

**University mentor identification as the mediator of self-disclosure effects on student
engagement**

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Abstract

This study investigated the relationship between teacher self-disclosure, mentor identification and student engagement. It was predicted that mentor identification mediates the relationship between self-disclosure and student engagement. 107 first-year psychology students completed questionnaires, reporting on their perceived levels of teacher self-disclosure, mentor identification and student engagement. The bootstrap analysis partly supported the predictions. The full mediated model was not supported. However, the relevance of faculty mentor self-disclosure was found to be significant regarding mentor identification and student engagement. Also, peer mentor identification was found to be significantly related to student engagement. This study finds that the dimension of relevance is important regarding self-disclosure. The differential effect between faculty and peer mentors on student engagement may point toward important mentor characteristics. Relevant faculty mentor self-disclosure could induce positive beliefs about the mentor, as self-disclosure is seen as helpful. Furthermore, mentor identification could influence upward comparison, changing student engagement and skill acquisition. Implications of these findings are discussed as well as limitations and future directions.

Keywords: Self-disclosure, academic mentoring, student engagement

University mentor identification as the mediator of self-disclosure effects on student engagement

Self-disclosure has a range of effects on the social interactions between people. It is generally considered important for the maintenance of psychological well-being (Zardeckaite-Matulaitiene & Paluckaite, 2013). It was also associated with attraction and relationship satisfaction, both in developing and developed relationships (Collins & Miller, 1994). People also have more positive impressions of those that share personal information with them (Davis & Sloan, 1974). Self-disclosure also seems to exert its effects in educational contexts, as the communication with teachers and friends influences the cognitive development of students (Zardeckaite-Matulaitiene & Paluckaite, 2013). Furthermore, self-disclosure is seen as one of the most influential factors regarding academic motivation (Cyanus et al., 2009). Overall, self-disclosure has been linked to positive student outcomes. However, there does not seem to be a clear explanation for this effect.

Self-disclosure is defined as the voluntary sharing of information, thoughts, and emotions with others (Cyanus & Martin, 2004). It was further categorised into relevance, amount, and negativity. Relevance relates to how well self-disclosure relates to the topic. Amount refers to the frequency of self-disclosure and negativity to the negative valence of the disclosed information. Generally, self-disclosure has been associated with many positive social effects. Thus, people form more positive impressions with those that share personal information with others (Davis & Sloan, 1974). People are also more comfortable to interact with others who they have more accurate perceptions of (Swann et al., 1992). Attraction and relationship satisfaction are both associated with self-disclosure, whether one is in a new relationship, or in an established one (Collins & Miller, 1994). Also, higher levels of self-disclosure were related to more liking and closeness. Therefore, self-disclosure may be

beneficial as it facilitates the exchange of social information. This then may make interactions more comfortable, which could increase liking and attractiveness between the interactants.

In the educational context, self-disclosure is associated with positive student outcomes and behaviours. Teacher self-disclosure is associated with better academic achievements in students (Goldstain & Benassi, 1994). It is also seen as one of the most influential factors regarding academic motivation (Cayanus et al., 2009). It was suggested that self-disclosure creates a positive classroom environment, which contributes to feelings of academic motivation (Allen & Court, 2009). Teacher self-disclosure also is suggested to make course content more understandable and that it provides clarity for students (Cayanus et al., 2009; McCroskey et al., 2006). Cozby (1973) suggested that self-disclosure of teachers has a reciprocal effect on students, encouraging them to self-disclose as well. This is shown through classroom participation by asking questions, or by expressing their opinions. Classroom participation is seen as a factor which contributes to active learning, critical thinking, and writing (Howard & Henney, 1998). Thus, teacher self-disclosure seems to exert its positive effects through making course content more understandable and by increasing students' motivation to actively engage in class.

Self-disclosure also takes place in mentoring relationships. Here, self-disclosure and related information may be even more focused on the protégés since mentors usually interact with fewer people than teachers. Mentoring is seen as a developmentally oriented relationship between a more experienced individual and a less experienced one (Chao et al., 1992). It is generally believed that collaborative relationships that allow for the discussion of relevant issues have the strongest positive impact on youth (Rhodes, 2007). Furthermore, protégés who experience more instrumental or psychosocial support may get higher motivational and cognitive resources, which can improve learning (Fletcher & Ragins, 2007). This support may

also relate to mentors reducing unproductive cognitions in protégés by challenging negative views, which may enhance their self-efficacy (Rhodes, 2005; Rhodes, 2009).

