How does the immediacy of a mentor influence the situational interest of their student, and to what extent does teacher credibility mediate this relationship?

Vincent Thielemeyer

S3771660

University of Groningen

PSB3E-BT15: Bachelor Thesis

Supervisor: Dr. S.M. Stacey Donofrio

Second evaluator: Chieh-Yu Lee, MSc

In collaboration with: Evan Meighan, Katharina Wöstmann, Malin Heiman, Hana Hartmannová, Hannah El-Hawari

28.06.2023

Abstract

Research suggested that the relationship between a mentor and their student has a positive impact on the student´s situational interest. But research about what factors exactly play into this relationship still has gaps. That is why this study aims to explore certain underlying processes that may influence this relationship by looking at the effects of the mentors´ immediacy on the students´ situational interest, and how teacher credibility may mediate this effect. Additionally, we looked at the difference between peer mentors and faculty mentors. Our sample consisted of 288 psychology students at the University of Groningen. By using the online questionnaire service Qualtrics (Qualtrics, Provo, UT), we measured the students´ perception of the immediacy between the teacher of the student, the teachers´ perceived credibility, and situational interest of the student. By using Hayes (2013) process model, we conducted a mediation analysis and found that teacher credibility does mediate the relationship between immediacy and situational interest, but only when looking at the peer mentors group. Thus, we found support for both hypotheses. This highlights the importance of how mentor training should emphasize increasing interpersonal skills and that peer mentor specific training should focus on how to increase the credibility of the mentor.

Keywords: Mentoring, immediacy, teacher credibility, situational interest, student outcomes

How does the immediacy of a mentor influence the situational interest of their student, and to what extent does teacher credibility mediate this relationship?

Mentoring can generally be described as the learning relationship between a more experienced person and a less experienced individual. The mentor's task is to help the mentee grow not only in personal but also in professional aspects. By providing insightful knowledge based on their individual experiences, mentors can help students in overcoming general obstacles in life but also guide them when it comes to making the right decisions.

Mentorship is also seen as a critical component of education. By providing students said support, guidance and teaching them a way to learn, mentors can increase the chances of academic success in their students (Asgari & Carter, 2016). In addition to that, research has also suggested that mentors increase the student´s motivation and confidence (Fayram et al., 2018). But what are the key components that are essential to increase the chance of academic success in a student? Two frameworks that have been repeatedly shown to have an impact on academic success are immediacy (Christensen & Menzel, 1998; Christophel, 1990) and the instructor's credibility (Froment & Gutiérrez, 2022; Nayernia et al., 2020). There is also a growing body of evidence concerning the effects of both immediacy and teachers' credibility on the student's situational interest (Christophel, 1990; Froment & Gutiérrez, 2022), which is also deemed to be a substantial predictor for the student´s academic success (Rotgans & Schmidt, 2011).

An important distinction we have to make is the difference between a peer and a faculty mentor. Peer mentoring means setting up a student with a mentor who is at a comparable academic stage. By recently having faced similar challenges, the peer mentor can offer their students relatable advice and support. This style of mentoring can promote empathy and companionship (Carragher & McGaughey, 2016). On the other hand, faculty mentoring pairs a

student with a mentor who is a professor or an expert in the subject matter. Contrary to the peer mentor, a faculty mentor can provide the mentee with a plethora of information and experience alongside academic guidance and networking possibilities. There are key advantages to both styles respectively. While peer mentorship facilitates a relatable and more personal connection, faculty mentors offer access to more specialized information and professional networks. It is crucial to keep in mind that since they address different areas of a student's growth, both styles can coexist. Our study aims to figure out what style of mentoring has a higher impact on the student's motivation, and what role the teacher´s credibility plays concerning the aforementioned points.

Immediacy

Immediacy is a widely researched concept in the literature of instructional communication. It is defined as behaviours that promote a psychological bond between communicators (Pogue & Ahyun, 2006). There are generally two types of immediacy behaviour, verbal and nonverbal immediacy. Verbal immediacy includes all kinds of spoken interactions which increase the psychological closeness of a student and their mentor. To get a better understanding of these behaviours, we can look at the study by Kwitonda (2017) in which he states that factors such as praising students, within and out of class communication, humour, addressing them by name, encouraging them to express their opinions and using inclusive pronouns like "we" and "us" are examples of immediacy. Examples of nonverbal immediacy could include facial expressions, smiling, and body movements (Kwitonda, 2017). For the sake of this study, we look at the concept of immediacy as a whole. Research also suggested that an increase in the immediacy of the teacher will positively predict the student's situational interest. Christophel (1990) conducted a study in which she wanted to predict the effects of immediacy on

the state motivation of the student and found that the factors were substantively interrelated and supported the positive association between them. These findings support the hypothesis that highly motivated students report seeing more immediate teachers (Christophel, 1990).

