

# Social Predictors of Business Student Cheating Behaviour in Chinese Societies

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**Abstract** Cheating is a serious issue among business students worldwide. However, research investigating the social factors that may help prevent cheating in Chinese higher education is rare. The present study examined two key social relationship factors of perceived teacher-student relationships and peer relationships by the students. It attempted to build a model which addressed the effects of two variables on Chinese business students' cheating behaviour: the teacher's approachability and the relationship goal of the students. Two important social influence factors were also tested as mediators: neutralizing attitudes and perceived cheating norms of the students. A student survey was conducted with 1329 questionnaires collected. The results showed the negative effects of both social relationship variables on cheating, and that their effects were fully mediated by neutralizing attitudes. Moreover, perceived cheating norms fully mediated the effect of the teacher's approachability, but not so for the relationship goal of the students. This study provided novel insights and recommendations for promoting academic integrity in Chinese business schools and universities.

**Keywords** Business education · Cheating norms · Neutralizing attitudes · Relationship goal of the students · Student cheating · Teacher's approachability

Academic dishonesty constitutes a serious problem globally, and has attracted a great deal of research examining its causes (Anderman and Murdock 2007; McCabe et al. 2001, 2006; McCabe and Trevino 1997; Whitley 1998). Business students have been found to cheat more than non-business students. They tend to be less critical of their cheating behaviour (McCabe et al. 2006; McCabe and Trevino 1995; Rettinger and Jordan 2005). Although extant Western literature has examined numerous individual and contextual variables on students' cheating

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behaviour, these variables are either extensively researched or deterrents to mitigate students' dishonest behaviour. It is important to identify variables that help promote student learning and develop effective approaches to prevent cheating (Stearns 2001). Studies have identified the importance of social factors in explaining academic success (Anderman and Anderman 1999; Wentzel 1997, 1998). Some examine perceived social support by the students to predict their cheating (Anderman et al. 2007; Murdock et al. 2001, 2004, 2007). They note that people are more likely to adopt goals and standards of others if they have positive relationships with them, especially those of their teachers and classmates (Murdock et al. 2001; Noddings 1992). Hence, investigation of the impacts of the social relationship factors of teacher-student and peer relationships on students' cheating behaviour is thus warranted.

Indeed, these social relationship factors are especially relevant to Chinese higher education. First, culture in Chinese societies is traditionally based on Confucian values and high power distance (Hofstede 2001). In Confucian societies, developing extensive connections, or *guanxi*, is important for business success (Redding 1990). Particularly, younger generations put more emphasis on *guanxi* than older people (Chan et al. 2002). The high power distance culture dimension can also be used to describe the relationship between teachers and students in Chinese societies, in which students are willing to accept an unequal distribution of power. Teachers speak and students listen, and the former's authority is not to be challenged. In a typical Chinese school context, teacher-student interaction is minimal, and students adopt a passive learning style (Yuan 2006). When students cannot learn effectively, they may cheat. A positive association may therefore exist between power distance and academic dishonesty (Swaiden et al. 2009).

Second, China is undergoing major higher education reforms (Ngok 2007). Students may now expect a stronger teacher-student relationship, with the image of a more caring and approachable teacher (Liu 2013). In addition, China has implemented a one-child policy for several decades. Concerns exist that single-child families may produce individualistic, self-centered little "emperors" and "empresses". They may lack proper socialization and interpersonal skills with teachers and peers, which may lead to misconduct in schools and societies (Chen 2003; Chen et al. 2005).

Furthermore, cheating can be viewed as a social phenomenon because one's cheating attitude is influenced by the prevailing social environment (Davies et al. 1992; Semerci 2006). The extant literature has paid attention to students' neutralizing attitudes and their perceived cheating norms (Beasley 2014; Whitley 1998). However, their potential links with the social relationship factors and cheating is not yet completely understood. We expect that students' neutralizing attitudes and perceived cheating norms have mediating effects on the relationship between teacher-student (and/or peer) relationships and cheating. In other words, when cheating is regarded as a social decision, it may be affected by the learning environment represented by teacher-student and peer relationships, which in turn affect the social influence factors of perceived cheating norms and neutralizing attitudes.

In sum, the aim of the current study is to fill this research gap by examining business students' cheating behaviour in Chinese societies. Our study objectives are: (1) to develop hypotheses based on Western literature to examine the social relationship factors of perceived teacher-student and peer relationships on students' cheating behaviour in Chinese societies; (2) to build a model that addresses the effects of the social influence factors of perceived cheating norms and neutralizing attitudes in addition to the two social relationship factors on students' cheating behaviour; and (3) to provide implications and recommendations for promoting academic integrity in Chinese business schools and universities.

