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A Measure to Assess Student-Instructor Relationships

Gary Creasey
Illinois State University, glcrease@ilstu.edu

Pat Jarvis
Illinois State University, pajarvis@ilstu.edu

Elyse Knapcik
Illinois State University, erknapc@ilstu.edu

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There is a need for an instrument that assesses student-instructor relationships as many experts speculate that close, non-threatening relationships between students and instructors predict positive achievement orientations, academic progress and success. In this paper, we present reliability and additional validity data concerning the Student-Instructor Relationship Scale, a 36-item inventory we developed that taps student-instructor relationship connectedness and anxiety. In the first study, college students completed this instrument twice over a 3-4 week time period and the instrument subscales possessed good test-retest reliability. In the second study, the subscales of the SIRS were associated with student perceptions of test anxiety in a randomly determined class. As predicted, student-instructor connectedness was negatively associated with test anxiety and student-instructor anxiety was positively associated with this construct. Study implications and suggestions for future research are offered.

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Gary Creasey Illinois
State University
glcrease@ilstu.edu

Patricia Jarvis Illinois
State University
pajarvis@ilstu.edu

Elyse Knapcik Illinois
State University
erknapc@ilstu.edu
Normal, Illinois, USA

Abstract

There is a need for an instrument that assesses student-instructor relationships as many experts speculate that close, non-threatening relationships between students and instructors predict positive achievement orientations, academic progress and success. In this paper, we present reliability and additional validity data concerning the Student-Instructor Relationship Scale, a 36-item inventory we developed that taps student-instructor relationship connectedness and anxiety. In the first study, college students completed this instrument twice over a 3-4 week time period and the instrument subscales possessed good test-retest reliability. In the second study, the subscales of the SIRS were associated with student perceptions of test anxiety in a randomly determined class. As predicted, student-instructor connectedness was negatively associated with test anxiety and student-instructor anxiety was positively associated with this construct. Study implications and suggestions for future research are offered.

Keywords: Student-instructor relationships; measurement; achievement stances; Applying SoTL

Introduction

A large volume of theory and research has been devoted to the identification of teaching strategies and learning assignments that may affect achievement orientations, student persistence, and academic progress (see Eccles, 2004, Pintrich, 2003 for reviews). There is also work that has examined how student relationships with instructors may affect learning outcomes. Students who report strong connectedness with teachers, at all grade levels, display better learning outcomes and academic achievement than students who have instructors that
are perceived to be unsupportive or threatening (Battistich, Solomon, Watson, & Schaps, 1997; Eccles, 2004; Pianta & Stuhlman, 2004). Further, students who report close relationships with instructors are more confident and self-directed than students who perceive their instructors to be less supportive or threatening (Pintrich, Roeser, & De Groot, 1994; Ryan, Gheen, & Midgley, 1998). Thus, because student-instructor relationships are

tied to learning outcomes, academic progress and achievement stances, these affiliations represent a compelling source of study for SoTL professionals.

Whereas one could theorize variables that influence relationships between students and instructors, a central obstacle in this arena concerns the lack of a reliable and valid mechanism to assess these affiliations in the first place. To address this issue, we developed a short survey to assess college student-instructor relationships from the student perspective that was guided by the theoretical principal that there are central relationship qualities that are deemed significant across most relationships. For instance, feelings of connectedness or closeness as well as relationship anxiety are fundamental relationship provisions that appear to transcend important or close relationships with teachers, friends, romantic partners, and parents (Collins & Read, 1990; Davis, 2003; Pianta & Stuhlman, 2004; Ryan et al., 1998; Simpson, Rholes, and Phillips, 1996).

The *Student-Instructor Relationship Scale* contains 36 items that were designed to capture central relationship dimensions. Our initial research with this instrument has been promising. Using a large sample of college students, we documented two relationship dimensions (Instructor Connectedness; Instructor Anxiety) via factor analysis and found that the resulting scales were tied to the presence of positive achievement orientations in a single classroom context (e.g., self directed learning; student confidence). For example, high instructor connectedness was tied to more self-directed learning and high instructor anxiety was associated with less student confidence (author reference, in press). In addition, these associations remained significant when controlling for variables such as student or instructor gender, class size and whether or not the class was within the student's major.