Teacher Credibility

A second component which affects the student's academic success is the teacher credibility. It is defined as the level of competence, integrity, and compassion that students attribute to their instructor (Clune, 2009). Pogue and Ahyun (2006) described it best by stating that the "Ethos or credibility of a speaker as originally conceived by Aristotle consists of three dimensions: intelligence, character, and goodwill toward the audience" (Pogue & Ahyun, 2006, p. 332). Research also has shown that higher teacher credibility leads to students´ increase in contribution to class debates and that they tend to be more inclined to actively participate in learning processes (Froment & Gutiérrez, 2022).

Concerning teacher credibility, it is again important to take the differences between peer mentors and faculty mentors into account. Since faculty mentors in comparison may be seen to be more experienced based on their status, academic success, and overall knowledge, their credibility may have an impact on student outcomes. By comparing both styles we can paint a better picture when it comes to the importance of teacher credibility and its relationship with immediacy and situational interest.

Situational interest

The last aspect that we are interested in is the so-called student's situational interest. Situational interest is defined as an immediate affective reaction to particular situations and stimuli in an educational setting, that directs one's attention to a certain task. (Rotgans & Schmidt, 2011). By being closely related to achievement-related classroom behaviours, it is seen

to be a direct predictor of academic achievement (Rotgans & Schmidt, 2011). Therefore, it is crucial for educational studies and practices to comprehend situational interest factors. Since the aforementioned study by Christophel (1990) indicated a positive relationship between teacher immediacy and situational interest, it is also important to look into what function mentors have concerning situational interest and what behaviours can increase student outcomes.

Finn et al. (2009) talk about how most investigations regarding teacher credibility are split into two different types. They state that the two types are either exploring teacher qualities and behaviours assumed to increase credibility, or they explore the student's outcome related to teacher credibility. Interestingly enough, their statement links perfectly with our research, as we will be concerned with both aspects. Not only is our goal to improve our knowledge of how teacher-student immediacy and teacher credibility are affecting one another but also to investigate what mediating effect teacher credibility may have on the situational interest of the student. Lastly, we would also connect the last missing link, namely the effects of the mentor's immediacy on the students´ situational interest. To guide our research of the relationships between immediacy, situational interest, and teacher credibility, we will rely on the Hayes Process Model (see Figure 1), a framework that is frequently employed to examine mediation in social research. In simpler terms, we propose that the perceived credibility of the mentor will contribute to the understanding of the relationship between immediacy and situational interest. We will also compare the findings of the study between faculty mentors and peer mentors respectively.

We propose the following hypotheses for this research based on the background information and theoretical framework stated above:

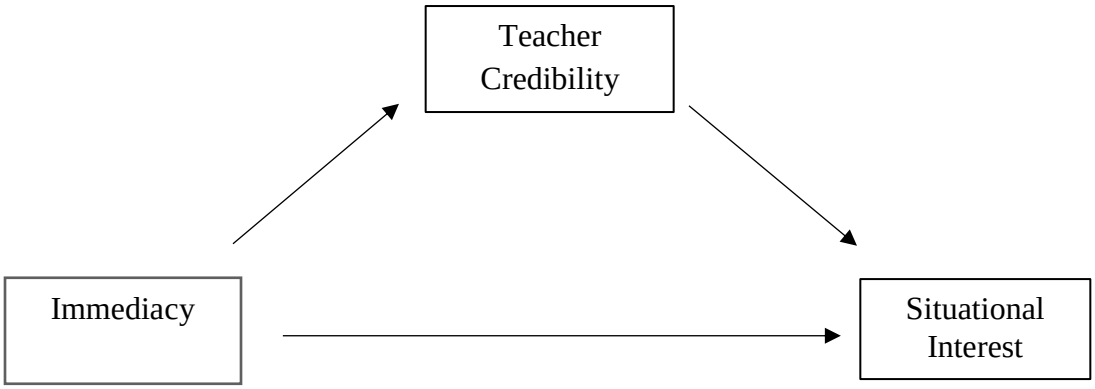
H1: The teacher´s credibility will mediate the relationship between the immediacy of the mentor and the situational interest of their student.