In the academic context, mentoring in university settings was found to have a positive impact on personal, vocational, and educational outcomes (Astin, 1977). Here, mentoring can lead to improved academic achievements, productivity, persistence, and psychological health (Johnson et al., 2007). Mentoring that focused on providing skills and individualized support was also seen to improve study skills, academic adjustment, and motivation (Jacobi, 1991). Baker et al. (2003) argued that the benefits of academic mentoring occur through providing career-related support such as training and opportunities, as well as emotional support such as encouragement and acceptance. Furthermore, protégés who perceived greater support develop stronger feelings of belonging to the context in which the relationship takes place, such as university, work, or school (Allen & Eby, 2007).

These feelings of belonging and the positive outcomes from mentoring may also relate to an increased identification with the mentor. Generally, identification has been linked to task performance (van Knippenberg, 2000). Also, supervisor identification was related to job satisfaction and performance (Hobman et al., 2011). High levels of identification were found to promote self-regulation (Higgins & May, 2001). Here self-regulation aimed at fulfilling the hopes and expectations of significant others by displaying the necessary behaviours to achieve them. Identification with others also seems to influence self-evaluations based on the judgement of the identification object (Baldwin et al., 1990). Since the actions of the mentor are aimed at fulfilling the needs of their protégé in general, it may increase the tendency that values are displayed which are considered valuable. Disclosing values may encourage others to identify with them (Tillman, 1998). Thus, it could positively influence academic endeavours such as engaging with academia in general.

Student engagement is one of the best predictors of learning, as the more time students spend on learning, the more they learn (Carini et al., 2006). Educationally productive students develop habits which increase their capacity for learning and personal development (Shulman, 2002). Engaged students are more motivated and more likely to communicate with their teachers (Weber et al., 2005). Student engagement also increases based on the quality and quantity of interactions with teachers (Skinner & Belmont, 1993). Student engagement was also positively linked to critical thinking and grades (Carini et al., 2006).

Hypotheses

Based on the previously found effects of self-disclosure, identification in mentoring settings, and student engagement, it is suggested that a relationship exists between those variables.

It is believed that self-disclosure helps teachers establish an informal atmosphere (Zardeckaite-Matulaitiene & Paluckaite, 2013). This atmosphere is assumed to create a reciprocal interaction between teacher and students, where students feel accepted, confident, and free to discuss class content (Allen & Court, 2009). Students who reported higher levels of academic confidence also showed higher end-of-semester grades (Nicholson et al., 2013). Generally, reciprocity is exhibited by the teacher self-disclosing, with the student reciprocating by self-disclosing in turn (Cozby, 1973). This is then shown through classroom participation by e.g., asking questions or expressing opinions. Class participation is a factor which contributes to active learning, critical thinking, and writing (Howard and Henney, 1998; Peterson, 2001). Furthermore, course content becomes more understandable through self-disclosure. Thus, it is posited that the effect of self-disclosure improves understanding of class content and benefits engagement with the material as students participate more in class

activities. Therefore, the first hypothesis posits that self-disclosure is positively related to student engagement.

People form more positive impressions of those that willingly share personal information with others (Davis & Sloan, 1974; Kleinke & Kahn, 1980). People also disclose more to those that they initially like (Certner, 1973; Fitzgerald, 1963). Self-disclosure also influences the development of evaluating instructors, as the perceived credibility of instructors is enhanced through effective and relevant self-disclosure (Myers et al., 2009). This improved credibility may have a positive influence on liking, which may increase levels of identification with the instructor.

Additionally, people are generally motivated to identify with others who are doing better than themselves, by focusing on the similarities between oneself and the comparison target (Buunk et al., 1990). Thus, people recognize things of themselves in the other, see the other's position as attainable, or similar to themselves. Furthermore, this upward comparison may motivate people since they assume they can be like the comparison target (Buunk & Ybema, 1997). Additionally, disclosing values may encourage others to identify with those values (Tillman, 1998). However, identification with those values is only possible if they are shared or displayed to others. Thus, it is suggested that the information that is revealed through self-disclosure positively influences people's views about the self-discloser. These changed views then may motivate people to take up favourable aspects or traits of the self-discloser and thus become more similar to them, which may positively influence identification.

