The Upside of Being Socially Anxious: Psychopathic Attributes and Social Anxiety are Negatively Associated

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Abstract

Psychopathy is characterized by a lack of concern for other people and social norms. In contrast, individuals with high social anxiety are overly concerned about the approval of others and violating social norms. Therefore, we hypothesized that social anxiety is negatively associated with psychopathic attributes, with males being more psychopathic than females. In order to test this hypothesis, we administered self-report measures of social anxiety, psychopathic attributes, and academic misconduct as an index of adherence to social norms to a sample of 349 undergraduate college students (244 females and 105 males). Males had more psychopathic attributes than females. Social anxiety and psychopathic attributes showed a weak but significant negative correlation in the total sample and also in the subgroup of males and females. Psychopathic attributes were further positively associated with academic misconduct behaviors among females, but not among males. These findings are consistent with the notion that social anxiety and psychopathic attributes are negatively associated.

Keywords

psychopathic attributes; social anxiety; social norms; academic misconduct; psychopathy

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Humans have a general need to be liked, valued, and approved of by others in order to develop supportive peer relationships and engage successfully in social relationships (Tooby & Cosmides, 1996). Ostracism from the social group can have a strong negative impact on one's physical and mental well-being (e.g., Sapolsky, Alberts, & Altmann, 1997). As a result, humans naturally fear negative evaluation by their peers and exhibit social anxiety in situations that might threaten their position in the social group (Gilbert, 2001; Leary, 2001). Therefore, social anxiety and its associated fear of violating social norms and negative evaluation by others appear to have an important function for the maintenance of a social hierarchy (Gilbert, 2001).

In contrast, other people show very little or no concern for others. In extreme cases, they show a lack of empathy, lack of conscience, manipulative behaviors, and social deviance, among other things (e.g., Cleckley, 1982/1941; Hare, 1993, 1998). Clinical or otherwise abnormal expressions of psychopathic attributes had been termed sociopathy, antisocial personality disorder, and psychopathy, depending on the specific definition (e.g., Hare, Hart, & Harpur, 1991; Widiger et al., 1996). Psychopathic attributes are expressed in various degrees whenever social groups are formed. For example, such tendencies among college students are expressed

in the form of academic misconduct behaviors (Scanlon & Neumann, 2002; Young, 2001). These characteristics stand in clear contrast to those typically displayed by socially anxious individuals who are overly concerned about pleasing others and adhering to social norms (Hofmann, 2007; Hofmann & DiBartolo, 2001; Hofmann, Heinrichs, & Moscovitch, 2004).

Research investigating the nature of social anxiety (Kollman, Brown, Liverant, & Hofmann, 2006), pychopathy (Edens, Marcus, Lilienfield, & Poythress, 2006; Guay, Ruscio, Knight, & Hare, 2007), and psychopathic behaviors and attitudes (Marcus, Lilienfeld, Edens, & Poythress, 2006) suggests that these characteristics reflect dimensional constructs rather than discrete categories. The only other study that reported results supporting a taxonic structure of psychopathy (Harris, Rice, & Cormier, 1994) has been criticized on methodological grounds (Edens, Marcus, Lilienfeld, & Poythress, 2006; Lilienfeld, 1998; Marcus, John, & Edens, 2004).

Given the defining features of social anxiety and psychopathic attributes, it is possible that these two dimensional constructs are negatively associated. Since the early conceptualization of psychopathy, researchers have hypothesized a link between psychopathy and (the lack of) anxiety (Cleckley, 1941/1982). However, the empirical literature on this issue has been mixed. Some studies have reported a lack of association between trait anxiety and psychopathy (Schmitt & Newman, 1999) or a positive association between general trait anxiety and antisocial behaviors in children (Fergusson & Horwood, 1993) and adults (Butcher, Graham, Williams, & Ben-Porath, 1990; Boyd, Burke, Greenberg, Holzer, Rae et al., 1984). One reason for these inconsistent findings might be related to the differences in the definition between psychopathic attributes and between fearfulness/fearlessness (Frick, Lilienfeld, Ellis, Loney, & Siverthorne, 1999), general trait anxiety, and other forms of anxiety. To our knowledge, no inquiry has been made to specifically examine the relationship between psychopathic attributes and social anxiety, despite the direct, negative relationship between these two constructs in some of their definitional criteria. Specifically, the defining features of social anxiety and psychopathy tend to oppose one another: Whereas individuals with social anxiety are overly concerned about violating social norms and being negatively evaluated by others, people with psychopathic attributes typically do not fear violating social norms and show very little or no concern for others.

