Linek, Stephanie B.

Conference Paper

Students and lecturers on Facebook: gender-related differences in the view of the academic hierarchy

This Version is available at:
http://hdl.handle.net/11108/354

Kontakt/Contact
ZBW – Leibniz-Informationszentrum Wirtschaft/Leibniz Information Centre for Economics
Düsternbrooker Weg 120
24105 Kiel (Germany)
E-Mail: info@zbw.eu
https://www.zbw.eu/de/ueber-uns/profil-der-zbw/veroeffentlichungen-zbw

Mitglied der

ZBW Leibniz-Informationszentrum Wirtschaft
Leibniz Information Centre for Economics

Leibniz-Gemeinschaft

STUDENTS AND LECTURERS ON FACEBOOK: GENDER-RELATED DIFFERENCES IN THE VIEW OF THE ACADEMIC HIERARCHY

Stephanie B. Linek

ZBW - Leibniz Information Centre for Economics (GERMANY)

Abstract

Social media are pervasive and private social networks like Facebook have become also part of the university life. Besides the ongoing discussion about the academic potential of Facebook, it is an open question if the use of Facebook influences the student/lecturer relation that is an important factor in education. Additionally, former findings on gender-related differences in communication and social networking suggest that the perception of the academic hierarchy between students and lecturers might be different for males versus females. Beyond this background I investigated if and how the subjective view of the hierarchy between students and lecturers is associated with the academic status and gender. Additionally, I explored the influence of Facebook contacts between students and their lecturers (herein after denoted as "SL-contacts").

The research question was addressed by a 2x2x2 between-design with three independent variables, namely academic status (students vs. lecturer), gender (male vs. female), and own SL-contacts (with vs. without). Dependent variable was the subjective view of the hierarchy between students and their lecturers, i.e., if the participants see the student/lecturer relation as a dependent hierarchical relationship (hierarchical view) or as an equal partnership (egalitarian view). Furthermore, social desirability was included as control variable. The variables were measured as part of an online survey. The data base for this study comprised 1872 valid interviews (with 1714 students and 158 lecturers).

The results of the 2x2x2 ANCOVA showed a significant effect for the academic status, i.e., students estimated the student/lecturer relationship as more hierarchical than lecturers. Additionally, there was a significant effect for gender, i.e., males rated the student/lecturer relationship more hierarchical than females. Besides these two main effects, there were two non-significant tendencies: first, an interaction between gender and academic status and second, an interaction between gender and SL-contacts. In relation to these interactions, additional detailed analyses showed that the significant gender effect could be verified only for the group of lecturers with SL-contacts: Female lecturers with SL-contacts perceived the relation between students and lecturers less hierarchical and more egalitarian compared to male lecturers with SL-contacts. For the groups of lecturers without SL-contacts, students with, and students without SL-contacts there were no significant gender-related differences.

Overall, the reported findings have several implications: The students' more pronounced hierarchical view of the student/lecturer relation can be explained by a stronger dependency of the students' career on lecturers than vice versa. The gender effect, i.e., the more pronounced egalitarian view of females is in line with prior research. However, this gender effect holds true only for female lecturers with SL-contacts. Thus, female lecturers who are connected with their students on Facebook seem to be a special group that has a less traditional but more collaborative and egalitarian view of the student/lecturer relation. This suggests also gender-related differences in the lecturers' use of private social networks like Facebook. Further studies should investigate if and how this is reflected in the teaching style and might influence learning processes.

Keywords: Social networking, student/lecturer relation, gender, academic hierarchy, Web 2.0.

1 INTRODUCTION

Nowadays, Web 2.0 is ubiquitous and social networking has become part of the university life. Besides the professional use of work-related Wikis and blogs, especially private social networks like Facebook are very popular and many students and lecturers have a profile. Accordingly, Facebook is partly denoted as the "social glue" of the university life [1].

