Peer Versus Faculty Mentor: Identification as a Mediator Between the Relationship of Self-Disclosure and Subjective Student Outcomes

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Abstract

Self-disclosure is a communication skill not only relevant for therapists but also for mentors in an academic setting. Indeed, research has found positive effects of self-disclosure on subjective student outcomes such as motivation and content clarity. However, less is known about the mechanisms which explain these effects. This is why in the present study, identification with the mentor was investigated as a potential mediator. Further, the match between student and mentor gender was analyzed as a moderator of the relationship between the mentor's self-disclosure and identification with the mentor. The student outcomes were student engagement and connectedness with the mentor. The proposed research model was tested separately for peer and faculty mentors. The online survey data of 107 students was analyzed in this cross-sectional study. Results showed that peer and faculty mentor self-disclosure had no direct effect on any student outcome. However, there was a significant indirect effect of faculty mentor self-disclosure on faculty mentor connectedness when identification with the faculty mentor was analyzed as a mediator. Further, there was a significant relationship between identification with the peer mentor and both student outcomes. In conclusion, peer and faculty mentors should be cognizant of how well their students can identify with them because this might affect student outcomes. In particular, faculty mentors should know that their level of self-disclosure is related to how well students identify with them and thereby influences their students' sense of connectedness. Future research should replicate this study using a longitudinal design in order to measure changes in the variables over time.

Keywords: self-disclosure, identification, peer mentor, faculty mentor, student engagement, mentor connectedness, gender

Peer Versus Faculty Mentor: Identification as a Mediator Between the Relationship of Self-Disclosure and Subjective Student Outcomes

Self-disclosure can be defined in general as "the act of revealing personal or private information about one's self to other people" (American Psychological Association, n.d.). In the context of therapy, self-disclosure as a communication skill was used in treatment as early as the time of Freud (Freud, 1915), who had a rather pessimistic opinion about the usefulness of self-disclosure for treatment outcomes (Henretty et al., 2014). However, the humanistic tradition with advocates like Carl Rogers was much more optimistic, emphasizing the potential of self-disclosure in fostering the therapeutic relationship and improving interpersonal equality (Henretty et al., 2014). As a result of these two conflicting viewpoints, an extensive literature on the effects of self-disclosure in counseling practice has emerged over the decades, covering theory (Masaviru, 2016) and empirical research (Henretty et al, 2014). This literature can be broken down into two key points. First, self-disclosure can be seen as a technique positively influencing (subjective) therapy outcomes mainly through fostering the therapeutic relationship (Henretty et al., 2014; Ziv-Beiman, 2013). Second, self-disclosure can be seen through different lenses, notably Privacy Management, Social Penetration, and Social Exchange Theory (Masaviru, 2016).

In the setting relevant to this study – self-disclosure in the educational environment – the literature and especially empirical research are scarcer (Dutton et al., 2019). It might be argued that this has a reason. In therapy, the session's content is almost inevitably very private and sensitive which seems to trigger also more self-disclosure on the part of the counselor (Dutton et al., 2019; Solano & Dunnam, 1985). On the other hand, the atmosphere in an educational setting can be seen as more formal and at least less personal, increasing the subjective risk of disclosing (Omarzu, 2000). Indeed, already the group size alone can influence peoples' willingness to self-disclose with dyads having the most positive effect

(Solano & Dunnam, 1985). However, the willingness to self-disclose decreases as the number of people interacting grows (Solano & Dunnam, 1985) and in fact most educational sessions are taught in groups. It might then be inferred that self-disclosure, especially regarding personal information, is perceived as a less obvious style of interaction in the classroom setting.

Nonetheless, self-disclosure has proven to be relevant for subjective student outcomes, even though the literature is still scarce. First of all, there is evidence that self-disclosure does indeed occur in the mentor setting: In a survey (N = 140), Herrera (2004) reported that 95% of the interviewed mentors said they disclose personal problems and about two-thirds of them did so fairly often. In addition, mentors stated they see positive effects of their self-disclosure on their mentees (Dutton et al., 2019). Further, mentors can be expected to use it for relationship development as described in the therapy literature reviewed above. In particular, they also use it for clarification (Downs et al., 1988) and eliciting reciprocity (Goldstein & Benassi, 1994). In terms of measurable outcomes of self-disclosure, positive effects have been accumulated on student motivation (Mazer et al., 2007), participation (Goldstein & Benassi, 1994), student engagement (Cayanus et al., 2009), positive affective mentor-student relation (Sorensen, 1989), and mentee-reported relationship quality (Dutton et al., 2022).

