

Analysis of the Student Background and Social Influence for Social Media-based Learning

Surjandy¹, Meyliana¹, Yuli Eni², Erick Fernando¹, Kristianus Oktriono³ and Chutiporn Anutariya⁴

¹Information Systems Department, School of Information Systems, Bina Nusantara University, Jakarta, Indonesia

²Management Department, Binus Business School Undergraduate Program, Bina Nusantara University, Jakarta, Indonesia

³Language Center, Faculty of Humanities, Bina Nusantara University, Jakarta, Indonesia

⁴School of Engineering and Technology, Asian Institute of Technology, Pathumthani, Thailand

Keywords: social media learning, explanatory, correlation bivariate technique, social influence, social media based learning.

Abstract: The function of Social Media has developed over time since its inception. It tackles a specific challenge for social activities instruments and learning tools. As the literature indicated, early spans of research drove the initiative to elaborate on social media for learning purpose. In this frame, the research urges to expound the relationship between university student background and social influence factor of social media used for the objective of learning. At a closer look, the study engaged the causal or explanatory method to find the relationship between university background factors such as grade point, gender, strata, semester, age time spent for social media and social influence factors such as family and friend. On that basis, the study used SPSS to process the data and apply the correlation bivariate technique. With these lenses, the study obtained twenty-four significant pair factors. The result of the study contributes substantially to the development of social media for future learning tools.

1 INTRODUCTION

At its core, learning method rapidly develops from the conventional way into technological-based; the changes are occurring in Indonesia similarly. Recently, the data of active internet users accounted for 143 million of the total population in Indonesia (APJII, 2018). As the study revealed, previous research reported that most university students used a smartphone for learning and social activities (Surjandy, 2016) (Balakrishnan and Gan, 2016) (Gikas and Grant, 2013) (Acarli and Sağlam, 2015). In this respect, the students accessed Facebook for learning supporting tool (Tanty, 2017). However, the result of previous research in social media for learning drives (Deaton, 2015) an insistence debate such as

- lack of response from the participant,
- unfamiliar with the topic,
- encountering difficulty (Manca and Ranieri, 2016),
- another issues is fake degree provided by university that provided online (social media) learning activity (Abbas et al., 2019).

Therefore, this study attempts to explore the social influence of university student in using social media and smartphone for learning purpose. In this line, causal or explanatory research method is used in this study to describe the relationship of influence between factors. Figure 1 represented the explanation of the research design. In the scope of sampling, the study involved four hundred and fortysix respondents in this paper from several universities in Indonesia and all participants posed as active users in the context of social media.

The hypothesis of the study consists of two parts:

- The university student background has the influence to use social media for learning. H0 University Student's background has no influence to use social media for learning. H1 University Student's background has the influence to use social media for learning
- The social influence has a relation to use social media for learning
H0 Social influence has no relationship to use social media for learning.
H1 Social influence has a relationship to use

social media for learning

The study found twenty-four significant relations between factors. In a specific context, there are six-university student’s backgrounds who have influence and relationship with social influence. It directs that the result of this study contributed significantly to the development of social media for learning in the future.

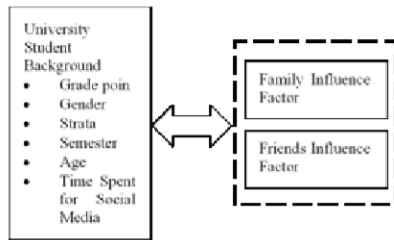


Figure 1: Research Design

2 METHODOLOGY

In this session will explain about methodology used in this study such as causal research, Pearson strength tension correlation, bivariate technique

2.1 Causal Research

Causal Research or also known as Explanatory Research is usually used for preliminary research to look for a relationship between factors or influence of one factor to another and used in marketing or sales area (Ltd, 2006) (Businessdictionary, 2019).

2.2 Pearson Strength Tension Correlation

The Pearson correlation (r) value can be used to describe the tension of the correlation where the value between .1 to .3 refers to small or weak tension of correlation. Meanwhile, the score of between .3 to .5 reflects medium or moderate tension of correlation. The score that is higher than .5 is large or strong correlation (Yeager, 2019).

2.3 Bivariate Technique

In this part, one of the techniques to look for the relationship between factors by using SPSS application is Bivariate correlation. In this line, this technique will show the Pearson correlation (r) value or relationship between factors (IBM, 2019). Meanwhile, the Pearson correlation (r) value describes the tension of the relationship between factors.