Students use Facebook to stay in touch with friends, for studying and dating [2] as well as for browsing through newsfeeds [3]. This implicates that students use Facebook also for information search. However, the findings on the academic impact of Facebook are inconsistent and indicate only minor

relevance for learning [4, 5, 6]. Besides the ongoing discussion about the academic potential of Facebook [7], it is also an open question if and how Facebook-contacts between students and lecturers might influence their relationship with each other. Thereby, the student/lecturer relation might also impact learning, i.e., Facebook could have an indirect influence on the academic career.

1.1 Relationship Between Students and Their Lecturers

The relationship between students and their teachers is an important aspect of education. Numerous studies have shown that students with a good relationship to their teachers are more engaged in learning and better socially adjusted [8, 9, 10]. Clark and Peterson [11] argued that the beliefs of teachers will impact their behavior and actions towards students and this in turn influences students' behavior. Accordingly, the beliefs of students and teachers about their relationship with each other are a critical factor in teaching. This is in line with the findings of Mazer, Murphy, and Simonds [12] that teachers' self-disclosure on Facebook has a positive impact on classroom climate. Students develop a more positive view of their professors when they get to know them better and assume a positive classroom environment [13]. Thus, the use of Facebook can have positive impact on the student/teacher relation. While these studies referred to classroom teaching, the findings on university students and their lecturers were less consistent. In relation to the university students' use of Facebook, the results of Karl and Peluchette [14] showed that even though students use the university's Facebook profile for finding new friends, they prefer a private usage and do not wish to be contacted by university staff via Facebook. Similarly, the more general findings on (occupational) hierarchies of Peluchette, Karl, and Fertig [15] suggested that Facebook friend requests by superiors are frequently perceived as problematic. On the other hand, the study of Techlehaimanot and Hickman [16] indicated that the appropriateness of student-teacher contacts on Facebook depends on the kind of interaction whereby a passive behavior of teachers was seen as more appropriate than active behaviors.

Besides the debate about the appropriateness of Facebook contacts between students and their lecturers (herein after denoted as "SL-contacts"), it is still an open question how SL-contacts are connected with the subjective view of the student/lecturer relation. Web 2.0 changes the way how people interact and connect with each other. Accordingly, Facebook contacts between students and their lecturers have the potential to change the view of the relationship between students and lecturers. Thus, the question arise, if students and lecturers with own SL-contacts have are more egalitarian and less hierarchical view of the students/lecturer relation.

1.2 Gender-Related Differences in Academia, Communication and Social Networking

Gender is a highly discussed issue in education. Several studies have provided evidence for the gender dynamics between students and their teachers. There are also findings on gender-related differences in student/teacher relations, for example, Split, Koomen, and Jak [17] found that female teachers have a better relationship with their students than their male colleagues. Other studies on college professors [18, 19] showed a similar pattern of results, i.e., female students have a preference for female professors and the evaluation of the teachers' qualities partly depended on professors' and students' gender.

Besides teaching, gender is also a highly discussed topic in other fields of academia as well as online communication and social networking. There are numerous studies on the so-called gender gap in science (National Science Foundation, 2015: https://www.nsf.gov/statistics/women/) and gender-related differences the use of the internet [20]. While the gender gap in science still persists, the gender-differences in the general amount of the internet use seems to narrow over time. Nevertheless gender influences *how* social media are used. The study of Kennedy, Wellman, and Klement [21] suggested that women are more inclined to online networking and that the female internet use can be characterized in accordance with the traditional role of females as "caregiver", i.e., more cooperative and more directed to social interaction. Similarly, also for the academic use of Twitter there is first evidence for gender-related differences [22].

Additionally, former research showed gender-related differences in the view of hierarchies. For example, the study of Schmidt Mast [23] found that there is an implicit gender stereotype in the form that men are more hierarchical and women are more egalitarian. Thereby, this implicit stereotype is more pronounced for men. Such implicit stereotypes can influence also the behavior [24].

Beyond this background the described study investigated if and how the subjective view of the academic hierarchy between students and lecturers is associated with gender and the academic status. Furthermore, I analyzed if contacts between students and their lecturers on a private social network like Facebook are connected with the subjective view of the hierarchy of the student/lecturer relation.

