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Using Expectancy Theory to Assess Group-Level Differences in Student Motivation: A Replication in the Russian Far East

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ABSTRACT: We replicate and extend previous studies examining expectancy theory, accounting student motivation, and cultural differences (Harrell et al. 1985; Geiger and Cooper 1996; Geiger et al. 1998). Using a within-persons decision modeling approach, individuals from four Russian accounting student groups were analyzed to determine whether group subcultures affect individual motivation and effort decisions. We find significant differences across individuals in different groups regarding the relative influences of three potential motivators: improving overall grade-point average, increased personal satisfaction, and increased esteem within the group. Regarding the students' effort-level decisions, we find no evidence of group-level differences. Overall, our evidence indicates Russian accounting students tend to value expectancy over valence in making their effort decisions; however, this finding is, in part, due to gender differences.

Data Availability: Access to the data will be provided upon approval by the appropriate administrators at the Khabarovsk State Academy of Economics and Law.

INTRODUCTION

In a recent cross-cultural study of accounting student motivation, Geiger et al. (1998) present strong evidence suggesting students from different nations are motivated differently and weight differently the expectancy of success when deciding to exert academic effort. National culture and student motivation have been linked, but is this the limit of cultural influence? Hofstede (1991, 10) observed, "As almost everyone belongs to a number of different groups and categories of people at the same time, people unavoidably carry several layers of mental programming within themselves, corresponding to different levels of culture." At one level is the national culture, but lower levels of culture also exist, including a regional and/or ethnic and/or religious level, a gender level, a generation level, a social class level, and an organizational level (Hofstede 1991). In this study we investigate the relationship between student group subcultures and individual student motivation.

The American Accounting Association (AAA) has committed itself to pushing the frontier of knowledge into the international realm "to determine the ability to generalize research findings on an international scale, determine where differences lie and how they should influence accounting education." (See Wallace 1996, 111.) This study advances this theme by replicating, with Russian

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accounting students, the research designs of Harrell et al. (1985), Geiger and Cooper (1996), and Geiger et al. (1998). These studies employ Vroom's (1964) expectancy theory and a within-persons decision modeling method to examine individual accounting student motivation.

What distinguishes this study from earlier accounting student motivation studies is its focus on student group subcultures. Russian orthodox culture values the social group and in Russian universities group-based learning is central to the educational experience. For example, accounting students in Russian universities spend their entire five years of study in assigned student groups, attending all classes by group and engaging in recreational and social activities by group. Grouping students within academic disciplines has a long history in Russia. "After periods of experimentation during the first decades after the revolution, the Soviets implemented a highly centralized, standardized, and traditional educational system in 1934 that has remained roughly intact since then." (See Gerber 2000, 221.)

We find significant differences across individuals from different student groups regarding the relative influences of three potential motivators: improving overall grade-point average (GPA), increasing personal satisfaction, and increasing esteem within the group. Our evidence indicates improving overall GPA is the dominant motivator for most Russian accounting students and is particularly influential among individuals from groups containing larger proportions of academically distinguished students. We find no evidence of gender differences in motivator preferences. Our evidence further suggests Russian accounting students tend to focus on the expectancy of success rather than the attractiveness of success in making their effort-level decisions; however, this result appears due, in part, to gender differences and the predominance of women in Russian university accounting programs. We find no evidence of group-level differences in individual effort-level decisions.

The remainder of this paper is organized as follows. First, a brief overview of the Russian system of higher education is provided. This is followed by discussions of Vroom's (1964) expectancy theory, the research hypotheses, and the within-persons decision modeling method. The results are then presented, and finally, we summarize our findings and present our conclusions.

THE RUSSIAN SYSTEM OF HIGHER EDUCATION

A college education is highly valued in Russian society and competition for entry into Russian universities is very strong (Pervova 1997). Admissions tests vary by discipline and generally consist of a written exam in composition/literature, a written exam in math, and an oral exam in math. The results of these admissions tests and the students' secondary school grades are used by the Dean of Students to place entering students into groups according to their academic discipline. The group, which usually ranges in size from 20 to 50 students, becomes the central feature of the student's academic and social life. Classes are scheduled by group and recreational activities are organized by group. "It's still a Soviet system, where you can't choose any of your subjects, where you enter a department instead of the university. You enter and they give you a list of subjects that you must study." (See MacWilliams 2001, A45.)