2.4 Data Collection

Table 1: Respondent Background.

No	Description	Total N=446	Percent
1	Grade Point(D1)		
	1. < 2	20	4.5%
	2. 2.01 – 2.50	24	5.4%
	3. 2.51 – 2.99	85	19.1%
	4. > 3.00	317	71.1%
2	Gender(D2)		
	1. Female	279	62.6%
	2. Male	167	37.4%
3	Strata(D3)		
	1. Diploma	37	24.0%
	2. Bachelor	402	24.9%
	3. Master	6	17.0%
	4. Doctoral	1	34.1%
5	Age(D5)		
	1. <17	4	0.9%
	2. 18 – 25	434	97.3%
	3. 26 – 30	3	0.7%
	4. >30	5	1.1%
6	Social Media(D6)		
	1. <3 hours	31	7.0%
	2. 3 – 5 hours	105	23.5%
	3. 6 – 8 hours	145	32.5%
	4. 9 – 11 hours	88	19.7%
	5. 12 – 14 hours	30	6.7%
	> 15 hours	47	10.5%

In this section, the snowball technique is used to gather the respondent. Technically, the researchers used google form application to support the research. Also, the sample of the respondent in this study consisted of four hundred and forty-six. Based on Indonesia Internet Service Association in 2018, the internet user in Indonesia is 143,26 million users, and 89.35% is active social media user or around 128 million users(APJII, 2018). With this setting, the researchers applied Slovin’s formula. The minimum respondent required is 400 respondents. See Table 1.

2.5 Social Media

The ubiquitous social media has captured the attention of the learners. In this sense, the engagement of the function and the attachment of the features also attract the learners’ potential in exploring the utility. In this spectrum, interaction and communication have progressed over time and platform. In this area, it integrates collaborative and collective preference. Arguably, Faizi stated that social media embraces a

myriad of tools that amalgamate technology, social interaction and content creation (Faizi et al., 2013). With this in mind, social media informs the learners of the two effect on learning. Firstly, it allows learners to select appropriate media platforms. It enhances the learners' preference to devise the learning plan(Deaton, 2015). On the other hand, global access on the data and information to social media emerges significant engagement that decreased the performance. Lahiri and Moseley listed the benefit and limitations of social media(Lahiri and Moseley, 2015) in Table 2.

Table 2: Benefits and Limitations.

Benefit	Limitations
1. Social media encourages collaborative learning	1. Making a safe community presence is a challenge. Use and access to social media when used in school work must be monitored closely by the instructor.
2. Social media enables the modelling of behaviour	2. Social media can pose as a distraction for the learners and shift the focus from learning to other stuff on the web.
3. Social Media motivates the learner to become active creators of content and more participation	3. Social media can easily become a tool for cyberbullying and other forms of cyber-crimes. Instructors need to be vigilant of any such possibilities and address civil and respectful cyber behaviour.
4. Social media promotes the building of learning communities and foster productive discussions and sharing of knowledge and information.	4. Use of social media for communication might be a discouraging factor for face to face communication or human interaction
5. Social media can be used by instructors to enhance student engagement	
6. Social media can be used to improve communication among learners and instructors	
7. Alumni group can connect and grow with social media	

3 RESULT AND DISCUSSION

In this segment, the research applied validity and reliability test.

3.1 Validity Test Result

Table 3 portrays the detail of the validity test result. Validity test is performed by comparing the Corrected item-total Correlation score with Pearson r Table, and the Pearson r Table value is 0.097824 (N=400, 0.05). It reflects that if the CI-TC Score is greater than 0.097824, than the result is valid and not valid if the CI-TC is lower than 0.097824.

