CULTURAL DIFFERENCES REGARDING EXPECTED UTILITIES AND COSTS OF PLAGIARISM BETWEEN HIGH TRUST- AND LOW-TRUST-SOCIETIES—PRELIMINARY RESULTS OF AN INTERNATIONAL SURVEY STUDY

Eckhard Burkatzki, Joost Platje, Wolfgang Gerstlberger

Abstract: Plagiarism is not a crime of passion but of calculation, where utility and costs are compared. The study presented asks for cultural variations regarding the perceived utilities and costs of plagiarism, focusing on the following questions: ¹

1. Do students from countries with a different level of generalized trust vary with respect to the average frequency of plagiarism?
2. Do students from countries with a level of generalized trust vary with respect to the on average perceived cost-utility structure of plagiarizing?
3. Is it possible to explain observed country-specific differences in the aggregated frequency of plagiarism by different country-specific perceptions of the cost-utility-structure of plagiarizing? Empirical research from universities in Poland, Germany and Denmark is presented. Methodically the investigation is based on bivariate statistics, Principle Component Analyses and Multiple Regression. Significant differences are found regarding both the frequency of plagiarism and the willingness to plagiarize between high-trust-, medium-trust- and low-trust-populations. In the high-trust case perceived moral costs of plagiarizing activity provides stronger disincentives for committing plagiarism than possible external sanctions. Above this, a reverse effect of administrative sanctions within high-trust- and low-trust-populations could be observed, with the remarkable recognition that in high-trust-populations the threat of administrative sanctions does not prevent but provoke deviance. Evidence has been found that differences in the aggregated frequency of plagiarism between different populations can be explained by the activity of utility-oriented actors under circumstances of a varying level of generalized trust influencing the perceived moral costs of plagiarism.

Introduction

Media reports on plagiarism in science, leading not only to the cancellation of PhD titles but also to the end of the political careers of, for example, the former German minister of defence Karl-Theodor zu Guttenberg or the former Hungarian president Pal Schmitt, show that a serious discussion on good scientific practice is necessary. When such opportunistic behaviour appears at the highest levels in society, it can be expected that this is only the tip of the iceberg. In this context, it is relevant to develop a system of self-assurance on the rules concerning scientific work and how to prevent and deal with misconduct (compare DHV/FT/AFT 2012).

In this paper, the question is addressed what are the causes of plagiarism in the scientific system, with a focus on the role of cultural factors expressed by social capital in the form of generalized trust. This trust may be an explanatory variable of differences

¹An more extensive discussion on the questionnaire results can also be found in Burkatzki et al.,(2012).
in the frequency of plagiarism in different countries, by influencing the perceived costs and benefits of plagiarism. These issues were investigated in 2010 using a questionnaire to research the views of Danish, Polish and German students.

In order to deal with these issues, first the challenge is defining plagiarism as an object of scientific research and there is discussion of the current state of research on the topic. Then, the theoretical framework for the empirical research conducted is presented. Afterwards, the methods and data used are presented, the results are discussed and analysed, and conclusions are drawn.

The research problem

The deviant character of plagiarism in science embraces the following elements (Sattler, 2007, 30ff.): the intentional use or adaption of words, ideas and/or arguments which come from an external source, are literally copied or poorly paraphrased, while sources are not mentioned and authorship is claimed by the plagiarator. In other words, plagiarism appears when protected property rights are used, and wilful ownership of the words, ideas and/or arguments is claimed (compare Loewenstein, 2003). In this connection it is implicitly assumed that the plagiarizing student or scientist is aware of this fact, and that consciousness implies full knowledge on the rules of the game of scientific practice.²

Plagiarism is a form of opportunistic behaviour, which appears due to, among other things, the existence of asymmetric information, where the supervisor or reviewer faces high transaction costs of monitoring the quality of scientific work. Three leading intentions for such malpractice among students can be reconstructed. First of all, plagiarism is employed for increasing the subjective probability of passing academic examinations. Second, the goal may be a higher grade than normally would be achieved. Third, gains of time and energy are achieved, especially when students fell not be to be identified with a topic they’re working on. Since the goods intended by using plagiarizing techniques are not affluently given, plagiarism can be understood as some strategic behaviour of reaching these goods by illegitimate means under conditions of scarcity. Especially this is the reason why plagiarism by some authors of white-collar crime text books is likewise subsumed as a variety of white-collar crime (Friedrichs, 2010; Payne, 2012). Taking additionally into account that students within their academic studies, implicitly or explicitly, are competing for better grades or a better starting position on the labour market, plagiarism can likewise be characterized as a crime of competition.