Psychopathic attributes are difficult to measure because of obvious response biases, especially social desirability. Some of the measurement scales include the Hare Psychopathy Checklist (PCL-R; Hare, 1991), the Hare P-Scan (Hare & Hervé, 1999), the Psychopathic Personality Inventory-revised (PPI-R) by Lilienfeld and Widows (2005), and the Social Psychoathy Scale (Smith, 1985; Edelmann & Vivian, 1988). The Hare scales are interviewer-administered scales, and the items are scored by combining interview, case-history, and archival data. The PPI-R is a lengthy self-report instrument consisting of 154 items. The SPS is an 18-item self-report measure with adequate psychometric properties. Because of its brevity and ease of administration, we chose this scale in conjunction with a measure of social desirability.

An important variable to consider when examining the relationship between psychopathic attributes and social anxiety is participants' gender. The literature consistently reports that men tend to show more psychopathic attributes and are more violent than women (e.g., Yang & Coid, 2007). Furthermore, although men and women do not systematically differ in their overall level of social anxiety, some research suggests that social anxiety is associated with the person's self-construal and identification with a traditional gender role orientation (Moscovitch, Hofmann, & Litz, 2005). Therefore, we will examine the association between psychoapthic attributes and social anxiety in men and women separately.

We predicted that psychopathic attributes are more common in men and women. Moreover, we hypothesized that psychopathic attributes are negatively associated with social anxiety. Finally, we expected that psychopathic attributes, but not social anxiety, are positively associated with behaviors that violate social norms, as indicated by academic misconduct in an undergraduate student population.

Method

Participants

The sample consisted of 349 college students (244 females and 105 males) enrolled in an introductory level psychology class at Boston University, a large, private university on the east coast of the United States of America. The majority of the sample was Caucasian (71.6%) and heterosexual (96.1%). Other ethnic groups included Asian-American (17.1%), Hispanic (5.0%), African-American (3.7%) and other (2.6%). The average age of the sample was 18.7 (range 17–26, *SD*: 1.08)

Procedure

This study took place in a group setting. Upon entering, participants received a consent form and a battery of self-report questionnaires. Participants were asked to read and sign the consent form prior to filling out the questionnaires. They were further informed that all information was strictly confidential. Upon completing the questionnaire battery, participants were debriefed and received class credit for their participation.

Measures

In order to study the relationship between psychopathic attributes and social anxiety, participants were asked to fill out a questionnaire battery that included the following self-report instruments:

***Social Interaction Anxiety Scale* (SIAS; Mattick & Clarke, 1998)—**The SIAS consists of 20 items that are rated on a 5-point Likert scale. The items are self-statements regarding cognitive, affective, and behavioral responses to situations requiring social interaction. The scale shows good temporal stability, as well as good discriminant and construct validity (Heimberg, Mueller, Holt, Hope, & Liebowitz, 1992).

***Social Psychopathy Scale* (SPS; Edelmann & Vivian, 1988)—**The SPS consists of 18 items, each rated on a 1 (strongly agree) to 7 (strongly agree) point scale. The instrument assesses psychopathic attributes with items measuring the tendency to be beguiling, guiltless, manipulative, cynical, egocentric, unempathic, unpuerturbed, restless, and oriented in the present. Examples of the scales items are: "I don't see anything wrong with taking items from work to keep as my own" and "There is always a way to get someone to trust you". The scale shows adequate psychometric properties (Edelmann & Vivian, 1988; Smith, 1985).