Table 3: Validity Test

No	Validity Result Test		
	Description	CI-TC Score	Status
1	D6	0.212	Valid
2	Friends influence me to use social media to improve academic performance (SI1)	0.711	Valid
3	The Family influence me to use social media to improve academic performance (SI2)	0.723	Valid
4	Friends think that I have to use social media to learn (SI3)	0.720	Valid
5	The campus environment encouraged me to use the smartphone to complete my assignment (SI4)	0.732	Valid
6	The campus environment provides facilities and allows to use of social media in lectures (SI5)	0.492	Valid
7	Lecture activities allow me to use social media to find information (SI6)	0.565	Valid
8	Families recommend using smartphones for learning (SI7)	0.598	Valid
9	Friends recommend using a smartphone for learning (SI8)	0.715	Valid

3.2 Reliability Test Result

Following validity test results valid, the process continues with the reliability test to ensure the consistency of data. The consistency of data will be measured by checking the Cronbach's Alpha if item deleted or Cronbach Alpha score. If the Cronbach Alpha score is greater than 0.6, data is considered consistent (UCLA, 2019). Table 4 shows the detail of the data reliability test.

Table 4: Reliability Test

No	Reliability Result Test		
	Description	Score	Status
1	D7	0.890	OK
2	SI1	0.844	OK
3	SI2	0.842	OK
4	SI3	0.842	OK
5	SI4	0.842	OK
6	SI5	0.864	OK
7	SI6	0.859	OK
8	SI7	0.855	OK
9	SI8	0.844	OK

3.3 Bivariate Correlation Result

Table 5: Bivariate Result

	D1	D2	D3	D4	D5	D6
SI1	- .182** 0.000	.136** 0.000	.100* 0.034	NC	- .131** 0.006	.229** 0.000
H0	Reject	Reject	Reject	Accept	Reject	Reject
H1	Accept	Accept	Accept	Reject	Accept	Accept
SI2	- .244** 0.000	.118* 0.013	NR	- 0.01 .154**	NR	.166** 0.000
H0	Reject	Reject	Accept	Reject	Accept	Reject
H1	Accept	Accept	Reject	Accept	Reject	Accept
SI3	- .172** 0.000	NR	0.096* 0.043	- .120* 0.011	- .095* 0.044	.187** 0.000
H0	Reject	Accept	Reject	Reject	Reject	Reject
H1	Accept	Reject	Accept	Accept	Accept	Accept
SI4	NR	NR	NR	NR	NR	.201** 0.000
H0	Accept	Accept	Accept	Accept	Accept	Reject
H1	Reject	Reject	Reject	Reject	Reject	Accept
SI5	NR	NR	- .107* 0.024	NR	NR	.109* 0.022
H0	Accept	Accept	Reject	Accept	Accept	Reject
H1	Reject	Reject	Accept	Reject	Reject	Accept
SI6	NR	NR	NR	- .110 0.020	NR	.215** 0.000
H0	Accept	Accept	Accept	Reject	Accept	Reject
H1	Reject	Reject	Reject	Accept	Reject	Accept
SI7	- .136** 0.004	NR	.099* 0.037	- .114* 0.016	NR	NR
H0	Reject	Accept	Reject	Reject	Accept	Accept
H1	Accept	Reject	Accept	Accept	Reject	Reject
SI8	NR	NR	NR	- .094* 0.047	NR	.132** 0.005
H0	Accept	Accept	Accept	Reject	Accept	Reject
H1	Reject	Reject	Reject	Accept	Reject	Accept

After the result of validity and reliability test valid and consistent, the following process performed Bivariate Correlation calculation. As the backdrop, the process will produce a Pearson Correlation (r) score and the indicator sign. The relationship between factors is gained by seeing the indicator sign. If the indicator signs are lower than 0.05, it means there is a relationship between factor. Meanwhile, there is no relationship between factors if the indicator sign

is greater than 0.05. The hypothesis result described that there is a relationship if H0 is rejected and H1 is accepted; no relationship if H0 is accepted and H1 is rejected. Table 5 shows the detail of the Bivariate Correlation and hypothesis result.

Explanation of the Bivariate correlation result is elaborated as follow. The obtained factors have a relationship

Grade point (D1) has a negative correlation with "friends influence me to use social media to improve academic performance" (SI1). It means that the greater influence from friends to use social media to improve academic performance, the lower grade point is gained. Table 6 informed the level of relationship strength.

Grade point (D1) has a negative relationship with "family influence me to use social media to improve academic performance" (SI2). It indicates that the greater influence from family influence to use social media to improve academic performance, the lower grade point is received.

Grade point (D1) has a negative relationship with "friends think that I must use social media to learn" (SI3). It reveals that the greater influence from friend think that I have to use social media to learn, the lower grade point is acquired.

