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Factors Influencing Academic Dishonesty among Undergraduate Students at Russian Universities

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Abstract

Student academic dishonesty is a pervasive problem for universities all over the world. The development of innovative practices and interventions for decreasing dishonest behaviour requires understanding factors influencing academic dishonesty. Previous research showed that personal, environmental, and situational factors affect dishonest behaviour at a university. The set of factors and the strength of their influence can differ across countries. There is a lack of research on factors affecting student dishonesty in Russia. A sample of 15,159 undergraduate students from eight Russian highly selective universities was surveyed to understand what factors influence their decision to engage in dishonest behaviour. Ajzen's Theory of Planned Behaviour (TPB) was employed to explain dishonest behaviour among students. The explained variance in the engagement in academic dishonesty equals 48% in the model for the full sample, and reaches 69% in the model for one of the considered institutions. The major findings of this study were: (1) subjective norms appeared to dominate as the strongest predictor of academic dishonesty across the Russian universities; (2) perceived behavioural control, appeared to be positively related to the dishonest behaviour. In the majority of universities, this factor was found to be insignificant. This finding indicates a specific feature of Russian students' an ethical decision-making process discussed in the last part of the paper.

Keywords Academic dishonesty · Theory of planned behaviour · Undergraduate students · Russian universities

Introduction

Student academic dishonesty is a pervasive and perennial problem for higher education institutions all over the world (Davis et al. 1992; Park 2003; Stuhmcke et al. 2016; Zhang et al. 2018; Ives et al. 2017; Starovoytova and Namango 2016). The estimates of prevalence of

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student engagement in dishonest behaviour, obtained in previous research, vary from 40 to 50% (McCabe and Treviño 1993; Teodorescu and Andrei 2009) to even 70–80% and more (Stern and Havlicek 1986; Sierles et al. 1980; Davis et al. 1992; Chapman et al. 2004; Jeergal et al. 2015).

Given the high prevalence of cheating at universities and the dangers that academic dishonesty poses, researchers and policymakers are concerned with preventing dishonest behaviour by affecting the causes of academic misconduct. Understanding what factors influence students' decisions to engage in dishonest behaviour can help to reduce incidences of academic misconduct at institutions, ensure the integrity of the degrees they offer (McCabe et al. 2008) and strengthen their brands and the credibility of higher education systems on the whole (Altbach 2015). Therefore, most of the research aims at identifying the personal, environmental and situational factors affecting student decision to cheat (Simon et al. 2004; Giluk and Postlethwaite 2015).

Compared to studies on factors affecting dishonest behaviour in the United States and other countries, previous research in Russia is limited. They explore the prevalence of cheating and plagiarism among Russian students (Denisova-Schmidt et al. 2016; Denisova-Schmidt 2016), as well as students' and faculty' perception of academic dishonesty (Radaev and Chirikov 2006; Maloshonok 2016; Roshchina and Shmeleva 2016), rather than factors affecting dishonest behaviour.

It is important to start investigating the factors of students' misbehaviour in Russia for three reasons. First, Russia is one of the post-Socialist countries in which the rate of academic dishonesty has been repeatedly found to be higher than in Western countries. According to Golunov (2014), corruption and cheating are so widespread in Russian universities the value of most Russian diplomas is in doubt. Cross-cultural studies demonstrated that Russian students more tolerant to academic misconduct and more likely to involve in cheating behaviour than students from the USA and European countries (Lupton and Chaqman 2002; Magnus et al. 2002; Grimes 2004). Magnus et al. (2002) found that Russian students are more tolerant towards cheaters than the US, Dutch, and Israeli students. Grimes (2004) observed that 70% of Russian business students witnessed academic cheating more than ten times while in the USA only 15% reported this frequency of dishonest behaviour among their peers. Only 26% of Russian students considered academic dishonesty as ethically wrong. The share of such students among US students is 85% (Grimes 2004).

Second, Russia is one of the largest higher education systems in the world (Denisova-Schmidt 2017) with 77% of the gross enrollment ratio (Froumin and Platonova 2017) and high degree of public provision with higher education (Denisova-Schmidt 2017). The large-scale prevalence of dishonest behaviour decreases the value of higher education in Russia and requires the development of academic integrity policy. Therefore, Russia can be an instructive case for other national systems with mass higher education that are characterized by the high prevalence of dishonest behaviour (Denisova-Schmidt 2017).

Finally, in the era of globalization, the issue of dishonest behaviour becomes highly relevant. Russian students are a significant share of international students in European countries. According to the data of Moscow city government, about 35,000 Russian students went abroad to study in 2017, and 25% of them chose Central and Eastern Europe. The number of such students is growing.[1] Many Russian students participated in short-term and

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[1] https://www.universityworldnews.com/post.php?story=20170412181035229

long-term exchange programs. It is beneficial for educators from these countries to be aware of ethical perceptions and behaviour of these students (Chapman and Lupton 2004).