The main causes of plagiarism identified in research can be analysed with help of Donald Cressey’s (1971) so-called fraud triangle (Fig. 1), that has been especially o for analyzing white-collar crime. There should be an incentive or plight, which strengthens when the expected payoff increases, there should be an opportunity, this means the accessibility of illegitimate means for reaching ones goals with low risk of detection, and a neutralization factor giving justification for such behaviour.

²However, an issue for separate research is whether especially students do have the knowledge and skills to apply the rules and instruments for good scientific practice, and whether there are cultural differences in the interpretation of good scientific practice or not.
Since the midst of the 1990s, the Internet has become a huge market for providing opportunities for committing plagiarism (Park, 2003; Smydra, 2004; McCabe, 2005). Above this research literature names a range of plights that are increasing the incentive to make use of plagiarism. Temporal plights are especially experienced by students spending large amounts of time for extra-curricular activities (McCabe and Trevino, 1997), practicing an undisciplined work ethics (Eisenberger and Shank, 1985), or suffering from procrastination (Patrzek et al., 2012). Negative incentives for using plagiarism as a means for writing academic papers are according to the literature a high perceived severity of penalties (Bouwers, 1964; Sattler, 2007), and peer-disapproval of cheating (McCabe and Trevino, 1997). Above this a good grade and high amounts of earned credit points are likewise named a negative incentive for student cheating since the higher the capital students have accumulated during their studies the higher is the risk to be expected when loosing this capital because of detected plagiarism. Justification for plagiarism is related to the Internet as an open access for knowledge (Gajadhar, 1998; Boehm and Taggett, 2005) as well as the argument that others (peers) also plagiarize (Bouwers, 1964), which can easily lead to a degeneration of scientific culture. As a deficit of justification that might be perceived likewise as a negative incentive for plagiarism Sattler names an anticipated bad conscience that could occur when reflecting upon the option to plagiarize (Sattler, 2007).

In much research the authors seem to assume implicitly that the determinants of plagiarism identified are universally valid. However, in accordance with what is commonly assumed in institutional economic theory (see Platje, 2011), the determinants influence the willingness to plagiarize with different strengths as a consequence of cultural differences.
Methodological individualism is the starting point of the study, assuming that phenomena arise due to utility maximizing behaviour of individuals within a social context. In addition, it is assumed that the cultural environment as well as internalized values influence the individual utility function. These assumptions are the basis of the model of sociological explanation presented in Fig. 2, making it possible to explain differences in rates of plagiarizing in different countries with different social and cultural structures.

With help of the model, micro and macro interrelations regarding social actions can be analysed. Three logical steps for the reconstruction of the emergence of social phenomena can be distinguished: the logic of situation (how do given social and cultural structures influence individual behavioural orientations as well as the individual definition of the situation), the logic of selection (how specific rules and criteria about how behavioural orientations and a given situational definition determine individual choice and actions), and the logic of aggregation (how new structural phenomena arise from the aggregation of individual actions). The first two are used for constructing the research problem.

**Logic of situation**

The average level of general trust in a society may be an important determinant of behavioural orientations and choices. Following Fukuyama (1995), we will distinguish between high- and low-trust societies. Fukuyama’s definition of trust, the expectation of rule conforming, honest and cooperative behaviour by others whom
Figure 3. Model of decision making students are confronted with when thinking upon plagiarism

we not necessarily know personally, is used as the basis for the aims of the present study. It has been argued that there is a kind of self-fulfilling prophecy that trust by principals is rewarded by trustworthy behaviour by agents. Agents confronted with distrusting principals, tend to reduce their efforts to a minimum level (Falk and Kosfeld, 2006). Correspondingly, we assume that the level of generalized trust among students influences their behaviour concerning plagiarism.