In situations where the mentor was a peer instead of a traditional teacher, a positive influence on subjective student outcomes was also reported by several studies: For example, there was experimental evidence for peer mentoring increasing student motivation which then positively influenced grades over time (Destin et al., 2018). Importantly, Ryan et al. (2016) showed how a high quantity of self-disclosure was associated with higher connectedness between peer mentors and their mentees with intellectual disabilities. To further investigate this research area, this study not only researches faculty but also peer mentor self-disclosure and its effects on student outcomes.

In detail, two outcomes are investigated. First, student engagement in class is examined because of its direct manifestation in student behavior, an advantage that may be captured particularly well when compared to student motivation, which rather is only a proxy of student behavior (i.e., students may never actually act upon a potential increase in motivation). Student engagement has already been shown to be positively affected by self-disclosure (Cayanus et al., 2009). In addition, it is a meta-concept that aligns different mechanisms of student success (Zhoc et al., 2008). Second, the connectedness between peer or faculty mentors and their students is examined because the literature on the therapeutic (e.g., Henretty et al., 2014) as well as educational setting (e.g., Ryan et al., 2016) specified above indicates a positive influence of self-disclosure on the interpersonal relationship. Thus, this study aims to further explore whether peer and faculty mentors' self-disclosure does improve the student outcomes engagement in class and connectedness with the mentor.

Despite the literature on self-disclosure and associated student outcomes, there is less known about the exact mechanism that might lead to the reported effects. However, a related concept has been discussed by Humberd and Rouse (2016) in the context of career development. They proposed identification to be essential for the forming and maintenance of mentoring relationships. In their line of thinking, it can be proposed that self-disclosed information by the mentor is evaluated by the mentee in a way that leads them to identify with the mentor as a person or their role based on recognized similarities (Humberd & Rouse, 2016). These similarities in turn are associated with attraction and liking (Humberd & Rouse, 2016), which are proposed to foster connectedness, one of the student outcomes analyzed in this study.

Drawing on the relationship research by Aron et al. (2013), a second link regarding student engagement in the classroom can be made. Namely, that identification can even lead to the integration of the other person's – in this study the mentor's – self into one's own. Aron

et al. (2013) explain this integration process with the help of their self-expansion model of cognition and motivation: On the motivational side, a natural desire to expand might lead the student to extract new perspectives or identities. On the cognitive side, the student might take on the perspectives and identities as means of benefitting of this internalization by having acquired new resources. Thus, student engagement is expected to be increased if identification with the faculty or peer mentor is increased. The reasoning here is that the mentor is likely to also be a role model in terms of engagement which is believed to constitute a resource for the student.

Finally, considering the importance of similarity for identification described above (Humberd & Rouse, 2016), it can further be expected that the basic demographic characteristics of mentors and students influence the identification with the mentor. To also investigate this idea, gender is chosen as a very basic demographic characteristic. In more detail, a match between the student's and faculty or peer mentor's gender (in the following referred to as *gender match*) is analyzed as a moderator of the relation of self-disclosure and identification. The idea here is that a gender match between the student and the faculty or peer mentor (i.e., higher similarity between student and faculty or peer mentor) strengthens the effect of mentor self-disclosure on identification with the mentor.

Based on the described research questions and rationale of the study three hypotheses are derived. The first hypothesis (H1) is that there is a direct effect of mentor self-disclosure on the student outcomes and that this relationship is mediated by identification with the mentor. The second hypothesis (H2) is that gender match works as a moderator of the relationship between mentor self-disclosure and identification with the mentor. The third hypothesis (H3) is that the moderating effect of gender match also holds in the proposed mediation model (moderated-mediation). Further, as depicted in Figure 1, H1 and H3 have four sub-hypotheses each, resulting from the possible combinations of the two mentor types

(a. peer or b. faculty) and the two student outcomes [(1) student engagement or (2) mentor connectedness] investigated. H2 has two sub-hypotheses based on mentor type. Figure 2 displays the hypothesized moderated-mediation model.