This paper aims to identify the factors of academic dishonesty among students in Russia based on the data derived from eight institutions.

Theoretical Background

Factors of Academic Dishonesty

One of the main goals of academic dishonesty research is to identify the causes of cheating among students to develop effective measures to combat it. The studies usually explore the relations between dishonest behaviour and individual student characteristics, the characteristics of the educational environment, and cultural values. Research findings show that the scope of cheating among students may be related to values prevailing in the society (Magnus et al. 2002; Ma et al. 2013; McCabe et al. 2008; Payan et al. 2010), student psychological characteristics such as "Big Five" personality traits (Giluk and Postlethwaite 2015), moral development (Mayhew et al. 2009), the ability to rationalize dishonest behaviour (Rettinger 2017) or learning motivation (Murdock and Anderman 2006). Academic dishonesty also correlates with the characteristics of the educational environment: it is related to the faculty members' attitudes and actions (Simon et al. 2004; Yu et al. 2016; Broeckelman-Post 2008; Murdock et al. 2007), peers' behaviour (McCabe et al. 2001; McCabe et al. 2002; McCabe et al. 2008; Megehee and Spake 2008; Ma et al. 2013), the availability and effectiveness of institutional academic integrity policies (Arnold et al. 2007; McCabe et al. 2002).

The Theory of Planned Behaviour in Academic Dishonesty Research

To explain the causes and mechanisms of engaging in dishonest practices, a number of theoretical frameworks have been adapted to the cheating research. Examples of such frameworks are Agnew's General strain theory (e.g. Cochran (2017)), McCabe's "basic model" (e.g. McCabe et al. (2002); McCabe et al. (2008)), motivational model elaborated by Murdock and Anderman (e.g. Murdock & Anderman (2006); Friedman et al. (2016)), as well as the theory of planned behaviour by I. Ajzen (e.g. Chudzicka-Czupała et al. (2016); Mayhew et al. (2009); Lonsdale (2017)).

Theory of Planned Behaviour (TPB) seems to be one of the most popular frameworks to explain and predict dishonest behaviour among students (Chudzicka-Czupała et al. 2016; Harding et al. 2007; Mayhew et al. 2009; Meng et al. 2014; Lonsdale 2017). The TPB considers behaviour as a function of three types of beliefs: behavioural beliefs, relating to anticipated outcomes of behaviour; normative beliefs, referring to perceived referent individuals or groups who approve or disapprove of the considered behaviour and control beliefs, indicating the degree of volitional control regarding behaviour (Ajzen 1991). These beliefs, constituting the primary constructs of TPB attitudes towards behaviour, subjective norms and perceived behavioural control, respectively, affect a willingness to perform a behavior — behavioural intention. The behaviour itself is regarded as a function of an intention and perceived behavioural control.

Concerning academic dishonesty, attitudes refer to 'the degree to which the person has a favourable or unfavourable evaluation' (Beck and Ajzen 1991, p. 286) of dishonest behaviour.

Subjective norms reflect perceived social pressure to commit dishonest actions while studying. A significant correlation between subjective norms and cheating was supported in a range of empirical studies (Beck and Ajzen 1991; Chapman et al. 2004; Harding et al. 2007; McCabe et al. 2006; Stone et al. 2009; Whitley 1998; Whitley Jr and Keith-Spiegel 2002; Camara et al. 2017). Behavioural control indicates 'the perceived ease or difficulty of performing the behaviour' (Beck and Ajzen 1991, p. 286), which affects both intentions and actions. The modified version of the TPB also appreciates the ethical nature of cheating behaviour introducing the construct of moral obligation, which was found to improve the predictive capacity of the TPB (Alleyne and Phillips 2011; Beck and Ajzen 1991; Chudzicka-Czupała et al. 2016; Leonard et al. 2017; Harding et al. 2007; Mayhew et al. 2009; Passow et al. 2006).

The Use of the Theory of Planned Behaviour in Empirical Research

Initially, the TPB for predicting dishonest actions was validated based on the longitudinal data (Beck and Ajzen 1991). In the first wave, the researchers measured intention, attitudes, subjective norm, perceived behavioural control, moral obligation, and past behaviour. The second wave of the study was conducted on the subsample of the first wave and allowed the researchers to measure behaviour 6 months later, and to explore causal links between exploratory variables measured in the first wave and later behaviour measured in the second wave.

