dimension is following the distinction of Williams (2006) between offline and online bridging social capital. This way, the measures could better reflect the outcomes of the social capital that is developed by university students in a Facebook network. The first hypothesis of this study is that BRSC is a second order construct having a three-dimensional structure (BRSC → OL, BRSC → BG, and BRSC → MNP).

Several studies analyzed the relationship between the social capital developed in Facebook networks and the satisfaction with life (Elisson et al., 2007; Valenzuela et al., 2009). The second hypothesis of this study is that BRSC is positively associated with the perceived life satisfaction at university (SLU). For measuring SLU, four items were used from the scale, adapted by Elisson et al. (2007).

The questionnaire items measuring BRSC and SLU are presented in Appendix 1.

*Samples and Data Analysis*

The evaluation instrument was administrated in December 2014 to 152 students (110 female, 42 male) from two universities in Lithuania. The respondents were asked to answer several questions related to demographics (age, gender), enrollment (university, faculty, year of study), FB usage (size of their FB network, frequency of use, minutes per day), and to evaluate items on a 7 points Likert scale.

Students come from four faculties: technology and science (80), educology (57), arts (11), and humanitarian (4). Most of them are undergraduate (144). Age is varying from 18 to 45 (m=23.47, SD=5.62), most of the students (79%) being between 18 and 25 years old. The size of their social network is varying from 10 to 1000 FB friends (M=280.38, SD=190.28) out of which 3 to 400 FB friends are students (M=48.93, SD=65.46).

The normality of each of the 14 variables was investigated in terms of skewness and kurtosis. With two exceptions, the values were all within the robustness threshold [-1, +1] for normality (Hair et al., 2006).

*Analytical Procedures*

In order to assess the proposed scale, a confirmatory factor analysis (CFA) using structural equation modeling (SEM) approach was taken. The models were analyzed with AMOS 7.0 software, using a covariance matrix as input and maximum likelihood estimation method.

Convergent validity has been assessed by examining the loading and their statistical significance through t-values, the item reliability, the construct reliability (composite reliability), and the average variance extracted. Factor loadings of all standardized items should be greater than 0.50, ideally exceed 0.7 and t-values greater than
[2] at 0.05 level. Item reliability indicating the amount of variance in an item due to the underlying construct should be greater than 0.50. Composite reliability (CR) measuring the internal consistency of a given construct should be at least 0.70 or 0.60 (Hair et al., 2006). The average variance extracted (AVE) measuring the amount of variance captured by the construct should be greater than 0.50 (Fornell & Larcker, 1981).

Within the context of hierarchical models, first-order factors are expected to be highly correlated. In this case, discriminant validity may be difficult to support (Koufteros et al., 2009).

**Research Results**

*Background Profile and Gender Analysis*

Analysis of the data regarding the social capital and satisfaction with life at university revealed several differences between the perceptions of students from different faculties, as well as gender differences.

Both Technology and Natural science, and Eduology science faculty representatives being active FB users positively value the social capital. The students from Eduology have a higher perception of their social capital on FB than the students from technology and science (Table 1). Significant differences (p<.05) according to the faculty have been found for OL1, OL2, OL3, BG4, and MNP1.

From the results one can see, that in the group of the respondents from Eduology faculty, the strongest expression has the statement MNP1 (5.21) – ”Interacting on FB with people from my university gives me new people to talk to”. Technology and natural science faculty people for the acquaintance with new people give a weaker evaluation (4.36). The biggest difference between the respondents from Eduology and Technology, and natural science faculties was obtained evaluating the statements OL1 and BG4: “Interacting on FB makes me interested in what goes on at my university” (ED – 4.82, TS – 3.70) and “I am willing to spend time on FB to support general activities at my university” (ED – 4.88, TS – 3.83). A little smaller difference was obtained evaluating the statements OL2 and OL3: “Interacting on FB with people from my university makes me want to try new things” (ED – 4.47, TS – 3.74) and “Interacting on FB with people from my university makes me interested in what other people are thinking” (ED – 4.51, TS – 3.86).

Such FB social capital evaluation difference can be conditioned by various reasons: learning and leisure time peculiarities, communication style with the peers, belonging to a certain social group. These peculiarities have a big influence on the attitude and value system formation. As the future pedagogue work profile foresees educational work with the today’s youth, one can think, that in the process of studies, more than technologists and natural science people, they have to communicate with people both in real and in virtual spaces. Whilst future engineers and science representatives have to devote more time not to communication with people, but to work in various laboratories, to natural phenomena research and so on. One can notice, that even 9/5.6% of all respondent, participating in the research, have not created their FB account and do not participate in FB activity, and all of them are from Technology and natural science faculties.

