The Relationship between peer Mentor relevant Self-Disclosure on the Relational Satisfaction of the Students, Mediated by Trust

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Abstract

Teaching involves a process of relational development and requires effective interpersonal communication skills to achieve satisfying outcome (Frymier, 1994). This paper examines the student-mentor relationship, focusing on the effects that relevant self-disclosure (from a mentor) has on the perceived relational satisfaction of the students, using trust as a mediating variable for this relationship. One hundred and two first year psychology students were acquired through the means of snowball sampling, and convenience sampling, and filled in a survey indicating their perception of their mentors from a specific course they were currently taking part in. For the current paper three scales were utilized for the instrumentation of the design, namely, the relational satisfaction scale (Anderson et al., 2001), the student trust in faculty scale (Forsyth et al., 2012), and the teacher self-disclosure scale (Cayanus and Martin, 2008). The results of this paper suggest that there is a significant relationship between relevant self-disclosure of mentors and the feeling of higher level relational satisfaction of students. Furthermore, trust is suggested to be a significant mediator in the relationship. This study concludes that the use of relevant self-disclosure from an instructor can positively affect their students' relational satisfaction in class. Additionally, the presence of trust seems to strengthen the relationship.

Keywords: mentor, student, self-disclosure, trust, relational satisfaction

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The word mentor is a long-standing word that dates back to ancient Greek mythology. In the Epic "Odyssey", Mentor was the name of Odysseus' friend, who served as a wise and trusted advisor, and helped prepare Odysseus to fight in the Trojan war. Suitably, today we use the word to describe an experienced and trusted advisor.

Peer mentoring is the act of a more experienced student helping and guiding a less experienced student towards the achievement of academic success (Colvin & Ashman, 2010). A peer mentor-student relationship can positively affect student outcomes, ranging from academic success to how connected the students feel to their classmates and the university campus as a whole (Falchikov, 2001; Kram, 1985). The mentor-student relationship can be seen as an interpersonal relationship that shares qualities similar to those of a friendship. The more interpersonal a relationship becomes, the more the individuals involved start treating each other with respect, which as a result develops a sense of trust between them (Frymier & Houser, 2000). Alongside respect, the use self-disclosure has also been suggested to enhance trust between students and mentor in the educational setting. Through self-disclosure, mentors can establish a supportive class environment and facilitate student classroom participation (Myers et al., 2009). Although there is a plethora of research that is aimed at understanding how peer mentors can be of benefit to the students' academic motivation and success, not a lot of research has been done exploring the relationship between mentor self-disclosure and the relational satisfaction of the students and the class as a unit. In this paper, the relationship between mentor self-disclosure and the relational satisfaction of the students will be explored, while simultaneously looking at trust as an explanatory variable.

Self-Disclosure

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Self-disclosure, as defined by Wheeless and Grotz (1977), is the act of communicating a message about the self to another person, an act which is mainly used as a tool to strengthen a relationship and build more trust. In the educational setting, Goldstein and Benassi (1994) defined self-disclosure as the act where an instructor shares personal and professional information about themselves to the class, in a believable way. In the words of Fusani (1994), "teacher self-disclosure is a rich personal source of student-teacher communication". Instructors can use it to motivate students, enhance their interest, and overall create a safe and supportive classroom environment (Cayanus & Martin, 2004). An easy way to help understand this concept is by considering the effects that the perceived power difference between instructor and student has on the relationship between them. Traditionally, the majority of students look at their instructor as someone who is of higher authority. Such a power difference can hinder the chances of a meaningful bond forming. Nunziata (2007), found that instructor self-disclosure, when personal to the instructor and relevant to the class, can have a positive effect on humanizing and making the instructor more approachable in the eyes of the students, thus minimizing that power difference.