(*Remark:* In the following description of the study I use the term "student/lecturer relation" instead of "student/teacher relation" to make more obvious that this study relates to university students and their lecturers and not to classroom teaching.)

1.3 Research Question

The research question of this study relates to the subjective view of the hierarchy of student/lecturer relation. Do students versus lecturers view their relation with each other as a hierarchical relationship or more as an equal partnership? Is this view associated with gender? Are there differences between persons who have SL-contacts versus persons who have no SL-contacts?

2 METHODOLOGY

The following section provides an overview of the methodology including design and variables, measurements, recruitment of the participants, and a short description of the sample.

2.1 Design and Variables

For the investigation of the research question I used a 2x2x2 design with three independent between-variables:

- – Academic status (student vs. lecturer)
- – Gender (male vs. female)
- – SL-contact (with vs. without)

Dependent variable was the subjective view of the hierarchy between students and their lecturers, i.e., if the participants see the student/lecturer relation as a hierarchical relationship (hierarchical view) or as an equal partnership (egalitarian view). Additionally, I included social desirability as a control variable to avoid a possible bias in the data.

2.2 Measurements

The variables were measured as part of an online survey. The survey was designed for a larger project on a more general analysis of Facebook contacts between students and their lecturers. The variables and results reported here are only a selection of the longer survey that belongs to the project "Netiquette and profile in Science 2.0" (http://www.leibniz-science20.de/forschung/projekte/laufende-projekte/netiquette-und-profile-in-science-2-0/)

All independent variables were assessed by multiple choice questions. The academic status (student vs. lecturer) was assessed at the very beginning of the survey. Subsequently, the participants had to indicate if they have Facebook-contacts with their students or their lecturers, respectively. Afterwards, the participants had to answer several general questions on SL-contacts that served another research purpose and will not be reported here. The gender (male vs. female) of the participant was assessed at the end of the survey (together with other sociodemographic data).

After the sociodemographic data, the last page of the survey presents the items on the subjective view of the hierarchy between students and lecturers (dependent variable) and the items on social desirability. For the measurement of the subjective view of the hierarchy between students and lecturers, the participant had to rate the statement "I think students and lecturers are equal partner during university education and they communicate at eye level." The hierarchy rating was done on a 5-point Likert scale from 1 (not true at all) to 5 (totally true). Additionally, a "don't know" option was available. High ratings indicate a less hierarchical and more egalitarian view of the student/lecturer relation. Social desirability (control variable) was measured by a short scale with two items in form of statements, namely the SEA-K by Satow [25]. The items on social desirability had to be rated on 5-point Likert scale from 1 (not at all true) to 5 (totally true). High ratings indicate a high tendency to present oneself in a social desirable way.

Additionally, several other control variables were assessed including age, subject of study, and importance of politeness. However, none of the other control variables influenced the findings reported here.

2.3 Recruitment of the Participants and Description of the Sample

For the recruitment of the participants, several small, middle-size, and large universities and colleges across Germany were asked to forward the announcement of the survey by email to their students and lecturers or to post it on their Facebook site. Prerequisite for participation was that the person was a student or lecturer (at university or college) and had a Facebook-profile.

The sample of the original survey comprised 2846 persons, however there were no forced answers and only 1872 people answered all questions necessary for the data analyses reported in this paper. Thus, the data base for this study comprised 1872 valid interviews (1714 students and 158 lecturers). For lecturers, the gender-distribution was nearly equal (80 male and 78 female), for students there were more females (629 males and 1085 females). The majority of 1613 participants had no SL-contacts with their students or their lecturers respectively (1520 students and 93 lecturers). Only 259 persons (194 students and 65 lecturers) reported about own SL-contacts.

3 RESULTS

In the following I describe the main results on the research question as well as detailed findings on gender-related differences.