## Literature Review and Hypotheses

### Teacher's Approachability and Cheating

Studies of social support have provided evidence that perceptions of support from parents, teachers and peers are related to various student outcomes in school (Anderman and Anderman 1999; Komarraju et al. 2010; Wentzel 1998). Specifically, perceived support from teachers is a significant predictor of young adolescents' motivation and academic achievement (Goodenow 1993; Wentzel 1997). Social bond theory links teachers' displays of interpersonal caring with students' classroom behaviour, including cheating (Hirschi 1969). Wentzel (1997) found that perceived teacher caring was a significant predictor of middle school students' academic efforts, and the pursuit of prosocial and social responsibility goals. Komarraju et al. (2010) studied student-faculty relationships in predicting students' psychosocial and academic outcomes. Seven dimensions of student-faculty interactions, including the approachability of a teacher using Cokley et al.'s (2004, 2007) scale, were examined on a sample of 242 American undergraduate students. This scale investigates the opportunities for students to approach their instructors to discuss their grades, classwork and academic issues, and to get answers to questions without being intimidated by the teachers. We use this scale in our study because it was tested in a university context.

Regarding the influence of teacher-student relationships on academic dishonesty, literature often focuses on students' perceptions of teachers' characteristics and pedagogy. Graham et al. (1994) identified students' perceptions of teachers' unfairness as a motivation for cheating. Pulvers and Diekhoff (1999) found that cheaters reported perceiving their classes as less personalized, less satisfying and less task-oriented than did non-cheaters. Later, Murdock et al. (2001) observed that perceived teachers' competence and commitment, as well as respect for teachers, were negatively associated with cheating. Furthermore, Murdock et al. (2004) distinguished between perceived teachers' caring and pedagogical competence. Cheating was less likely to occur when teachers displayed both pedagogical competence and pedagogical caring than in any other scenarios. Similarly, using vignettes, Murdock et al. (2007) observed that poor pedagogy and performance goal structure resulted in more teacher blame and less student blame for cheating. Rabi et al. (2006) also found that approximately 61 % of pharmacy students strongly agreed or agreed that cheating was less likely to occur if a teacher was approachable for questions.

A related, but different, construct from teachers' pedagogical caring is the perception of a democratic class climate. Johnson (1996) suggested that students in classes where their opinions were respected by teachers were less likely to cheat. However, Murdock et al. (2001) had a contrary finding. A democratic participation climate was positively associated with self-reported cheating. They argued that an over-reliance on positive teacher-student relationships might lead students into a false sense of immunity from any negative consequences for dishonest acts. Graham et al. (1994) also found that teachers might overestimate their interpersonal relationships with the students.

Thus, evidence from various studies present a complex set of findings regarding the relationship between teacher-student relations and students' cheating behaviour. Given the

high power distance culture typically present in Chinese societies and stronger expectations of teacher-student relationships following higher education reform (Liu 2013), we propose that Chinese university students may cheat less if they develop good relationships with their teachers. The following hypothesis is developed:

**Hypothesis 1** High teacher's approachability will negatively affect students' cheating behaviour.

### Peer Relationships and Cheating

Regarding the impact of peer relationships on student outcomes, Hicks (1997) identified a number of social goals, including the relationship goal of the students directed towards acceptance within the peer group. He defined the relationship goal as the motivation to form and maintain satisfying relationships with one's peers. A student may aim to form close and reciprocal friendships, and be accepted by a larger peer group. Anderman and Anderman (1999) found an increased academic ability goal orientation when students endorsed the relationship and status goals because individuals looked to the peer group for evidence of academic success. They adapted Patrick, Hicks and Ryan's (1997) social intimacy scale to measure the relationship goal. It covered areas such as whether or not individuals could get along with others, be known and accepted by others and have close friends in school. Accordingly, we use Patrick et al. (1997)'s relationship goal dimension to reflect peer relationships of the students in our study.

For peer's influence on cheating behaviour, some studies investigate the relationship between group membership and cheating (Baird 1980; Diekhoff et al. 1996). Whitley (1998), however, argued that these results were insignificant. Alternatively, the impact of group alienation on deviant behaviour, including cheating, was noted. Social control theory explains that youths in close relationships with others would abstain from delinquency because they do not want to disappoint people with whom they feel close (Hirschi 1969). Some empirical studies identify positive associations between alienation and cheating behaviour (Calabrese and Cochran 1990; Newhouse 1982). As such, we propose that poor peer relationships constitute a risk factor for increased cheating.