Accounting is an attractive course of study in Russian universities because, relative to most other disciplines, accounting graduates have good employment prospects. Accounting is also perceived as a female occupation in Russia and most accountants, accounting professors, and accounting students are women. For example, women comprised the entire accounting department faculty at the Khabarovsk State Academy of Economics and Law, the setting for this study, and 81 percent of our student participants were female. Hofstede (1991, 80) makes the following observation regarding gender and employment:

Which behaviors are considered "feminine" or "masculine" differs not only among traditional, but also among modern societies. This is most evident in the distribution of men and women over certain professions. Women dominate as doctors [and accountants] in the Soviet Union, as dentists in Belgium, as shopkeepers in parts of West Africa. Men dominate as typists in Pakistan and form a sizeable share of nurses in The Netherlands.

Another salient feature of Russian higher education is the prominence of extrinsic incentives such as grades. In most accounting courses the final course grade is determined by a two-part final exam consisting of a written test of accounting practice and an oral test of accounting theory. A student's grades often determine the amount of financial support the student receives while in school and whether the student receives a red or a blue diploma upon graduation. A red diploma is more prestigious as fewer than 10 percent of all graduates receive red diplomas. Traditionally, Russian university students have had a strong economic incentive to get high grades. Under the old Soviet system, the Dean of Students, with the involvement of the Communist Party, assigned each student a job after graduation and the color of one's diploma was an important factor in determining the quality and location of that first job assignment.

VROOM'S EXPECTANCY THEORY

Valence Model

Vroom's (1964) expectancy theory provides a basis for assessing student motivation in the emerging market economy of post-Perestroika Russia. Have student expectations concerning future employment been lowered to the point they no longer see a connection between performing well in school and their ability to get a good job after graduation? If this is the case, then what is the impact on individual student motivation? Expectancy theory provides insight into individual student motivation by employing two component models—the valence model and the force model.

The valence model captures the perceived attractiveness, or valence, of achieving a primary outcome by aggregating the valences of associated second-level outcomes. In this study, the valence of academic success, a first-level outcome, is determined by summing the valences of three related second-level outcomes: improving overall GPA, increased personal satisfaction, and increased esteem within the group. Thus:

$$V_j = \sum_{k=1}^n (V_k I_{jk})$$

where:

V_j = the valence of the first-level outcome;

V_k = the valence of the second-level outcome;

I_{jk} = the perceived instrumentality, or belief, that V_j will lead to V_k ; and

n = the number of potential second-level outcomes.

Force Model

The force model of expectancy theory maintains the motivational force influencing a person to act is equal to the valence of the first-level outcome multiplied by the expectancy that the act will result in the first-level outcome. Thus:

$$F_i = (E_{ij} V_j)$$

where:

F_i = the motivational force to perform act i ;

E_{ij} = the expectancy that act i will result in outcome j ; and

V_j = the valence of outcome j .

In Russia, grades range from 1 to 5, with 5 being the highest mark. The force model implies the motivational force required to earn a grade of 5 is determined by the attractiveness (valence) of earning a 5 and the expectancy that a particular level of effort will result in this outcome.

RESEARCH HYPOTHESES

Every person possesses certain patterns of thinking, feeling, and acting that are learned over a lifetime. Hofstede (1991) calls such patterns of thinking, feeling, and acting *mental programs*. The sources of an individual's mental programs lie not so much in the individual personality, but rather in the social environments in which the individual grew up as well as the individual's collected life experiences. The term commonly used to describe this mental software is *culture*, which Hofstede (1991, 5) defines as, "the collective programming of the mind which distinguishes the members of one group or category of people from another." Cultural programming starts within the family and continues in the neighborhood, at school, in youth groups, in the workplace, and in the living community.