3.1 Main Results on the Research Question

The main analysis on the research question was done by an analysis of variance with academic status (students vs. lecturers), gender (male vs. female), and SL-contact (with vs. without) as factors. There was a significant correlation between the dependent variable (hierarchy rating) and social desirability ($r = .120$; $p < .000$). Thus, social desirability was included as covariate to avoid an accordingly bias. This resulted in a 2x2x2 ANCOVA with three between-factors (academic status, gender, SL-contacts) and social desirability as covariate. The descriptive statistics of the hierarchy rating including means (M), standard deviations (SD), and number of valid cases (n) are listed in table 1 (structured by academic status, gender, and SL-contacts of the participants).

Table 1. *Descriptive statistics of the hierarchy rating.*

Academic status	Gender	SL-contact	M	SD	n
Students	Male	With	2.76	1.07	76
		Without	2.75	1.15	553
		All	2.76	1.14	629
	Female	With	2.82	1.15	118
		Without	2.75	1.08	967
		All	2.76	1.08	1085
	All	With	2.80	1.11	194
		Without	2.75	1.11	1520
		All	2.76	1.11	1714
Lecturers	Male	With	2.87	1.07	30
		Without	3.02	1.06	50
		All	2.96	1.06	80
	Female	With	3.49	1.01	35
		Without	3.12	1.20	43
		All	3.28	1.13	78
	All	With	3.20	1.08	65
		Without	3.07	1.12	93
		All	3.12	1.10	158

All	Male	With	2.79	1.07	106
		Without	2.78	1.15	603
		All	2.78	1.14	709
	Female	With	2.97	1.15	153
		Without	2.77	1.09	1010
		All	2.80	1.10	1163
	All	With	2.90	1.12	259
		Without	2.77	1.11	1613
		All	2.79	1.11	1872

The 2x2x2 ANCOVA revealed a significant effect for the academic status (F = 8.409; p = .004). Students estimated the student/teacher relation as more hierarchical than lecturers. Additionally, there was a significant effect for gender (F = 4.748; p = .029) in such a way that males rated the student/lecturer relation more hierarchical than females.

Besides these two main effects, there were two non-significant tendencies: First, an interaction between gender and academic status (F = 3.202; p = .074) and second, an interaction between gender and SL-contacts (F = 2.425; p = .120). To explore the meaning of these interactions I made further additional analyses reported in the subsequent subchapter.

3.2 Detailed Results on the Influence of Gender

Because of the unequal distribution of students and lecturers with versus without SL-contacts, I analyzed the influence of gender on the hierarchy rating separately for the following four subgroups: students with SL-contacts; lecturers with SL-contacts, students without SL-contacts and lecturers without SL-contacts. For each of these for subgroups, I made a one-way ANCOVA with gender as between-factor (male vs. female) and social desirability as covariate.

The results showed that the significant gender effect could be verified only for the subgroup of lecturers with SL-contacts (F = 6.671; p = .012): Female lecturers with SL-contacts perceived the academic relation between students and lecturers less hierarchical (and more as an equal partnership) compared to male lecturers with SL-contacts. There were no significant gender effects for lecturers without SL-contacts (F = 0.188; p = .666), for students with SL-contacts (F = 0.120; p = .729) and students without SL-contacts (F = .080; p = 777).

4 CONCLUSIONS

To sum up, there were two main results. First, there was a significant difference for the academic status. Second, also gender influences the subjective view of the hierarchy between students and their lecturers, however, only for lecturers with SL-contacts.

The findings on the influence of the *academic status* showed that the students and lecturers have a different subjective view of their academic relationship with each other. Interestingly, students estimated the student/lecturer relation as more hierarchical whereas lecturers perceive it more as an equal partnership. A possible interpretation is that students think their success at the university is relatively high dependent on their lecturers whereas the scientific career of lecturers is less influenced by their students.

The results on *gender* were only partly in line with prior findings on the more cooperative nature of women since I found only for the subgroup of lecturers with SL-contacts gender-related differences. Thereby, female lecturers with SL-contacts had a more egalitarian view of the student/lecturer relation compared to male lecturers with SL-contacts. For lecturers without SL-contacts and for both subgroups of students (with and without SL-contacts) gender did not significantly influence the hierarchy-rating.