Figure 1

Structure Hypotheses

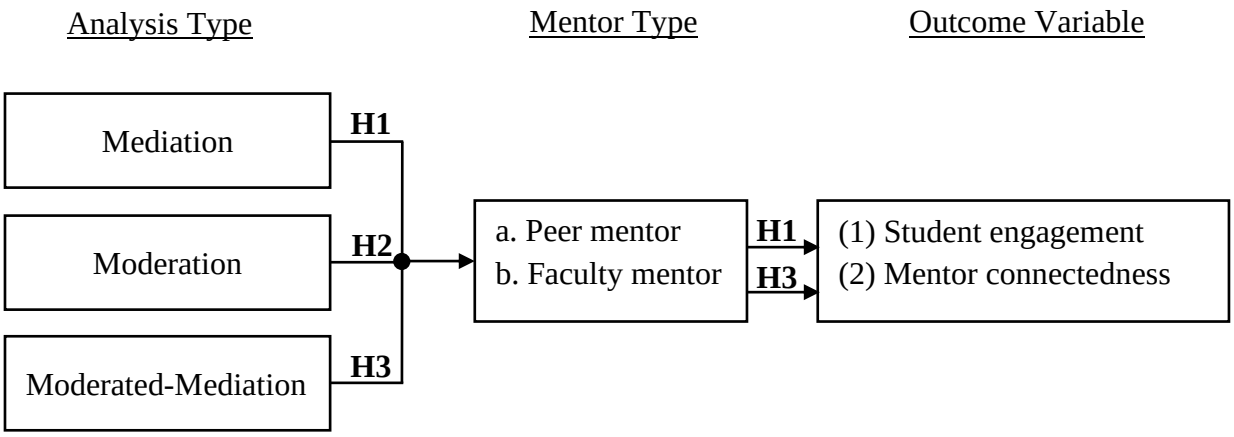
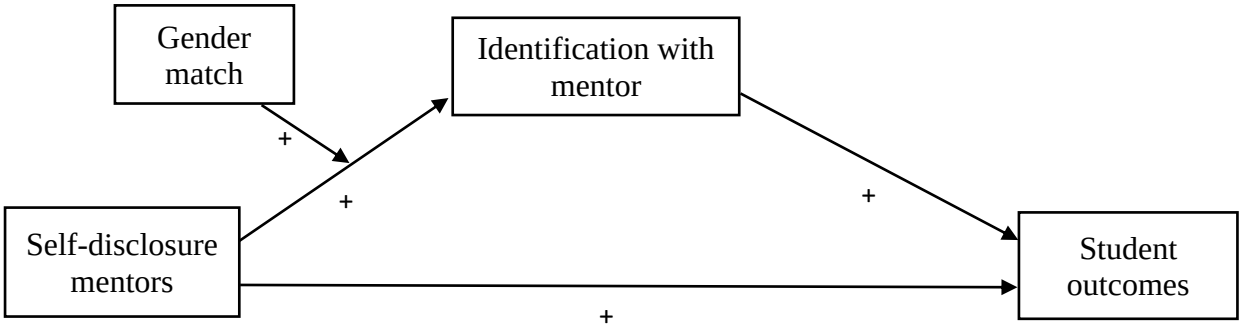


Figure 2

Hypothesized Moderated-Mediation Model



Note. Mentors: a. peer mentor, b. faculty mentor.

Student outcomes: (1) student engagement, (2) mentor connectedness.

Methods

Participants

All participants were first-year psychology students at the University of Groningen. These students were enrolled in the Academic Skills course, which is taught by both a peer and a faculty mentor. The subjects were sampled conveniently by invitation to participate via

WhatsApp, email, a poster, in person, or through an instructor. The data was gathered using an online questionnaire via Qualtrics. Of the 168 respondents, only those were kept for the subsequent analyses who provided answers to at least 90% of the questions asked, resulting in a final sample of 107 participants. Participants who identified with the female gender made up 72.9% of the sample (n = 78). Further, 24.3% identified as male (n = 26), and 2.8% indicated a gender not specified (n = 3). The age of the participants ranged from 18 to 34 years. The mean age among the male participants was 22.56 years (SD = 4.01), among the female participants it was 20.04 years (SD = 1.62), and it was 20.33 years (SD = 2.52) among the participants who did not specify their gender. The sample consisted mainly of German (43.9%) and Dutch students (24.3%); 31,8% came from other countries such as Slovakia, Romania, and Spain. All participants gave consent to use their data.

Measures

Self-Disclosure

Cayanus and Martin's (2008) Teacher Self-Disclosure Scale was used to measure the mentor's self-disclosure in the classroom. The 14-item measure asks students to report their impressions of their teacher's use of self-disclosure. Participants could rate each item on how well it applies to their teacher on a seven-point Likert scale. The response-continuum thus ranges from 1 (*completely disagree*) to 7 (*completely agree*). Further, the scale allows differentiating between three aspects of self-disclosure: Amount, Relevance, and Negativity. The items were adapted for the targets of this study, peer and faculty mentoring. Sample items were "My peer/faculty mentor often shares his/her dislikes and likes" (Amount), "My peer/faculty mentor uses his/her own experiences to introduce a concept" (Relevance), and "My peer/faculty mentor usually discloses negative things about him/herself" (Negativity). The Cronbach's alphas for the dimensions were α = .80 for Amount, α = .88 for Relevance, and α = .84 for Negativity (Cayanus & Martin, 2008). For this study, Cronbach's alphas for

the peer mentor subscales were α = .83 (Amount), α = .88 (Relevance), α = .88 (Negativity), and for the faculty mentor subscales they were α = .90 (Amount), α = .94 (Relevance), and α = .83 (Negativity).

