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Personality Effects on Teaching Anxiety and Teaching Strategies in University Professors

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ABSTRACT

Teaching anxiety is prevalent among professors. However, there is little research examining the relationship between personality and teaching anxiety in this population. The current study examines how different types of in-class behaviour are related to teaching anxiety and personality. Higher neuroticism and lower extraversion are related to higher levels of teaching anxiety. Professors with high neuroticism employ in-class strategies such as student-to-student discussion and group work, which may help to diminish the levels of anxiety by diverting attention away from the instructor. Personality is an important factor to consider when examining the relationship between teaching anxiety and specific strategies used within the classroom. In particular, understanding the role of personality characteristics would allow the professor to adjust coping strategies that may be important to circumventing or minimizing anxiety-provoking situations that may arise.

RÉSUMÉ

L'anxiété durant l'enseignement est très répandue parmi les professeurs. Toutefois, il y a peu de recherche qui examine la relation entre la personnalité et l'anxiété durant l'enseignement. L'étude courante examine comment différents types de comportements en classe sont reliés à l'anxiété de l'enseignement et à la personnalité. Un taux élevé de neurasthénie et un taux bas d'extraversion sont reliés à un taux élevé d'anxiété face à l'enseignement. Les professeurs ayant un haut taux de neurasthénie emploient en classe des stratégies telles que discussions

entre étudiants et travail de groupes, qui peuvent aider à diminuer le degré d'anxiété en portant l'attention loin de l'instructeur. La personnalité est un important facteur à considérer quand on examine la relation entre l'anxiété de l'enseignement et les stratégies spécifiques utilisées dans les classes. En particulier, la compréhension du rôle que les caractéristiques de personnalité jouent, permettrait au professeur d'ajuster les stratégies d'adaptation qui pourraient être utilisées pour contourner ou minimiser les situations d'anxiété qui pourraient se présenter.

INTRODUCTION

Work-related anxiety and stress have a negative impact on effectiveness, job satisfaction, and overall well-being. University teachers are unique in many ways that make the likelihood of anxiety and stress greater than in most professions (Kinman, Jones & Kinman, 2006). For example, teaching anxiety is common among professors and is known to affect the strategies employed by university professors within the classroom (Fraser, Houlihan, Fenwick, Fish, & Möller, 2007). Although some researchers have examined the relationship between personality and teaching effectiveness, the impact of personality on teaching anxiety and teaching strategies has received little research attention. The present study, therefore, examines how personality may be related to teaching-related anxiety and the teaching strategies used by professors based on their personality.

Teaching and Anxiety

In a large-scale study of university teachers in the United Kingdom, Kinman, Jones, and Kinman (2006) reported on the levels of stress experienced by university professors. Not only did professors report high levels of stress, they also reported that their stress levels had increased dramatically over a period of six years. When compared to other professions (e.g., emergency-room technicians and surgeons, nurses, managers, call-centre workers), the only group of individuals reporting a higher level of overall stress was that of the recently unemployed. Workload is a major contributor to stress among university professors as most work an average of 14 hours a week more than the norm and typically still feel behind in their work (Kinman & Jones, 2004). In addition, most professors feel unable to take their full annual leave entitlement (Hogan, Carlson, & Dua, 2002; Jacobs & Winslow, 2004a, 2004b; Kinman & Jones, 2004).

Another major stressor faced by university professors is the unique demands placed on them to excel in both research and teaching (Fish & Fraser, 2001; Gardner & Leak, 1994). University professors are extremely well trained in their respective research fields but at the same time have very little or no formal teacher training (Fraser et al., 2007). This problem was exasperated by recent reductions in post-secondary funding, which have resulted in increased student-to-faculty ratios, decreased funding for research, and no corresponding

decrease in the requirements for renewal, promotion, and tenure (Canadian Association of University Teachers, 1998, 1999, 2005).

Given the stressors facing university professors, it is surprising that so little research has been done on the role of teaching anxiety within the university setting. Gardner and Leak (1994) did identify three components of teaching anxiety in a sample of psychology professors - (1) preparation for teaching; (2) anticipation of teaching; and (3) interaction within the classroom - and found that 87% of those surveyed reported moderate to high levels of teaching anxiety. Fish and Fraser (2001) extended Gardener and Leak's classifications to include general well-being and expanded the sample to include a wider array of disciplines. Like Gardner and Leak, Fish and Fraser also found that the vast majority of respondents indicated moderate to high levels of teaching anxiety. The most salient aspects of anxiety included preparation before class, returning exams, and dealing with disruptive students. In addition, Fraser et al. (2007) noted that teaching anxiety was related to particular behaviours within the classroom. Specifically, the higher the level of teaching anxiety, the more likely the professor was to adopt teaching strategies that increased the distance between teacher and student, such as limiting class discourse and reducing face-to-face interactions.