It is important to take a moment and focus on the relationship between relevance and how personal the self-disclosure is. Although instructor self-disclosure has been shown to be beneficial, it could also affect the relationship negatively. Relevance here refers to how relevant the instructors' self-disclosure is to their students and the subject that is being taught. If for example, a statistics instructor discloses personal information to their students about how they also struggled to learn a certain formula, that can help motivate the students and again help humanize the instructor. Now, if in the same class, the instructor started talking about their successful painting career, that is something that is irrelevant to the students and the subject and would not have a positive effect on the relationship (Zardeckaite-Matulaitiene, 2013). How personal the information is also plays a critical role. Research has shown that when instructors

self-disclose information that is too personal, e.g., information about their sexual life, it could also have negative effects on the relationship (Zardeckaite-Matulaitiene 2013); but on the other hand, self-disclosing negative information has also been suggested to often have a positive effect. Martin et al.19 (2009) found that if teachers disclose information that is somewhat negative but still relevant to the course, the students assessed the teacher as more approachable than ones that share only positive information. With the above in mind, it can be assumed that with a good balance of relevance and how personal the information is, self-disclosure can be a successful tool.

Trust

Cain (1996) suggested the idea that instructor self-disclosure can help reduce the status and power difference between students and instructor and can also motivate students to be more open to self-disclosing personal information about themselves; in that way the relationship becomes more interpersonal, and trust develops between the two parties (Frymier & Houser, 2000). Trust is defined by Rotter (1967) as the generalized expectancy held by an individual that the word or promise, oral or written statement of another can be relied upon. When there is a developed sense of trust between the instructor and the students, the students feel more comfortable in class and are more likely to ask questions that they might have felt uncomfortable asking before (Frymier & Houser, 2000). In short, it is suggested that self-disclosure strengthens the feeling of trust between instructor and students, but as in most relationships, a level of trust must already exist for the disclosure of personal information to be possible (Steel, 1991); and subsequently with that comes the development of a more caring relationship between instructor and student which then helps aid the creation of a safer environment (Frymier & Houser, 2000).

Relational satisfaction

From what has been mentioned, it can be assumed that teaching requires the good use of interpersonal communication skills to be effective (Graham et al., 1992). As explained by Frymier and Houser (2000), growing evidence suggests that apart from the expertise and effective delivery of content, personal communication between instructor and student is equally as important in assuring effective teaching; the effect that this has on relational satisfaction is yet to be considered. Relational satisfaction is defined as "the building and maintaining of member relationships during communicative processes and practices throughout the life span of the group" (Anderson et al., 2001). Hecht (1978) proposed that satisfaction is based on expectations. Teachers and students go through the process of exchanging information with one another, and continuously develop and adjust their expectations, whilst keeping in mind their group and personal goals (Frymier & Houser, 2000). As a result, relational satisfaction could also be a key component in exploring student outcomes.

There has been a numerous research conducted on self-disclosure in relation to trust and student outcomes, however, there is limited research linking that to the relational satisfaction of the students. Considering how it is suggested that student outcomes are more positive when there is a positive relationship between the instructor and student, and also keeping in mind the effect that trust and self-disclosure, when used right, can have on that relationship, it could be suggested that a relationship between mentor and student that where self-disclosure of relevant information and trust are incorporated, can have positive effects on the relational satisfaction of the students in class. Succinctly, this paper will be focused on testing 4 hypotheses.

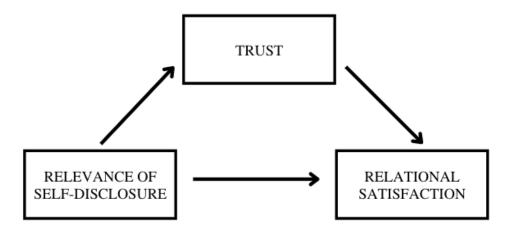
Hypothesis 1 is that there is positive relationship between the self-disclosure of relevant information from peer mentors, and the student's perception of trust in the relationship.

Hypothesis 2 assumes there is a positive relationship between the students' feeling of trust and their relational satisfaction as part of the group.

Hypothesis 3 assumes there is a positive relationship between relevance of self-disclosure of the peer mentor, and the student's relational satisfaction; while hypothesis 4 predicts that trust will mediate that relationship.

Figure 1

The research model



Note. A mediation model. The mediator as an influencing variable of self-disclosure on relational satisfaction.

Method Section

Participants

One-hundred and ninety 1st-year psychology students taking the course Academic Skills in the Bachelor of Psychology programme at the University of Groningen, took part in this study. The structure of this course involves two mentors, a faculty mentor (usually an experienced Ph.D. student or lecturer at the university) as well as a student or peer mentor. Eighty-eight participants were excluded from the study due to insufficient completion of the questionnaire. Most participants were recruited through advertising from faculty staff (through emails and posters), while others were recruited through snowball sampling. No compensation was given for participation, apart from the little cases where

participants were offered candy. The participants received a consent form and all participants took part voluntarily. No harm was caused to the participants during or after the study.