Having established initial concurrent validity, the purpose of the following report is three-fold. First, we report the survey items and scoring instructions for this instrument so others can use this assessment for their own work (see Appendix A). Second, although the instrument has strong internal consistency, we offer data documenting its reliability over time (i.e., test-retest reliability). Finally, the initial study focused on the documentation of associations between the SIRS relationship dimensions and positive achievement stances, such as self-directed learning and perceived control over the learning context. Because there are also achievement dispositions that can cause difficulties, we believed another validity step was to specify the associations between student-instructor relationships and more negative dispositions. For example, one of the most frequently studied expectancies of this type concerns test anxiety or extremely negative and heightened cognitive, emotional and physiological responses associated with formative evaluations (Sogunro, 1998; Zeidner, 1995). When considering the establishment of relationships between students and instructors, some fairly straightforward predictions could be made. For example, it would be expected that students who feel highly connected to classes or instructors would report relatively low anxiety regarding the class, class assignments and exams, whereas students who felt threatened in these relationships would report more stress and anxiety.

Thus, the present work contributes to the literature on several fronts. First, most of the work concerning student-instructor relationships has been conducted with younger, school-aged children in which behavior observations have been used to capture these affiliations (e.g., Birch & Ladd, 1998). The present study uses a collegiate sample and offers a theory-driven, easy-to-use instrument that is more economical than an observational method. Indeed, relationships between instructors and college students may reside more at the representational level; thus, a survey method may represent the only viable method to

capture these relationships in large classroom environments. Second, little work has examined the stability of relationships between college students and instructors; thus, the test-retest segment of the present work also offers a contribution beyond providing psychometric data for the instrument. Finally, whereas test anxiety could be assumed to be a trait, documenting that there is an association between this construct and student-instructor relationships could spur future work that examines if the development of positive affiliations actually reduces or alleviates such distress in college students.

Method — Study 1

Participants
One hundred and thirty nine college students (age range 18-24) attending a large Midwestern university between the ages of 18-24 completed the Student-Instructor Relationship Scale 2 to 3 weeks apart. Students were approached in service courses that cater to a variety of student majors. Complete data was collected on 94 participants.

Instrumentation
The Student-Instructor Relationship Scale is a 36-item instrument in which respondents consider different relationship qualities with instructors on a 7-point, Likert scale (1 = Disagree Strongly; 7 = Agree Strongly) (see author reference, in press, for a description of the instrument's theoretical basis and item construction rationale). In the initial report, a factor analysis yielded two distinct domains. The first factor contained eleven items that loaded well on this factor (.50 or greater) reflecting how connected or close the student felt towards the instructor (e.g., "It's not difficult for me to feel connected to this instructor"; "I feel comfortable sharing my thoughts with this instructor"; "I feel comfortable depending on this instructor"; "It's easy for me to connect with this instructor"; "I could tell this instructor just about anything"). Thus, this factor was designated as the Instructor Connectedness dimension; higher scores denoted stronger feelings of connectedness and low scores on this scale communicated avoidance or a tendency to eschew a close relationship with the instructor.

The second factor contained eight items that loaded well (.50 or greater) on this factor and consisted of items that reflected student concerns regarding instructor acceptance and their worthiness as a student (e.g., "I worry a lot about my interactions with this instructor; "I'm afraid I will lose this instructor's respect"; "I am nervous around this instructor"; "I worry that I won't measure up to this instructor's standards"). Because this factor contained items that reflected anxiety concerning the student-instructor relationship, this factor was labeled the Instructor Anxiety dimension. Higher scores reflected a generalized anxiety regarding a relationship with the instructor, whereas lower scores reflect less threatening perceptions of this affiliation. The instrument and scoring instructions are included in Appendix A; more extensive data concerning factor analyses and the development of the scales are reported in author reference, in press.