The gender analysis shows that female students have higher perception, regarding the social capital. Significant differences (p<0.01) between male and female students have been found for all items of the social capital, except for two: BG2 and MNP2.

*Table 1.* Bridging social capital (mean values).

<table>
<thead>
<tr>
<th>Faculty</th>
<th>Sex</th>
<th>N</th>
<th>OL1</th>
<th>OL2</th>
<th>OL3</th>
<th>OL4</th>
<th>BG1</th>
<th>BG2</th>
<th>BG3</th>
<th>BG4</th>
<th>MNP1</th>
<th>MNP2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eduology</td>
<td>M</td>
<td>0</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>F</td>
<td>57</td>
<td>4.82</td>
<td>4.47</td>
<td>4.51</td>
<td>4.72</td>
<td>3.82</td>
<td>3.89</td>
<td>4.35</td>
<td>4.88</td>
<td>5.21</td>
<td>4.07</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>57</td>
<td>4.82</td>
<td>4.47</td>
<td>4.51</td>
<td>4.72</td>
<td>3.82</td>
<td>3.89</td>
<td>4.35</td>
<td>4.88</td>
<td>5.21</td>
<td>4.07</td>
</tr>
<tr>
<td></td>
<td>F</td>
<td>41</td>
<td>3.93</td>
<td>3.85</td>
<td>4.10</td>
<td>4.71</td>
<td>3.88</td>
<td>3.83</td>
<td>4.17</td>
<td>4.05</td>
<td>4.54</td>
<td>3.83</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>80</td>
<td>3.70</td>
<td>3.74</td>
<td>3.86</td>
<td>4.40</td>
<td>3.59</td>
<td>3.65</td>
<td>4.01</td>
<td>3.83</td>
<td>4.36</td>
<td>3.86</td>
</tr>
</tbody>
</table>
Students from educology are more satisfied with their life at university than students from technology and science (Table 2). Differences according to the faculty that are statistically significant (p < .05) have been found only for SLU2. Educology faculty students are more satisfied with the conditions in their university (5.12) than Technology and natural science (4.38). Students’ learning and leisure time quality is characterized by their life conditions at university. Leisure time conditions at the same university are equal. One can think, that students’ life conditions at university depend more on learning environment and profession peculiarities. As technology and natural science studies always need renewed laboratories, other facilities and learning resources, so the representatives of these sciences value their life conditions at university more strictly.

Regarding their life at university, female students seem to be more satisfied than male students. Higher differences have been found for SLU1 and SLU2. No statistically significant gender differences were found between male and female students.

Table 2. Satisfaction with life at university (mean values).

<table>
<thead>
<tr>
<th>Faculty</th>
<th>Sex</th>
<th>N</th>
<th>SLU1</th>
<th>SLU2</th>
<th>SLU3</th>
<th>SLU4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Educology</td>
<td>M</td>
<td>56</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>F</td>
<td>57</td>
<td>5.12</td>
<td>5.16</td>
<td>5.16</td>
<td>4.77</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>113</td>
<td>5.12</td>
<td>5.16</td>
<td>5.16</td>
<td>4.77</td>
</tr>
<tr>
<td>Technology and Science</td>
<td>M</td>
<td>39</td>
<td>3.38</td>
<td>4.36</td>
<td>4.79</td>
<td>4.51</td>
</tr>
<tr>
<td></td>
<td>F</td>
<td>41</td>
<td>4.39</td>
<td>4.78</td>
<td>4.41</td>
<td>4.41</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>80</td>
<td>3.38</td>
<td>4.36</td>
<td>4.79</td>
<td>4.46</td>
</tr>
<tr>
<td>Other</td>
<td>M</td>
<td>3</td>
<td>3.33</td>
<td>4.33</td>
<td>4.67</td>
<td>4.67</td>
</tr>
<tr>
<td></td>
<td>F</td>
<td>12</td>
<td>4.42</td>
<td>4.42</td>
<td>4.75</td>
<td>4.75</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>15</td>
<td>3.33</td>
<td>4.40</td>
<td>4.47</td>
<td>4.73</td>
</tr>
<tr>
<td>Total</td>
<td>M</td>
<td>42</td>
<td>3.38</td>
<td>4.36</td>
<td>4.79</td>
<td>4.52</td>
</tr>
<tr>
<td></td>
<td>F</td>
<td>110</td>
<td>3.94</td>
<td>4.77</td>
<td>4.94</td>
<td>4.64</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>152</td>
<td>3.78</td>
<td>4.66</td>
<td>4.89</td>
<td>4.61</td>
</tr>
</tbody>
</table>