The identification contrast model assumes that individuals compete to gain status and use upward and downward comparison to manage perceptions of their standing on relevant dimensions relative to others (Buunk & Ybema, 1997). The underlying motivation is to reach

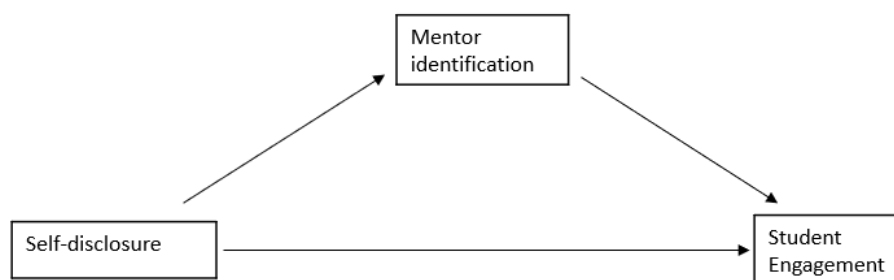
a state in which people feel they are better off than others, which prompts engaging in identification and contrast through upward and downward comparison. Upward comparison generally evokes positive affect, and it may motivate or inspire people since one assumes one can become like the comparison target (Buunk & Ybema, 1997; Taylor & Lobel, 1989). Furthermore, contact with others or vivid information about them may lead to identification with the target (Buunk & Ybema, 1997). Thus, it is posited that identification may occur through seeing the identification object as possessing favourable qualities. One then may be motivated to achieve those positive qualities and exert the necessary effort to do so.

This might especially be the case in mentoring relationships, as they are usually more experienced and thus more likely to display traits that are well-regarded by students. Upward comparison is more likely when the comparison dimension offers more opportunity for self-improvement. Therefore, dimensions such as experience should elicit higher levels of upward comparison and identification with the mentor. Comparison on dimensions that offer more opportunities for self-improvement, such as experience, are more likely to compare upwardly and identify with the comparison target (Buunk et al., 1994). Furthermore, academic mentoring focuses on providing skills that are relevant for academic achievement and psychological health (Johnson et al., 2007). Intentions to contrast and identify depend in part on the pursued goals and phases of skill acquisition (Ruble & Frey, 1991). Thus, upward comparisons may be more adaptive when a new skill is learned (Butler, 1992). This relationship may explain why identification has been linked to task performance (van Knippenberg, 2000). Furthermore, people are more likely to identify with others, when they believe that there is some benefit to doing so (Vough, 2012). Thus, students who identify with their mentors or instructors may have more opportunity to upwardly compare themselves, especially if the teaching staff displays skills and traits that they see as worthwhile. Therefore, self-disclosure may reveal attractive values, which students would like to identify with.

Through the process of identification, students may then be motivated to exert effort to cultivate those values for themselves, when they are seen as attainable. It is therefore posited that mentor identification mediates the relationship between self-disclosure and student engagement. The proposed mediation model is found in Figure 1.

Figure 1

Proposed mediated model



Methods

All participants were first-year psychology students at the University of Groningen. Students from the course Academic Skills class were invited to participate via WhatsApp, email, in person, or through an instructor. The data was gathered using an online questionnaire via Qualtrics. Of the 190 respondents, 107 were eventually included as participants in the dataset. Those who were excluded had not completed the questionnaire in full or did not give consent. Women made up 73% of the sample of 107 participants, men 24% and a further 3% did not specify their gender of the sample of 107 participants. The mean age among participants was 20.64 years ($SD= 2.623$). All participants gave consent to use their data.

Measures

Cayanus's and Martin's (2008) Teacher Self-Disclosure Scale was used to measure the teacher's self-disclosure in the classroom. The 14-item measure asks students on 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 ranges from (1) completely disagree to (7) completely agree. Further, the scale allows to differentiate between three aspects of self-disclosure: amount, relevance, and negativity. Sample items were for instance "My peer/student-mentor often shares his/her dislikes and likes" (amount), "My peer/student-mentor uses his/her own experiences to introduce a concept" (relevance), "My peer/student-mentor usually discloses negative things about him/herself" (negativity). The Cronbach's alphas for the dimensions were $\alpha = .80$ for amount, $\alpha = .88$ for relevance, and $\alpha = .84$ for negativity. Cronbach's alphas for this study were 0.78 for the amount subscale and 0.52 for the relevance subscale.