H2: The relationship between the peer mentors and the faculty mentors will be different.

By testing these hypotheses, we will try to shed light on the underlying functions by which mentoring relationships may impact the student's motivation and learning, how peer mentors and faculty mentors differ from one another and to gain insight into how mentoring programs can be optimized for a higher chance to guarantee the students success.

Figure 1.

Hayes Process Model in the Context of our studies



Method

Participants

After removing invalid or missing cases, the participants consisted of 289 first-year university students of the Bachelor Psychology program of the University of Groningen who are currently completing the course *Academic Skills*. Of these participants, 213 identified as female, 72 as male, and four as other. The age ranged from 17 to 31 with a mean of 20.28 years. The majority of participants, 57.4%, were Dutch, followed by 20.1% German. Other nationalities such

as Romanian, Slovak, American, Irish, and others, made up 22.5% of the participants. All participants were fluent in English at least at the B2 level, the questionnaire was in English. We used convenience sampling via the recruiting system SONA, offering study credits to the participants.

Study Design and Procedure

This study used a cross-sectional design to examine the proposed moderated mediation model. Data were collected via an online survey hosted by Qualtrics (Qualtrics, Provo, UT). Students were invited to participate in the research on the SONA system (*Sona Systems*, n.d.). This study was observational in nature, as the mentor's immediacy behaviour was not directly manipulated or altered by the study design. This study was part of a larger bachelor thesis project and was approved by the Faculty Ethics Committee.

The survey took about 15-20 minutes to complete. First, participants had to confirm that they were first-year psychology students enrolled in the course Academic Skills, this was the main admission criterion. Only those who met this condition were able to proceed. A study introduction describing objectives and procedures was provided, followed by an informed consent form. After actively agreeing to participate, all respondents completed the same questionnaire in a fixed order. Participants were given as much time as needed to complete the questionnaire and had the option to cancel at any time. If participants chose to discontinue, their data were excluded from the study. After completing the survey, the participant received 0.98 SONA credits.

Instruments

The study included eight scales in total. This paper was a part of a larger project for the bachelor thesis.

Immediacy

To measure immediacy behaviours, Kwitonda's (2017) verbal and non-verbal immediacy scales were merged into one immediacy scale. The students were asked to rate the frequency of the teacher's immediacy behaviours in the target class using a 5-point Likert scale ranging from *Never* (1) to *Always* (5). This adapted version consisted of 23 items (e.g., "In class, the instructor smiles at individual students in the class."). The highest possible score is 115 and the lowest is 23. The mean is shown in the analysis. The Cronbach's alpha for faculty mentors was a = 0.85. The Cronbach's alpha for peer mentors was a = 0.84.

Teacher Credibility

To measure how credible the student deems the teacher to be, we used the Teacher Credibility scale by MyCroskey & Teven (2013). The scale consists of 18 items in which the students had to indicate on a 7-point semantic-differential scale how they feel about certain aspects of their teacher. Numbers 1 and 7 indicate a very strong feeling whereas 1 would indicate not untrustworthy and 7 would indicate very trustworthy. The students were asked to fill out the questionnaire once for their peer mentor and once for their faculty mentor respectively. The highest possible score is 126 and the lowest is 18. The mean is totalled and shown in the analysis. The Cronbach's alpha for faculty mentors was a = 0.93. The Cronbach's alpha for peer mentors was a = 0.95.

State Motivation and Situational Interest

To measure the state motivation of students, we used the State Motivation and Situational Interest scale by Christophel (1990). We adjusted the wording of some items on the scale to avoid potential misunderstandings for non-native English-speaking participants. The scale included 13 items in which students were asked to indicate how they feel on a 7-point Likert scale. People are asked to tick the number closest to which item closest represents their feelings. In some cases, the

most positive item score is “1” whereas in other cases it is “7”. The highest possible score is a 91 and the lowest is a 7. The mean is shown in the analysis. The Cronbach's alpha was a = 0.93.