Procedure
To capture student thinking across a variety of classes and instructors, two research assistants polled students in two, large service courses (mid-way through the semester) serving a variety of student majors. Once the course instructor left the room, the researchers asked the students to list and number all of their classes that fit a traditional course structure (e.g., students did not list internships, capstone seminars, or out-of class research experience courses). Next, the researcher randomly picked a number, such as "2", and then asked students to circle that particular course on their schedule. This method

prevented the student from self-selecting a particular class or instructor they wished to evaluate. The student then was asked to complete the Student-Instructor Relationship Scale for the instructor of the randomly determined class. Three to four weeks later, the same researchers returned to the same class and asked the participants to complete the survey a second time on the same instructor (the researchers had a record of the instructor who was rated the first time if the student could not recall). It should be noted in both studies that the research assistants were not affiliated with the course in any manner, and students were informed during the consent process that participation was voluntary and would not affect their course standing.

Results

To assess the test-retest reliability of the Student-Instructor Relationship Scale, bivariate correlations between the two dimensions (Connectedness; Anxiety) at the two times of measurement were computed. For the Connectedness subscale, the correlation from Time 1 to Time 2 was .69 ($p < .01$) and for the Anxiety subscale the correlation was .66 ($p < .01$) across the two assessment times. The aggregated internal consistency for both subscales was very good ($\alpha = .89$ for both subscales).

Discussion

The study results indicated that the two relationship dimensions captured by the Student-Instructor Relationship Scale demonstrated adequate consistency over a 3-4 week time period. Although it appears that students tend to hold similar views of their instructor over relatively short periods of time, the somewhat modest correlations also suggest that these perceptions may change for some students. Whereas this could be due to some remaining measurement difficulties (although the item internal consistency remained strong in this study), it is also possible that alterations in the student, instructor, or classroom context would account for these changes over time.

Method — Study 2

Participants
Traditional aged (18-22 years), full-time, college students ($N = 263$) were recruited via the Psychology Department Participant Pool. The majority of the participants were female (females = 185; males = 78); this statistic is partly based on the fact that more women attend this institution then men. The majority of the participants (85%; $n = 224$) were Caucasian, whereas 8% of the sample was African-American ($n = 21$), 4% was Asian-American ($n = 11$) and 3% reported other or mixed ethnicity ($n = 7$).

Instruments
The participants completed the Student-Instructor Relationship Scale and the Motivated Strategies for Learning Questionnaire (MSLQ; Pintrich, Smith, Garcia, & McKeachie, 1991; 1993). The 81-item MSLQ assesses a generalized and classroom specific achievement stances, including the use of positive learning strategies (e.g., rehearsal), critical thinking, and peer learning. The MSLQ also contains a 5-item scale that specifically addresses *test anxiety* and includes items such as, "I feel my heart beat fast when I take an exam" and "When I take tests I think of the consequences of failing". In the current study, students were encouraged to consider their thinking and behavior regarding examinations in their

designated, targeted class. Pintrich et al. (1991) reported satisfactory internal inconsistency for this scale (α = .80); in the current study the internal consistency was also good (α = .83).

Procedure

Similar to the previous study, participants were asked to rate their behavior and characteristics of their instructor in a randomly determined, traditional classroom setting (selected by the researchers, not the participants) mid-way through the semester. Ninety-nine students rated a class that was within their major field of study and 164 students rated a non-major class. A majority of the participants (66%) indicated that the estimated class size was over 40 students and a majority of the instructors that were rated were male (male n = 142; female n = 116). The participants, in a group setting, completed the counterbalanced questionnaires. Similar to the previous study, the participants listed and numbered all of their traditional courses that were taken for graded, academic credit. Next, the researcher randomly chose a number (e.g., "3") and students were asked to then circle this particular class for this study. Thus, students limited their responses to this targeted class chosen by the researcher.