The results suggested that female lecturers with SL-contacts have a different, more egalitarian view of the student/lecturer relation. (It is worth noting that female lecturers with SL-contacts gave the highest absolute ratings, i.e., indicated the most egalitarian view of all subgroups.) There are two possible interpretations: First, it could be the case that female lecturers with a more egalitarian view are more willing to connect with their students on private social networks like Facebook. Second, the contact

with the own students on Facebook influences the view of the student/lecturer relationship – but only for female lecturers. Independent from these two interpretations, the data has shown that female lecturers who connect with their students on Facebook seem to be a special group that has a less traditional but more egalitarian view of the student/teacher relationship. This implicates gender-related differences in the lecturers' use of private social networks like Facebook.

In the light of prior research on the impact of the student/teacher relation on learning and social adjustment (reported in the introduction), it can be assumed that female university lecturers who connect with their students on Facebook might also have another teaching style. Vice versa it could be also the case that a more egalitarian teaching style of female lecturers is reflected in more SL-contacts. Interestingly, I found no gender-related differences for students with versus without SL-contacts. However, this might be due to the fact that the accordingly variable (SL-contact) in this study didn't consider if the students' SL-contact related to a male or a female lecturer. Further investigations are needed to receive more detailed insights into gender dynamics between students and their lecturers. Additionally, future research should investigate if and how the subjective view of the student/lecturer relation is reflected in the learning processes.

Overall, the reported findings provide first evidence for the association between social networking on Facebook and a hierarchical versus egalitarian view of the student/lecturer relation. This strengthened the notion of Facebook as "social glue" [1] of the university life. Additionally, the results suggest that more attention should be paid to gender-related differences of the academic use of social networks and to gender dynamics of the student/lecturer relation.

ACKNOWLEDGEMENTS

REFERENCES

[1] C. Madge, J. Meek, J. Wellens, and T. Hooley, "Facebook, social integration and informal learning at University: "It is more for socializing and talking to friends about work than for actually doing work"," *Learning, Media and Technology*, vol. 34, no. 2 (Learning and social software – researching the realities), pp. 141-155, 2009.

[2] J. Raacke and J. Bonds-Raacke, "MySpace and Facebook: Applying the uses and gratifications theory to exploring friend-networking sites," *Cyberpsychology & Behavior*, vol. 11, no. 2, pp. 169-174, 2008.

[3] K. Wise, S. Alhabash, and H. Park, "Emotional responses during social information seeking on Facebook," *Cyberpsychology, Behavior, and Social Networking*, vol. 13, no. 5, pp. 555-562, 2010.

[4] M. Akyildiz and M. Argan, "Using online social networking: Students' purposes of Facebook usage at the University of Turkey," *Journal of Technology Research*, vol. 3, July 2012. Available: http://www.aabri.com/jtr.html. [Accessed March 7, 2017].

[5] K. F. Hew, "Students' and teachers' use of Facebook," *Computers in Human Behavior*, vol. 27, pp. 662-676, 2011.

[6] S. Manca and M. Ranieri, "Is it a tool suitable for learning? A critical review of the literature on facebook as a technology-enhanced learning environment," *Journal of Computer Assisted Learning*, vol. 29, no. 6, pp. 487-504, 2013.

[7] N. Selwyn, "Faceworking: Exploring students' education-related use of Facebook," *Learning, Media and Technology*, vol. 34, no. 2, pp. 157-174, 2009.

[8] J. N. Hughes, W. Luo, O. M. Kwok, and L. K. Loyd, "Teacher-student support, effortful engagement, and achievement: a 3-year longitudinal study," *Journal of Educational Psychology*, vol. 100, pp. 1-14, 2008.

[9] R. B. Silver, J. R. Measelle, J. M. Armstrong, and M. J. Esgender, "Trajectories of classroom externalizing behavior: contributions of child characteristics, family characteristics, and teacher-child relationship during the school transition," *Journal of School Psychology*, vol. 43, pp. 39-60, 2005.