Logic of selection

The fundament for the logic of selection applied in the research is rational choice theory (see Hill, 2002; Gilboa, 2010). Plagiarism is considered a risky venture, depending on the expected utility of success and expected costs of detection (see Fig. 3). Expected gains may have a materialistic nature (good grade and expected transaction gains) and an ideational nature (good or bad conscience in case of successful plagiarism). Expected costs of being detected can be of a materialistic nature (expected administrative sanctions) and social nature (expected informal sanctions by fellow students, formal and informal sanctions by academic teachers as well as embarrassment). It is assumed that the higher the positive utility and the lower the perceived costs of plagiarism, the higher the probability of individuals to engage in plagiarizing behaviour.

The theoretical frame used in this study, adapted from Fig. 2, is presented in Fig. 4. It is assumed that differences between countries regarding the frequency of plagiarism
Theoretical frame of the study

can be explained by the level of generalized trust by way of influencing the costs and benefits of plagiarism in the form of moral costs and reduced benefits.

Research questions

Against the background of our theoretical considerations the following research questions are addressed:

(1) Do students from countries with a different level of generalized trust vary with respect to the average frequency of plagiarism?
(2) Do students from countries with a different level of generalized trust vary with respect to the on average perceived cost-utility structure of plagiarizing?
(3) Is it possible to explain observed country-specific differences in the aggregated frequency of plagiarism by different country-specific perceptions of the cost-utility-structure of plagiarizing?

Method and data

Study design

In order to answer the research question, a standardized-written survey was carried out in 2010 among students of Danish, German and Polish Universities. The original version was developed in English, translated in the national language of the three countries, and afterwards translated back into English and compared with the original English version.

Method and data

The survey was carried out at the University for Applied Sciences Nordhausen in Nordhausen (Germany), the International University of Logistics and Transport, a
Table 1

<table>
<thead>
<tr>
<th>University</th>
<th>Number of valid cases (n)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nordhausen (D)</td>
<td>152</td>
</tr>
<tr>
<td>Wroclaw (PL)</td>
<td>360</td>
</tr>
<tr>
<td>Opole (PL)</td>
<td>469</td>
</tr>
<tr>
<td>Odense (DK)</td>
<td>128</td>
</tr>
<tr>
<td>Total</td>
<td>1115</td>
</tr>
</tbody>
</table>

private university in Wroclaw (Poland), Opole University, a public university in the Silesian town Opole (Poland) and the Syddansk University of Southern Denmark in Odense (Denmark). The numbers of valid responses are presented in Table 1.

As only the population of particular universities was surveyed, the results are not representative for the Danish, German and Polish student population. As the socio-demographic structure of the samples differs, the data have been re-weighted according to a similar sample size and socio-demographic distribution pattern. For re-weighting as relevant variables gender (male vs. female), academic semester (3 to 6 vs. 7 and more), and mode of study (full time vs. extra occupational) of the German sample have been considered. As a consequence of the weighing procedure the student sample of each university has been of same size and according to the chosen variables of the same socio-demographic structure.

**Operationalization of the research**

Poland, Germany and Denmark were chosen for the research due to the differing average level of generalized trust. According to research of the European Value Study (EVS, 2008), Poland can considered to be a low-trust society, Denmark a high-trust society while Germany being ranked in between. These results are confirmed by the results of a control question in the questionnaire. In the survey, respondents were asked to imagine to have submitted a paper they knowingly had plagiarized, which had not been detected.

Students were asked to consider how they would value the consequences of the imagined deed, as well as the estimated probability of a consequence becoming real. A second question aimed at measuring the expected costs of plagiarism by asking to imagine a plagiarized paper was submitted, which had been detected. Also here the respondents were asked to consider how they would perceive the consequences of the imagined deed, as well as the estimated probability of a consequence becoming real.