Results

Partial correlations, controlling for student and instructor gender, class size and whether the class was a major or non-major course, were computed on the study measures. Predictably, the Connectedness and Anxiety subscales of the Student-Instructor Relationship Measure were negatively correlated (r = - .32, p < .0001). As hypothesized, the Connectedness subscale was negatively correlated with test anxiety (r = - .19; p < .01) and the Anxiety subscale was positively associated with this construct (r = .37, p < .0001).

Discussion

Similar to our previous work using the Student-Instructor Relationship Scale (SIRS; author reference, in press) the two major subscales from this instrument were significantly related to important achievement orientations. Students who reported connected, non-threatening associations with instructors reported less anxiety than their counterparts who felt less connected, or more anxious, in these affiliations. In conjunction with our previous work, that documented such connected, non-threatening affiliations were related to positive achievement orientations (e.g., student self-efficacy), these results should be of interest to SoTL researchers. Indeed, although learning outcomes were not directly assessed in the present study, there already exists a large literature that has indicated that the achievement orientations captured by the instrument used in the present study forecasts student task mastery and class performance (Pintrich, 2003).

Thus, our findings confirm a result that has been widely reported (albeit mostly with younger children) in this literature; that is, positive student-instructor relationships are significantly correlated with achievement orientations (Eccles, 2004). Thus, the study results suggest that identifying the mechanisms that best predict the development of close, non- threatening relationships with instructors has valuable applied implications and fits with the larger mission of many academic institutions across the nation. That is, there are a myriad of programs available at many institutions that attempt to forge connections between students and the institutional context in order to foster a sense of belongingness and

ultimately influence student satisfaction, academic progress and retention. As this is a general goal of academic culture, it makes sense that more effort is needed to foster a similar sense of connectedness in the classroom context specifically.

Although we report initial success of the SIRS, more psychometric work is needed for this instrument. For example, in our original study (author reference, in press), we identified two clear dimensions of student-instructor relationships that were theoretically supported by the broader relationship literature (i.e., Connectedness; Anxiety). Although these factors possessed the strongest eigenvalues via our initial factor analysis, there were other factors that possessed acceptable values (over 1.00). Thus, it is possible that additional dimensions of student-instructor relationships could be identified. Further, we also recommend that professionals who use this instrument conduct their own factor analysis (both with populations in and outside the United States) to confirm if the factor structure remains the same as our analysis was limited to traditional aged college students attending one large (over 20,000 students) Midwestern university located in the United States.

We have now completed two studies linking the SIRS scales to important achievement stances in a single classroom context, such as self-directed learning, student efficacy (author reference, in press) and test anxiety (assessed in this study). More work is needed to determine if the SIRS scales consistently predict student learning and academic outcomes in the classroom context. In addition, while we have documented in previous work that characteristics of the instructor, such as teacher immediacy, are related to student-instructor relationships as assessed via this instrument, we have also noted in our present and previous work (e.g., author reference, in press) a host of demographic (e.g., student/instructor gender) and contextual (e.g., class size; major/non-major course) variables that are not related to student-instructor relationships. This finding raises several implications. First, it could be that a combination of the aforementioned variables influences student-instructor relationships; we have yet to explore such higher order statistical interactions in our work. Alternatively, because relationship development has such strong psychological and social underpinnings, it is possible that variables that have such underpinnings, such as teacher immediacy, overwhelm the importance of demographic, structural, and pedagogical variables. This hypothesis would suggest that, as an example, poor communication skills on the part of the instructor, or a student's relationship history, could be more salient variables in the process of relationship development than the student's gender, whether the instructor is perceived as physically attractive or not, or the use of particular learning activities in the classroom context.

The results of the two studies presented in this paper, and the outcome of a previous study (author reference, in press) indicated that the Student-Instructor Relationship Scale has satisfactory psychometric properties. The development of this instrument is important to SoTL researchers because although there is much theoretical speculation that student-instructor relationships are important for learning success, there do not exist many mechanisms to systematically assess these affiliations in college students. The instrument is easy to administer and score (see Appendix A), and there are many directions to pursue regarding this assessment. Further psychometric work is needed (e.g., identification of other relationship dimensions; discriminate validity), and it lends itself to both basic and applied research. In terms of the former, more longitudinal work is needed to document the variables that forecast the development of student-instructor relationships over time. Indeed, the validity data for the instrument used in the present study has all been obtained at a single time point; thus, it cannot be ruled out that achievement orientations such as test anxiety of student efficacy predict the development of these affiliations, as opposed to the other way around.