Multi-dimensional Model Validation

Two alternative measurement models were tested in this study. The first model (M1) hypothesizes first-order factors inter-correlated, as shown in Figure 1a. The second model (M2) includes one second-order construct and three first-order factors with corresponding indicators, as shown in Figure 1b.

A preliminary testing of M1 revealed a low factor loading for item BG4. The examination of the standardized residuals values of the covariance matrix showed three residuals corresponding to BG4 that exceed the value of |2.58|. Therefore, the item has been eliminated and the model has been tested again.

The results for Model M1 indicate an acceptable level of fit of the proposed model with these data (χ²=52.192, df=24, p=0.000, χ²/df=2.100, TLI=0.940, CFI=0.960, SRMR = 0.054, RMSEA=0.093). According to Koufteros et al. (2009) when instances where first-order factors exhibit moderate correlations, a measurement model specification
such as the one represented by M1, would be advisable. The correlations between first-order factors are high, with values ranging from 0.67 to 0.76.

The results provided acceptable support for convergent validity. All standardized factor loadings were statistically significant (t-values > 1.96), and ranged from 0.69 to 0.89. The item reliability ($R^2$) values are above the suggested standard of 0.5 (Hair et al., 2006) except for OL1 (0.48) and BG3 (0.49). The composite reliability (CR) of each construct is above the minimum level of 0.60. This suggests that the items are sufficiently representative on their respective construct. The value of average variance extracted (AVE) is very good, over the cut-off value of 0.50.

![Figure 1: Three inter-correlated factors (M1) and three first-order factors, one second-order factor (M2).](image)

Testing the second-order factor model confirmed the first hypothesis. OL (Outward Looking) has a significant contribution to BRSC ($\gamma = 0.84$, $p<0.001$) showing that interacting on Facebook with university people stimulates students to try new things, find out what other people are thinking and what happens in the university. BG (Broader Group) has a significant contribution to BRSC ($\gamma = 0.90$, $p<0.001$) showing that interacting on Facebook with university people stimulates students to feel themselves as part of a broader group. MNP (Meeting New People) has a significant contribution to BRSC ($\gamma = 0.79$, $p<0.001$) showing that interacting on Facebook with university people creates the opportunity to meet and talk with new people. The regression coefficient ($\gamma$) shows that for the bridging social capital of students BG was perceived as most important dimension followed by OL and MNP.

As expected, the fit indices for M2 are identical with those of M1 (since there are only three dimensions). Then the internal consistency and convergent validity of the SLU scale were analyzed based on the cut-off values recommended by Hair et al. (2006). All factor loadings are over the minimum recommended of 0.60. Composite reliability is 0.884 and average variance extracted was 0.659. Scale reliability (Cronbach’s alpha) was 0.824.

As shown in Table 3, the correlation between the satisfaction with life at university and the bridging social capital is higher for the second order construct than for its dimensions, which in turns brings further arguments for its multi-dimensional nature.

<table>
<thead>
<tr>
<th>Construct</th>
<th>BRSC</th>
<th>OL</th>
<th>BG</th>
<th>MNP</th>
</tr>
</thead>
<tbody>
<tr>
<td>SLU</td>
<td>0.448</td>
<td>0.393</td>
<td>0.389</td>
<td>0.356</td>
</tr>
</tbody>
</table>

The correlation is higher with the first two dimensions, which suggests that students are benefiting more from taking a broader view and feeling part of the community than from meeting new people.
Overall, it was found consistent evidence for a positive association between the perception of the bridging social capital and the perception of life satisfaction at university, which confirms the second hypothesis.

Discussion

As earlier researches show (Lamanauskas et al., 2012), female students more than male tend to communicate in SNW, more than male students, they devote attention to learning and exchanging information in virtual environment. Therefore, one can think, that females communicating more in virtual space with their university people, more than male students get acquainted with new people, are interested in what other people are thinking and what goes on at their university.