Identification

To gain insight into the extent to which the students identified with their mentors, Ybema and Buunk's (1995) Identification Scale (α = .85) was used. The scale consists of four questions that the participants answered twice, first referring to their peer mentor and second referring to their faculty mentor. The participants were instructed to keep in mind "how well the statements described their experience" with the specific mentor. To measure this, a seven-point Likert scale ranging from 1 (*not at all*) to 7 (*very much*) was used. Cronbach's alphas for this study were high with α = .88 for identification with the peer mentor and α = .90 for identification with the faculty mentor.

Student Engagement

Student engagement was measured using the Higher Education Student Engagement Scale (HESES) of Zhoc et al. (2018). It was deemed reliable with a Cronbach's alpha of α = .70 to .87. For this study, only the four subscales (with each four items) Academic (AcE), Cognitive (CoE), Social (SoE), and Affective Engagement (AfE) were used to assess the student's engagement. The other subscales were not included as they were judged to be unrelated to the effect that peer and faculty mentors had on students. Furthermore, the Online Engagement Scale was not included as the Academic Skills course structure did not permit its use. The wording of some questions was adjusted to fit the context of mentoring. Responses were measured on a five-point Likert scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). For example, the students were asked how much they agree with statements such as "I regularly study on the weekends" (AcE), or "I really like being a university student" (AfE).

Cronbach's alphas for this study were α = .69 (AcE), α = .77 (CoE), α = .76 (SoE), α = .85 (AfE), and α = .78 for the overall scale.

Instructor Connectedness

The mentor-student relationship was measured by the Instructor Connectedness subscale of the Student-Instructor Relationship Scale (Creasey et al., 2009). Of the 11 items in this subscale, only the five most relevant were included in this study. The students were asked to indicate how well they agree with the presented statements concerning their relationship with the peer and faculty mentor on a seven-point Likert scale (1 = *strongly agree* to 7 = *strongly disagree*). Examples are "I feel comfortable sharing my thoughts with my faculty mentor" and "It is easy for me to connect with my student mentor". The Cronbach's alpha of the Instructor Connectedness subscale has been shown to be high with α = .89 (Creasey et al., 2009). The Cronbach's alphas for this study were also high with α = .94 for the peer mentor items and α = .93 for the faculty mentor items.

Gender Match

At the beginning of the survey, information was collected about the participants' and their peer and faculty mentors' gender identification. For all three items, the four answer options "male", "female", "other", and "do not wish to answer" were available to cover the full spectrum of gender sufficiently (American Psychological Association, 2015). Thus, the match between student and peer or student and faculty mentor gender could serve as a moderating variable. However, only a small fraction of people (n = 3) identified themselves as non-binary, and no mentor was identified as non-binary, so gender match could only be computed for binary people (i.e., when the student and the peer or faculty mentor both identified as either female or male this was coded a match whereas all other combinations were coded a mismatch).

Procedure

The University of Groningen's ethics committee approved the present study which was part of a larger research effort that was designed as a bachelor thesis project. Participants took part in an online questionnaire. There, participants were first asked whether they are first-year psychology students who are currently taking the Academic Skills course. Only if they indicated yes, the questionnaire continued. Then, general information about the study, and informed consent was provided. The next section asked about the gender of the participant, peer, and faculty mentor, as well as the participant's nationality and age. Subsequently, the scales relevant to this study were presented in the following order: Self-disclosure of the peer and faculty mentor, instructor connectedness for peer and faculty mentor, identification with peer and faculty mentor, and student engagement.

Statistical Analysis

The moderated-mediation model was investigated using the PROCESS macro (Hayes, 2013) for SPSS (version 28). The macro uses a bootstrap approach. Thus, no normality assumptions have to be made and the inferences are more likely to be exact. Furthermore, hypotheses can be tested with higher power. At first, H1 was examined by using model 4 in PROCESS for mediation analysis. Next, H2 was investigated by utilizing model 1 (moderation analysis). Finally, the moderated-mediation analysis was performed with model 7 which yielded all the estimated parameters at once necessary for testing H3. All calculations were employed with 5000 bootstrap re-samples and significance was always tested with 95% confidence intervals. Unstandardized effects are reported. After all hypotheses were analyzed, a post hoc exploration of the direct effects of all self-disclosure subscales on student outcomes was performed.