Academic Behavior Questionnaire—This questionnaire was developed based on a study by Newstead, Franklyn-Stokes and Armstrong (1996). The scale shows adequate psychometric properties and measures academic misconduct as an indicator of non-adherence to social norms. It consists of 21 items that asks respondents to indicate whether or not they had ever engaged in certain behaviors. Examples include "submitting coursework from an outside source (e.g., essay banks)," "ensuring the availability of books/articles in library by mis-shelving or cutting out pages," "lying about medical/other circumstances to get extension or exemption," "inventing data," and "altering data (e.g., adjusting data to obtain a significant result)." The latter two items potentially apply to many participants despite being undergraduates in introductory psychology classes, because participants are heavily involved

in formal research at Boston University. Furthermore, even informal research is subject to falsifying data, because this form of academic misconduct can occur as part of presentations in course term papers or introductory biology lab reports, etc. The endorsement rates for these items were sufficiently high. Moreover, the inclusion in the scale was meaningful and informative. Therefore, these items will be presented in the results section.

***Positive and Negative Affect Schedule* (PANAS; Watson, Clark, & Tellegen, 1988)—**The PANAS is a 20-item measure of two primary dimensions of mood- Positive Affect (PA; 10-items) and Negative Affect (NA; 10 items). Items are rated on a 5-point Likert scale. The PANAS is widely used in experimental studies and has good reliability and validity (Watson et al., 1988). Participants were asked to rate how they feel in general. The PANAS was included because previous studies have reported an association between general anxiety/ negative affect and psychopathic attributes.

***Marlowe-Crowne Social Desirability Scale* (MCSD scale; Crowne & Marlowe, 1960)—**The MCSD scale is a 33-item true-false scale that is commonly used to measure social desirability (Crowne & Marlowe, 1960). Studies have further shown that the MCSD scale measures self-deception and impression management (Paulhus, 1985; Weinberger & Davidson, 1994). Respondents are asked about common negative and positive characteristics of unusual levels of general virtue. The MCSD scale shows good internal consistency and test-retest reliability. The scale was administered to control for participants' response bias.

Results

Gender Differences in Psychopathic Attributes, Social Anxiety, and Related Constructs

To examine whether men and women differed in their psychopathic attributes, social anxiety, positive and negative trait affect, and their academic misconduct behaviors, we conducted a multivariate General Linear Model with Gender as the between subjects variable, the MCSD scale as the covariate, and the scores in the SPS, SIAS, PANAS (negative), PANAS (positive) and ABQ as the dependent variables. Complete data were available from 349 participants.

The results showed a significant multivariate Gender effect, $F(5, 342) = 14.94$, $p < .0001$, partial $\eta^2 = .18$, and covariate effect, $F(5, 342) = 27.33$, $p < .0001$, partial $\eta^2 = .29$. The between-subjects effects were significant for the SPS, $F(1, 346) = 68.19$, $p < .0001$, partial $\eta^2 = .17$, ABQ, $F(1, 346) = 5.38$, $p = .02$, partial $\eta^2 = .15$, and PANAS, positive affect, $F(1, 346) = 4.97$, $p = .03$, partial $\eta^2 = .14$ (all other Fs < .1, ps > .3, partial η^2s < .003). Table 1 shows the means and standard deviations of the measures in males and females. These results suggest that, consistent with our hypothesis, males scored higher on the SPS and reported more academic misconduct behaviors than females.

Association Between Psychopathic Attributes and Social Anxiety

The SPS and SIAS showed a significant but relatively weak negative correlation in the total sample, $r = -.12$, $p < .02$ (without any covariates). Figure 1 shows the scatter plot of the two questionnaire sores.

In order to further explore the relationship between psychopathic attributes and social anxiety while controlling for social desirability, trait affect, and gender, we examined the partial correlations between the SPS and the SIAS among females and males using the positive and negative subscales of the PANAS and the MCSD scale as covariates.

Consistent with our hypothesis, the SPS was negatively associated with the SIAS in the female sample, $r = -0.16$, $p < .05$, and even more so in the male sample, $r = -.25$, $p < .05$. The difference

in the magnitude between these correlation coefficients was not statistically significant t (336) = 1.29, $p > .10$. Moreover, the SPS was positively associated with the ABQ in the female sample, $r = .20$, $p < .005$, but not in the male sample, $r = .07$, $p > .4$. This difference was statistically significant, t (339) = 1.72, $p < .05$.

In order to examine the relationship between the SPS, the SIAS, the positive and negative subscales of the PANAS and the ABQ, we further calculated the partial correlations between these variables with the MCSD scale as the covariate. The correlation matrix of these variables in the female and male subsamples is shown in Tables 2 and 3, respectively.