The present study investigates differences in accounting student motivation at the group subculture level. Hofstede (1991, 182) contends organizational practices, such as grades and grade-point averages, are learned through socialization at school or the workplace, and "*shared perceptions of daily practices* should be considered to be the core of an organization's culture" (emphasis in original). If perceptions of organizational practices such as grades and grade-point averages are formed by student group subcultures, then we would expect to find group-level differences in the weights attached to the second-level outcomes in the valence model. Thus:

H1: The weights attached to the second-level outcomes in the valence model will differ across student groups.

Our second hypothesis examines whether groups having larger numbers of academically distinguished students attach more weight to GPA as a potential motivator. Several recent empirical studies involving college students find those students adopting performance goals, such as attaining a higher grade-point average, achieve higher levels of performance versus students adopting mastery goals or work avoidance goals (Harackiewicz 1997, 2000; Elliot and Church 1997; Church et al. 2001). Harrell et al. (1985) also present evidence suggesting a student's motivation to strive for a high grade is positively correlated with past academic performance. The strong association between a performance goal orientation and actual academic achievement implies the following hypothesis:

H2: Student groups having larger proportions of academically distinguished students will place greater emphasis on improving overall grade-point average as a second-level outcome, relative to groups with lower proportions of academically distinguished students.

The third and fourth hypotheses concern the relative influences of expectancy and valence described by the force model. Geiger et al. (1998) find the force model accurately describes students' effort-level decisions across national cultures. In most countries they found the valence of academic success dominates the expectancy of academic success in motivating academic effort (valence dominance). Students from only one nation, Singapore, placed more emphasis on expectancy, while students from nine other nations placed greater emphasis on valence. Our third hypothesis examines whether Russian accounting students fit the general pattern of being more valence-oriented in their effort-level decisions. Thus:

H3: The perceived valence of increasing a course grade will motivate Russian students more than the expectancy of increasing a course grade.

The fourth hypothesis examines whether the weights placed on valence and expectancy in the force model differ across student groups. Geiger et al. (1998) find the relative influences of expectancy and valence differ at the national culture level. However, the sources of mental programming for national culture and organizational culture are not the same according to Hofstede (1991, 182), who theorizes national cultural differences reside mostly in basic values, while organizational

cultural differences reside mostly in practices. If the relative influences of expectancy and valence are determined by basic values rather than organizational practices, then we would expect significant differences in weighting at the national culture level, but not at the organizational subculture level. Thus:

- H4:** The weights placed on expectancy and valence in the force model will not differ across student groups.

RESEARCH METHOD

The within-persons decision modeling method developed by Stahl and Harrell (1981, 1983) uses multiple decision-making cases to determine the influence of second-level outcomes in the valence model. The three second-level outcomes are manipulated at two levels, low (10 percent) and high (90 percent); and the expectancy of success is manipulated at three levels, low (10 percent), moderate (50 percent), and high (90 percent). This results in 24 decision cases, with each case presenting a unique mix of probabilities. A sample case from the decision exercise is presented in Exhibit 1.

In this study we replicate the original research design of Harrell et al. (1985) by examining the following three second-level outcomes: (1) increasing overall GPA, (2) increasing esteem in the eyes of classmates, and (3) obtaining a strong feeling of personal satisfaction. The later studies by Geiger and Cooper (1996) and Geiger et al. (1998) modify this original design by removing "increasing esteem in the eyes of classmates" from the model and replacing it with "allowing one to perform at a superior level in his/her initial post-college job." This modification is based on the work of Hayamizu and Weiner (1991), who examine the achievement goals of college students in the United States.