However, the potential negative influence of peer relationships on cheating also needs to be considered. Ng et al. (2003) found evidence that students may decide to "help out" a peer with the expectation of future reciprocity. Students may experience pressure from peers in order to gain or retain acceptance too (Robinson et al. 2004). Additionally, Chapman et al. (2004) reported that students differentiated between "self-interest cheating" and "social-interest cheating". Many did not perceive "social-interest cheating" as unethical. Nevertheless, we argue that this is not the case in Chinese societies. Chinese culture emphasizes the role of the peer group in helping children to learn social standards and develop socially valued behaviour (Luo 1996). Social performance and academic achievement are evaluated together by teachers and peers, and the results are announced publicly. The quality of peer relationships can be a significant indicator of adjustment of Chinese students in school (Chen et al. 1997). Therefore, peer relationships may act as a strong social control

mechanism to dissuade Chinese students from cheating. We develop the following hypothesis:

**Hypothesis 2** Strong relationship goal of the students will negatively affect their cheating behaviour.

### Neutralizing Attitudes and Cheating

A discrepancy often exists between one's beliefs about cheating and one's actions (Davies et al. 1992; Semerci 2006). For example, he or she may neutralize his/her cheating behaviour. Neutralizing attitudes are defined as attitudes that seek to justify or minimize the harm done by cheating, thereby neutralizing negative feelings related to the behaviour (Haines et al. 1986). Skyes and Matza (1957) identified five types of neutralizing techniques to avoid or reduce self-recrimination when engaging in criminal or immoral behaviour. From a social psychological perspective, neutralizing attitudes can be explained through the application of attribution theory (Kelley 1967). When facing failure, individuals would reduce or negate their responsibility by attributing their conduct to others or to external contingencies. Past research has indicated that the neutralizing attitudes factor is one of the strongest predictors of academic cheating, as it rationalizes self-acknowledged antisocial behaviours that violate personal ethical codes (Graham et al. 1994; McCabe 1992; Whitley 1998). McCabe (1992) found that denial of responsibility was the most prevalent technique adopted by undergraduates. Over 60 % of students who reported cheating rationalized their cheating. Likewise, Murdock and Anderman (2006) found that middle school students rated cheating as more acceptable where the perceived classroom goal structure focused on extrinsic recognition and rewards for performance versus mastery of content. Other studies have also demonstrated strong positive associations between cheating and neutralizing attitudes (Beasley 2014; Haines et al. 1986; Murdock et al. 2007). In general, the acceptability or justifiability of cheating is strongly related to the engagement in cheating behaviour. Therefore, we hypothesize a positive relationship between students' neutralizing attitudes and their cheating behaviour.

**Hypothesis 3** Students' neutralizing attitudes will positively affect their cheating behaviour.

Murdock et al. (2004) confirmed the explanation of cheating based on attribution theory. They found that a performance goal structure and poor pedagogy of the teacher constitute factors that make the learning situation less fair and reduce students' personal control over their achievement. Students would then shift their attributions of blame for cheating toward the teachers, making cheating more acceptable. In addition, studies have examined students' perceptions of their teachers' attitudes towards cheating. McCabe (1999) revealed that, surprisingly, teachers were aware of and accepted high levels of students' cheating. In seeking explanations, Coren (2011) and Keith-Spiegel et al. (1998) reported a number of deterrents to teachers' actions, such as insufficient evidence and time, triviality of the offense, a lack of courage, fear of reprisal and denial by the students. Accordingly, students' observations of instructors' uncaring and reluctant attitudes towards academic dishonesty can enhance their cheating norms and neutralizing attitudes.

We therefore suggest that neutralization is not a direct cause of cheating. Rather, it influences other factors by changing students' attitudes. For example, high teacher's

approachability would lead to a lower chance of student cheating. However, a negative relationship exists between the approachability of a teacher and neutralizing attitudes. Neutralizing attitudes would mediate the relationship between the teacher-student relationships and cheating behaviour in that it might have a stronger effect than the approachability of a teacher. In other words, students' neutralizing attitudes would induce them to cheat more. Similarly, if the students have a positive relationship goal and a strong endorsement of learning in school (Patrick et al. 1997), they might cheat less. However, we expect a negative relationship between the relationship goal of the students and their neutralizing attitudes. Neutralizing attitudes would have a mediating effect on the relationship between the relationship goal of the students and their cheating behaviour, in that it would lead to a greater probability of cheating. The following hypotheses are established:

**Hypothesis 4a** Teacher's approachability will have a negative influence on students' cheating behaviour, and this relationship is mediated by students' neutralizing attitudes.