It should be noted that academic misconduct was surprisingly common. Only 3.2% of the respondents reported that they never engaged in any of the behaviors listed in the ABQ. The number of academic misconduct behaviors was normally distributed with an average of 6.96, and a mode and median of 7 (*SD*: 3.97; range: 0–17 with a maximum score of 21). Some of the most common behaviors were "allowing own coursework to be copied by another student" (81.6%), "copying another student's coursework without their knowledge" (67.1%), "inventing data" (52.9%), "altering data (e.g., adjusting data to obtain a significant result)" (47.1%), and "paraphrasing material from another source without acknowledging the original author" (45.5%)."

Discussion

Psychopathic attributes and social anxiety are both defined by their adherence to social norms and concerns for other people. Therefore, we hypothesized that psychopathic attributes and tendencies are negatively associated with social anxiety. Because most taxometric studies suggest that social anxiety (Kollman et al., 2006) and psychopathic attributes (Edens et al., 2006; Guay et al., 2007) are continuous variables, we examined these constructs in a large undergraduate male and female student sample.

Consistent with our prediction, men had a considerably stronger tendency toward psychopathic attributes, as measured with the SPS, than females. The same, but a less pronounced, gender difference as observed for academic misconduct behaviors. In contrast, there was no gender difference in self-reported social anxiety. We further found that social anxiety and psychopathic attributes were negatively correlated in the total sample, $r = -.12$, $p < .02$. This effect became more evident when controlling for social desirability. This correlation was particularly strong in men, $r = -.28$, $p < .005$, but was also evident in women, $r = -.15$, $p < .05$. This effect cannot be explained by general trait affect, because no significant correlations were observed between positive or negative trait affect and psychopathic attributes.

Consistent with earlier theorists (Cleckley, 1941/1982) and empirical data (Schmitt & Newman, 1999), we observed that psychopathic attributes are unrelated to negative trait affect. Instead, we observed a weak, but significant negative, relationship between psychopathy and social anxiety.

It is possible that the SPS is a measure of primary, rather than secondary, psychopathy - a distinction first introduced by Karpman (1948). Primary psychopaths are defined as selfish, manipulative, callous, and untruthful, whereas the secondary, or neurotic, psychopaths are believed to engage in antisocial behaviors under the influence of emotional disorder. We recommend that future studies specify the precise emotional experience that is examined in connection with psychopathic attributes (Frick et al., 1999).

In order to account for a possible social desirability response bias, we controlled all analyses with the MCSD scale. In addition, we gathered additional data to examine the convergent validity of this measure: If the SPS is a valid measure of psychopathic attributes, one would

expect that the SPS scores are positively correlated with academic misconduct in a student sample. The findings were in line with these predictions because academic misconduct was associated with psychopathic attributes, but not with social anxiety.

Although participants knew that their data would be kept strictly confidential, we were surprised about the prevalence of academic misconduct behaviors in this sample of undergraduate students at a large private university with selective undergraduate admissions standards. The vast majority of respondents (96.8%) reported at least one personal experience with academic misconduct, and most participants reported 7 of 21 possible misconduct behaviors. Similarly, the results of an internet survey on Internet plagiarism with 698 undergraduate students from nine colleges and universities revealed that academic misconduct is not at all an uncommon phenomenon. For example, this survey found that 24.5 % of students reported that they use the Internet to copy and paste text into their papers without citation at least some of the times. Furthermore, the vast majority of these subjects (90%) thought that their peers had done this at least sometimes (Scanlon & Neumann, 2002). This is consistent with the reports by teachers and other officials (Young, 2001).