Though this approach serves best to make causal inferences about the determinants of intentions and behaviour itself, most of the recent empirical studies on student academic dishonesty, however, employed a cross-sectional design that constrains explanatory potential of the original TPB. Such studies choose one of two strategies to adapt the TPB within the cross-sectional design. One branch of studies instead of measuring the behavioural construct in the follow-up, measure it asking about the frequency of the behaviour in the past (Harding et al. 2007; Stone et al. 2009, 2010; Bagraim et al. 2014; Imran and Nordin 2013; Mayhew et al. 2009; Rajah-Kanagasabai and Roberts 2015; AL-Dossary 2017). However, using past behaviour as a proxy of future behaviour violates one of the main assumptions of the TPB about the anticipative role of intention regarding an action. Another approach is to omit the construct of behaviour relying on the premise of the strong link between intention and behaviour. Such studies (eg., Chudzicka-Czupała et al. (2016), Hsiao (2015), and Lonsdale (2017)) aim to predict only an intention.

The current cross-sectional study employs the first strategy to adapt the TPB – uses the frequency of the behaviour in the past to measure the behavioural construct. We, however, omit the intention from the model since it would be related to the behaviour in future, not the assessed behaviour in the past.

Hypotheses Development

Based on the TPB, we hypothesize that student attitudes towards academic dishonesty, the perception of subjective norms and behavioural control will affect the engagement in dishonest behaviour at university in Russia. Following Beck and Ajzen's (1991) suggestion that the relative importance of theoretical constructs might vary across contexts, we make several additional hypotheses.

Firstly, we anticipate subjective norms to outperform the effect of attitudes towards academic dishonesty in Russian universities. While the peers' pressure has repeatedly become

the most influential factor across different contexts (McCabe et al. 2008), its role was found to be especially substantial in countries with more salient collectivistic orientation (McCabe et al. 2008; Chudzicka-Czupała et al. 2016). Russia is one of the collectivistic countries, according to Hofstede's classification (Hofstede 1986), where the in-group norms are valued more compared to the individualistic countries (Magnus et al. 2002; McCabe et al. 2008; Chapman and Lupton 2004).

Secondly, we hypothesize that the perception of behavioural control may be not significant in Russian universities because Russian higher education system is characterized as a context with low barriers to performing academic dishonesty: most universities do not have honor codes and poorly enforce academic integrity policies (Golunov 2013). It may contribute to the faculty reluctance to penalize students for cheating: about a quarter of faculty members reported that they let cheating during an exam go unpunished (Roshchina and Shmeleva 2016, p. 30). Moreover, though the perceived behavioural control was a significant predictor of intention to perform academic dishonesty in numerous studies (eg., Stone et al. 2009, 2010), several studies do not document this effect (eg., (Harding et al. 2007)). Similarly, McCabe et al. (2002) did not find the perception of the severity of penalty to be a significant predictor of academic dishonesty among students from 21 US colleges and universities. The researchers suggested it reflects the situation when academic integrity policies are not enforced, students are not fully aware of the potential consequences of violations, therefore, there are no substantial constraints for students to cheat.

Method

Measurement

Traditionally, violations of academic integrity are measured by students' self-reports (Stone et al. 2014). Many studies based on the TPB framework employed indicators measured dishonest behaviour in the past (Harding et al. 2007; Stone et al. 2009, 2010; Bagraim et al. 2014; Imran and Nordin 2013; Mayhew et al. 2009; Rajah-Kanagasabai and Roberts 2015; AL-Dossary 2017). However, there are differences in indicators that they used. Stone et al. (2010) used 10 items and Likert-scale asking students about the frequency of engagement in cheating on a test, helping others cheat, collaborating without permission, and plagiarizing a paper. Likewise, Yu et al. (2016) employed four-point Likert scale and nine items reflecting types of cheating behaviour. Bagraim et al. (2014) measured dishonest behaviour asking students to indicate which behaviour form the list of dishonest practices they had ever engaged in. These studies considered the list of items represented dishonest behaviours as equivalent. Stone et al. (2014) suggested distinguishing cases of dishonest behaviour by the level of their severity as well as planned and panic academic misconduct. However, this distinguishing can be not obvious. Brimble and Stevenson-Clarke (2005) showed that perception of seriousness of academic misconduct scenarios is diverse for students and academics. For this study, the selection of dishonest practices was based on the list of practices considered as serious cheating by a group of experts from Russian universities involved in the project.

To explore the factors affecting academic misconduct in Russian universities, we employed the data of the student experience survey launched by the National Research University Higher School of Economics. One of the blocks of the questionnaire was dedicated to the student dishonest behaviour. The development of this block was based on the literature review and

previous instruments used in empirical studies applied the TPB. This part of the survey administered to the undergraduate students contained a section with the questions about prior dishonest behaviour, student attitudes, subjective norms and perceived behavioural control. We measure *dishonest behaviour* using the following six multiple indicators (on a four-point scale ranging from 1 (never) to 4 (more than five times)):

How frequently during this academic year have you done each of the following?

–   In your papers (essay, summary, course paper): copy from other papers or books (including Internet sources) without any references.
–   In your papers (essay, summary, course paper): paraphrased ideas of others in your papers without giving a reference to the source.
–   Turned in course assignments: papers that were written by someone else for pay.
–   Turned in course assignments: papers that you downloaded from the Internet.
–   During an exam: allowed somebody to copy your answers.
–   During an exam: cheated off crib sheets, electronic devices or other students during exams.