Predictors of Teaching Anxiety

It is well established that teaching anxiety is related to personality factors such as negative affect or neuroticism (compare Anand, 1977; Daniel & Schuller, 2000; Kokkinos, 2007) and that both extraversion and neuroticism are important predictors of subjective well-being (Grant & Langan-Fox, 2007; Lynn & Steel, 2006). Similarly, strategies used to avoid or cope with teaching anxiety may be different, depending on the personality of the individual professor (Erdle, Murray, & Rushton, 1985). Erdle et al. tested how personality and in-class behaviours predicted teaching effectiveness as measured by student evaluations. Personality was assessed by colleagues using a set of 29 adjectives, and trained observers rated in-class teaching behaviours using a 95-item checklist developed by Murray (1983). Personality variables were summarized by principal-components analysis into *achievement orientation* and *interpersonal orientation*; likewise, in-class behaviours were summarized into *charisma* and *organization*. Achievement orientation, in-class behaviours related to charisma, and in-class organization independently predicted teaching effectiveness. However, charismatic behaviours were significantly correlated with both achievement orientation and interpersonal orientation, while in-class organization was related to interpersonal orientation but not to achievement orientation. These results demonstrated that personality has an important influence on teaching and suggest that personality may influence in-class behaviours.

The current study examined personality and in-class behaviours and how these factors affect teaching anxiety. Fraser et al. (2007) demonstrated a clear relationship between teaching anxiety and in-class behaviour; this study ex-

tended those basic findings by exploring the relationship of personality to both teaching anxiety and in-class behaviour. Because previous studies have indicated that neuroticism and extraversion are related to both overall well-being (Grant & Langan-Fox, 2007; Lynn & Steel, 2006) and teaching anxiety (compare Anand, 1977; Daniel & Schuller, 2000; Kokkinos, 2007), it was anticipated that levels of teaching anxiety would be higher for those with high trait anxiety, high neuroticism, and low extraversion. Finally, given that Fraser et al. (2007) had demonstrated that high anxiety is related to in-class behaviours that isolate the professor from the student, it was expected that those high in neuroticism and low in extraversion would engage in behaviours that isolate them from their students.

METHODOLOGY

Participants

Forty-two university faculty members (26 women and 16 men) from a small undergraduate Canadian institution volunteered for the present study. Of the total number who participated, 22 were either tenured or in tenure-track positions, with the remaining participants on limited-term, one-year appointments or in part-time, stipend positions. Distribution of participants by rank included 6 full professors, 8 associate professors, 14 assistant professors, and 14 lecturers. Participants' years of experience ranged from 5 years or less (N = 13), to 6 to 10 years (N = 5), to 11 years or more (N = 24).

Materials

Teaching anxiety was measured using the Survey of Teaching Anxiety developed by Fish and Fraser (2001), which is based on the following definition of teaching anxiety: "any distress that derives from the preparation for teaching, the anticipation of teaching, and interaction within the classroom environment" (see also: Gardner & Leak, 1994). The survey consists of 14 items, and summed scores were derived separately for the following categories: preparation for teaching (Preparation; $\alpha = .82$); anticipation of teaching (Anticipation; $\alpha = .80$); classroom interaction (In-class; $\alpha = .88$); and perceived external effects of teaching anxiety (External; $\alpha = .93$). All items were ranked on a 7-point Likert scale.

The Survey of Instructional Methods and Classroom Settings used in the study was developed specifically for this study. Nine faculty members, both full- and part-time, were asked to describe their experience of teaching anxiety and the coping strategies that they and/or other instructors employed. Their responses were used to construct a scale, which consisted of 63 items related to communication methods in and out of class, classroom structure, test and examination procedures, and strategies used to deal with disruptive students. For each item, participants were asked to indicate the frequency with which they used each behaviour on a 4-point scale, ranging from 1 (never) to 4 (always).

To provide a measure of the participants' general level of anxiety, the

Beck Anxiety Inventory (BAI) was used. This questionnaire contains a list of 21 common anxiety symptoms, and participants were asked to indicate, using a 4-point scale ranging from *not at all* to *severely*, the degree to which each symptom had affected them over the past week. According to the BAI testing manual (Beck & Steer, 1993), the test has high internal consistency (Cronbach coefficient alpha = .92) and test-retest reliability of .75. The means (SD) of the personality variables are listed in Table 1.