Grade point (D1) has a negative relationship with "lecture activities allow me to use social media to find information" (SI6). It signifies that the greater influence from lecture activities allow me to use social media to find information (SI6), the lower grade point is gained.

Gender (D2) has a relationship with "friends influence me to use social media to improve academic performance" (SI1). It directs that the male has more influence to use social media to improve academic performance. On the other side, the female has less influence to use social media to improve academic performance.

Gender (D2) has a relationship with "family influence me to use social media to improve academic performance" (SI2). It implies that male has more family influence to use social media to improve academic performance, but the female has less family influence to use social media to improve academic performance.

Strata (D3) has a relationship with "friends influence me to use social media to improve academic performance" (SI1). It suggests that the higher strata have a stronger influence on the student to use social media and improve academic performance. However, the lower strata have less influence to use social media to improve academic performance. Strata(D3) has a relationship with "friends think that I must use so-

cial media to study" (SI3). It describes that the higher strata have more influence on using social media to study; however, the lower strata have less influence on the necessity of using social media to study.

Strata (D3) has a negative relationship with "the campus environment provides facilities and allows to use of social media in lectures (SI5). It means that the higher strata have less influence for a campus environment that provides facilities and allows the student to use social media in lectures. However, the lower strata have more influence on the campus environment in providing facilities and allowing the student to use social media in lectures.

Strata (D3) has a relationship with "families recommend using smartphones for learning" (SI7). It stated that the higher strata have more influence that families recommend using smartphones for learning. However, the lower strata have less influence that families recommend using a smartphone for learning.

Semester (D4) has a negative relationship with "family influence me to use social media to improve academic performance" (SI2). It leads that the lower semester has more influence on the family to use social media in improving academic performance. However, the higher semester has less influence on the family to use social media in improving academic performance.

Semester (D4) has a negative relationship with "friends think that I must use social media to learn" (SI3). It means that the higher semester has less influence on "friends think that I must use social media to learn". However, the lower semester has more influence on "

Semester (D4) has a negative relationship with "lecture activities allow me to use social media to find information" (SI6). It means that the higher semester has less influence to "lecture activities allow to use social media to find information". However, the lower semester has more influence to "lecture activities allow to use social media to find information".

Semester (D4) has a negative relationship with "families recommend using smartphones for learning" (SI7). It means the higher semester have less family influence to recommend using smartphones for learning. However, the lower semester has more family influence to recommend using smartphones for learning.

Semester (D4) has a negative relationship with "friends recommend using a smartphone for learning" (SI8). It means that the higher semester has less friend recommend using a smartphone for learning. However, the lower semester has more friend recommend using a smartphone for learning.

Age (D5) has a negative relationship with "friends

influence me to use social media to improve academic performance" (SI1). It means that the older age has less friend influence on using social media to improve academic performance. However, the younger age has more friend influence on using social media to improve academic performance.

Age (D5) has a negative relationship with "friends think that I must use social media to learn" (SI3). It means that the younger age has more friend influence on using social media to learn. However, the older age has less friend influence on using social media to learn.

Time spent on social media (D6) has a relationship with "friends influence me to use social media to improve academic performance" (SI1). It means that the longer time spent on social media, the more friend influences a student on using social media to improve academic performance and vice versa.

Time spent on social media (D6) has a relationship with "family influence me to use social media to improve academic performance" (SI2). It means that the longer time spent on social media has more family influence on using social media to improve academic performance. However, the shorter time spent on social media has less family influence to use social media to improve academic performance.

Time spent on social media (D6) has a relationship with "friends think that I must use social media to learn" (SI3). It indicates that the longer time spent on social media, it has more influence on a friend that think I must use social media to learn.

However, the shorter time spent on social media, it has less influence on a friend that think I must use social media to learn.

Time spent on social media (D6) has a relationship with "the campus environment that encouraged me to use the smartphone to complete my assignment" (SI4). It reflects that the longer time spent on social media has more influence on-campus environment that encourages the student on using the smartphone to complete the assignment. However, the shorter time spent on social media, it has less influence on the campus environment that encourages the student on using the smartphone to complete the assignment.

Time spent on social media (D6) has a relationship with "the campus environment that provides facilities and allows to use of social media in lectures" (SI5). In this line, the longer time spent on social media has more influence on-campus environment that provides facilities and allows the student to use of social media in lectures. Meanwhile, the shorter time spent on social media has less influence on-campus environment provides facilities and allows the student to use of so-

cial media in lectures.