We used two indicators to measure *attitudes towards academic dishonesty*: the degree of tolerance to plagiarism and cheating during an exam. Students with the highest degree of tolerance responded by indicating they would like instructors not to punish dishonest behaviour (plagiarism and cheating), while the most intolerant students prefer to punish dishonesty by failing a student and informing the study office.

Subjective norms were measured through the questions, reflecting the perceived share of a participant's classmates regularly plagiarising in paper assignments and cheating during an exam (measured on a four-point scale ranging from 1 (0–25% of students) to 4 (76–100%)). As suggested by Ajzen (2006), we measure descriptive norms instead of injunctive (subjective) norms, while keeping the original name of the construct 'subjective norms' as some other researchers did (Bagraim et al. 2014; Pratt and McLaughlin 1989; Stone et al. 2009, 2010). Ajzen recommended measuring the descriptive norms because subjective norms have low variability 'because important others are generally perceived to approve of desirable behaviours and disapprove of undesirable behaviours' (Ajzen 2006, p. 6).

Perceived behavioural control was measured using two four-point questions about the perceived share of instructors at university, who fail students who have plagiarism in their papers and who punish students who cheat during an exam (1) Nobody does this, 2) Some instructors do this, 3) Majority of instructors do this, 4) Everybody does this).

Before running the structural equation model, we tested the reliability of the considered indicators. The Cronbach's alpha for dishonest behaviour items equaled 0.73. The Spearman-Brown coefficient was used to estimate the reliability of two-item constructs (Eisinga et al. 2013). The Spearman-Brown coefficient for attitudes to academic dishonesty reached 0.53, for subjective norms – 0.81, and for perceived behavioural control – 0.62.

After running the structural equation model, we found that one item ('frequency of copying text fragments from other papers or books without any references') used to measure dishonest behaviour had low factor loading. Therefore, it was removed from the final structural models. The factor loadings for all observed indicators included in the final models for the total sample and samples for each university are presented in Table 1. All values of presented factor loadings were positive and highly significant, which indicated a good quality of measurement for suggested theoretical constructs.

Table 1 Standardized factor loadings for variables used in models for the total sample and each university

	Total Sample	Uni. 1	Uni. 2	Uni. 3	Uni. 4	Uni. 5	Uni. 6	Uni. 7	Uni. 8
Attitudes towards Academic Dishonesty Items									
Attitudes towards cheating	0.60*** (0.02)	0.72*** (0.04)	0.76*** (0.10)	0.68*** (0.04)	0.41*** (0.06)	0.71*** (0.05)	0.48*** (0.05)	0.49*** (0.04)	0.78*** (0.07)
Attitudes towards plagiarism	0.73*** (0.02)	0.65** (0.03)	0.56*** (0.07)	0.64*** (0.04)	0.87*** (0.11)	0.61*** (0.05)	0.73*** (0.07)	0.65*** (0.05)	0.59*** (0.06)
Subjective Norms Items									
Subjective norms related to cheating	0.74*** (0.01)	0.72*** (0.02)	0.76*** (0.02)	0.71*** (0.02)	0.64*** (0.02)	0.79*** (0.01)	0.71*** (0.02)	0.68*** (0.02)	0.76*** (0.02)
Subjective norms related to plagiarism	0.74*** (0.01)	0.72*** (0.02)	0.76*** (0.02)	0.71*** (0.02)	0.64*** (0.02)	0.79*** (0.01)	0.71*** (0.02)	0.68*** (0.02)	0.76*** (0.02)
Perceived Control Items									
Perceived behavioural control in relation to cheating	0.74*** (0.01)	0.72*** (0.02)	0.76*** (0.02)	0.71*** (0.02)	0.64*** (0.02)	0.79*** (0.01)	0.71*** (0.02)	0.68*** (0.02)	0.76*** (0.02)
Perceived behavioural control in relation to plagiarism	0.74*** (0.01)	0.72*** (0.02)	0.76*** (0.02)	0.71*** (0.02)	0.64*** (0.02)	0.79*** (0.01)	0.71*** (0.02)	0.68*** (0.02)	0.76*** (0.02)
Dishonest Behaviour Items									
Frequency of paraphrasing ideas of others in papers without giving a reference to the source	0.63*** (0.02)	0.88*** (0.01)	0.74*** (0.04)	0.61*** (0.06)	0.60*** (0.04)	0.65*** (0.02)	0.62*** (0.03)	0.51*** (0.05)	0.59*** (0.04)
Frequency of turning in course assignments papers that were written by someone else for pay	0.54*** (0.01)	0.81** (0.02)	0.62*** (0.03)	0.43*** (0.04)	0.59*** (0.04)	0.65*** (0.02)	0.60*** (0.03)	0.54*** (0.05)	0.54*** (0.04)
Frequency of turning in course assignments papers that were downloaded from the Internet	0.34*** (0.02)	0.46*** (0.04)	0.53*** (0.07)	0.40*** (0.06)	0.31*** (0.04)	0.53*** (0.02)	0.32*** (0.04)	0.30*** (0.05)	0.43*** (0.06)
Frequency of allowing somebody to copy answers	0.40*** (0.01)	0.64*** (0.02)	0.48*** (0.03)	0.45*** (0.05)	0.37*** (0.03)	0.48*** (0.01)	0.42*** (0.02)	0.35*** (0.03)	0.41*** (0.03)
Frequency of cheating off crib sheets, electronic devices or other students during exams	0.56*** (0.40)	0.69*** (0.03)	0.50*** (0.06)	0.38*** (0.05)	0.43*** (0.05)	0.61*** (0.02)	0.47*** (0.04)	0.35*** (0.05)	0.49*** (0.06)