Study Design and Procedure

In the present study, a correlational research design was used to investigate whether the relationship between peer-mentor self-disclosure and relational satisfaction is mediated by trust. The nature of the study was observational, meaning that the levels of self-disclosure of peer mentors were not directly modified or influenced by the study design. The mediation model was assessed using a set of questionnaires addressing participants' perception of their peer-mentors level of self-disclosure, participants' perceived trust levels of their peer mentors, and the relational satisfaction of the students in relation to the specific class. All participants that agreed to partake underwent the same order and set of questionnaires.

This study was part of a larger research project conducted; ethical approval was obtained by the faculty ethics committee. Before partaking in the questionnaire, participants had to indicate whether they were first-year students registered in the course Academic skills. After providing informed consent, the participants were asked to fill out an anonymous online questionnaire, which was calculated to last approximately 20 to 30 minutes. Participants were able to fill in the questionnaire with no time restrictions, and they were also given the option to opt out of the study at any point if they decided to do so. A dropout resulted in the exclusion of their data, they were given an introduction to the study stating its content and procedure and later were shown a set of questionnaires used to assess numerous variables. After completion of the survey, participants were thanked for their participation.

Materials and instruments

Self-disclosure

The Teacher Self-Disclosure Scale (Cayanus & Martin, 2008) was used to measure the amount, relevance and negativity of self-disclosure from both faculty and peer mentors.

The questionnaire consists of 14 items (e.g., "My peer/faculty mentor often shares their dislikes or likes."), measured on a 7-point Likert scale ranging from completely disagree (1) to completely agree (7). All three dimensions show high internal consistency: amount (α = .80), negativity (α = .84), relevance (α = .88). Moreover, each item has been shown to have content validity (Cayanus & Martin, 2008). In this sample, Cronbach's alpha was 0.82.

Trust

The Student Trust in Faculty Scale (STF; Forsyth et al., 2012) is a 13-item instrument (e.g., "Peer/Faculty mentors care for students.") used to measure students' level of trust in their peer mentors and faculty mentors. The scale is scored along a 4-point Likert scale, ranging from strongly disagree (1) to strongly agree (4). The internal consistency of the scale has been shown to be very high (α = .90). Moreover, there is support for construct, concurrent as well as predictive validity (Forsyth et al., 2012). In this sample, Cronbach's alpha was 0.86.

Relational satisfaction

The Relational Satisfaction Scale (RSS; Anderson & Martin, 2001) is a 12-item instrument (e.g., "We can say anything in this group without worrying.") and was used to measure students' satisfaction with intra-group relations. The 5-point Likert scale ranged from strongly disagree (1) to strongly agree (5). While there is some support for concurrent validity, more concrete evidence of the scale's validity and reliability still needs to be investigated (Anderson & Martin, 2001). Cronbach's alpha in this study was 0.90.

Data Analysis

After collecting the data, it was analyzed using linear regression analyses, and a mediation analysis using the SEM module on JASP software (JASP Team, 2022). Relevance of self-disclosure is the independent variable, trust is the mediating factor and relational satisfaction is the dependent variable. The 4 hypotheses were tested chronologically.

The three first hypotheses were tested by conducting a linear regression analysis for each hypothesis, after which, a mediation analysis was conducted to test both the direct and indirect effects of self-disclosure on relational satisfaction, with trust as the mediator. Lastly, to extend the research findings, an exploratory analysis was conducted to test the direct and indirect effects of relevant self-disclosure by Faculty mentors on first-year students' relational satisfaction.

Results

Before conducting the linear regression and mediation analyses, several assumptions were tested. The assumptions of normality of residuals between the dependent variable relevance of self-disclosure, and relational satisfaction were analyzed via Q-Q plots, resulting in the analysis for variable "trust" showing a slight violation of normality. The kurtosis and skewness of variables, assumptions of linearity, and homoscedasticity were not violated, and no collinearity was assumed amongst the variables. Case-wise diagnostics were conducted along with the calculation of Cook's distance (for a maximum value of 1), and the results showed that no influential cases were detected.