To compute the expected utilities and costs of respondents for each consequence named in the question subjective values and probabilities have been multiplied with each other. For single utilities and costs in second step have been summed up for all consequences that have been assigned to a given consequential type (compare figure 3). Last not least the summed-up values for each consequential type have been divided by the number of consequential items that beforehand were assigned to this type.
Results

Research question 1: Trust-related differences regarding plagiarism

Following the theoretical frame of the research in Fig. 4, this research question concerns the macro-correlation between generalized trust and the aggregated frequency of plagiarism. As is shown in Fig. 5, there are differences in the willingness to plagiarize between universities, with the highest willingness among the International University for Logistics and Transport in Wrocaw (Poland) and the lowest for the university in Odense (Denmark). The value of eta-square indicates that by distinguishing the places of investigation 11.3 per cent of the variance regarding the individual willingness to plagiarize within the total sample could be explained.

The results regarding the average willingness to plagiarize are confirmed by the level of self-reported plagiarism (Fig. 6), which supports the assumption that students having already plagiarized are likely to engage more in plagiarism in the future. Also in this case, the Polish universities show the highest level of plagiarism (Wrocaw—30.5%; Opole—21%). While now Nordhausen (Germany) obtains the lowest score, the high level of “no comment” may give some thoughts. These students may distrust the promise of the researchers concerning anonymity. As a consequence, the students from Odense, none of them indicating “no comment”, tend to show the lowest level of plagiarism, while the number for the Polish and German universities may be higher than reported.

As is shown in Fig. 7, a strong correlation between generalized trust and the willingness to plagiarize can be observed. While the relationship seems to be perfectly linear, the assumption of linearity is only supported by three bivariate measures. Furthermore, on a micro-analytic level both measures are not strongly correlated, but are only associated with the inferential status of a so-called significant tendency (p=0.09). Nevertheless, the results are similar to the relation found between generalized trust and the perception of corruption in these countries (the higher the generalized trust, the lower the perceived corruption) (compare Fig. 8).

Research question 2: Differences of perceived utilities and costs of plagiarism in high-trust- and low-trust-samples

Regarding the research question on differences regarding perceived utilities and costs of plagiarism (micro-analytical level), focus is on the issue whether there is a correlation with the level of generalized trust (macro-level). Starting point for estimating relevant cost- and utility dimensions for committing plagiarism is the regression model depicted in Fig. 9.

To reduce complexity with respect to relevant dimensions of the perceived cost-utility-structure of plagiarism only those factors are taken into account that have a statistical significant effect on the individual willingness to plagiarize. Symbolically distinguished within the figures are the following levels of statistical significance: *** $p \leq 0.001$, ** $p \leq 0.01$, * $p \leq 0.05$ and † $p \leq 0.10$ (compare Bortz, 1999). Since the sample data analysed within this study do not in a strong sense have a representative status, documented information regarding the statistical significance of correlations...
How much thoughts and citations of external sources would you be maximally willing to adopt in a seminar paper without indicating the origins?

![Diagram showing willingness to plagiarize within student samples]

Data: Studying and Ethics, 2010
Source: Own computations

Note: The horizontal lines connected to the bars indicate the simple standard deviation of values around the sample-specific mean value.

*Figure 5. Average willingness to plagiarize within student samples*

cannot be interpreted in an inferential manner and do only have a descriptive character. The results of regression analyses for the student samples first of the Polish Opole, second of the Danish Odense and third of the German Nordhausen are depicted in figures 10.1 to 10.3. The regression results for the Wroclawian student sample have not been documented since strong problems of co-linearity (VIF-value > 4) appeared within this model.

From the results it becomes clear that cost-utility reflections are quite important for the individual willingness to plagiarize. However, regression results vary depending on the average level of generalized trust. First, it seems that moral self-commitment (bad conscience) is more relevant in a high-trust setting (Odense) than a medium-trust setting (Nordhausen) and in particular a low-trust setting (Opole). Thus, the expectation of honest behaviour by others seems to positively influence the controlling and steering effect of morality on choices.

Second, administrative sanctions seem to have a stronger preventive effect in the low-trust case (Opole), while in the high-trust case such sanctions seem to cause an increasing willingness to plagiarize (Odense). This may be explained by the theory of violated psychological contracts (Litzky et al., 2006). The idea is that students, being strongly committed to norms of academic integrity, are suffering conscience-based pains when thinking upon the behavioural option to plagiarize. When faced
by the threat of administrative sanctions they may feel that an implicit contract of reciprocal psychological appreciation is violated. Those negative emotions are promoting a behaviour (plagiarism) challenging especially those sanction systems they feel threatened by.