[a] Standard errors in parentheses

[b] Significance levels: * – $p < 0.05$, *** – $p < 0.01$, *** – $p < 0.001$

Sample

Undergraduate students from eight highly selective Russian universities took a web survey on student experience and academic dishonesty in April 2015. Seven universities participate in the academic excellence project (The '5–100' Project[2]) and another institution has the status of federal university. A link to a web questionnaire was emailed to all full-time undergraduate students in these institutions. The participation was voluntary and students were not incentivized to take the survey. Overall, 15,159 usable responses were received. The response rate ranged from 5 to 41%.

In this research, we used the sample with a balanced group size. The large variation in group samples is problematic because tests on covariance matrices are sensitive to unequal group sizes (Mardia 1971; Muthén 1989; Hox and Maas 2001; Van Montfort et al. 2004). Some assumptions of multi-group structural equation analysis and maximum likelihood estimation strictly require that all groups have the same size (Van Montfort et al. 2004). Muthén (1989) showed that the bias in the parameter estimates is larger for samples with unequal groups in comparison with balanced groups. Therefore, we decided to use the same sample sizes per institution. In each of the sampled universities, 1000 cases were randomly selected. The final sample consists of 8000 undergraduate students from eight highly selective universities. The sample with balanced groups allowed to decrease bias in estimates of parameters and represent each university equally in the total structural model.

The final sample with balanced groups consists of 39% male students. Almost a third of respondents (32%) are freshmen, 27% are second-year students, 21% are third-year students, 21% are senior students. Science students made up 9% of the sample, engineering students 40%, social sciences respondents 21% and another share of students (30%) studied on programs in humanities. The education of most students participating in the study (71%) was subsidised by the government. Families paid for the education of about a quarter of the students (25%), and corporations financed the education of 4% of respondents.

On the subject of academic dishonesty, 92% of students in the final sample reported that they never turned in papers downloaded from the Internet. 42% never turned in papers that were written by others for payment, however, only 16% of respondents replied that they never copied fragments of text in the paper without reference to the source. About a third of the sampled students reported allowing other students to copy their answers and 56% reported cheating during an exam at least one time during the academic year.

Analysis

Structural equation modelling (SEM) was used to test the proposed model. Mplus Version 6.0 was the primary statistical software package for testing the correlation between dishonest behaviour and attitudes, subjective norms and behaviour control suggested by the TPB. SEM analysis was employed to generate a final nested model for the dishonest behaviour among undergraduate students and estimate statistical significance and magnitude of structural coefficients for relationships between theoretical constructs. This study includes the models for

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[2] Project 5–100 was launched in 2013 in accordance with the Presidential Decree of the Russian Federation 'On measures to realize state policy in the sphere of education and science'. Under this project, 21 highly selective Russian universities received financial support to maximize their positions in the global research and education market. The link to the project description: http://5top100.com/.

eight Russian universities together, and for each of them separately. We used the pairwise deletion for handling missing data because we assume that data is missing at random. The separate models for each university were tested to demonstrate variance in relationships between theoretical constructs under different institutional environments.

Model Specification for Total Sample

The first specification of the model for the total sample was created in accordance with theoretical assumptions of the TPB. Subsequently, the following modifications were made to reach structural model identification and improve fit indices:

1. The correlation between residuals for subjective norms related to cheating and plagiarism was set up. The factor loadings for these indicators were constrained to be equal.
2. The factor loadings for indicators of perceived behaviour control were constrained to be equal.
3. The five correlations between residuals of the indicators of engagement in academic dishonesty were specified.

These modifications did not interfere with the suggested theoretical model and could be caused by the measurement procedure.

Model Specifications for each University

After running the structural model for the total sample, the models for each university separately were specified to demonstrate the variation of the functioning of the suggested theoretical assumptions across the universities. We employed final specification of the model for the total sample as an initial specification for each university model. The correlations between constructs are presented in Table 4 in Appendix.