Table 1
Means and standard deviations of EPQ-R and Beck Anxiety Inventory

	BAI Total	Extraversion	Neuroticism	Psychoticism	Lie
N	41	40	40	41	40
Mean	8.07	12.65	10.60	3.10	8.85
Std. Deviation	8.99	4.81	5.22	2.12	3.48
Norms Mean	11.54	12.98	11.29	3.20	7.48
Norms SD	10.26	4.76	5.16	2.64	4.00

Note. Norms for the Beck Anxiety Inventory are based on a community sample from Osman et al., 1993.

Finally, to assess the role of individual personality factors, the Eysenck Personality Questionnaire (EPQ, revised) was employed. The EPQ consists of 90 items, divided into 4 scales: Extraversion; Neuroticism; Psychoticism; Lie. Each item is presented as a question, and participants are asked to respond in a simple Yes/No format. Sample items on the Extraversion/Introversion scale include: *Do you like to go out a lot? Do you like mixing with people?* According to the EPQ testing manual (Eysenck & Eysenck, 1975), internal consistency varies across scales from .76 to .90. Test-retest reliability ranges from .76 to .89.

Procedure

Faculty members were contacted by e-mail and invited to participate in an online survey. Participants were assured that their involvement was voluntary and anonymous and that they maintained the right to withdraw their participation at any time. Those who chose to participate first completed a demographics questionnaire, then the Survey of Teaching Anxiety, and finally the Survey of Instructional Methods and Classroom Settings. At the conclusion of the online survey, participants were thanked for their contribution and provided with pertinent contact information should they have further questions or want to request the results of the study upon completion.

RESULTS

Correlations among teaching anxiety components and personality measures derived from the Survey of Teaching Anxiety appear in Table 2. Positive

correlations between BAI and all four components of teaching anxiety are evident. The same pattern was noted between neuroticism and teaching anxiety, but the overall magnitude of the correlations with neuroticism was lower than those obtained with BAI. These differences were significant only for the external and preparation components. This pattern of larger correlations for BAI than for neuroticism was expected, since BAI can be viewed as a much-narrower trait than neuroticism, which includes emotional instability and self-consciousness in addition to anxiety and worry. The only other signification correlation among these variables was a negative correlation between extraversion and external sources of anxiety.

Table 2
Correlations among Teaching Anxiety Components and Personality Measures

	BAI Total	Extraversion	Neuroticism	BAI>N	Psychoticism
External	.757(**)	-.352(*)	.472(**)	yes	z=2.08*
In-class	.657(**)		.476(**)	no	z=1.18, NS
Preparation	.643(**)		.336(*)	yes	z=1.80*
Anticipation	.445(**)		.321(*)	no	z=0.63, NS

*p<.05
**p<.01

Correlations among in-class teaching strategies and personality measures are summarized in Table 3. A few patterns were noticed among the correlations. Specifically, high neuroticism is related to the use of group work such as student-to-student discussions and evaluation using student/group presentations in all four years. Extraverts also appeared to use student-to-student discussions and evaluate students using student presentations and group work but only in years one and two. The Beck Anxiety Inventory was positively correlated with the questions related to prevention of cheating. In addition, those scoring high on the Beck Anxiety Inventory tended to hand back tests and assignments outside the classroom but then spend a significant amount of time going over them in class.

DISCUSSION

The current study examined personality and in-class behaviours and how these factors affect teaching anxiety. Those high in neuroticism were expected to engage in behaviours that isolate them from their students. As anticipated, professors with high neuroticism reported higher levels of teaching anxiety. Higher neuroticism was related to all four categories of teaching anxiety identified by Fish and Fraser (2001). Lower extraversion was related to teaching anxiety for the Perceived External Effects of Teaching Anxiety category (see Table 2). These results are consistent with past research and suggest that personality traits may predict the potential for experiencing teaching anxiety.

State of anxiety as measured by the Beck Anxiety Inventory (BAI) was positively correlated with all four categories of teaching anxiety. Although these correlations were of a high magnitude, the overall BAI mean was lower than that of the community population reported by Osman, Barrios, Aukes, Osman, and Markway (1993). It is perhaps surprising that the overall level of anxiety was not greater, since the study was conducted during the term when teaching pressures are high. However, the university professors who participated in the study may not have been completely overwhelmed, may value teaching, and/or may have an active interest in the scholarship of teaching.

In relation to the BAI, there exists another potential sampling bias. When examining personality, for example, it has been demonstrated that extraverts are more likely to volunteer for studies than intraverts (Marcus & Schutz, 2005). As Table 1 illustrates, however, this issue was not a problem in the present study as the means and SD of the EPQ scores are consistent with the norms for the EPQ. There has also been concern regarding the validity of online surveys, but, in general, this methodology has been found to be comparable with paper-and-pencil test situations (see, e.g., Gosling, Vazire, Srivastava, & John, 2004).