Time spent on social media (D6) has a relationship with "lecture activities allow me to use social media to find information" (SI6). It denotes that the longer time spent on social media has more influence on "lecture activities allow to use social media to find information." However, the shorter time spent for social media has less impact on lecture activities allow to use social media to find information.

Time spent on social media (D6) has a relationship with friends recommend using a smartphone for learning (SI8). It means that the longer time spent on social media has more influence on friends recommend using a smartphone for learning.

However, the shorter time spent on social media has less impact on friends recommend using a smartphone for learning

3.4 Strength Tension of the Relationship

Table 6: Strength Relationship

No	Relation	r	r ²	Tension	Strength %
1	D1 – SI1	.182	0.033	Small	3.3%
2	D1 – SI2	.244	0.060	Small	6.0%
3	D1 – SI3	.172	0.030	Small	3.0%
4	D1 – SI7	.136	0.018	Small	1.8%
5	D2 – SI1	.136	0.018	Small	1.8%
6	D2 – SI2	.118	0.014	Small	1.4%
7	D3 – SI1	.100	0.01	Small	1.0%
8	D3 – SI3	.096		Not De-fined	
9	D3 – SI5	.107	0.011	Small	1.1%
10	D3 – SI7	.099		Not De-fined	
11	D4 – SI2	.154	0.024	Small	2.4%
12	D4 – SI3	.120	0.014	Small	1.4%
13	D4 – SI6	.110	0.012	Small	1.2%
14	D4 – SI7	.114	0.013	Small	1.3%
15	D4 – SI8	.094		Not De-fined	
16	D5 – SI1	.131	0.017	Small	1.7%
17	D5 – SI3	.095		Not De-fined	

18	D6 – SI1	.229	0.052	Small	5.2%
19	D6 – SI2	.166	0.028	Small	2.8%
20	D6 – SI3	.187	0.035	Small	3.5%
21	D6 – SI4	.201	0.040	Small	4.0%
22	D6 – SI5	.109	0.012	Small	1.2%
23	D6 – SI6	.215	0.046	Small	4.6%
24	D6 – SI8	.132	0.017	Small	1.7%

The strength tension of a relationship can be measured by checking the absolute (r) of the Pearson correlation. At the same point, the square of absolute (r) of Pearson correlation will show how significant the percentage of influence among a factor with another one. Table 6 presented the detail of the influence of a factor with another factor.

The explanation of table V elaborates the following information:

Grade point (D1) will influence 3.3% to the friend influence to use of social media to improve academic performance (SI1), it means the friend influence to use social media to learn influence 3.3% to get higher university student grade point.

Grade point (D1) will influence 6.0% to the family influence to use of social media to improve academic performance (SI2), it means the family influence to use social media for learning will influence 6.0% to get higher university student grade point.

Grade point (D1) will influence 3.0% to friends think that a university student must use social media to learn (SI3). It means the friend think that a university student must use social media to learn will influence 3.0% to get higher university student's grade point.

Grade point (D1) will influence 1.8% to lecture activities allow me to use social media to find information (SI6). It means the lecture activities that will enable university student to use social media to find information will influence 1.8% to get higher university student's grade point.

Gender (D2) will influence 1.8% to friends influence me to use social media to improve academic performance (SI1).

Gender (D2) will influence 1.4% to family influence me to use social media to improve academic performance (SI2). It means the family influence to use social media to improve academic performance will influence 1.4% for male university student.

Strata (D3) will influence 1.0% to "friends influence me to use social media to improve academic performance" (SI1), it means the friend influence to use social media to improve academic performance will influence 1.0% to the higher strata (Bachelor/Master/Ph.D.) rather than for senior high, diploma.

Strata (D3) will influence 1.1% to "the campus en-

vironment provides facilities and allows to use of social media in lectures” (SI5). It means the campus environment provided facilities and allow to use social media in lecturing will influence 1.1 higher strata (Bachelor/Master/Ph.D.) rather than for senior high, diploma.

Semester (D4) will influence 2.4% to “use social media to improve academic performance” (SI2). It means the social media used to improve academic performance will affect 2.4% to the higher semester university student.

Semester (D4) will influence 1.4% to “friends think that I must use social media to learn” (SI3). It means the friend think that I must use social media to learn will influence 1.4% to the higher semester university student.