Design

The survey study had a cross-sectional design. The independent variable was self-disclosure for a. peer mentor and b. faculty mentor. The dependent variables were (1) student engagement and (2) mentor connectedness. The mediating variable was identification with the mentor and gender match was analyzed as a moderator on that mediation.

Results

Descriptive and Correlation Analyses

Means, standard deviations and Pearson correlations were computed for every variable as shown in Table 1.

Table 1

Correlation Table and Descriptive Statistics

	1.	2.	3.	4.	5.	6.	7.	8.	9.	Mean	SD
1. Self-disclosure PM	-									3,656	0,721
2. Self-disclosure FM	,510**	-								3,147	0,838
3. Identification PM	-0,023	0,112	-							4,509	1,164
4. Identification FM	-0,053	,213*	,229*	-						3,917	1,313
5. Student engagement	-0,037	0,121	,325**	,203*	-					3,610	0,516
6. Instructor Connectedness PM	0,051	0,016	,362**	,205*	,309**	-				9,736	1,665
7. Instructor Connectedness FM	-,201*	0,172	0,173	,521**	,268**	,659**	-			9,084	1,692
8. Gender match PM	0,134	,220*	-0,052	-0,128	0,119	-0,070	-0,037	-		0,607	0,491
9. Gender match FM	-0,051	0,014	0,142	0,149	0,091	0,012	0,061	0,029	-	0,542	0,501

*p < .05, two-tailed. **p < .01, two tailed.

Note. PM = peer mentor, FM = faculty mentor.

Hypothesis 1: Mediation

The mediation analysis (H1) assessed the direct effect of each mentor's self-disclosure on the student outcomes and the indirect effect of this relation through identification with the mentor. These analyses were thus performed for both a. peer and b. faculty mentor models,

each involving one computation for (1) student engagement and one for (2) mentor connectedness as the outcome variable.

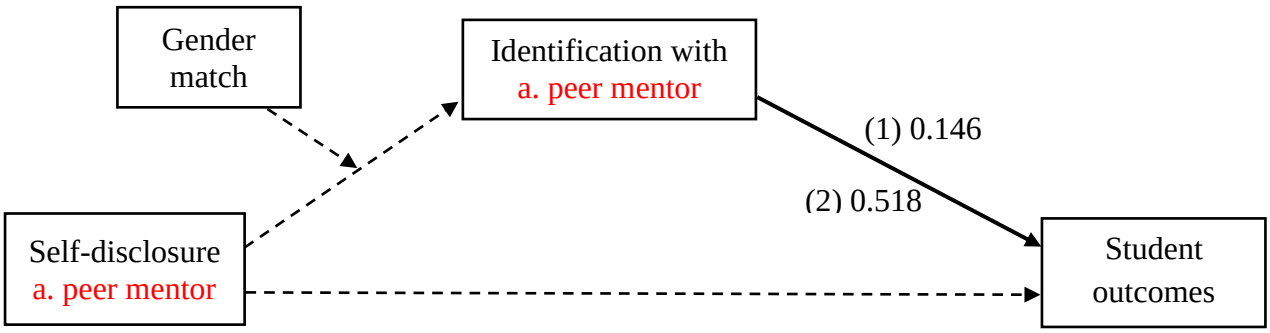
a. Peer Mentor

(1) Student Engagement. The mediation model was not significant; no total, direct, or indirect effects were found. Thus, H1a(1) was rejected. However, there was a significant effect of identification with peer mentor on student engagement (b = 0.146, SE = 0.044, 95% CI [0.059, 0.233], p = .001).

(2) Mentor Connectedness. Regarding the outcome peer mentor connectedness, the overall model was not significant, too, nor were the total, direct and indirect effects, so H1a(2) was rejected. However, there was one significant effect between identification with the peer mentor and peer mentor connectedness (b = 0.518, SE = 0.131, 95% CI [0.259, 0.777], p < .001). The effects found significant for a. peer mentor are summarized in Figure 3.