To gain insight into the extent to which the students identified with their mentors, Ybema and Buunk's (1995) 'identification scale' was used. The scale consisted of four questions ($\alpha = .85$), which the participants answered twice; once about the peer mentor and once about the 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 7-point Likert scale was used (1= not at all; 7= very much). The Cronbach's alpha for this study was 0.84

Student Engagement was measured using the Higher Education Student Engagement Scale (HESES) (Zhoc et al., 2019). It was deemed reliable with a Cronbach's alpha coefficient of $\alpha = 0.70$ to 0.87. The subscales of academic engagement, cognitive engagement, social engagement, and affective engagement were used to assess student 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. Other subscales (e.g., the online engagement scale) were not included as the 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 5-point Likert scale (1= Strongly disagree; 5= Strongly agree). The Cronbach's alphas for this study ranged from 0.69 to 0.85.

Information was collected about participants' age, nationality, and gender, and about their peer and faculty mentor's gender. Four answer options were available for gender (male/female/other/do not wish to answer).

Procedure

The present study was part of a larger research project, that was designed as a bachelor thesis project. Ethical approval was obtained by the faculty ethics committee. Participants took part in an online questionnaire. There, participants were asked whether they were first year psychology students who are currently taking the course 'Academic Skills'. Then, general information about the study was provided, and informed consent was obtained. After demographic information was collected, participants completed the Teacher Self-Disclosure Scale from Cayanus and Martin (2008), the Identification Scale from Ybema and Buunk (1995) and the HESES from Zhoc et al., (2019).

Design

We planned a mediation analysis that was carried out as a correlational survey study. The mediating factor was identification, to assess the indirect effect, that self-disclosure (independent variable) has on student engagement (dependent variable). Self-disclosure was assessed on two levels, namely peer mentoring and faculty mentoring. When filling in the questionnaire, students were asked to think about their peer mentor or their faculty mentor.

Statistical analysis

The mediation model was analysed using the PROCESS macro for SPSS (version 23) which uses bootstrapping to test the model (Hayes, 2017).

Model 4, which examined the indirect effect of the relationship between the variables was used throughout the analysis. Each analysis used 5000 bootstrap re-samples and

significance was determined based on 95% confidence intervals. The tested models included self-disclosure as the predictor variable, identification as the mediator variable and student engagement as the criterion variable. The analysis of self-disclosure also focused on the relevance and amount subscales. Self-disclosure and identification were additionally examined for peer mentor and faculty mentor separately.

Results

Descriptive statistics and zero-order correlations for the faculty mentor relevance and amount of self-disclosure, faculty mentor identification and student engagement were calculated as presented in Table 1. The same was done for peer mentors and is presented in Table 2.

Table 1

Pearson correlations, means and standard deviations for faculty mentors

	1.	2.	3.	4.	Mean	SD
1. Relevance self-disclosure	-	-	-	-	20.077	7.047
2. Amount self-disclosure	0.352*	-	-	-	15.038	5.486
3. Identification	0.381*	-0.026	-	-	15.670	5.251
4. Engagement	0.267*	0.075	0.193	-	57.813	8.303

Notes: The unstandardized Pearson correlation coefficients are reported for the variables

* $p < 0.01$

Table 2

Pearson correlations, means and standard deviations for peer mentors

	1.	2.	3.	4.	Mean	SD
Relevance self-disclosure	-	-	-	-	25.019	5.5225
Amount self-disclosure	0.278*	-	-	-	16.019	4.710
Identification	0.147	-0.058	-	-	18.038	4.656
Engagement	0.165	0.026	0.327*	-	57.813	8.304

Notes: The unstandardized Pearson correlation coefficients are reported for the variables