Semester (D4) will influence 1.2% to “lecture activities allow me to use social media to find information” (SI6). It means the lecture activities that allow student to use social media to find information will influence 1.2% to higher semester of university student.

Semester (D4) will influence 1.3% to “families recommend using smartphones for learning” (SI7). It means the families recommend using smartphone for learning will influence 1.3% for higher semester of university student.

Age (D5) will influence 1.7% to “friends influence me to use social media to improve academic performance” (SI1).

Time spent on social media (D6) will influence 5.2% to “friends influence me to use social media to improve academic performance” (SI1).

Time spent for social media (D6) will influence 2.6% to “family influence me to use social media to improve academic performance” (SI2). Time spent on social media (D6) will influence 3.5% to “friends think that I must use social media to learn” (SI3).

Time spent on social media (D6) will influence 4.0% to “campus environment encouraged me to use the smartphone to complete my assignment” (SI4). Time spent on social media (D6) will influence 1.5% to “the campus environment provides facilities and allows to use of social media in lectures” (SI5). Time spent on social media (D6) will influence 4.6% to “lecture activities allow me to use social media to find information” (SI6).

Time spent on social media (D6) will influence 1.7% to “friends recommend using a smartphone for learning” (SI8).

4 CONCLUSIONS

This study addressed the hypotheses of university student background and social influence of social media learning-based. The in-depth examination has revealed that the six-university student’s background and grade point has a relationship and influence on social influence factor. In this corridor, gender influences social influence; strata influence social influence; the semester has an influence on social influence, age has an influence on social influence and time spent to use social media also has an influence on social influence eventually. Taking into account all these facts, the researchers strongly believe that social media plays an important role in promoting university student learning at the end.

This study required future research to elaborate another related factor such as ease of use factor, perceive usefulness factor, and risk factor.

ACKNOWLEDGEMENTS

Thanks to Dhyaksa Abi Satrio, Rizki Adha and Irfan Nurfauzi who contribute to collect the respondent for this paper and this paper is part of the final project of Abi, Rizki, and Irfan to get their bachelor’s degree.

REFERENCES

- Abbas, J., Aman, J., Nurunnabi, M., and Bano, S. (2019). The impact of social media on learning behavior for sustainable education: evidence of students from selected universities in pakistan. *Sustainability*, 11(6):1683.
- Acarli, D. S. and Sağlam, Y. (2015). Investigation of pre-service teachers’ intentions to use of social media in teaching activities within the framework of technology acceptance model. *Procedia-Social and Behavioral Sciences*, 176(20):709–713.
- APJII (2018). Buletin apjii edisi 23 - april 2018.
- Balakrishnan, V. and Gan, C. L. (2016). Students’ learning styles and their effects on the use of social media technology for learning. *Telematics and Informatics*, 33(3):808–821.
- Businessdictionary (2019). What is causal research? definition and meaning - businessdictionary.com.
- Deaton, S. (2015). Social learning theory in the age of social media: Implications for educational practitioners. *Journal of Educational Technology*, 12(1):1–6.
- Faizi, R., El Afia, A., and Chiheb, R. (2013). Exploring the potential benefits of using social media in education. *International Journal of Engineering Pedagogy (iJEP)*, 3(4):50–53.

- Gikas, J. and Grant, M. M. (2013). Mobile computing devices in higher education: Student perspectives on learning with cellphones, smartphones & social media. *The Internet and Higher Education*, 19:18–26.
- IBM (2019). Bivariate correlations.
- Lahiri, M. and Moseley, J. L. (2015). Learning by going social: Do we really learn from social media? *International Journal of Learning, Teaching and Educational Research*, 11(2).
- Ltd, D. R. (2006). What is causal research?
- Manca, S. and Ranieri, M. (2016). “yes for sharing, no for teaching!”: Social media in academic practices. *The Internet and Higher Education*, 29:63–74.
- Surjandy, J. (2016). Is social media used as social activities or academic activities? In *Procedia. International Conference on Information Management and Technology (ICIMTech)*, pages 130–134.
- Tanty, O. e. a. (2017). The influence of social media to support learning process in higher education institution: A survey perspective.
- UCLA (2019). What does cronbach’s alpha mean?
- Yeager, K. (2019). Libguides: Spss tutorials: pearson correlation.