The second purpose of this study was to examine the relationship between personality and in-class teaching strategies. It was anticipated that professors scoring high in neuroticism and those scoring low in extraversion would engage in behaviours that would isolate them from their students. These behaviours also serve to deflect attention away from the individual and may, therefore, also serve to reduce anxiety. The study results indicated that there was indeed a tendency for professors who score high in neuroticism to use student-to-student discussions and group activities in first, second, third, and fourth year. However, although this outcome should be compatible with the idea of isolation from students, extraversion was also positively correlated with the use of student-to-student discussions and group work in first and second year. Since one of the main defining attributes of extraversion is a desire for social communication, this finding appears to run counter to the argument. Nonetheless, it is quite possible that the extraverts in the study sample used this method in first and second year to initiate discourse and class interaction while staying actively involved in the discussion. These speculations need to be addressed in future research.

It is interesting to note that those who scored high in neuroticism used student-to-student discussions in all four years, whereas the extraverts only used this teaching strategy in the first and second year. It is possible that the smaller class sizes in years three and four allowed the extraverts to engage students in discussion more readily. Those who scored high in neuroticism may not have the confidence—even with smaller class sizes—to directly engage students; thus, indirect engagement may lower their anxiety levels but isolate their students. This possibility remains speculative and requires more-detailed investigation to properly characterize the reasons for the adoption of a particular in-class strategy.

Table 3
Correlations among In-class Teaching Strategies and Personality Measures

Items	Beck Anxiety	Extraversion	Neuroticism	Psychoticism
Class Structure and Evaluation		.441**	.432 **	
In-class Techniques: Student-Student Discussions (i.e., group work)		-.394*		
Evaluate students using: Short Answer (1st & 2nd yr courses)		.332*	.347*	
Evaluate students using: Student Presentations/Group Work (1st & 2nd yr courses)				
Evaluate students using: Short Quizzes (3rd & 4th yr courses)	.366*			
Evaluate students using: Student Presentations/Group Work (3rd & 4th yr courses)			.454**	
Prevention of Cheating				
Cheating prevention: Prepare several versions of test/exam	.346*		.343*	
Cheating prevention: Before start of test/exam, advise students of possible consequences if caught cheating	.384*			
Returning Evaluations to Students				
Handing back tests/exams in class & taking a few minutes to go over major problem areas				-.320*
Handing back tests/exams: Post grades on WebCT & spend significant amount of time going over most of test	.406**	-.326 *		
Handing back tests/exams: Place tests/exams outside your office & spend significant amount of time going over most of test	.360*		.390*	
Returning written assignments/term papers: Post grades on WebCT & spend significant amount of time going over most of test	.382*			
Dealing with Disruptive Students				
Dealing with disruptive students: Do not take action and hope peer pressure from other students will make him/her stop.		-.384*		

*p<.05
**p<.01

It also appears that professors who scored high on the BAI, which is strongly correlated with high teaching anxiety, tend to hand back marks for tests and assignments outside the classroom, yet cover the main points of tests and assignments in class. This set of in-class strategies may demonstrate isolation of students when returning the assignment, followed by re-engagement when reviewing the main points in class. Handing back the grades outside the classroom allows professors to avoid students' initial shock generated by the mark they received, especially if the grade was lower than expected. It also gives students time to reflect on the grade before meeting with their professor to go over the major points in detail.

This attempt to minimize the possibility of tense situations may also explain why high scorers on the BAI were more likely to prevent cheating. By creating multiple versions of a test and instructing students on the consequences of cheating, they avoided a potentially tense situation. These rules can be effective strategies if not taken to the extreme, since the more rules applied to the classroom setting, the greater the potential to prevent in-class discussions and debates.

CONCLUSION

Teaching anxiety as it affects university professors is a real concern and should be recognized as such (Fraser et al., 2007). Higher neuroticism and lower extraversion were related to teaching anxiety, while personality was related to in-class teaching strategies, particularly in the use of student-to-student discussions and group work. Future research should address how personality-related choices in teaching behaviours impact student learning and if these teaching behaviours reduce teaching anxiety.

Practical Issues

The identification of personality with types of teaching anxiety would allow professors the opportunity to look for effective coping strategies tailored to their own needs. Help in dealing with potentially anxious classroom situations is available from a number of resources. For instance, many websites offer useful advice on topics such as coping with disruptive students, handling in-class discussions and debates, and grappling with potentially explosive topics, just to name a few (Fraser et al., 2007). The current research suggests that the success of any particular strategy is related to the individual's personality.

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