* $p < 0.01$

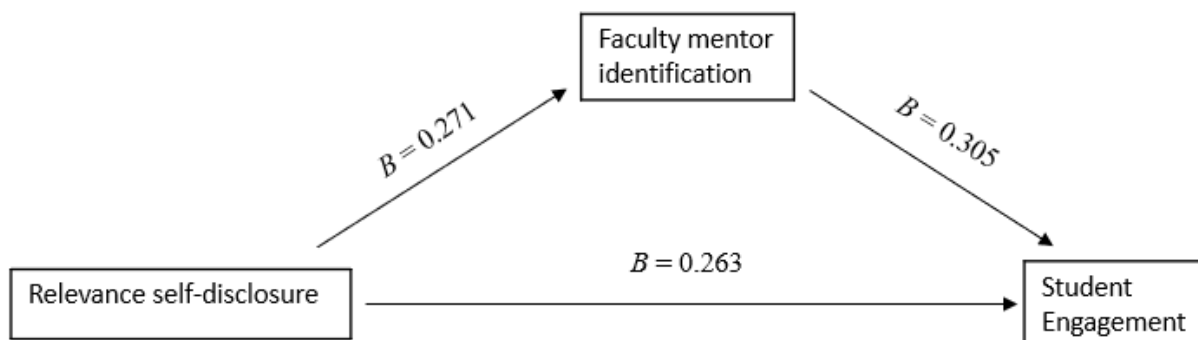
For faculty mentors, relevant self-disclosure was significantly correlated with amount of self-disclosure, identification and student engagement.

For peer mentors, Pearson correlations were significant between relevance and amount of self-disclosure and between identification and student engagement.

Mediation analyses were used to test the hypotheses. The mediation model for faculty mentors is displayed in Figure 2a and 2b. The mediation model for peer mentors is shown in Figure 3a and 3b.

Figure 2a

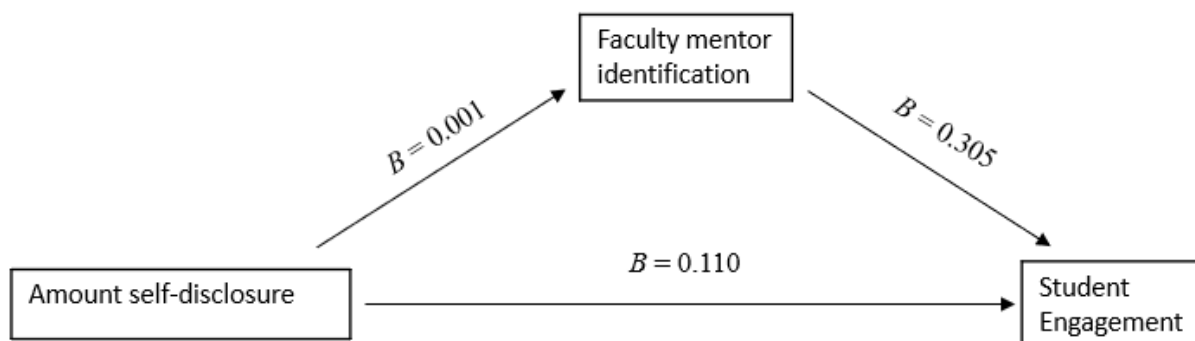
Mediated Model for Relevant Self-Disclosure from Faculty Mentors



B denominates the slope of the relationship

Figure 2b

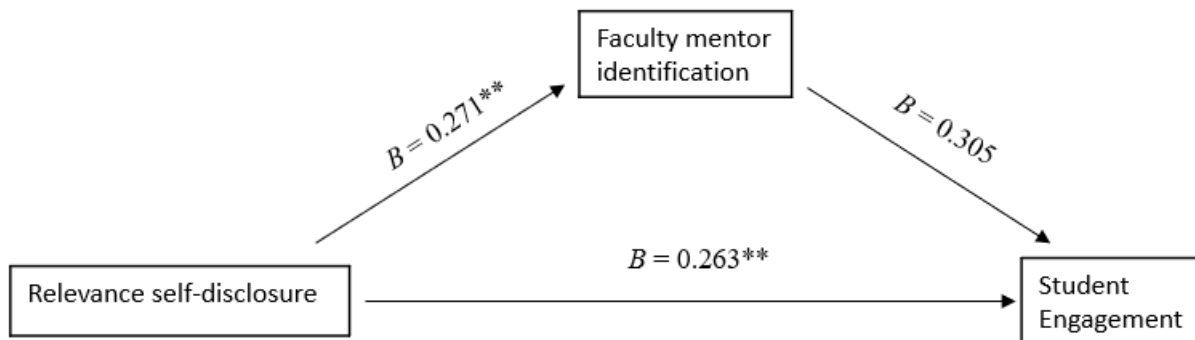
Mediated Model for the Amount of Self-Disclosure from Faculty Mentors