Data Analysis

The data was analysed using IBM SPSS software (version 27). Hayes’ PROCESS macro for modelling mediation was then applied to the current data (Hayes, 2013). Model 4 – a tool to conduct simple mediation analysis– was used in the analysis. This model is based on regression analysis and their assumptions, in turn using a bootstrapping approach to avoid possible violations of the normality assumption. The analysis used a 95% confidence interval to determine the significance of the results. When the confidence interval included non-zero values, the variable was statistically significant. The variables used in the model were immediacy as the independent variable, teacher credibility as the mediating variable, and situational interest as the outcome variable.

Data Preparation

Originally, 326 students signed up to be part of the study. However, some of them had to be excluded from the sample, and their data cannot be included in the analysis. Nine participants did not meet the criteria for being a first-year student enrolled in the Academic Skills course and 28 failed to finish the questionnaire. Additionally, one person responded yes to every question, therefore their data was eliminated. In the end, 288 people made up the final sample.

Ethical Considerations

Participants were told that participation in the study was entirely voluntary and withholding consent would not have had any adverse consequences. Also, the participants had the freedom of leaving the study at any time they wanted to. Since all responses were treated with confidentiality and were anonymous, the results and by that the personal opinions of students on their mentors

cannot be linked to specific people. By using gender-neutral pronouns, we ensured that the questionnaire did not contain any discriminatory terms. Lastly, participants were given the thesis supervisor's contact information if they would have any concerns regarding the research project.

Results

Descriptive statistics

Pearson's correlations, standard deviations, and means between the variables for the category peer mentors are shown in Table 1.

Table 1

Pearson correlations, standard deviations, and means of the variables for peer mentors.

	1.	2.	3.	Mean	SD
1. Immediacy	-			81.93	11.16
2. Teacher Credibility	.16**	-		100.77	17.41
3. Situational Interest	.12*	.33**	-	54.48	14.72

Note. N = 288

** Correlation is significant at the 0.01 level (2-tailed).

* Correlation is significant at the 0.05 level (2-tailed)

Pearson's correlations, standard deviations, and means between the variables for the category faculty mentors are shown in Table 2.

Table 2

Pearson correlations, standard deviations, and means of the variables for faculty mentors.

	1.	2.	3.	Mean	SD
1. Immediacy	-			79.43	11.93
2. Teacher Credibility	.33**	-		101.71	16.18
3. Situational Interest	.30**	.17**	-	54.48	14.72

Note. N = 288

** Correlation is significant at the 0.01 level (2-tailed).

Mediation Analysis

To investigate the indirect impact of the level of the mentor's immediacy on the student's situational interest through the teacher´s credibility, a simple mediation analysis was carried out. While conducting the analysis for the peer mentors an overall significant model was found (*F (2,285) = 17.285; p > 0.001*). There is evidence that would suggest that in peer mentors, the teacher credibility mediates the relationship between immediacy and situational interest. There were also significant effects of immediacy on teacher credibility (*B = 0.252, SE = 0.091, 95% CI = [0.073; 0.431], p= .0059*), for the immediacy on situational interest (*B = 0.162, SE = 0.077 % CI = [0.009; 0.3147], p= .0370*) and for teacher credibility on situational interest (*B = 0.2661, SE = 0.047, 95% CI = [0.171; 0.36], p< 0.001*).

When analyzing for faculty mentors, we found an overall significant model as well. (*F (2, 285) = 15.571*; p < 0.001). Significant effects were found of immediacy on teacher credibility (*B = 0.441, SE = 0.075, 95% CI = [0.292; 0.59], p< 0.001*) and of immediacy on situational interest (*B = 0.375, SE = 0.069, 95% CI = [0.238.; 0.512], p< 0.001*). There is however no effect of teacher credibility on situational interest (*B = 0.074, SE = 0.054, 95% CI = [-0.032; 0.181], p= .170*). Due to the similarity of scores of teacher credibility, a paired samples t-test

was conducted to find out whether there is a significant difference between teacher credibility of peer mentor (*M = 100.77, SD =17.41)* and faculty mentor (*M = 101.71, SD =16.18).* The results indicate that there was no significant difference between the two groups (t(287) = -0.931, p = 0.352)

Figure 2 shows the mediation model for the *peer mentor* group with all values of the effects for the pathways.

Figure 2.