Finally, if eventual longitudinal work using this instrument did indicate that the development of student-instructor relationships do impact achievement orientations and positive learning outcomes, instructors could one day use this assessment as a mechanism to identify potential difficulties in their classroom context. For example, if a concentration of students were to report low connectedness or high anxiety during the early phases of an academic term, an instructor could potentially make adjustments in their instructional plan or communication delivery to address these concerns. Although we are still not clear on the variables that predict the development of student-instructor relationships, an instructor could ascertain the roots of the difficulty in their individual class by administering a short, anonymous assessment that targets student thinking on this issue (e.g., one-minute paper). It would be compelling to document changes in these relationships as a result of any adjustment the instructor makes as a result of the brief student assessment.

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Appendix A

Student Instructor-Relationship Scale (SIRS)

The following statements concern how you feel about your relationship with your instructor. Respond to each statement by indicating how much you agree or disagree with it. Fill in the corresponding number on the Optical scan form using the following rating scale:

1	2	3	4	5	6	7

Disagree		Neutral/			Agree	
Strongly		Mixed			Strongly	

1. I wish this instructor were more concerned with the welfare of students.
2. I find it difficult to allow myself to depend on this instructor.
3. The instructor is concerned with the needs of his or her students.
4. I'm afraid that I will lose this instructor's respect.
5. I worry a lot about my interactions with this instructor.
6. It's not difficult for me to feel connected to this instructor.
7. This instructor makes me doubt myself.

8. I am nervous around this instructor.

9. I find that the instructor does not connect well with students.

10. The instructor seems to only appreciate certain students.

11. I feel comfortable sharing my thoughts with this instructor.

12. I find it relatively easy to get close to this instructor.

13. Sometimes this instructor's mood is unpredictable.

14. This instructor shows favoritism to some students.

15. This instructor seems uncomfortable interacting with students.

16. I prefer not to show this instructor how I truly think or feel.

17. It's easy for me to connect with this instructor.

18. I get uncomfortable when instructors try to get too friendly with students.

19. I rarely worry about losing this instructor's respect.

20. It makes me mad that this instructor does not seem to pay attention to the needs of his or her students.

21. I am very comfortable feeling connected to a class or instructor.

22. I'm scared to show my thoughts around this instructor; I think he or she will think less of me.

23. I usually discuss my problems and concerns with this instructor.

24. I don't feel comfortable opening up to this instructor.

25. I'm afraid that if I shared my thoughts with this instructor that he or she would not think very highly of me.

26. I do not often worry about losing the respect of this instructor.

27. I find it easy to depend on this instructor for help.

28. If I were to get into trouble in this class, I do not think this instructor would be very motivated to help me.

29. I could tell this instructor just about anything.

30. I feel comfortable depending on this instructor.

31. I worry that I won't measure up to this instructor's standards.

32. I worry that this instructor does not really care for his or her students.

33. I prefer not to get too close to instructors.

34. I often worry that my instructor doesn't really like me.

35. If I had a problem in this class, I know I could talk to the instructor.

36. I know this instructor could make me feel better if I had a problem.

Scoring:

Instructor Connectedness Items: Add items 3, 6, 11, 12, 17, 21, 23, 29, 30, 35, and 36.
Higher scores denote stronger feelings of connectedness and low scores on this scale communicate avoidance or a tendency to eschew a close relationship with the instructor.

Instructor Anxiety Items: Add items 4, 5, 7, 8, 22, 25, 31, and 34.
Higher scores reflect a generalized anxiety regarding a relationship with the instructor, whereas lower scores reflect less threatening perceptions of this affiliation.