A correlation analysis (Table 1) between relevance of self-disclosure, relational satisfaction, and trust was conducted. Significant correlations were found between relevance of self-disclosure and trust, as well as a significant correlation between trust and relational satisfaction. It was also found that relevance of self-disclosure is significantly correlated with relational satisfaction.

Table 1Pearson correlation of variables

Correlations	1.	2.	3.	Mean	SD	N
1. PMRelevance	-			5.009	1.025	112

2. TRPM	0.338**	-		2.995	0.339	108
3. RS	0.217*	0.331**	-	3.429	0.418	102

Note. The unstandardized Pearson correlations are depicted above. PMRelevance: Peer mentor relevant self disclosure; TRPM: Peer mentor trust; RS: Relational satisfaction. The correlations with p<0.05 are significant.

** p<.001; * p <.05.

Hypothesis Testing

Hypothesis 1 assumed that there is a positive link between relevance of self-disclosure and trust. The results derived from Pearson's correlation indicate that there is a significant correlation between those two variables (r=.338, p=.028). A linear regression analysis (Table 2) was conducted between the two variables, showing a significant regression equation (F (1,106)= 13.717, p<.001, R^2 =.115). Additionally, the 95% bias-corrected bootstrapped CI for self-disclosure [.046, .170] does not contain zero, and the p-value is <.001, suggesting that these effects are significant.

Considering the above, hypothesis 1 was accepted since a significant relationship between self-disclosure and trust was found.

 Table 2

 Regression coefficients for predicting trust

						95%	6 CI
Variable	В	SE	β	t	p	LL	UL
(intercept)	2.442	.159		16.094	<.001	2.148	2.782
Self-Disclosure	.110	.031	.338	3.704	.001	0.046	0.170

Note. This table shows the linear regression coefficients for predicting trust. IV: relevance of self-disclosure.

Hypothesis 2 assumed that there is a positive link between trust and overall relational satisfaction. The results derived from Pearson's correlation indicate that there is a significant correlation between the two variables (r=.331, p<.001), A linear regression analysis was conducted (table 3) between the two variables, resulting in a significant regression equation (F(1,100)=12,343, p<.001, R²= .110). Furthermore, the 95% bias-corrected bootstrapped CI for relevance of relational satisfaction [.106, .665] does not contain zero and the p= .011, suggesting that these effects are significant.

Considering the above, hypothesis 2 is accepted since a significant relationship was found between trust and overall relational satisfaction.

Table 3Regression coefficients for predicting Relational satisfaction

						95%	6 CI
Variable	В	SE	β	t	p	LL	UL
(intercept)	2.334	.413		6.458	<.001	1.447	3.079
Trust	.403	.142	.331	3.513	.011	0.106	0.665

Note. This table shows the linear regression coefficients for predicting relational satisfaction.

IV: relational satisfaction.

Hypothesis 3 assumed that there is a positive link between relevance of self-disclosure and relational satisfaction, while hypothesis 4 assumed that the positive link between relevance of self-disclosure and relational satisfaction is mediated by trust, hence, hypotheses 3 and 4 were tested together by means of a mediation analysis (table 4). Self-disclosure was added as the independent variable, trust was added as the mediator variable, and relational satisfaction was added as an outcome variable.

The linear regression analysis showed that the effects of relevance of self-disclosure on relational satisfaction are significant (r=.217, p=.023). The mediation analysis revealed a

value of p=.220, and the 95% bootstrap for CI [-.028, .122] for the direct effect between relevance of self-disclosure and relational satisfaction, suggesting their relationship is not significant; however, the indirect effect between relevance of self-disclosure and relational satisfaction show significant results (with a value of p=.020 and the 95% bootstrap for CI [.008, .090]), and so do the total effects between relevance of self-disclosure and relational satisfaction (with a value of p=.024, and the 95% bootstrap for CI [.018, .162]).

Table 4 *Mediation analysis for predicting relational satisfaction*

Effects					95%	CI
	Estimate	SE	Z	p	LL	UL
Direct effects						
Self-Disclosure	.048	.039	1.227	.220	-0.028	0.122
Indirect effects ^a						
Self-Disclosure	.039	.017	2.324	.020	0.008	0.090
Total effects						
Self-disclosure	.087	.038	2.260	.024	0.018	0.162

Note. This table displays the direct, indirect, and total effects of relevance of self-disclosure on relational satisfaction. Delta method standard errors, bias-corrected percentile bootstrap confidence intervals, ML estimator. IV: self-disclosure; DV= relational satisfaction.