Figure 3

Summary Results Moderated-Mediation Model for a. Peer Mentor



Note. Student outcomes: (1) student engagement and (2) peer mentor connectedness. Corresponding significant coefficients (b) are displayed around the arrow.

b. Faculty Mentor

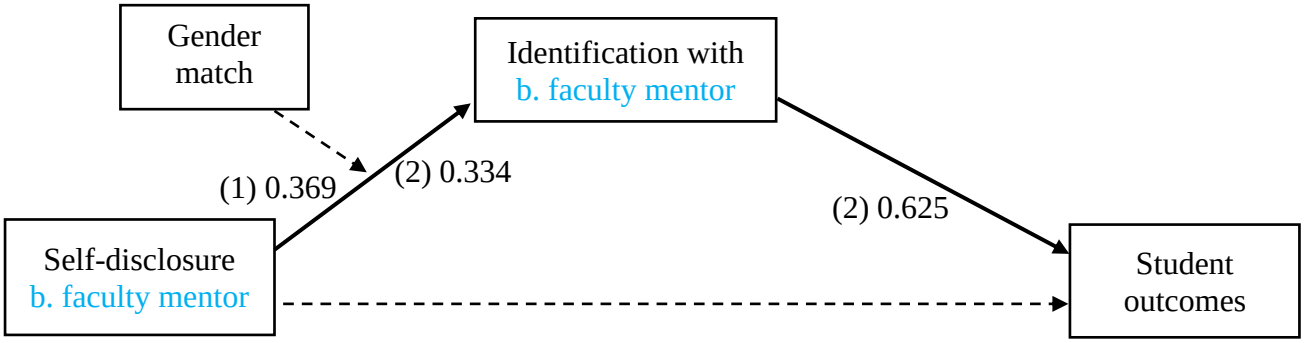
(1) Student Engagement. The overall model showed no significant results and there were no total, direct, or indirect effects. Subsequently, H1b(1) was rejected. There was a

significant effect between faculty mentor self-disclosure and identification with the faculty mentor, however (*b* = 0.369, *SE* = 0.155, 95% CI [0.061, 0.676], *p* = .019).

(2) Mentor Connectedness. With faculty mentor connectedness as the outcome variable, the overall model and the total and direct effects were not significant. Yet, there was a significant effect between faculty mentor self-disclosure and identification with the mentor (*b* = 0.334., *SE* = 0.151., 95% CI [0.035, 0.633], *p* = .029). Moreover, the relationship between faculty mentor identification and connectedness with the mentor was significant (*b* = 0.625, *SE* = 0.102, 95% CI [0.421, 0.828], *p* < .001). This led to a significant indirect effect of faculty mentor self-disclosure on faculty mentor connectedness via identification with the faculty mentor (*b* = 0.209, *SE* = 0.096, 95% CI [0.036, 0.411]). H1b(2) was thus partially supported, because in this case an indirect effect was present. The effects found significant for b. faculty mentor are summarized in Figure 4.

Figure 4

Summary Results Moderated-Mediation Model for b. Faculty Mentor



Note. Student outcomes: (1) student engagement and (2) faculty mentor connectedness. Corresponding significant coefficients (*b*) are displayed around the arrows.

Hypothesis 2: Moderation

For both, a. peer and b. faculty mentor, the proposed effect of the moderator gender match on the relationship between self-disclosure and identification was not significant. Thus, H2a and H2b were rejected.

Hypothesis 3: Moderated-Mediation

Since there was no moderation present (H2 rejected) the moderation on the overall mediation could also not be significant which was confirmed by all the computations of the possible variable constellations (i.e., a. peer or b. faculty mentor and (1) student engagement or (2) instructor connectedness). Therefore, H3 (moderated-mediation) was rejected.

Post-Hoc Analysis

Because no direct effects of self-disclosure on student outcomes were found significant, a post hoc exploration of all self-disclosure subscales on student outcomes was performed. Two direct effects were found: There were significant direct effects of the self-disclosure subscale relevance on student engagement (b = 0.081, SE = 0.039, 95% CI [0.005, 0.158], p = .038) and faculty mentor connectedness (b = 0.201, SE = 0.100, 95% CI [0.003, 0.399], p = .047).

Discussion

This study investigated the effect of self-disclosure on two student outcomes, namely student engagement and connectedness with the mentor, in the educational mentoring context. To better understand the mechanisms behind this relation, which have not been analyzed in previous research, identification was examined as a possible mediator. To meet this research aim, three hypotheses were derived. First, it was predicted that there is a direct effect of mentor self-disclosure on student outcomes and that this relationship is mediated by identification with the mentor (H1). Second, it was predicted that gender match works as a moderator of the relationship between mentor self-disclosure and identification with the mentor (H2). Third, it was predicted that the moderating effect of gender match also holds in the proposed mediation model (H3). Due to the possible combinations of the two mentor types (a. peer or b. faculty mentor) and the two student outcomes [(1) student engagement or (2) mentor connectedness] H1 and H3 further had four sub-hypotheses each. H2 had two sub-

hypotheses based on mentor type. Of the 10 sub-hypotheses, only H1b(2) was partially supported, and the remaining nine hypotheses were rejected.