**Hypothesis 4b** Relationship goal of the students will have a negative influence on their cheating behaviour, and this relationship is mediated by students' neutralizing attitudes.

### Perceived Cheating Norms and Cheating

Students' perceived cheating norms is another important factor in their cheating behaviour. Studies demonstrate that perception of cheating norms in school is positively correlated to increased cheating behaviour (McCabe et al. 2001; Rettinger and Kramer 2009; Smyth and Davis 2004). Although there might be a "false consensus effect" (Ross et al. 1977) in which students may overestimate the degree of cheating by their peers (Jordan 2001; McCabe and Trevino 1993), perception of peers' behaviour was the best predictor of academic dishonesty (McCabe et al. 2002; Rettinger and Kramer 2009). This finding is consistent with social learning theory, in which "much of human behaviour is learned through the influence of example" (Bandura 1986, p. 527). Jordan (2001) provided evidence that undergraduates who reported higher levels of actual cheating behaviour themselves also reported higher frequencies of having seen someone else cheat. McCabe and Trevino (1993) found that students in universities with lower levels of cheating tended to report a culture of disapproval of cheating. A recent study by Ma et al. (2013) on a sample of Chinese college students also confirmed the positive impact of the prevalence of peers' cheating on individuals' cheating. Therefore, we predict a positive relationship between students' perceived cheating norms and their cheating behaviour.

**Hypothesis 5** Students' perceived cheating norms will positively affect their cheating behaviour.

Similar to the relationships deduced from neutralizing attitudes above, we speculate that perceived cheating norms impact the influence of the teacher's approachability and the students' relationship goal on their cheating behaviour. Perceived cheating norms have a stronger effect than the latter two variables in leading to increased cheating behaviour. We expect that the approachability of a teacher would have a negative association with the students' perceived cheating norms, and that the latter mediates the relationship between the

teacher's approachability and the students' cheating behaviour. Similarly, students' strong endorsement of relationship goal would exhibit a negative relationship with their perceived cheating norms, and the latter would have a mediating effect on the relationship between the students' relationship goal and their cheating behaviour. Hypotheses are formed as below:

**Hypothesis 6a** Teacher's approachability will have a negative influence on students' cheating behaviour, and this relationship is mediated by students' perceived cheating norms.

**Hypothesis 6b** Students' relationship goal will have a negative influence on their cheating behaviour, and this relationship is mediated by students' perceived cheating norms.

## Methods

### Sample and Data Collection

The unit of analysis for this study was undergraduate business students from business schools in China and Hong Kong. Undergraduate business students were suitable subjects for studying academic dishonesty in a higher education context given the reported high cheating rates of students in previous studies. Such a sample is also important because of its broader implications for the Chinese business community, as many students go on to assume prominent leadership roles in commercial organizations after graduation. Limiting the sample to undergraduate business students could also ensure comparability and help to control for potential confounding variables, such as academic disciplines and effects of work environments on cheating (for graduates). The study used a cross-sectional design. Subsequent to a pilot test with 40 students in a Hong Kong university, a survey was conducted between December 2014 and April 2015 at four universities in Hong Kong and China.

Respondents comprised samples of business students from a university in Shanghai and a university in Zhuhai in mainland China, as well as two universities in Hong Kong. These four universities were all well-established public research universities, established for at least 30 years, and with student populations ranging from 14,000 to 50,000. They had internationally accredited business schools, and published disciplinary policies, procedures and committees in relation to academic dishonesty.

All students invited to participate in the survey were business majors in different years of study. They were asked to complete the questionnaires in-class, with sufficient time, after receiving permission from their course instructors. Students were informed of the purpose of the survey, and detailed instructions with a cover letter were given by the lead author, who also distributed and collected the questionnaires immediately after completion. Participation was entirely voluntary. Respondents could choose to stop at any time, without negative consequences. Anonymity was assured, and only collective results would be reported.

Prior to the survey, archival records (such as regulations, codes of ethics and behaviour, course curricula and other documentation or website information) were inspected, so as to refine the questionnaire, triangulate the results and enhance the robustness and validity of the findings. The questionnaire consisted of two parts: the first part was the questions; and the second part concerned personal details. The

questionnaire was written in English, and then translated to Chinese and back-translated to ensure accuracy of the translation. A total of 1329 questionnaires were finally received.