B denominates the slope of the relationship

Figure 3a

Mediated Model for the Amount of Self-Disclosure from Peer Mentors

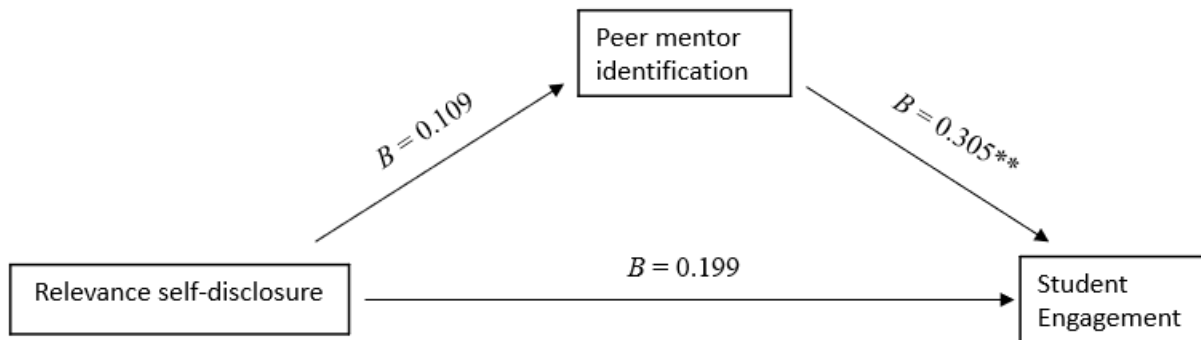


B denominates the slope of the relationship

$**p < 0.05$

Figure 3b

Mediated Model for Relevant Self-Disclosure from Peer Mentors



B denominates the slope of the relationship

** $p < 0.05$

Hypothesis one stated that instructor self-disclosure is positively related to student engagement. A significant effect was found for the relevance sub-scale of self-disclosure in faculty mentors on student engagement ($B = 0.263$, $SE = 0.126$, CI 95% [0.014, 0.512], $p = 0.037$, $R^2 = 0.081$). No direct, indirect, or total effects were found for peer mentors.

Hypothesis 2 posited that identification mediates the relationship between self-disclosure and student engagement. Analyses of the relevance subscale regarding faculty mentor self-disclosure were significantly related to identification ($B = 0.271$, $SE = 0.069$, CI 95% [0.134, 0.409], $p = 0.0002$, $R^2 = 0.141$). No significant effects were found for peer mentors.

The effect for peer mentor identification on student engagement was significant ($B = 0.582$, $SE = 0.175$, 95% CI [0.235, 0.929], $p = 0.001$). In faculty mentors, no such effect was found. Thus, no mediation was found.

Discussion

It was hypothesized that that self-disclosure is positively related to student engagement. Also, instructor identification was predicted to mediate the relationship between self-disclosure and student engagement. The hypotheses were partially supported by the results.

It was found that the relevance of self-disclosure from a faculty mentor was positively associated with student engagement. No such effect was found for peer mentors. Also, relevant faculty mentor self-disclosure was positively associated with identification. This effect was not found for relevant peer mentor self-disclosure. Peer mentor identification was positively related to student engagement. Faculty mentor identification did not show such an effect.

The effect of relevant self-disclosure from faculty mentors on student engagement implies a positive impact on the academic effort and motivation of students. Previous research found that relevance was seen as especially important in teacher self-disclosure (Cayanus & Martin, 2009; Tucker, 2012). It has been argued that it makes course content more understandable, by providing additional information regarding the topic. This improved understanding may positively influence self-efficacy beliefs, which may result in an increased effort regarding academic endeavours.