In sum, the results of this study suggest that social anxiety is negatively associated with psychopathic attributes. This effect was apparent in both males and females, but was slightly stronger among males. The findings have important theoretical implications because they point to a possible evolutionary advantage of social anxiety by maintaining cohesion of social groups and adherence to social norms. The most significant weaknesses of the study include the sole reliance on only one assessment instrument of psychopathic attributes, the limitations related to the self-report methodology, and the nature of the student sample. We decided to use the SPS because of its brevity and ease of administration. Unfortunately, however, this scale does not allow the distinction between primary and secondary psychopathy (e.g., Levenson et al., 1995), and between Factor I (affective and interpersonal deficits) and II (chronic antisocial and impulsive lifestyle) traits that would have been possible if we had employed the PPI or the PCL-R. Given the reliance on only the SPS, our findings will have to be interpreted with caution. However, the SPS is a published instrument with reasonable psychometric data of a construct we intended to measure. In addition to the SPS, we also administered instruments to measure academic misconduct behaviors and trait anxiety. It could be argued that our measure of trait anxiety is an index of affective and interpersonal deficits of Factor I psychopathy traits, whereas the academic conduct behavior measure is an index of chronic antisocial behaviors of Factor II. Our findings showed that the SPS is negatively associated with social anxiety, but not with trait anxiety. Moreover, we observed that the SPS was positively associated with academic misconduct behaviors in females. These data suggest that the SPS measured primary psychopathy and Factor II aspects of this construct, and that the SPS is negatively associated with social anxiety but not general trait anxiety. Although these findings are consistent with our hypotheses and the conceptualization of psychopathy as defined by the SPS, future studies will need to further examine the relationship between anxiety, other emotions, and different facets of psychopathy, such as the Primary and Secondary Psychopathy Scale by Levenson, Kiehl, and Fitzpatrick (1995).

Despite these weaknesses, the present study supports the notion that social anxiety and psychopathic attributes are negatively associated, possibly because both constructs are related to either an over adherence or a violation of social norms and an over concern or lack of concern about other people's approval and negative evaluation. The next step of this inquiry is to utilize standard instruments for assessing psychopathic attributes, to examine the relationship between social anxiety and psychopathic attributes in clinical samples, and to study the state trait nature of these variables. Specifically, it would be interesting to examine whether treatment-induced reductions in social anxiety are associated with increases in the level of psychopathic attributes.

Acknowledgments

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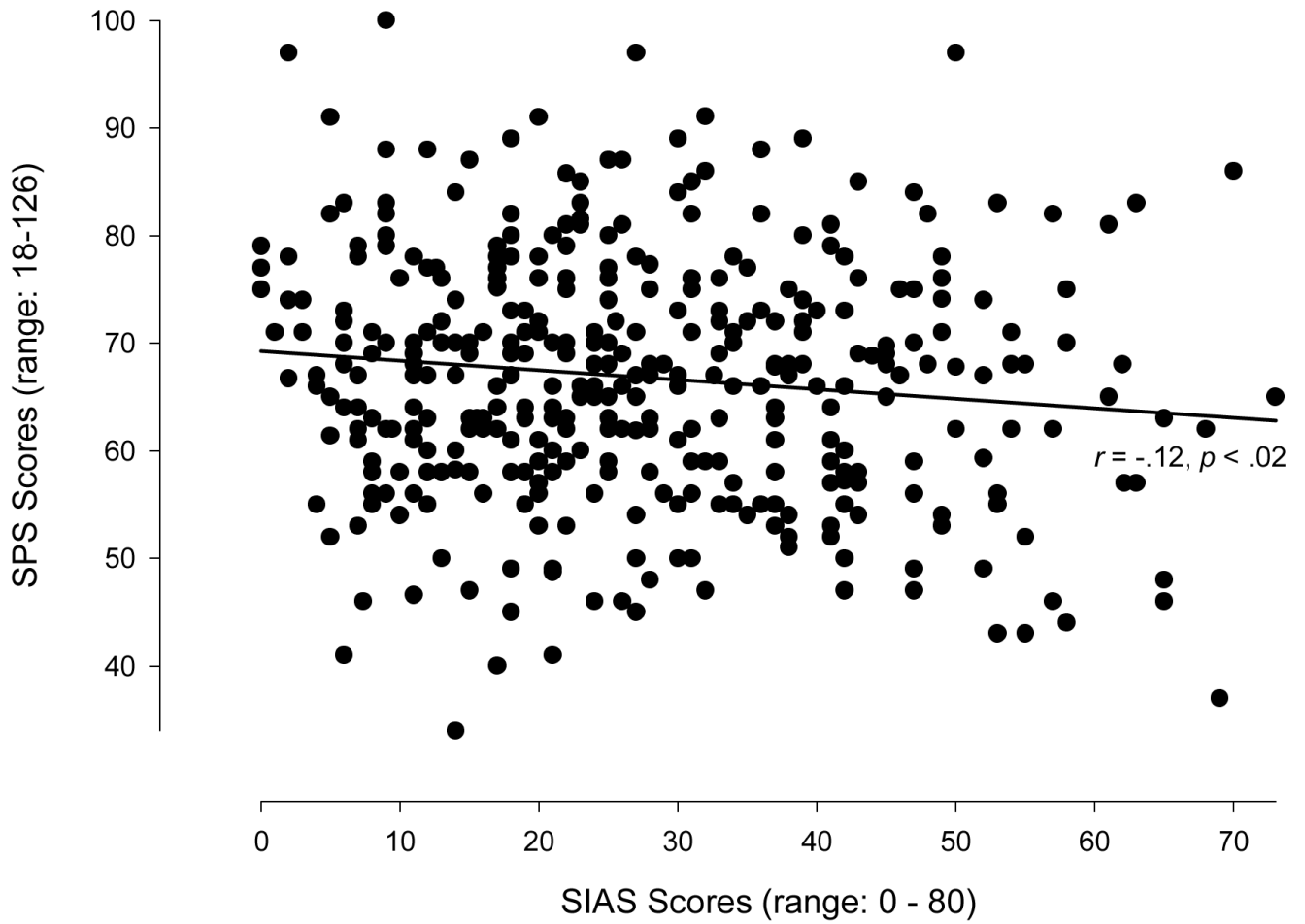
Figure 1.
Association between the scores in the Social Psychopathy Scale (SPS) and the Social Interaction Anxiety Scale (SIAS) in the total sample.