Mediation

H1b(2) was partially supported because even though there was no total nor direct effect, there was a significant indirect effect of faculty mentor self-disclosure on faculty mentor connectedness via identification with the faculty mentor. In other words, students who reported higher self-disclosure of their faculty mentor also reported higher connectedness with their mentor and the existence of this relationship may be explained through higher identification with the mentor. This finding can be interpreted in the light of a previous study by Humberd and Rose (2016) who proposed that higher self-disclosure increases the chance of a person (i.e., a mentee in this study) to find similarities with their mentor and that higher similarity goes along with attraction and liking. This again is in line with this study's findings, as connectedness with the faculty mentor was found to be a significant outcome of faculty mentor self-disclosure via identification.

Even though the remaining hypotheses were rejected, two direct effects were still found. First, there was a significant direct effect of identification with the peer mentor and peer mentor connectedness. Again, this result is in line with Humberd and Rouse's (2016) reasoning that identification is beneficial for the connectedness between mentor and mentee.

Second, there was a significant direct effect of identification with the peer mentor and student engagement. This gives some credit to the theorizing of Aron et al. (2013), who argued that identification with another person, in this case, the peer mentor, can be seen as an integration process fostering the internalization of identities and perspectives. Since the peer mentor can be seen as a role model, it was suggested that this internalization could lead to increased student engagement, a proposition supported by this study's findings.

Since no direct effect of self-disclosure on any student outcome was found, this findings differ from what the relevant literature shows. First, as an example, Cayanus et al. (2009) found a significant effect of self-disclosure on student engagement. A possible reason for their significant finding is that they operationalized student engagement in a slightly different way by using Martin et al.'s (2000) 30-item measure for communicating motives, whereas this study used the Higher Education Student Engagement Scale of Zhoc et al. (2018).

Second, Ryan et al. (2016) – who showed how a high quantity of self-disclosure was associated with higher connectedness between peer mentors and their mentees – included only participants with somewhat different characteristics in their study. In detail, even though their participants were also students, they were students with intellectual disabilities, which might explain in part why they obtained a significant direct effect on the relation of self-disclosure and connectedness. It is important to note here that different populations can have different needs which in turn require different aspects of self-disclosure to be fulfilled. For example, the subscale amount of self-disclosure was found to be important for Ryan et al.'s (2016) population of students with intellectual disabilities, while a population of regular university students might benefit especially from self-disclosure's subfacet relevance. More research is needed to be able to consistently find differences in the effects of self-disclosure facets on particular populations.

Post-Hoc Analysis

Because after all hypotheses were tested, no direct effects of self-disclosure on student outcomes were found, the subscales of self-disclosure were explored additionally in a post-hoc analysis. This revealed that for the subscale faculty mentor self-disclosure relevance, two direct effects on both student outcomes, student engagement and faculty mentor connectedness, were found significant. Since self-disclosure relevance measured the extent to

which the mentor uses self-disclosure for content clarity (Cayanus & Martin, 2008), this post-hoc finding adds another insight. That is, in our sample and therefore in the educational setting the relevance of the mentor's self-disclosure might matters most for student outcomes.

Moderation

Gender match did not moderate the relation between mentor self-disclosure and identification with the mentor. Subsequently, H2a and H2b were rejected. Thus, no evidence was found for the idea that the increased similarity between student and mentor in the case of a gender match is also associated with increased identification with the mentor in the classroom setting. However, it should be noted that based on the reasoning of Humberd and Rouse (2016), who proposed the importance of similarity for identification, there could still be other influential basic characteristics not examined in this study such as age or nationality that might have a moderating effect on the relationship between mentor self-disclosure and identification with the mentor.

For the practice of mentoring, the non-significance of gender match as a moderator has actually positive implications: No evidence was found for the notion that a mentor would have to worry about gender differences influencing identification with them. For instance, if a mentor is self-disclosing in front of a group of mentees composited of the opposite gender, the mentees would not be expected to struggle more identifying with the mentor just on the fact that he or she has the opposite gender. It has to be noted however, that non-binary individuals were not included in the analysis because no mentors were reported as having a gender not specified. Thus, no conclusion can be drawn regarding people with non-binary gender.

Moderated-Mediation

Based on the fact that gender match was not found to be a significant moderator, it followed that the moderated-mediation model (H3) and its sub hypotheses had to be rejected.