Mediation model for the peer mentor group with the effects of each pathway

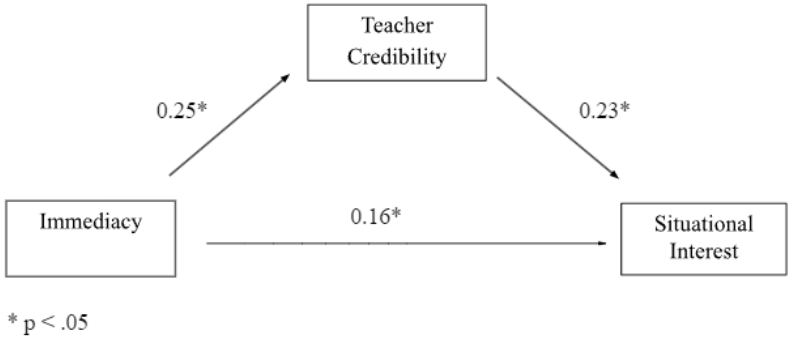
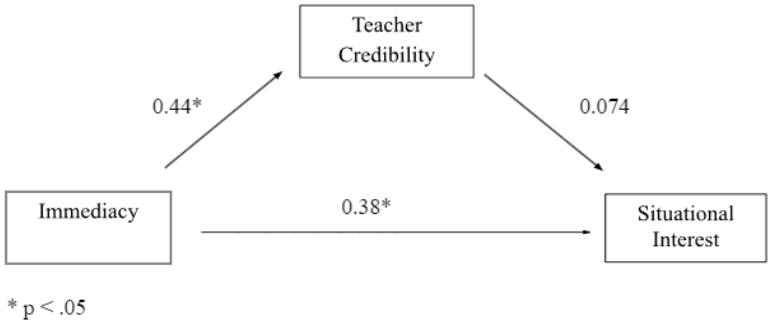


Figure 3 shows the mediation model for the *faculty mentor* group with all values of the effects for the pathways. Note that not all effects shown are significant.

Figure 3.

Mediation model for the faculty mentor group with the effects of each pathway



There is support for the first hypothesis when looking at the outcomes for the peer mentors, but there was no support for the first hypothesis when looking at the faculty mentors.

H1: The teacher´s credibility will mediate the relationship between the immediacy of the mentor and the situational interest of their student.

Based on the mediation analysis, there is support for the second hypothesis since a significant difference between faculty and peer mentors was found.

H2: The relationship between the peer mentors and the faculty mentors will be different.

Discussion

With a sample of 288 first-year Psychology students at the University of Groningen, we hypothesized that teacher credibility would mediate the relationship between the immediacy of the mentor and the situational interest of the student. We also predicted that there will be a difference between peer mentors and faculty mentors concerning our first hypothesis.

When looking at the first hypothesis, the peer group showed a significant positive relationship between the immediacy of the mentor and the student's situational outcome, and this relationship is partially mediated by teacher credibility (Figure 2). The results imply that when peer mentors show higher levels of immediacy, it may improve the students´ view of the teacher's credibility which could in turn increase the situational interest of the student. This is in line with the earlier mentioned research conducted by Froment & Gutiérrez (2022).

Our findings, however, did not support the first hypothesis when looking at the results of the faculty mentor group. There was a significant effect of the faculty mentor's immediacy on the student's situational interest, but there was no evidence that the teacher's credibility had functioned as a mediator for this relationship. The difference between the two groups raises interesting questions about student-mentor relationship dynamics and how impactful different types of mentors are when it comes to their perceived credibility of them.

Comparing peer and faculty mentors

Our study found support for the second hypothesis, namely the difference between peer mentors and faculty mentors concerning our research. The aspects of these mentoring relationships differ when comparing the findings across the peer and the faculty mentor group. The peer mentor group results support the first hypothesis since we are seeing a moderately significant correlation between teacher credibility and situational interest. This indicates that the student´s situational interest is increased when a peer mentor is seen as more credible. Peer mentors and their students may be able to develop a closer bond and have a more significant impact on the students' perceptions of their credibility because of their relatability and common experiences. Research also suggested that peer mentors and students also have a more informal way of conversing, as Webb et al. (2009) said in their paper "Students can discuss more candidly some information with peers than with faculty." (Webb et al., 2009, p. 1100). This again can lead to a more comfortable environment for the students. Also, students may compare the knowledge and capabilities of their peer mentors to their faculty mentors. When deeming the peer mentor to be competent it may lead to the feeling of "if the peer mentor can do it, I can do it as well", thereby boosting the student's motivation.