Table 1

Gender Differences in Self-Report Measures.

	Females		Males	
	Mean	**SD**	**Mean**	**SD**
SIAS	27.88	16.18	25.26	14.64
SPS	64.08	10.05	73.50	9.63
ABQ	6.75	3.73	7.51	4.45
PANAS				
Negative	20.62	6.44	19.61	5.90
Positive	32.28	6.90	34.51	7.65
MCSD	13.82	5.10	14.65	5.12

Note: The Table shows means, standard deviations (SD) and the results of independent *t*-tests. SIAS = Social Interaction Anxiety Scale; SPS = Social Psychopathy Scale; ABQ = Academic Behavior Questionnaire; PANAS = Positive and Negative Affect Schedule; MCSD = Marlowe-Crowne Social Desirability Scale.

[1]This difference remained statistically significant after controlling for social desirability.

Table 2

Association Between Psychopathic Attributes, Social Anxiety, Trait Affect, and Academic Misconduct Among Females.

	SPS	SIAS	PANAS-PA	PANAS-NA
SIAS	−.15[*]			
PANAS-PA	.01	−.33[***]		
PANAS-NA	−.02	.36[*]	−.01	
ABQ	.20[*]	.03	−.02	.05

Note: The Table shows partial correlation coefficients (controlled for social desirability as measured with the Marlowe-Crowne Social Desirability Scale). SIAS = Social Anxiety Interaction Scale; SPS = Social Psychopathy Scale; PANAS-NA (PA) = Positive and Negative Affect Schedule Negative Affect Subscale (Positive Affect Subscale); ABQ = Academic Behavior Questionnaires.

[*] Correlation is significant at $p < .05$ (two-tailed).

[**] Correlation is significant at $p < .0001$ (two-tailed).

Table 3

Association Between Psychopathic Attributes, Social Anxiety, Trait Affect, and Academic Misconduct Among Males.

	SPS	SIAS	PANAS-PA	PANAS-NA
SIAS	$-.28^{**}$			
PANAS-PA	.09	$-.52^{***}$		
PANAS-NA	$-.10$	$.36^{***}$	$-.08$	
ABQ	.08	.05	.19	.03

Note: The Table shows partial correlation coefficients (controlled for social desirability as measured with the Marlowe-Crowne Social Desirability Scale). SIAS = Social Anxiety Interaction Scale; SPS = Social Psychopathy Scale; PANAS-NA (PA) = Positive and Negative Affect Schedule Negative Affect Subscale (Positive Affect Subscale); ABQ = Academic Behavior Questionnaires.

[*] Correlation is significant at $p < .05$ (two-tailed).

[**] Correlation is significant at $p < .005$ (two-tailed).

[***] Correlation is significant at $p < .0001$ (two-tailed).