Practical Recommendations

Based on the results discussed, some recommendations might be made. First, faculty mentors should know that their level of self-disclosure is associated with their mentees' identification with them. Thus, it is especially important for them to be cognizant of using self-disclosure in the classroom. In addition, knowing this might be helpful for the faculty mentors since using self-disclosure in the educational setting might be perceived as not the most obvious communication skill as described at the beginning (Solano & Dunnam, 1985). Further, they should know that we found evidence for the positive influence of their mentees' identification with them on the student outcome connectedness with them. This is another argument for using self-disclosure because it was found to increase connectedness with the mentor via identification.

Second, this study found evidence to suggest that at least faculty mentors should focus most on the aspect of how relevant their self-disclosed information is to the classroom setting in order to improve student outcomes best. However, since this finding was part of a post-hoc analysis, future research should further investigate this aspect.

Third, peer mentors should notice that we found evidence for the mentees' identification with them being linked to both student outcomes, student engagement and connectedness with the peer mentor. At least this is some evidence that Universities should not hesitate to also use peers in their mentoring courses.

Fourth, peer and faculty mentors both can be reassured in the sense that our study found no evidence for the importance of gender match between mentor and mentees influencing the link between their self-disclosure and identification. Thus, this supports the notion that it matters more that or what one self-discloses, and not who one is.

Limitations

First of all, the sample size (N = 107) could have been larger. A larger sample size would be one way to increase statistical power. However, it has to be noted that a bootstrap approach was used which already increased power. In addition, it can be argued that with a larger sample size there is a higher likelihood of including more people who identify as non-binary, a group of people we had to exclude from our analysis because no mentor was identified by the mentees as non-binary. Another limitation was that the survey was rather long with over 15 scales, since this study was part of a larger research project as described before. This might have negatively affected the results because of response fatigue and might also explain why 61 respondents had to be excluded from the analysis because of insufficient completion of the questionnaire.

Further, an important limitation of the study is that it was cross-sectional. First, this design allowed no analyses of effects that go over correlational evidence. For instance, a causal interpretation was not permissible. In other words, it cannot be said for certain whether identification with the mentor led to more connectedness with the mentor because it could also be the other way around. Second, since this study only measured the variables at one point in time, the precise dynamics over time are not known. For example, there is evidence that self-disclosure in the classroom is most frequently used at the beginning of a course (Downs et al., 1988), and that identification positively influences the relationship in a process over time (Humberd & Rouse, 2016).

Regarding the generalizability of this study it has to be mentioned that the findings in the sample of first year psychology students in this study might not hold in other samples. For example, a group of young high school students might have very different needs than the students of this study's sample which could lead to different influences of self-disclosure (subfacets) on student outcomes.

Future Research

A suggestion for future research is that a longitudinal study design is used. This could be done, for instance, by asking participants to report in a weekly diary on mentor self-disclosure, identification with the mentor, and student outcomes. As has been mentioned, the variables investigated can be expected to vary over time, so a study designed that way would give more insight into these dynamics over time. Such a study would have the potential to reveal more specific recommendations like at what point in time self-disclosure is most important.

Future research could also try to find other mediators since overall there was not much evidence for identification as a mediator in our study. Additionally, not only subjective outcomes could be researched in future studies but also objective ones such as grades.

In general, it would be fruitful to apply the science practitioner model known in clinical psychology (Baker & Benjamin, 2000) also to the educational setting. The basic idea of applying this model in the context of mentoring would be to let practitioners and scientists inform each other about their perspectives to improve student outcomes together. For example, mentors can benefit from recommendations based on empirical findings, whereas scientists can get the right cues from the mentors what variables or dynamics are worth researching.

Conclusion

In summary, the hypotheses of this study were mostly rejected. However, several significant effects were still found. Most notably, there was a significant indirect effect of faculty mentor self-disclosure on faculty mentor connectedness when identification with the faculty mentor was analyzed as a mediator. Further, there was a significant relationship between identification with the peer mentor and both student outcomes. There was no evidence for gender match as a moderator of the relation between peer or faculty mentor self-

disclosure and identification with the mentor. The post-hoc analysis of the self-disclosure subscales revealed that there is some evidence for the notion that at least for faculty mentor self-disclosure, the subfacet relevance is most important for positively influencing both student outcomes. Practical implication of these findings are: First, peer and faculty mentors should be cognizant of how well their students can identify with them because of their potential impact on student outcomes. Second, faculty mentors should know that their level of self-disclosure is related to how well students identify with them and thereby influences their students' sense of connectedness. Most important, faculty mentors should pay attention to the relevance of their self-disclosed content to the classroom setting. Future research would benefit from replicating this study using a longitudinal design to account for fluctuations in the variables over time. Moreover, research might investigate other mediators to further explore the mechanism behind the relationship of mentor self-disclosure and student outcomes.

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