The correlation between teacher credibility and situational interest in the faculty mentor group is not significant. However, they show a moderate correlation between immediacy and situational interest, indicating that when the teacher exerts warmth and support, the student's motivation may be affected. Faculty mentors have specialized knowledge and expertise in the field, which could help explain why students find them credible. Said perceived ability and skill may increase the effectiveness of the mentor's immediacy in the student's situational interest. It might be the case that peer mentors are not perceived as credible as their faculty counterparts because of their similar academic stage to the students, albeit still being helpful and compassionate. But it could also be the case that both, peer mentors and faculty mentors, *are* seen as equally competent, but that the peer mentor´s competence in the skills they are teaching positively influences the student´s interest. The latter seems to be more plausible since the analysis indicates that the difference between the two is insignificant, meaning that in this study the peer and faculty mentors were seen as similarly credible. When considering our earlier findings, this would indicate that the peer mentors´ credibility is partially mediating the relationship between immediacy and the student's situational interest and that faculty mentors only need to exert behaviours of immediacy to reach similar levels of situational interest.

As a result, the teacher credibility may have less of a mediating effect in the faculty mentor group since the overall perceived knowledge and skill of a faculty mentor are deemed to be higher when compared to peer mentors. This is however only speculation since not much research has been done about the relationship between teacher credibility and the situational interest of the student while comparing peer and faculty mentors.

Implications

The results of this study are of high importance, especially for mentoring programs attempting to optimize the academic success of students. Educational institutions can develop mentoring interventions which in turn foster a supporting and honest mentor-student relationship by recognizing the value of both teacher credibility and mentor immediacy. For peer mentoring programs, creating workshops and guides to increase the credibility of the mentors is crucial, since it appears to play the mediating role between the mentor's immediacy and the student's situational interest. Faculty mentoring programs, on the other hand, should emphasize creating an environment that encourages immediacy development-behaviours. This in turn may facilitate higher levels of student's situational interest.

Fountain & Newcomer (2016) found that when both mentor and student deem mentoring to be useful, its effectiveness tends to increase. Introducing mandatory courses in academic institutions about basic understanding of the benefits of mentoring and how immediacy may increase the student's motivation. This in turn may increase the baseline knowledge about the benefits of mentoring within the entire academic population, hereby increasing its overall effectiveness. Fountain & Newcomer (2016) also talked about how monitoring mentoring relationships through reports or questionnaires is beneficial for both mentors and students respectively. Mentors can use the feedback to improve their mentoring skills and students in turn may be met with a more optimized and overall better mentoring experience. Including questions of immediacy and teacher credibility in the report could provide the mentor with more specified feedback about how to improve their mentoring style if they aim is to increase the student's motivation. The reports then could be separated into a subgroup specifically for faculty mentors and one specifically for peer mentors. By including mentor-type specific questions, answers may be more clear-cut and easier to interpret.

Lastly, implementing intensive and course-dependent peer mentor training prior to the course could have the potential to boost the overall credibility of the teacher. By this, the teacher is not only seen as competent through their actions but also by being able to provide extensive knowledge about a certain topic.

Limitations and Future Directions

The sample we used is composed of students who are taking the academic skills course at the University of Groningen are disproportionately female and predominantly European, young, and educated. For future research, it may be recommended to conduct a study with a sample that is more representative of the global population.

All findings within the research are based on a cross-sectional design which in turn makes it impossible to observe causal relationships within this model. We can only infer how the variables are related to each other. Future research could implement different experimental designs to test for causal relationships between the variables by for instance establishing temporal precedence and by manipulating the variables. Besides that, a longitudinal study could help to find out temporal changes in the variables. All the information was collected within a certain period, but by collecting data from a questionnaire with the same participants over a longer time span, we can infer more detailed information about how the student's motivation and their perception of immediacy and the credibility of a teacher change over time.

Furthermore, the data collection relied on self-reported measures which tend to be subject to response biases. The aim of this study specifically was to collect data about subjective experiences. However, it is possible to compare the findings of said approaches to one another and how it differs from this study by implementing different methods such as objective measures and qualitative research.

Lastly, we solely focussed on mentor immediacy, teacher credibility, and situational interest while neglecting other potential factors that can affect mentoring relationships and student outcomes. By adding additional variables, future research could provide a better understanding of mentoring processes.