Thirdly, in the Opole low-trust sample, the mentioned administrative sanctions, but also informal sanctions from fellow students inhibit plagiarism. Moral discomfort (bad conscience) and feelings of embarrassment when detected seem not to be a discouraging factor. However, the expected costs of teachers’ sanctions are likewise enhancing students’ individual willingness to plagiarize. An explanation may be that in case of lack of authority of a teacher threatening with hard sanctions, students may develop an attitude of reactancy (see Brehm and Behm, 1981). Another explanation may a “crime as play” (Richards et al., 1979) scenario, where students knowing the probability of being caught is low, play a kind of game with teacher showing the threats do not hurt them. This culturally embedded dissidence against an established, but questioned, order or authority may have its roots in Polish long experience of foreign domination (compare Morawska, 1984).

Research question 3: Explaining sample-related variances of the average willingness to plagiarize with respect to trust-related differences regarding expected utilities and costs of plagiarism

The third research question focuses on the perceived costs and utilities of plagiarism as an explanatory variable of the willingness to plagiarize. Furthermore, it is researched
Figure 7. Willingness to plagiarize and generalized trust within the Polish, German, and Danish student sample

whether the costs and utilities themselves are influenced by the level of generalized trust. These issues are analysed with use of multiple linear regression analysis in combination with the construction of interaction effects.

While three samples are included in the analysis, only two causal paths are considered for the reason that the three sample-affiliations together constitute somehow a decomposed ordinal scale of generalized trust, wherein the lowest manifestation, in our case affiliation to the Polish student samples, has to serve as a reference category. We first tried to calculate the independent effect of the level of generalized trust on the individual willingness to plagiarize. Then it was investigated whether the influence of the sample-affiliation as an aggregated variable on the willingness to plagiarize within the analytical frame of multivariate regression analysis loses significance when we additionally include individual cost-utility-reflections into the statistical model. If this were the case, this would support the assumption of methodological individualism that the origin of macro-phenomena can be explained by the utility-oriented actions of individual actors.

Results of the regression analyses are documented in figures 11.1 and 11.2. The standardized regression coefficients shown in Fig. 11.1 confirm the earlier presented findings.
that the level of generalized trust influences the average willingness to plagiarize. The higher the level of such trust, the lower is the willingness to plagiarize. This effect is stronger for the Danish sample, featured by a higher level of generalized trust. A share of 9.9 per cent of the observed variance regarding the willingness to plagiarize can be explained by the aggregated level of trust within the students’ environment.

Analysing expected utilities and costs of plagiarism into the regression model (Fig. 11.2), only bad conscience and administrative sanctions seem to influence the willingness to plagiarize. Under control of behavioural orientations (anticipated utilities and costs) the influence of generalized trust on willingness to plagiarize within the given multivariate model decreases.

Generalized trust and behavioural expectations within this multivariate regression model explain 22.4 per cent of the variance of the dependent variable. However, although cost and benefit considerations decrease the strength of influence of generalized trust, which is visible in the German medium-trust case, in the Danish high-trust sample, within the multivariate main effect model, it remains an independent predictor of plagiarism. This indicates, corresponding to basic assumptions of methodological individualism, that macro-influences of aggregated generalized trust within students’ environment are partly mediated by the behavioural expectations.
When trying to explain why the macro influence of generalized trust on the willingness to plagiarize cannot be explained by the behavioural expectations of actors, it should be kept in mind that one variable, the expectation of administrative sanctions, reversely influences plagiarism within high- and low-trust settings. Such a reverse and context-dependent effect was not included in the main model of regression used in earlier analysis. In order to do this, the effect has to be included into the linear additive regression model multiplicative terms, allowing for the reconstruction of interaction effects between independent variables (compare Jaccard and Turrisi, 2003). This allows for statistical analysis whether behavioural expectations partial out the independent macro effect of generalized trust on the willingness to plagiarize. If this would be the case, this would support the considerations discussed earlier that not only, like methodological individualism postulates, phenomena such as plagiarism, crimes, fashions and economic crises can be explained by utility maximizing behaviour of individual actors within a social context, but that also cultural factors and internalized values provide incentives for individual action.