Results

The observed results demonstrate that parameter estimates for the paths are significant and occur in the expected directions between attitudes to academic dishonesty and dishonest behaviour, subjective norms and dishonest behaviour, as well as between perceived behavioural control and dishonest behaviour. Moreover, we observed the significant correlations between attitudes and norms, attitudes and control, and norms and control. However, the correlations between attitudes and norms with perceived behavioural control are negative, which is not consistent with the original TPB.

The fit indices for the total model are presented in Table 2. The value of the chi-square statistic for the final model for the total sample is 1196.17, and the degrees of freedom equal 35. However, this fit index is sensitive to the sample size (Cheung and Rensvold 2002). Therefore, more attention should be put to other fit indices. The root mean square error of approximation (RMSEA) is 0.065, the Tucker–Lewis index (TLI) is 0.964 and the comparative fit index (CFI) equals 0.943. While the RMSEA value for this model is slightly higher than recommended, other indices (CFI and TLI) demonstrate a good fit. The weighted root mean square residual (WRMR) also reaches a value higher than recommended. This set of indices

demonstrates controversial evidence about the acceptability of the final model fit. However, taking into account the high amount of explained variance of dishonest behaviour (48%) (see Table 3) and the significance of the parameter estimates for the paths, we can conclude that the structural model for the total sample supports main assumptions of the TPB for Russian universities.

To analyse the variation in the functioning of the TPB under different institutional environments, the SEMs were run for each of the eight university samples. The majority of considered models demonstrate a good fit (see Table 2). The explained variance of the latent variable reflecting dishonest behaviour varies from 29 to 69% across the models (Table 3).

The path coefficients linking subjective norms with dishonest behaviour are the largest (standardised estimates vary from 0.63 to 1.12) and significant in all models. These results indicate the highest contribution of this construct in a variance of dishonest behaviour regardless of institutional context. The path coefficients linking attitudes with dishonest behaviour are positive in all models, but significant in seven models out of eight. The influence of perceived behavioural control is found to be significant in six models. Overall, in university 2, the engagement in dishonest behaviour is influenced only by subjective norms, while in university 3 it is influenced by both subjective norms and attitudes. The path coefficients linking attitudes with perceived behavioural control appear to be significant in all the considered models with the estimated parameters ranging from −0.55 to −0.18. The correlation between subjective norms and perceived control is also negative and significant for six universities out of eight. Finally, the interrelation between attitudes and subjective norms is positive and significant for half of the considered models built for each university.

Discussion

The academic dishonesty is a ubiquitous problem for Russian universities that casts doubt on the credibility of the national system of higher education and undermine confidence to higher education degrees (Golunov 2014; Altbach 2015). Cross-national research showed that Russian students are more tolerant to academic dishonesty (Magnus et al. 2002) and more often observe dishonest behaviour of other students (Grimes 2004). Therefore, the development of effective means to reduce academic misconduct is an issue of great concern for Russian universities. In order to prevent violations of academic integrity, administrators and faculty members should be aware what factors affect student decision to engage in dishonest behaviour. The current study aims to shed the light on this issue by employing the data collected in the eight Russian universities.

Table 2 Models fit indices

	Total Sample	Uni. 1	Uni. 2	Uni. 3	Uni. 4	Uni. 5	Uni. 6	Uni. 7	Uni. 8
Chi-squared	1196.17	146.74	111.87	184.02	120.12	250.14	186.91	185.83	99.13
Df	35	35	35	35	35	35	35	35	35
Chi-squared/Df ratio	34.2	4.2	3.2	5.3	3.4	7.1	5.3	5.3	2.8
RMSEA	0.065	0.041	0.044	0.057	0.038	0.037	0.046	0.055	0.042
Probability RMSEA ≤0.05	0.000	0.985	0.831	0.073	0.995	1.000	0.802	0.154	0.920
CFI	0.964	0.992	0.978	0.953	0.985	0.990	0.981	0.971	0.985
TLI	0.943	0.988	0.965	0.927	0.977	0.985	0.970	0.954	0.977
WRMR	3.194	1.067	1.002	1.293	1.030	1.398	1.288	1.272	0.901

Table 3 Structured coefficients for relationships between latent variables for models for the total sample and each university sample