Our decision to replicate the original research design of Harrell et al. (1985) was based on focused interviews with Russian accounting students who did not participate in the decision exercise. These interviewees indicated "allowing one to perform at a superior level in the initial post-college job" would not motivate many of today's Russian accounting students. Citing current economic conditions in Russia, the interviewees maintained Russian students were so concerned with getting a job after graduation that they give little if any thought to post-graduation job performance. Abolishing the mechanism of central planning has broken the artificial link between higher education and the labor market (Tomusk 1998, 132). Conversely, "increased esteem in the eyes of classmates" was viewed by our interviewees as having potentially strong motivational force for some Russian students. The other two second-level outcomes in the valence model, "an improved overall GPA" and "increased personal satisfaction," are well established in the literature and were confirmed as potentially strong motivational influences by our interviewees.

In this study, both written and oral instructions were given to four groups of Russian accounting students at the time the decision exercise was distributed. All groups completed the decision exercise during normal class time and were approximately two-thirds of the way through the semester at the time it was administered. The student participants were instructed to assume they were halfway through an accounting course and were currently earning a grade of 4. The first decision in Exhibit 1 asks the student to indicate the overall valence (attractiveness) of increasing the grade of 4 to a grade of 5. The second decision in Exhibit 1 asks the student to indicate the level of effort he or she would be willing to exert in attempting to increase the grade, given the valence of the first decision and a given probability of success. The 24 decision cases were randomly ordered to reduce possible response bias.

The four groups of student participants ($n = 154$) were third-, fourth-, and fifth-year accounting students attending the Khabarovsk State Academy of Economics and Law, in Khabarovsk, Russia. The first group contained third-year accounting students ($n = 43$), the second group contained fourth-year accounting students ($n = 37$), and the third ($n = 38$) and fourth groups ($n = 36$) contained fifth-year accounting students. A summary of grade-point distributions by group is presented in Table 1.

EXHIBIT 1
Sample Case from the Set of 24 Decision Cases

<u>Model Elements (not on instrument):</u>	If you receive a 5 in this course, the likelihood this will result in:																																	
Second-Level Outcomes (V _i)	...increased esteem in the eyes of your classmates is LOW (10%)^a ...a strong feeling of personal satisfaction is HIGH (90%) ...an improved grade point average is LOW (10%)^b																																	
Valence of First-Level Outcomes (V _i)	DECISION A. With the factors and likelihoods shown above in mind, indicate the attractiveness of receiving a 5 in this course. -5 -4 -3 -2 -1 0 +1 +2 +3 +4 +5 Very Unattractive Attractive Very																																	
Expectancy of Success (E _{ij})	FURTHER INFORMATION. If you exert a great study effort during the remainder of this semester, the likelihood you will earn a "5" in this course is HIGH (90%) . DECISION B. With the attractiveness and likelihood information in mind, indicate the study effort you will exert for this course during the remainder of the semester.																																	
Motivational Force (F _i)	<table border="0" style="width: 100%; text-align: center;"> <tr> <td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td><td>9</td><td>10</td><td>11</td> </tr> <tr> <td>Low</td><td></td><td></td><td></td><td></td><td>Average</td><td></td><td></td><td></td><td>Great</td><td>Effort</td> </tr> <tr> <td>Effort</td><td></td><td></td><td></td><td></td><td>Effort</td><td></td><td></td><td></td><td></td><td></td> </tr> </table>	1	2	3	4	5	6	7	8	9	10	11	Low					Average				Great	Effort	Effort					Effort					
1	2	3	4	5	6	7	8	9	10	11																								
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^a Earning a 5 in this particular course is not likely to enhance your reputation in the eyes of your classmates.

^b It seems likely that so much effort is required to earn a 5 in this course that doing so means your grades in other courses will suffer, resulting in no improvement in your grade point average.



RESULTS

In this section we report evidence of what motivates Russian accounting students to strive for academic success and exert academic effort. To implement the within-persons design, individual regression models were calculated for each student using his or her first-level valence decision as the response variable and the probabilities associated with the three second-level outcomes as explanatory variables. Table 2 shows that the percentage of students with significant individual regression models was consistently high across all four student groups. Eighty-six percent, or 133 of the 154 student participants, had statistically significant individual valence models. Of these, 108 were female and 25 were male.