The estimation results of the linear regression are presented in Table 2, showing the standardized regression coefficients of all regression models that have been estimated with data of the total sample. These data allow for analysing the question whether

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As suggested by Allison (1998, p. 168), while including interaction effects within a given regression model, the main effects of all relevant variables are kept within the model even when they are producing problems of multicollinearity (indicated e.g. by variance inflation factors > 4). Otherwise regression estimations for the interaction terms could be strongly biased. However Allison likewise stresses that coefficients for main effects within regression models that likewise contain interaction effects should not be interpreted.
Figure 10.1. Regression of willingness to plagiarize on perceived utilities and costs of plagiarism among Opolian students (low-trust-sample)

Figure 10.2. Regression of willingness to plagiarize on perceived utilities and costs of plagiarism within the Odensian student sample (medium-trust-sample)
the macro level effects of generalized trust lose statistical significance or not when controlling for both: the main effects of behavioural expectations on the micro-level of investigation and the macro-micro-interactions described above. It turns out that the macro-level effects lose significance when interaction effects both for utility- and cost-related expectations regarding the consequences of plagiarism are included. This confirms our assumption that the generalized level of trust within a population, besides situational incentives, is an important contextual factor for behavioural orientations of actors and for individual action.

However, the regression results confirming this assumption have been estimated with the so-called listwise-mode of analysis, denoting a mode of multivariate analysis excluding all cases from statistical estimation where just one of the variables included in the model has a missing value. Although in literature this method is strongly recommended, a problem is that its application sometimes involves a great loss of cases to be analysed, in particular when variables are included into the multivariate model which themselves exhibit a great number of missing values (see Reinecke, 2005). Thus, the sample size used for estimating the model coefficients is the more reduced the more variables have been included in the model. As a consequence, the sample size that could be used to estimate the coefficients is not even half as large as the initial sample size. Since the significance of coefficients strongly depends on sample size and since of course the size of coefficients strongly depends on variation of data.

Figure 10.3. Regression of willingness to plagiarize on perceived utilities and costs of plagiarism within the Nordhausen student sample (high-trust-sample)
Total Sample, Main Effects (Standardized Coefficients)

adj. $R^2_{\text{total}} = 0.099$

$n$ (listwise) = 1117

-0.317***

Denmark (high-trust-sample)

-0.208***

Poland (low-trust sample)

Willingness to plagiarize

-0.365***

0.141***

Germany (medium-trust sample)

Good Grade

Transaction gains of plagiarism

Bad Conscience (negative „Utility“)

Administrative sanctions

Fellow students sanctions

Teachers sanctions

Embarrassment (Internal Sanction)

Figure 11.1. Regression of willingness to plagiarize on generalized trust in respondents environment, measured on an aggregate level by respondents affiliation to a country-specific student sample.

Total Sample, Main Effects (Standardized Coefficients)

adj. $R^2_{\text{total}} = 0.224$

$n$ (listwise) = 694

-0.182***

Denmark (high-trust-sample)

0.365***

0.141***

Poland (low-trust sample)

Willingness to plagiarize

0.141***

Germany (medium-trust sample)

Good Grade

Transaction gains of plagiarism

Bad Conscience (negative „Utility“)

Administrative sanctions

Fellow students sanctions

Teachers sanctions

Embarrassment (Internal Sanction)

Figure 11.2. Regression of willingness to plagiarize on generalized trust in respondents environment, measured on an aggregate level by respondents affiliation to a country-specific student sample, and on individual utility-costs-reflections upon possible consequences of plagiarism.
and correspondingly on the composition of a given sample, there exists the risk that the findings documented above may be a statistical artefact.

**Conclusion**

In this paper, cultural variations regarding the perceived utilities and costs of plagiarism have been the topic of investigation. Survey results were presented in order to deal with the three research questions focused on the influence of the level of generalized trust in the average willingness to plagiarize, the influence of generalized trust on the average perceived costs and utilities of plagiarism and the influence of country-specific perceptions of the costs and utilities on the aggregated frequency of plagiarism.