	Total Sample	Uni. 1	Uni. 2	Uni. 3	Uni. 4	Uni. 5	Uni. 6	Uni. 7	Uni. 8
Attitudes influence on Dishonest Behaviour	0.32*** (0.03)	0.12* (0.05)	0.12 (0.07)	0.41*** (0.10)	0.24*** (0.07)	0.16*** (0.03)	0.34*** (0.07)	0.49** (0.15)	0.35*** (0.08)
Subjective norms influence on Dishonest Behaviour	0.87*** (0.04)	0.80*** (0.04)	0.63*** (0.08)	1.12*** (0.18)	0.93*** (0.13)	0.67*** (0.04)	0.87*** (0.09)	1.16*** (0.17)	0.90*** (0.12)
Perceived control influence on Dishonest Behaviour	0.09* (0.03)	0.09* (0.04)	0.07 (0.07)	0.22 (0.12)	0.28** (0.09)	0.14*** (0.03)	0.25*** (0.07)	0.33* (0.14)	0.16* (0.08)
Correlation: Attitudes and Subjective norms	0.20*** (0.02)	0.41*** (0.05)	0.08 (0.06)	0.23*** (0.05)	0.14** (0.05)	0.05 (0.03)	0.07 (0.05)	0.16 (0.06)	0.13* (0.06)
Correlation: Attitudes and Perceived Control	−0.45*** (0.02)	−0.41*** (0.04)	−0.28*** (0.06)	−0.44*** (0.05)	−0.26*** (0.06)	−0.18*** (0.03)	−0.27*** (0.05)	−0.55*** (0.06)	−0.26*** (0.06)
Correlation: Subjective Norms and Perceived Control	−0.18*** (0.02)	−0.24*** (0.05)	−0.09 (0.06)	−0.45*** (0.05)	−0.29*** (0.06)	0.03 (0.03)	−0.21*** (0.04)	−0.25*** (0.06)	−0.19** (0.06)
N	8000	1909	1114	1310	1656	4577	2009	1444	1059
R^2 for Dishonest Behaviour	0.48	0.69	0.29	0.58	0.47	0.34	0.46	0.60	0.49

[a] Standard errors in parentheses

[b] Significance levels: $*-p<0.05$, $***-p<0.01$, $***-p<0.001$

This study is the first to explore the factors of academic dishonesty among undergraduate students at Russian universities relying on the Theory of Planned Behaviour and using structural equation modeling. The responses of students of eight highly-selective universities were used to model engagement in academic dishonesty. Following the TPB framework, we expected to observe the effects of attitudes towards academic dishonesty, perceived peers' behaviour, and perceived behavioural control (perceived likelihood of being punished) on engagement in dishonest behaviour. The model built for the full sample demonstrated an acceptable goodness of fit, and the testing the model on separate samples for each university bore evidence of the model's stability across the eight universities. The explained variance of engagement in academic dishonesty exceeds 45% in six out of eight institutions yielding the high predictive power of the TPB in use for academic dishonesty research.

The results of the analysis support two of the main assumptions – both attitudes towards academic dishonesty and the perception of subjective norms significantly contribute to the student engagement in cheating practices. In this study, the perception of the subjective norms outperforms the effect of attitudes, indicating that the Russian undergraduate students' ethical decision-making process is affected substantially by the perception of what their peers do. This result is consistent with the prior studies suggesting the significant role of peers' behaviour in performing dishonesty (McCabe et al. 2002; McCabe et al. 2008; Ives et al. 2017; Rettinger and Kramer 2009; Teodorescu and Andrei 2009; Yang et al. 2017; Camara et al. 2017). This factor seems to be even more influential in the collectivistic countries (McCabe et al. 2008; Chudzicka-Czupała et al. 2016). Chudzicka-Czupała et al. (2016) found that this factor imposed the strongest effect on students in Ukrainian universities, while attitudes in the US and Switzerland outperformed subjective norms. The authors provide cultural explanations, attributing this specific power of social pressure in Ukraine to a relatively stronger collectivist orientation in Ukraine, compared with the USA and Switzerland with more salient individualism in culture, higher self-reliance. Similar results were obtained in another cross-national study (McCabe et al. 2008), revealing the higher predictive role of a peers' behaviour for students from the USA, compared to students from Lebanon - the more collectivistic country.

The TPB suggests the perceived behavioural control to be another important determinant of student academic dishonesty. In other words, it is expected that students make a decision about cheating based partially on the perception of easiness of performing it. However, in some contexts students may not be guided by this kind of reasoning. McCabe et al. (2002) highlight that behavioural control might be insignificant if there are no substantial constraints for students to cheat, for example, if academic integrity is weak or the academic dishonesty-related policies are not enforced. In such cases, students' attitudes towards cheating and social norms are the prime guidelines for dishonest behaviour. Several studies support this suggestion (Alleyne and Phillips 2011; Beck and Ajzen 1991; Harding et al. 2007; Imran and Nordin 2013; McCabe et al. 2002). Russian universities, at the same time, poorly enforce academic integrity policies (Golunov 2013) and may even implicitly encourage cheating behaviuor among students what is reflected in the higher incidence of academic dishonesty among senior students compared to freshmen (Denisova-Schmidt et al. 2016).

In this study, the perceived behavioural control was not a significant predictor of engagement in academic dishonesty. However, it was found to be positively related to the academic dishonesty in several institutions, indicating that the higher the certainty of being punished, the higher the engagement in dishonest practices. This study is not the first to get this counterintuitive result. McCabe and Trevino (1997) argued that this finding problematizes the direction of causality, and hypothesized that observed correlation can be explained by the fact that

students experiencing penalties for dishonest behaviour tend to put more attention to their academic dishonesty and therefore report a higher frequency of cheating.