Also, provided skills and support through mentoring were previously shown to improve study skills and academic motivation (Jacobi, 1991). Thus, relevant self-disclosure that focuses on providing additional skills and knowledge could explain the increased engagement. However, the study by Jacobi was done in one-on-one mentoring relationships. In the present study, each mentor may have had up to 12 protégés which could have changed the found effect. Mentoring also allows for the discussion of issues and engagement in collaborative exchange. Rhodes (2007) found that these aspects have a strong positive impact

on young people. Therefore, the positive impact of discussion and the provision of additional knowledge may be another factor which explains the positive effect that mentor self-disclosure could have on student engagement.

Other explanations could also be of socio-emotional nature. Baker et al. (2003) posited that both the provision of training and emotional support positively influenced mentoring outcomes. Therefore, a factor which might be relevant is the provided emotional support, such as encouragement and acceptance. Fletcher and Ragins (2007) found that higher instrumental and psychosocial support were associated with higher cognitive and emotional resources. These resources then were suggested to improve learning.

Other factors could relate to the values that are disclosed through teacher self-disclosure. Especially, if these values see academic effort in a positive light. Examples include seeing academic achievement as meaningful or having a liking regarding education overall. This then could be a motivating factor for students who experience the self-disclosure of their mentor. Another explanation could relate to the directionality of the effects. More engaged students could also perceive the self-disclosure of their mentors as more relevant. Thus, information may be seen as being more related to the course content. Thus, more engaged students may connect the perceived information more directly to the context and their knowledge. However, it is unclear why a differential effect between peer and faculty mentors have been found.

These findings imply that the relevance of self-disclosure is an important aspect, which may influence student behaviour. It may thus be beneficial to any teaching professionals to provide context-coherent information to positively influence student engagement. Mentor and teacher skills may also influence the potential to relevantly self-disclose. Therefore, training which focuses on the provision of relevant academic skills seems

helpful. Training in psychosocial skills might have positive consequences since self-disclosure regarding more social matters may be more relevant subsequently.

Results for hypothesis two indicated that, while no mediation was found, relevant faculty mentor self-disclosure was significant regarding the identification with a mentor. It was previously found that people develop more positive impressions with those that share personal information with others (Davis & Sloan, 1974; Kleinke & Kahn, 1980). The disclosed information may also be helpful, which may induce positive beliefs about the mentor. Previous studies also found that self-disclosure influences instructor evaluations (Myers et al., 2009). This effect seems to be induced through an improved credibility which stems from effective and relevant self-disclosure. Thus, disclosing relevant knowledge and skills may motivate students to see their mentor in a positive light. The identification contrast model posits that upward comparison motivates people, since one assumes that one can become like the comparison target (Buunk & Ybema, 1997). People are also generally motivated to identify with others who are doing better on relevant dimensions, by focusing on similarities, or by seeing the other's position as attainable (Buunk et al., 1990).

Thus, relevant faculty mentor self-disclosure may highlight aspects which are attainable for students. The effect that the perceived attainability of the aspect has may depend on the type of comparison. Upward comparison is generally seen as positive, since it induces more positive affect, and it may inspire people to become like their comparison target. However, attainable aspects can also induce downward comparison, which is usually associated with negative affect and emotions (Aspinwall & Taylor, 1993; Pelham & Wachsmuth, 1995; Van der Zee & Sanderman, 1998). Here, self-disclosure could induce a reduced identification effect, as the identification target is seen as unattractive. The identification target may seem similar to, or attainable for the person who compares

themselves. Therefore, people may reduce their identification out of fear that they themselves may become like the identification target (Buunk & Ybema, 1997).

The missing effect for peer mentors may relate to the similarity between students and mentors. Students are very similar to peer mentors already since the mentors are often only one year ahead in the programme. Therefore, peer mentor self-disclosure may not reveal information that significantly influences student perceptions of similarity regarding peer mentors. Relevant self-disclosure from peer mentors may thus not have an increased identification effect since levels of similarity and therefore identification is high already. Additional information may therefore not have the effect of increasing similarity.