The results of the survey indicate that there exist significant differences regarding both the frequency of plagiarism and the willingness to plagiarize between high-trust-, medium-trust- and low-trust-populations. Furthermore, the higher the level of generalized trust, the lower is the willingness to plagiarize. In particular in the high-trust case, moral costs of plagiarism seem to increase, reducing the willingness to plagiarize. There also seems to be a reverse effect of administrative sanctions within high-trust- and low-trust-populations. It is remarkable that in the high-trust case the threat of administrative sanctions does not prevent but provoke deviance. The opposite is true for low-trust-populations, where administrative sanctions have a preventing effect on plagiarism. A third result from regression analysis is that differences in the willingness to plagiarize can be explained by the activity of utility-oriented actors under circumstances of varying social and cultural structure. The level of generalized trust seems to have a strong influence on the perceived moral costs of plagiarism, preventing the appearance of such opportunistic behaviour.

However, the results of the research have to be interpreted with care. First of all, the comparisons made are based on case studies in Poland, Germany and Denmark. Thus, the outcomes cannot be extrapolated for the whole countries’ student population, and comparison with data from other or new surveys is necessary. Second, regarding selected survey questions, non-response tended to be high, while missing data seeming not to be distributed randomly within the student samples. The listwise mode used to deal with this problem may lead to the risk of finding a statistical artefact. More research is required to confirm or reject the findings. Third, in particular German and Polish students did not answer questions regarding the observed frequency and the administrative treatment of plagiarism. Thus, differences found regarding generalized trust may not be the result of country-specific cultural structures, but by the organizational environment. To deal with this issue, research within randomly selected universities in the countries in question is required. Fourth, due to the limited number of universities researched as a consequence of economic limitations, multilevel analysis in a strong sense could not be conducted, which could lead to a bias on the coefficient estimates.

Although there are limitations to the study, some conclusions can be drawn which may be useful for the creation of policy for preventing plagiarism. First, administrative sanctions may not be such an effective mean in fighting plagiarism. Especially in a high-trust setting, they even may lead to counterproductive behaviour. Second,
Table 2

*Linear regression (listwise) of willingness to plagiarize on main effects of generalized trust and behavioural expectations and interaction effects of behavioural expectations with generalized trust*

<table>
<thead>
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<th>Generalized trust</th>
<th>Listwise</th>
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<tr>
<td></td>
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<tr>
<td>High-trust-sample (Dnmk)</td>
<td>-0.317***</td>
<td>-0.161***</td>
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<tr>
<td>Medium-trust-sample (Ger)</td>
<td>-0.208***</td>
<td>-0.038</td>
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<td>Low-trust-sample (PL) (Reference)</td>
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<td>Good Grade</td>
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<td>0.125***</td>
<td>0.141***</td>
<td>0.520***</td>
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<tr>
<td>Fellow Students Sanction</td>
<td>0.165***</td>
<td>0.304***</td>
<td>0.096 V</td>
<td>0.133 V</td>
<td>0.141**</td>
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<tr>
<td>Teachers Sanctions</td>
<td>-0.033</td>
<td>-0.085 V</td>
<td>0.059</td>
<td>0.051 V</td>
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<tr>
<td>Embarrassment</td>
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<td>0.016</td>
<td>-0.356***</td>
<td>-0.343*** V</td>
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*** p ≤ 0.001, ** p ≤ 0.01, * p ≤ 0.05 and † p ≤ 0.10
V: Variance Inflation Factor > 4 (problem of multicollinearity)
Source: Own Computations
self-conscience seems to have a larger impact within a high-trust setting. Student self-governing like the introduction of a moral code and student honour boards may improve self-conscience (McCabe and Trevino, 1993; McCabe et al., 1999; McCabe et al., 2001), but without the existence of generalized trust, the effectiveness may be limited.

References


Cressey, Donald R. (1971, orig. 1953) Other people’s money: a study of the social psychology of embezzlement. Belmont


Workshop-Presentation at the conference “Mastering the challenges in higher education: considering the way students learn, cheat and enhance performance”, 07–09 February 2012, Bielefeld, Germany.

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