## Measures

Only tested and empirically validated scales and measures were used in this study. Where appropriate, adaptations were made to certain scales and measures in order to better reflect the specific context. Unless otherwise indicated, all variables were measured using a 5-point Likert scale, ranging from 1 = “strongly disagree” to 5 = “strongly agree”.

### *Approachability of Teachers and Relationship Goal of Students*

We included two independent variables: the teacher’s approachability; and the relationship goal of the students. The former was measured by utilizing Cokley et al.’s (2004, 2007) 5-item scale in a university setting. Respondents evaluated statements such as, “I have not felt intimidated by my teachers.” The Cronbach’s alpha of this scale showed good reliability ( $\alpha = .851$ ). The latter scale was measured by adapting Patrick et al.’s (1997) 6-item scale, which also showed a good level of reliability ( $\alpha = .801$ ). An example statement was, “I would like to have a friend in school I can confide in”.

### *Neutralizing Attitudes and Perceived Cheating Norms*

Students’ neutralizing attitudes and perceived cheating norms were hypothesized as mediators. Haine et al.’s (1986) 11-item scale was used to measure this construct. A sample item was, “Cheating is okay because cheating doesn’t hurt anyone”. This scale had a high level of reliability ( $\alpha = .960$ ). The scale of perceived cheating norms was measured using the same items for prior cheating behaviour from Finn and Frone (2004) and Etter et al. (2006). However, the prefix, “I perceived that someone” was added to each scale item. The Cronbach’s alpha reliability for this scale was .950.

### *Prior Cheating Behaviour*

Prior cheating behaviour was the dependent variable. The scale was adapted from those of Finn and Frone (2004) and Etter et al. (2006). A sample item was, “I received someone’s information on a test/examination”, and it was assessed on a 5-point Likert scale (1 = “never” to 5 = “very often”). Our data yielded a high scale reliability ( $\alpha = .890$ ).

### *Control Variables*

We also controlled for individual demographic differences which might be identified as confounds. Specifically, we controlled gender (“0” = female; “1” = male), number of siblings (“0” = 0; “1” = 1; “2” = 2; “3” = 3 or more) and year of study (“1” = year 1, “2” = year 2, “3” = year 3, “4” = year 4, “5” = master degree or above, or exchange student). These variables were reported by the participants themselves.



## Results

### Analytical Strategy

Descriptive statistical analyses were performed first, followed by multiple regression analyses to test the hypotheses. To test the mediation hypotheses (i.e. Hypotheses 4a, 4b, 6a and 6b), procedures given by Baron and Kenny (1986) were used. Specifically, four conditions must be fulfilled in order to find a mediating effect. First, the independent variable must predict the dependent variable. Second, the independent variable must affect the mediator. Third, the mediator must affect the dependent variable. Finally, the effect of the independent variable on the dependent variable must be reduced or eliminated after the effect of the mediator has been taken into account.

### Findings

Table 1 presents the means, standard deviations and zero-order Pearson correlations of the study variables. As the data were self-reports, common method bias might present a concern. We conducted Harman's one-factor test and found that no single indicator accounted for over 20 % of variance. All correlations between the variables were well below the commonly accepted standard, i.e. 0.70. Variance Inflation Factors (VIF) showed that the maximum was 1.083, which did not exceed the threshold of 2.5. Multicollinearity was not a concern in this study. Correlations between the teacher's approachability and the students' cheating behaviour ( $r = -.064$ ,  $p < .05$ ) and between the relationship goal of the students and their cheating behaviour ( $r = -.158$ ,  $p < .01$ ), were both significant and in the predicted negative direction. In addition, the correlation between neutralizing attitudes and cheating behaviour ( $r = .542$ ,  $p < .01$ ), as well as that between perceived cheating norms and cheating behaviour ( $r = .144$ ,  $p < .01$ ), were both in the predicted positive direction. We also noted the stronger correlation of the former relationship than the latter, supporting the more powerful simple effect of neutralizing attitudes on cheating behaviour discussed in the extant literature. Moreover, the correlation between the teacher's approachability and neutralizing attitudes ( $r = -.061$ ,  $p < .05$ ), as well as that between the students' relationship goal and neutralizing attitudes ( $r = -.198$ ,