For faculty mentors, self-disclosure may have the observed effects as new information may make them appear more similar to students. Faculty mentors often have established careers in academia and have therefore finished their degrees some time ago. Also, the authority that exists through their length of employment and overall experience may make faculty mentors seem less relatable and similar. Thus, relevant faculty mentor self-disclosure may increase levels of perceived similarity through showing the attainability of the faculty mentor position. Similarity may also be increased, as faculty mentors may self-disclose about their experiences in academia, which may relate to the students' experiences. This could positively influence upward comparison with the mentor, as faculty mentors may show that they are better on certain dimensions. Upwardly comparing on those dimensions may then motivate students to identify with their faculty mentors. Faculty mentor self-disclosure may also show that they are similar in other aspects, such as general values and struggles. Therefore, self-disclosure from faculty mentors could increase mentor identification by displaying relatable aspects, as well as displaying positive mentor characteristics.

Results also found that identification with peer mentors was positively associated with student engagement. Upward comparison could explain the positive effects, as peer mentors

may be doing better on relevant dimensions. By focusing on the attainability of the standing of the mentor, students may be motivated to identify with them (Buunk et al., 1990).

Furthermore, upward comparison is more likely if the relevant dimension offers opportunities for self-improvement (Buunk et al., 1994). Thus, students might see the academic qualities of their mentors as attainable and may work to cultivate them for their own, which may result in higher academic effort and engagement.

However, if the mentor possesses undesirable qualities, it may have the opposite effect. Out of fear of becoming like the comparison target and possessing these negative qualities as well, students might downwardly compare (Buunk & Ybema, 1997). This could reduce levels of identification and increase levels of negative affect regarding the comparison target (Taylor & Lobel, 1989). Subsequently, student engagement could be negatively affected as well. Generally, identification with a superior has been previously linked to task performance in organizational settings (Van Knippenberg, 2000). Identification has also been related to self-evaluation (Baldwin et al., 1990). Thus, one evaluates one's actions based on the perceived judgment of the identification object, which also influences negative affect. This could relate to an increased expenditure of effort to garner a positive evaluation from the identification object.

It may also be helpful if the attainability of the attributes is stressed in conversations with students so that they themselves may be more likely to upwardly compare to the mentor. This could then be helpful to cultivate relevant attributes in students, which may make them more engaged in academic endeavours. However, the directionality of the relationship is unclear based on the present study. Thus, students may also possess similar values as their mentors do. Through their similarity, they could have higher levels of student engagement already, which may reverse the directionality of the effect.

Limitations and Future Directions

Since the study was correlational, it is difficult to establish the directionality and strength of the observed effects. The study was also not longitudinal, but measured observations at one time point. This makes it more difficult to assess the relative impact each variable in the model had. Thus, future research may benefit from conducting an experiment which manipulates displayed mentor attributes and levels of self-disclosure.

The questionnaire also had a few limitations. It was relatively long with an average completion time of around 20 minutes. Thus, the probability of participants failing to complete the questionnaire may be higher. Furthermore, participants had to recall the behaviour from their mentors. This could introduce bias as relevant situations may be distorted through memory. Recency bias could also affect the responses, with more temporal distant behaviours being weighed less than more recent ones. Also, the behaviour of the mentors could not be assessed.

Future research may profit from investigating skills and qualities that are important to students. Mentors who possess such qualities may be held in higher regard, which could positively influence student engagement. Relevant self-disclosure from the faculty mentor specifically may point to important mentor characteristics. However, based on the study design, it was not possible to ascertain these aspects. Nonetheless, possible factors might pertain to mentor experience and age, since protégés and mentors often have obvious differences on these dimensions. Other factors could relate to the ability to provide emotional and psychological support, as previous research found it to be influential regarding student outcomes

Mentor abilities and skills and their development may also be important. Mentors that have more experience may have been able to develop and attain skills which are valuable to

their protégés. Therefore, it might be important to investigate the link between mentor experience and protégé outcomes. Here, it could also be beneficial to investigate the taught skills and their impact on student outcomes. This could have implications for future mentoring and training programmes, as well as student performance in academia.

Overall, this study found that self-disclosure has positive implications in the educational and mentoring context. Especially relevant self-disclosure was found to be beneficial for both faculty and peer mentors. For faculty mentors, relevant self-disclosure had positive effects regarding mentor identification and student engagement. Peer mentor identification were found to have a positive effect on student engagement. Thus, while no mediation was found, the study points to identification being influential in some regard.

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