This research results indicate that students at Russian universities deciding about cheating are primarily guided by the perception of their peers' behaviours and do cheat no matter how likely they perceive a penalty for it. It means that students frequently observe their peers cheating and getting away with it. The cross-national study found that about two thirds Russian business students witnessed cheating more than ten times, while among the US students this share comprised only 15% (Grimes 2004). Altogether with the low perception of likelihood of being punished, the experience of observing others avoiding punishment for cheating may outweigh the fear of a potential penalty (Freiburger et al. 2017). The possible explanation of this finding is that Russian universities rarely enforce academic integrity policies. The regulative documents (such as honour codes) articulating the definition of dishonest practices and the subsequent penalties are incredibly uncommon (Golunov 2013). At the same time, honor codes seem to be a somewhat effective way to reduce dishonesty, what was supported by both the education research (McCabe et al. 2002; Gurung et al. 2012; Arnold et al. 2007) and the experiments in the contexts out of the academia (Ariely and Jones 2012). Therefore, there is an urgent need for administrators and faculty members to develop and enforce academic integrity policies in Russian universities. The initial steps require clarifying the rules of conduct, developing the honor codes, increasing student awareness about them and ensuring the inevitability of penalties for cheating.

Limitations

This study has several limitations constraining the degree to which the results can be generalized.

Firstly, the data was collected using a non-random sampling strategy in eight highly selective Russian universities. It limits the ability to extend conclusions to students studying in higher education institutions of other types and institutions in other countries with a different design of the educational system. Secondly, since the study is based on the secondary data (academic dishonesty was not the main topic of the initial project), we use a small number of items to measure the main concepts resulting in a relatively low internal consistency (the lowest for attitudes towards academic dishonesty). The low internal consistency of attitudes may be also explained by strongly differing attitudes towards cheating on exams and plagiarism (Passow et al. 2006), which, in this study, both used to form a single construct. Thirdly, instead of using the conventional approach to measure the perceived behavioural control - asking direct questions about the easiness or difficulty to cheat (e.g., Chudzicka-Czupała et al. 2016; Beck and Ajzen 1991; Alleyne and Phillips 2011) – we asked about the perception of faculty punitive behaviour. Therefore, we limit the concept of perceived behavioural control to the perception of the likelihood of being detected and punished by the faculty, leaving out the measurement of self-efficacy. Fourthly, this study employs the original version of the TPB, while it was modified with inclusion the construct of moral obligation (Beck and Ajzen 1991) proved to enhance the predictive capacity of the model (Chudzicka-Czupała et al. 2016). Finally, the reported incidence of academic dishonesty is most likely underestimated because the study employs self-reported data and people tend to give socially desirable answers about dishonest behaviour.

Nevertheless, the results of this study contribute to the theoretical and methodological development of academic dishonesty research and can be utilized for informing integrity policy in Russian universities, as well as in universities from collectivistic countries that have

mass higher education and the high degree of public provision with higher education. Moreover, this study shed light on the cross-national differences in factors affecting student decision to engage in dishonest behaviour.

Appendix

Table 4 Correlation matrixes for the total model and each university models

	AT	SN	PBC
Total model			
AT			
SN	0.20***		
PBC	−0.45***	−0.18***	
DB	0.33***	0.66***	−0.15***
University 1			
AT			
SN	0.41***		
PBC	−0.41***	−0.24***	
DB	0.41***	0.83***	−0.15***
University 2			
AT			
SN	0.08		
PBC	−0.28***	−0.09	
DB	0.12*	0.53***	−0.02
University 3			
AT			
SN	0.23***		
PBC	−0.44***	−0.45***	
DB	0.37***	0.72***	−0.30***
University 4			
AT			
SN	0.14**		
PBC	−0.26***	−0.29***	
DB	0.22***	0.65***	−0.04
University 5			
AT			
SN	0.05		
PBC	−0.18***	0.03	
DB	0.14***	0.56***	0.11***
University 6			
AT			
SN	0.07		
PBC	−0.27***	−0.21***	
DB	0.25***	0.62***	−0.02
University 7			
AT			
SN	0.16*		
PBC	−0.55***	−0.25***	
DB	0.31***	0.73***	−0.14**
University 8			
AT			
SN	0.13*		
PBC	−0.26***	−0.19**	
DB	0.31***	0.66***	−0.07

[a] The latent variables were standardized to have a mean of 0 and a standard deviation of 1. *AT* attitudes towards academic dishonesty, *SN* – subjective norms, *PBC* – perceived behavior control, *IDB* – dishonest behaviour

[b] Significance levels: ** – $p < .01$, *** – $p < 0.01$

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