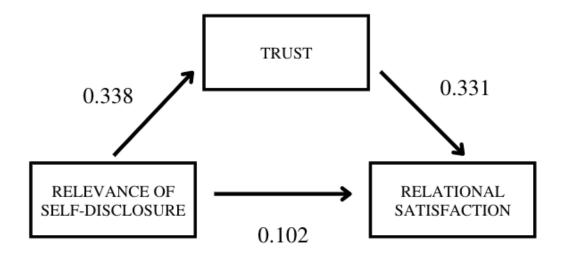
a. Mediator= Trust

Considering the analysis, although there was no significant relationship found between relevance of self-disclosure and overall relational satisfaction (path c), the relationship between relevance of self-disclosure and trust (path a) was significant, and so was the relationship between trust and relational satisfaction (path b), resulting in a total mediation of our model, as suggested by Hayes (reference).

To summarize, hypothesis 1,2, 3, and 4 are accepte as significant results for the indirect effects, total effects, and a total mediation were found.

Figure 2

The research model, including results



Note: A mediation model including the results from each regression analysis. The mediator as an influencing variable of self-disclosure on relational satisfaction.

Exploratory Analysis

As mentioned before, this study is specifically based on an academic course that is taught by both a peer mentor, and a faculty mentor. While this paper focuses on the effects of peer mentors on students, the questionnaire also included items related to the participants' perception of their faculty mentor. The effects of faculty mentor relevant self-disclosure on student relational satisfaction were analyzed, using the same assumptions as before.

First an analysis between relevance of self-disclosure and trust was conducted, with results indicating a positive correlation (r=.347, p<.001), and a significant linear regression $(F(1,105)=14.337, p<.001, R^2=.120)$. Subsequently, the analysis between trust and relational

satisfaction also indicated a positive correlation between the variables (r=.221, p=.025), and a significant linear regression (F(1,100)=5.144, p=.025, $R^2=.049$).

Next, the direct relationship between relevance of self-disclosure and relational satisfaction was tested with results showing a nonsignificant correlation (r=.102, p=.309), and a non-significant linear regression (F(1,99)=1.046, p=.309, R^2 =.010). Lastly the results of the mediation analysis between self-disclosure and relational satisfaction, with trust as a mediator, indicated insignificant results for the direct effects (p=.813, 95% bootstrap 95% CI[-.053, .058]), indirect effects (p=.069, bootstrap 95% CI[-.002, .046]), and total effects (p=.317, 95% bootstrap CI[-.028, .087]), indirect effects (p=.069, bootstrap 95% CI[-.002, .046]).

Discussion

This paper focuses on extending the limited research on the effects of peer mentors on student outcomes, by specifically exploring the role that relevant self-disclosure plays on the relational satisfaction of students, with trust as a mediator. Hypothesis 1 was based on the idea that when peer mentors self-disclose information that is perceived as relevant, the students feel greater relational satisfaction towards the class as a whole. Results support Hypothesis 1, with significant results for the relationship between relevance of self-disclosure and trust. Hypothesis 2 suggested that when students feel greater trust towards their mentor, they also feel greater relational satisfaction. Results are in line with this hypothesis. The 3rd hypothesis assumed that relevant self-disclosure of the mentors would lead to greater relational satisfaction of the students, and the 4th hypothesis was that trust would mediate that relationship. Both hypothesis 3 and hypothesis 4 are supported by the results.

Theoretical and Practical Implications

To begin with, it is important to discuss the relationship of relevance of selfdisclosure on relational satisfaction, more specifically Hypothesis 3 and 4. Baron and Kenny (1986) suggest that a critical starting point for mediation analysis is a significant relationship between X and Y; in our case that would be pathway "c". A linear regression analysis between the independent variable and dependent variable was conducted, resulting in significant results which would suggest a relationship between the two variables exists. Consequently, trust was added as a mediator and a mediation analysis was conducted, with results suggesting an insignificant relationship between pathway c, but significant effects for pathway "a" and "b", indicating a complete mediation.