[10] J. T. Thijs and H. M. Y. Koomen, "Task-related interactions between kindergarten children and their teachers: the role of emotional security," *Infant and Child Development*, vol. 17, pp. 181-197, 2008.

[11] C. M. Clark and P. L. Peterson, "Teachers' thought processes," in *Handbook of Research on Teaching*, M. C. Wittrock, Ed. New York: Macmillan, 1985, pp. 255-296.

[12] J. P. Mazer, R. E. Murphy, and C. J. Simonds, "The effects of teacher self-disclosure via Facebook on teacher credibility," *Learning, Media and Technology*, vol. 34, no. 2, pp. 175–183, 2009.

[13] J. P. Mazer, R. E. Murphy, and C. J. Simonds, "I'll see you on "Facebook": The effects of computer-mediated teacher self-disclosure on student motivation, affective learning, and classroom climate," *Communication Education*, vol. 56, no. 1, pp. 1-17, 2007.

[14] K. A. Karl and J. V. Peluchette, ""Friending" professors, parents and bosses: a Facebook connection conundrum," *Journal of Education for Business*, vol. 86 no. 4, pp. 214–222, 2011.

[15] J. V. Peluchette, K. A. Karl, and J. Fertig, "A Facebook "friend" request from the boss: Too close for comfort? " *Business Horizons*, vol. 56, pp. 291–300, 2013.

[16] B. Teclehaimanot, and T. Hickman, "Student-teacher interaction on Facebook: what students find appropriate," *TechTrends*, vol. 55, no. 3, pp. 19-30, 2011.

[17] J. L. Spilt, H. M. Y. Koomen, and S. Jak, "Are boys better off with male and girls with female teachers? A multilevel investigation of measurement invariance and gender match in teacher-student relationship quality," *Journal of School Psychology*, vol. 50, pp. 363-378, 2012.

[18] S. A. Basow, "Best and worse professors: Gender patterns in students' choices," *Sex Roles*, vol. 43, no. 5/6, pp. 407-417, 2000.

[19] S. A. Basow and N. T. Silberg, "Student evaluations of college professors: are female and male professors rated differently?," *Journal of Educational Psychology*, vol. 79, no. 3, pp. 309-314, 1987.

[20] C. Lutz, C. P. Hoffmann, and M. Meckel, "Beyond just politics: a systematic literature review of online participation," *First Monday*, vol. 19, no. 7, 2014. Available: http://firstmonday.org/ojs/index.php/fm/article/view/5260/4094. [Accessed December 20, 2017].

[21] T. Kennedy, B. Wellman, and K. Klement, "Gendering the digital divide," *IT & Society*, vol. 5, no. 1, pp. 72-96, 2003.

[22] S. B. Linek, A. T. Hadgu, C. P. Hoffmann, R. Jäschke, and C. Puschmann, „It's all about information? The following behaviour of professors and PhD students in Computer Science on Twitter," *The Journal of Web Science*, vol. 3, no. 1, pp. 1-15, 2017. Available: http://dx.doi.org/10.1561/106.00000008. [Accessed December 20, 2017].

[23] M. Schmid Mast, "Men are hierarchical, women are egalitarian: an implicit gender stereotype," *Swiss Journal of Psychology*, vol. 63, no. 2, pp. 107-111, 2004.

[24] J. A. Bargh, M. Chen, and L. Burrows, "Automaticity of social behaviour. Direct effects of trait construct and stereotype activation on action," *Journal of Personality and Social Psychology*, vol. 71, pp. 230-244, 1996.

[25] L. Satow, "Skala zur Erfassung von Testverfälschung durch positive Selbstdarstellung und sozial erwünschte Antworttendenzen (SEA)" [Scale for the assessment of test biases by positive self-expression and social desirable answering tendencies], *Psychomeda Discussion Paper*, www.psychomeda.de, 2012. Available: http://www.zpid.de/pub/tests/Satow_2012.pdf. [Accessed February 24, 2014].