**Table 1** Descriptive statistics and correlations of variables

Variables	Mean	S.D.	1	2	3	4	5	6	7
1. Gender	.393	.489							
2. No. of siblings	.802	.852	-.018						
3. Year of study	2.199	1.092	.020	.112**					
4. Teacher's approachability	3.374	.721	.092**	-.079**	.002				
5. Relationship goal of the students	4.101	.536	-.034	-.093**	-.113**	.174**			
6. Neutralizing attitudes	1.936	.839	.135**	.032	.128**	-.061*	-.198**		
7. Perceived cheating norms	2.364	.981	.067*	-.094**	.096**	-.072**	.095**	.144**	
8. Prior cheating behaviour	1.505	.574	.162**	.061*	.123**	-.064*	-.158**	.542**	.403**

\*\*\*  $p < .001$ ; \*\*  $p < .01$ . ; \*  $p < .05$

$p < .01$ ), were both in the predicted negative direction, meaning that neutralizing attitudes counteracted the effects of teacher-student and peer relationships on students' cheating behaviour. On the other hand, while the correlation of the teacher's approachability and perceived cheating norms was negative ( $r = -.072, p < .01$ ), the correlation of the relationship goal and perceived cheating norms was positive ( $r = .095, p < .01$ ).

Tables 2 and 3 provide the results of the hypothesis testing based on regressions. We first evaluated the effects of the control variables, followed by the independent variables of the teacher's approachability and the relationship goal of the students on the dependent variable, i.e. prior cheating behaviour.

Hypothesis 1 describes the relationship between the teacher's approachability and the students' cheating behaviour. Model 2 of Table 2 shows a significant negative relationship between the two variables ( $\beta = -.056, p < .05$ ). Hence, Hypothesis 1 was supported. As shown in the model, the relationship between the students' relationship goal and prior cheating behaviour was also negative ( $\beta = -.128, p < .001$ ), providing support for Hypothesis 2.

For Hypotheses 4a and 4b, we expected that neutralizing attitudes would mediate the relationship between the teacher's approachability (and/or the relationship goal of the students) and cheating behaviour. In model 2, we found significant regression paths between the teacher's approachability (and the relationship goal of the students) and prior cheating behaviour. Hypotheses 1 and 2 were confirmed. And in model 5, significant negative effects were found between the teacher's approachability ( $\beta = -.054, p < 0.05$ ) and neutralizing attitudes, as well as the relationship goal of the students and neutralizing attitudes ( $\beta = -.175, p < 0.001$ ). In other words, the second condition of mediation has also been fulfilled. Hypothesis 3 addressed the third condition of mediation, the effect of neutralizing attitudes on prior cheating behaviour. This was supported by the results of model 3 in Table 2, since a significant positive effect was found between neutralizing attitudes and cheating behaviour ( $\beta = .511, p < .001$ ).

**Table 2** Regression results for mediation effect of neutralizing attitudes

Variable	Prior cheating behaviour			Neutralizing attitudes	
	Model 1	Model 2	Model 3	Model 4	Model 5
Gender	.163***	.163***	.098***	.126***	.125***
No. of siblings	.057*	.042	.039	.024	.006
Year of study	.105***	.092**	.043	.114***	.096***
Teacher's approachability		-.056*	-.028		-.054*
Relationship goal of the students		-.128***	-.039		-.175***
Neutralizing attitudes			.511***		–
Adjusted $R^2$	.040	.030	.304	.028	.063
$\Delta R^2$	.042***	.021***	.244***	.031***	.036***
F statistic	18.654***	17.241***	93.644***	13.388***	18.171***

\*\*\*  $p < .001$ ; \*\*  $p < .01$ ; \*  $p < .05$

**Table 3** Regression results for mediation effect of perceived cheating norms

Variable	Prior cheating behaviour			Perceived cheating norms	
	Model 1	Model 2	Model 3	Model 4	Model 5
Gender	.159***	.159***	.128***	.061*	.076**
No. of siblings	.055*	.040	.081**	-.099***	-.099***
Year of study	.104***	.091**	.043	.103***	.116***
Teacher's approachability		-.057*	-.009		-.118***
Relationship goal of the students		-.128***	-.177***		.119***
Perceived cheating norms			.410***		-
Adjusted $R^2$	.038	.059	.219	.020	.042
$\Delta R^2$	.040***	.022***	.161***	.022***	.023***
F statistic	17.863***	16.840***	60.538***	9.662***	12.081***

\*\*\*  $p < .001$ ; \*\*  $p < .01$ ; \*  $p < .05$

We test the last condition of mediation. A full mediation effect would be indicated by an insignificant relationship between these two independent variables and the dependent variable, and partial mediation was indicated by a significant reduction in the regression coefficient of the relationship between the independent variables and the dependent variable. As shown in models 2 and 3 of Table 2, a prior significant effect of the teacher's approachability became insignificant when the neutralizing attitudes factor was entered (from  $\beta = -.056$ ,  $p < 0.001$  to  $\beta = -.028$ , *n.s.*). The effect of the relationship goal of the students also became insignificant (from  $\beta = -.128$ ,  $p < .001$  to  $\beta = -.039$ , *n.s.*). Neutralizing attitudes fully mediated the relationship between the teacher's approachability and the students' cheating behaviour, as well as between the relationship goal of the students and their cheating behaviour. Therefore, Hypotheses 4a and 4b were confirmed.