Overall, this study has been successful in strengthening the understanding of how mentoring processes influence student outcomes. We found that faculty mentors' warmth and closeness are related to the students' motivational outcomes. We also found that the peer mentors´ immediacy is related to the student's motivational outcome, but that the credibility of said mentor is important with regard to said relationship. These findings not only underline the importance but could also incentivise future research student-mentor relationships.

References

Asgari, S., & Carter, F. (2016). Peer Mentors Can Improve Academic Performance. Teaching of Psychology, 43(2), 131–135. doi:10.1177/0098628316636288

Carragher, J., McGaughey, J. (2016). The effectiveness of peer mentoring in promoting a positive transition to higher education for first-year undergraduate students: a mixed methods systematic review protocol. Syst Rev 5, 68 https://doi.org/10.1186/s13643-016-0245-1

Clune, M. K. F. (2009). Students' Perceptions of Instructor Credibility: Effects of Instructor Sex, Gender Role, and Communication Style

Christensen, L. J., & Menzel, K. E. (1998). The linear relationship between student reports of teacher immediacy behaviors and perceptions of state motivation, and of cognitive, affective, and behavioral learning. Communication Education, 47(1), 82–90. doi:10.1080/03634529809379112

Christophel, D. M. (1990). The relationships among teacher immediacy behaviors, student motivation, and learning. Communication Education, 39(4), 323–340. doi:10.1080/03634529009378813

Fayram, J., Boswood, N., Kan, Q., Motzo, A., & Proudfoot, A. (2018). Investigating the benefits of online peer mentoring for student confidence and motivation. International Journal of Mentoring and Coaching in Education, 7(4), 312–328. doi:10.1108/ijmce-10-2017-0065

Finn, A. N., Schrodt, P., Witt, P. L., Elledge, N., Jernberg, K. A., & Larson, L. M. (2009). A Meta-Analytical Review of Teacher Credibility and its Associations with Teacher Behaviors and Student Outcomes. Communication Education, 58(4), 516–537. doi:10.1080/03634520903131154

Froment F, Gutiérrez M. B. (2022). La predicción de la credibilidad docente sobre la motivación de los estudiantes: el compromiso y la satisfacción académica como variables mediadoras. Revista de Psicodidáctica. 2022; 27:149–157. doi.org/10.1016/j.psicod.2022.04.003

Gorham, J., & Christophel, D. M. (1990). The relationship of teachers' use of humor in the classroom to immediacy and student learning. Communication Education, 39(1), 46–62. doi:10.1080/03634529009378786

Hayes, A. F. (2013). Introduction to mediation, moderation, and conditional process analysis a regression-based approach. Guilford Press.

Jensen, K. K. (2002). Increasing teaching effectiveness through verbal immediacy. Communication Teacher, 17(1), 3–16.

Kwitonda, J. C. (2017). Foundational aspects of classroom relations: associations between teachers' immediacy behaviours, classroom democracy, class identification and learning. Learning Environments Research, 20(3), 383–401. doi:10.1007/s10984-017-9231-3

Nayernia A., Taghizadeh M. & Farsani M. A (2020) EFL teachers' credibility, nonverbal immediacy, and perceived success: Astructural equation modelling approach, Cogent Education, 7:1, 1774099 10.1080/2331186X.2020.1774099 https://doi.org/10.1016/j.learninstruc.2009.11.001

Pogue, L. L., & Ahyun, K. (2006). The Effect of Teacher Nonverbal Immediacy and Credibility on Student Motivation and Affective Learning. Communication Education, 55(3), 331 344. doi:10.1080/03634520600748623

Qualtrics. (2005). Qualtrics International Inc. (May, 2022). http://www.qualtrics.com

Sona Systems. (n.d.). Sona Systems: Cloud-based Participant Management Software [Computer Software]. Sona Systems, Ltd. https://www.sona-systems.com/

Rotgans, J. I., & Schmidt, H. G. (2011). Situational interest and academic achievement in the active-learning classroom. Learning and Instruction, 21(1), 58–67.

Webb, A. K., Wangmo, T., Ewen, H. H., Teaster, P. B., & Hatch, L. R. (2009). Peer and Faculty Mentoring for Students Pursuing a PHD in Gerontology. Educational Gerontology, 35(12), 1089–1106. doi:10.1080/03601270902917869