Assuming that a complete mediation was found, this would suggest that when peer mentors self-disclose information that is relevant to their students and the setting, the students start gaining a deeper sense of trust towards their mentor, which in turn helps in increasing the relational satisfaction that they feel within the group. It is suggested that relevant self-disclosure from the instructors' part, can have positive effects on making the instructor more approachable in the eyes of the students, and at the same time increasing the feeling of trust in the relationship (Nunziata, 2007; Myers et. al., 2009). Previous research also suggests that self-disclosure from one person can increase the feeling of trust, the possibility of reciprocal self-disclosure by the other, and decrease power imbalances in the relationship (Goldstein & Benassi, 1994; Wheeless, 1976, 1978; Wheeless & Grotz, 1977).

Trust, as mentioned earlier, is developed further as the relationship becomes more interpersonal (Frymier & Houser, 2000), which is the assumption that hypothesis 1 is built on. The results show that there indeed is a significant relationship between relevance of self-disclosure and trust. Myers et al. (2009) suggest that as peer mentors self-disclose relevant information about themselves, the students start seeing them as more trustworthy. When trust develops in a mentor-student relationship, the students feel more comfortable in class and in turn a safer learning environment is created (Frymier & Houser, 2000).

Teaching requires effective communication skills to ensure satisfying outcomes, and when the communication interaction between mentor and student is perceived as greater, so is the level of relational satisfaction (Frymier, 1994; Spitzberg & Hecht, 1984; Lewis & Spanier, 1979). The principle of homophily (Rogers & Bhowmik, 1971) suggests that individuals who perceive each other as similar are more likely to communicate and interact more effectively; in the teaching context, when students believe that they share similar attitudes to their teachers, and are in similar age groups as them, they might feel more satisfied in the relationship (Hosek, 2015; Edwards & Harwood, 2003).

These findings could potentially explain the results that were seen in the exploratory analysis. It can be assumed, that the faculty mentor is most of the time older than their students and the peer mentor they are working with. This age difference between student and mentor could be a partial explanation as to why the results for the relationship between peer mentor and student were significantly different than the ones between faculty mentor and student; students might relate more to their peer mentor than they can to their faculty mentor, leading to a more interpersonal relationship in comparison.

Limitations and Future Directions

It is also important to mention that the study had a few limitations. To begin with, the sample that the study is based on is relatively small and non-representative, considering that the study was only based on a single course that first year students were currently taking at the University of Groningen; in addition to that, the study conducted was a correlational study, meaning that we cannot assume causation. In the future, to tackle these issues, this study could be replicated in different contexts and demographics as an experimental study. Furthermore, the present mediation analysis did not take into consideration how the students' moods and previous experiences with other mentors could influence their perception while completing the questionnaire. This limitation of self-reported data could potentially be

eliminated if, in the future, the study took into account the mentors' perception of their own self-reflection. Lastly, in this case, a cross-sectional study can only capture a snapshot of the students' perception of their peer mentor, meaning that the data that was reported can explain only the student's perception of their mentors at the moment they filled in the questionnaire. A suggestion to tackle this limitation would be the use of a longitudinal design that can capture the student's perception of their mentor in different points of time, throughout the semester.

Conclusion

To conclude with, as a plethora of researchers have suggested, self-disclosure is a powerful communication tool when used well. This paper provides evidence suggesting that as mentors self-disclose information that is relevant to their students, the students start gaining a deeper sense of trust towards them, and levels of relational satisfaction within the group raise higher. In addition, it can also be suggested that these effects are stronger when the students perceive themselves as similar (in age and attitude) to their mentor. With that being said, we can assume that Mentor was similar to Odysseus, or maybe he was just very good at self-disclosing relevant information. Either way, the poem will not be able to give us the answer, but we can hope that science can.

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Appendix

Table A1.Descriptive statistics

	Valid	Missing	Mean	SD	Minimum	Maximum
1. PMRelevance	112	78	5.009	1.025	2.400	7.000
2. Trust	108	82	2.995	.339	2.308	3.769
3. RS	102	88	3.429	.418	2.000	5.000

Note: PMRelevance= peer mentor relevance of self-disclosure, RS= relational satisfaction.