Regarding the proposed mediating effect of perceived cheating norms (Hypotheses 6a and 6b), we follow similar procedures as the above. For the second condition of mediation, model 5 of Table 3 shows that a significant negative effect was found between the teacher's approachability ( $\beta = -.118$ ,  $p < 0.001$ ) and the perceived cheating norms. Although a positive association was found between the students' relationship goal and their perceived cheating norms ( $\beta = .119$ ,  $p < 0.001$ ), the second condition of mediation was fulfilled. For the third condition of mediation, the effect of perceived cheating norms on prior cheating behaviour (i.e. Hypothesis 5), it was supported based on the results of model 3 in Table 3. A positive significant effect was found between perceived cheating norms and cheating behaviour ( $\beta = .410$ ,  $p < .001$ ).

Testing the final condition of mediation, in models 2 and 3 of Table 3, a prior significant effect of the teacher's approachability became insignificant (from  $\beta = -.057$ ,  $p < 0.001$  to  $\beta = .009$ , *n.s.*) when perceived cheating norms were entered. A full mediation effect was thus found; but contrary to our expectation, the value of the students' relationship goal was not reduced and remained significant (from  $\beta = -.128$ ,  $p < .001$  to  $\beta = -.177$ ,  $p < .001$ ). In other words, there was no mediating effect due to perceived cheating norms on the relationship between the relationship goal of the students and their cheating behaviour. Hence, Hypothesis 6a was supported, while Hypothesis 6b was not.

## Discussion and Implications

Cheating is particularly prevalent among business students, which causes great concern among educators and researchers. However, most existing findings come from the West, and the social factors that help prevent cheating are largely ignored. We attempted to develop a model to fill this void by examining the cheating behaviour of business students in Chinese universities.

As hypothesized, the results showed the main effects of two social relationship factors on students' cheating. High teacher's approachability had a negative effect on students' cheating behaviour. Strong peer relationships, operationalized through the relationship goal of the students, also resulted in a lower likelihood of cheating. In parallel, these two main effects on cheating were fully mediated by neutralizing attitudes of the students. Perceived cheating norms also fully mediated the teacher's approachability factor, while no such mediating effect was found between the relationship goal of the students and cheating. We speculate that other mediators (such as integrity policy) might prevail in the latter relationship. In addition, consistent with other Western research findings, the effects of these two mediators on cheating behaviour were positive and surprisingly large, as  $\Delta R^2$  increased from .021,  $p < .001$  to .244,  $p < .001$  from model 2 to model 3 in Table 2, and  $\Delta R^2$  changed from .022,  $p < .001$  to .161,  $p < .001$  from model 2 to model 3 in Table 3. The models suggest that if, and only if, neutralizing attitudes or perceived cheating norms were present, students' cheating behaviour would be affected by the approachability of a teacher. Moreover, the level of influence of the latter was determined by these two mediators. This means that, perceiving that others cheat, as the beginning of a social learning process, has a stronger influence on students' cheating behaviour than a teacher's respectful and supportive attitude towards the students. Similarly, situational pressures or other priorities seem to justify students' cheating behaviour more by developing neutralizing attitudes than their positive relationship with a teacher. These interpretations applied in a similar manner to the main effect of the relationship goal of the students on their cheating behaviour by their neutralizing attitudes.

## Theoretical Implications

Our study contributes to the literature in several important aspects. First, we advance the academic integrity literature by demonstrating the importance of social relationship variables in explaining students' cheating behaviour in a Chinese higher education context. Second, we expand cheating research to some social factors involving perceived relationships between teacher-student and peers that may help prevent cheating more effectively. Students who perceive their faculty members to be approachable, respectful and available for frequent interactions inside and outside of the classroom are less likely to cheat. Students' perception of supportive relationships with peers was also associated with a smaller likelihood of cheating.