Females are willing to spend time on FB, to support general activities at their university. While the male students (the majority from Technology and natural science faculty), being more of rational thinking, devote less attention to the mentioned social capital aspects. In any case, it is obvious, that exceptional attention is devoted to communication. As it is known, communication is one of the main social capital accumulation ways.

The tendency of communication character change has been noticed in the social networks, because communication in textmessaging only is not sufficient, exchange of visual information is getting more rapid. In other words, using any social networking website e.g., Facebook, the consumer becomes a new media channel, creating and spreading the information. Thus, social capital successful development significantly depends on the studies in a higher school and the developed competencies there (professional, social, common cultural, communicative, effective activity, information and change management).

The carried out research results basically correlate with the conclusions made by the other researchers. B. Chen and Marcus, J. (2012) established that students use the sites such as Facebook primarily to maintain existing personal relationships and selectively used privacy settings to control their self-presentation on SNWs. The other researchers notice, that social networking seems to offer a powerful tool to protect social relationships against the threats posed by increasing business and mobility (Sabatini, Sarracino, 2014).

Model estimation results are revealing that for Lithuanian university students, the most important is viewing themselves as part of a broader group. The second order model explains 81% variance in this dimension, 71% in outward looking and 63% in meeting new people.

The results proved that there is a positive association between the bridging social capital and the satisfaction with life at university. The nomological perspective undertaken in this study considers SLU a consequence of BRSC (Lin, 1999; Scheufele & Shah, 2000; Valenzuela et al., 2009) rather than an antecedent (Elisson et al., 2007).

Conclusions and Future Work

The main contribution of this study is a theoretically grounded and empirically validated multi-dimensional model, measuring the bridging social capital that is embedded in the Facebook networks of university students. The three dimensions of the bridging social capital are: outward looking, broader groups, and new people meeting.

Analysis results confirmed the research hypotheses and proved that bridging social capital is positively associated with the satisfaction with life at university.

There are several strengths of this study. First, it contributes to the literature on social networking websites used by university students with multi-dimensional model and an associated scale that demonstrated good reliability estimates. Second, it proposes an evaluation instrument that is capturing more accurately the bridging social capital embedded in the Facebook network of a university student. Third, apart from making an overall assessment, the model can be used to compare the perceptions as regarding the social capital of university students from different faculties, universities and countries.

There are also inherent limitations of this work since the study is exploratory. The sample used in this study is small, at limit for SEM (Structural Modelling Equation) requirements. The students came from two universities and few faculties. Future work will focus on refining and extending the scale in order to better address specific aspects of using the social networking websites in a university context, particularly in the science education area.

References


Appendix 1: Constructs and items.

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>OL1</td>
<td>Interacting on FB makes me interested in what goes on at my university</td>
</tr>
<tr>
<td>OL2</td>
<td>Interacting on FB with people from my university makes me want to try new things</td>
</tr>
<tr>
<td>OL3</td>
<td>Interacting on FB with people from my university makes me interested in what other people are thinking</td>
</tr>
<tr>
<td>OL4</td>
<td>Talking on FB with people from my university makes me curious about other places in the world</td>
</tr>
<tr>
<td>BG1</td>
<td>Interacting on FB with people from my university makes me feel like part of a larger community</td>
</tr>
<tr>
<td>BG2</td>
<td>Interacting on FB with people from my university makes me feel connected to the bigger picture</td>
</tr>
<tr>
<td>BG3</td>
<td>Interacting on FB with people from my university reminds me that everyone in the world is connected</td>
</tr>
<tr>
<td>BG4</td>
<td>I am willing to spend time on FB to support general activities at my university</td>
</tr>
<tr>
<td>MNP1</td>
<td>Interacting on FB with people from my university gives me new people to talk to</td>
</tr>
<tr>
<td>MNP2</td>
<td>On FB with people from my university, I come in contact with new people all the time</td>
</tr>
<tr>
<td>SLU1</td>
<td>In most ways my life at university is close to my ideal</td>
</tr>
<tr>
<td>SLU2</td>
<td>The conditions of my life at university are excellent</td>
</tr>
<tr>
<td>SLU3</td>
<td>I am satisfied with my life at university</td>
</tr>
<tr>
<td>SLU4</td>
<td>So far I have gotten the important things I want at university</td>
</tr>
</tbody>
</table>

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