Third, we illustrate the important effects of two social influence factors, i.e. neutralizing attitudes and perceived cheating norms by the students, on their cheating behaviour and as mediators in the model. These two factors constituted significant predictors of cheating behaviour. Consistent with past Western research, we found strong positive relationships between cheating and witnessing others cheat, as well as cheating and neutralizing attitudes of the students (Jordan 2001; Whitley 1998). Regarding the positive relationship between perceived cheating norms and cheating, it might suggest a role of peer influence. When vulnerable students see others cheat, they might then view cheating as acceptable.

Concerning neutralizing attitudes, cheaters could develop favourable attitudes towards cheating that justify their cheating behaviour. In addition, the presence of the social influence factors affects the social relationship factors, and the effects of the latter on cheating depend on the extent to which the students developed their neutralizing attitudes. The stronger the teacher's approachability and the students' relationship goal, the smaller the possibility that the students would develop neutralizing attitudes towards cheating. However, the positive association between the students' relationship goal and their perceived cheating norms might suggest an opposite peer influence on students' cheating perception. Studying these factors contributes to a deeper understanding of the current literature on variables of cheating and their relationships. Future work that explores the potential effects of other factors (for example, integrity policies and severity of penalties) as possible mediators should be encouraged.

### Practical Implications

This study also provides practical implications. Similar to their Western counterparts, Chinese faculty members need to nurture good relationships with their students, since a "relationship" type of learning can help to prevent cheating. This constitutes one of the most effective deterrents because it creates a cooperative, instead of a combative classroom environment. If the students respect their instructor, they are less likely to cheat because they believe that cheating would betray the trust developed with the instructors. This implication is especially significant in Chinese societies, in which high power distance prevails and the teacher-student relationship is hierarchical (Yuan 2006). Faculty members can also design instructional strategies to reduce cheating. For example, while reviewing studies on academic dishonesty and human learning, Lang (2013) found that the most effective instructional strategies to minimize cheating are those focusing on course design and instructors' daily classroom practice. Assuming that courses with high performance stakes are particularly conducive to cheating, he recommends teachers to create learning environments that foster intrinsic motivation, promote mastery and instill the sense of self-efficacy that students need for deep learning. Gallant and Drinan (2006) offer a critique of passive undergraduate education and suggest the pursuit of active learning to reinforce academic integrity. Socially oriented instructional practices, such as cooperative learning techniques, may also be adopted (Slavin 1983). Besides, other stakeholders, like administrators, principals, presidents and school board members, may help to nurture a campus environment that develops friendships and social relationships. However, care must be taken to avoid the opposite situation. Students may otherwise engage in "passive" cheating if they want to gain acceptance within a group.

Since there are serious consequences of witnessing others' cheating in determining future dishonest behaviour, it is necessary to make witnessing cheating an aversive experience. McCabe et al. (2001) found that institutions with reporting requirements had lower rates of cheating. When students embrace this requirement, witnessing cheating would create an unpleasant obligation for them. Neutralization should also be made as difficult as possible. This can be again achieved by individual faculty members in their classrooms. Murdock and colleagues (2004, 2007) showed that improvement in pedagogy, instructors taking a more caring approach, and emphasizing mastery rather than performance goals, can cause students to feel the blame for cheating rather than the instructor (see also Lang 2013). This attitude is the opposite of neutralization, and will lead to less cheating. Rettinger and Kramer (2009) also argued for shifting the blame for cheating from the instructors to the students. Institutions

implementing honor codes that emphasize the values of community, trust and responsibility can also make neutralization more difficult.

## Limitations and Future Research Directions

Some limitations of this study need to be mentioned. First, since the data were based on self-reported questionnaires completed by the students at a particular time, there is the possibility of common method variance (Podsakoff et al. 2003). As a result, causal relationships between independent and dependent variables could not be determined. Future research should utilize a within-subjects longitudinal approach to capture the dynamics of the relationships between variables over time. Moreover, the sample was drawn from four universities only. There may be similarities between these business schools, as they are all situated in the most open cities of China. Given the enormous size of the country, regional variations and the large number of different types of universities, our results might not be generalizable. Third, we studied business students' cheating behaviour only. Future studies could investigate other academic disciplines, in which ethics is equally important. Fourth, we examined the mediating effects of neutralizing attitudes and perceived cheating norms. Other mediators might however exist (for example, academic integrity policies and severity of penalties) that affect the relationships between the independent and dependent variables. Interactions among the variables could also be possible in the context of business education. Incorporating the above suggestions in future research may generate further important insights for academic dishonesty research.

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