Hypothesis 1

The first hypothesis proposes the valence model weights associated with the three second-level outcomes would differ across the four student groups. To examine this hypothesis we tested the standardized beta weights attached to the second-level outcomes in the valence model. The standardized beta weight provides a measure of the valence each student placed on a particular second-level outcome.

A summary of the individual valence model results is presented in Table 3 for those students with significant valence models. Table 3, Panel A, reveals substantial differences between groups in the mean standardized beta weights associated with the three second-level outcomes. For example, the mean standardized beta weights for increasing overall GPA (GPA) were 0.76 for Group 1 versus 0.40 for Group 2; the mean standardized beta weights for increasing personal satisfaction (SAT) were 0.12 for Group 1 versus 0.45 for Group 3; and the mean standardized beta weights for

TABLE 1
Summary of Student Grade Point Averages (GPA)

	Number of Students with GPAs Ranging from:			
	3.0–3.5	3.5–4.0	4.0–4.5	4.5–5.0
Group 1	1	11	12	19
Group 2	0	11	14	12
Group 3	0	4	14	20
Group 4	<u>1</u>	<u>6</u>	<u>17</u>	<u>12</u>
Total	<u>2</u>	<u>32</u>	<u>57</u>	<u>63</u>

TABLE 2
Composition of Sample

Group Number	Year in School	Age Range	Number of Students	Females	Males	Students with Significant Valence Models
1	3	18–22	43	36	7	37 (86) ^a
2	4	19–23	37	32	5	31 (84)
3	5	19–22	38	32	6	33 (87)
4	5	20–23	<u>36</u>	<u>26</u>	<u>10</u>	<u>32 (89)</u>
Total			<u>154</u>	<u>126</u>	<u>28</u>	<u>133 (86)</u>

^a Percent of students with significant valence models.

TABLE 3
Summary of Significant Individual Valence Model Results

Panel A: Group Results

	<u>Group 1</u>	<u>Group 2</u>	<u>Group 3</u>	<u>Group 4</u>
R ² (adj.)	.64	.74	.66	.76
GPA	.76 (24) ^a	.40 (13)	.68 (20)	.57 (21)
SAT	.12 (9)	.38 (13)	.45 (12)	.16 (5)
EST	-.13 (4)	.05 (5)	-.34 (1)	.12 (6)

Panel B: Gender Results

	<u>Male</u>	<u>Female</u>
R ² (adj.)	.74	.69
GPA	.57 (16) ^a	.62 (62)
SAT	.24 (6)	.28 (33)
EST	.01 (3)	-.01 (13)

^a Number of students having their highest standardized beta weight for this variable.

GPA = mean standardized beta weight for grade point average; SAT = mean standardized beta weight for personal satisfaction; and EST = mean standardized beta weight for esteem within the group.

increasing esteem within the group (EST) were 0.12 for Group 4 versus -0.34 for Group 3. To test whether the differences in standardized beta weights were statistically significant, we performed an unbalanced ANOVA in which the standardized beta weights for the second-level outcomes were dependent variables and the student group was the independent class variable. This analysis indicated statistically significant differences across individuals from different groups regarding the motivational influence of GPA ($p < .05$), EST ($p < .0001$) and SAT ($p < .05$).

Correlation statistics (not reported) suggest students in all groups considered the three second-level outcomes independent constructs and, consistent with the results of Harrell et al. (1985), Geiger and Cooper (1996), and Geiger et al. (1998), generally exhibited strong negative correlations among second-level outcomes. Not one student participant maintained equal weights across all three second-level outcomes and only a few students maintained equal weights across two second-level outcomes. As in the earlier studies, most students appear to have selected their preferred motivator to the relative exclusion of the other two.

No previous study of accounting student motivation has reported evidence of a gender bias; however, studies involving nonaccounting students have found evidence of gender differences in achievement motivation, goals, and classroom performance (Harackiewicz et al. 1997; Powell and Johnson 1995; Meece and Holt 1993; Spence and Helmreich 1983). Gender bias was a concern in the present study because 81 percent of the student participants were female. Males were a minority in all four student groups constituting 16 percent of students in Groups 1, 2, and 3, and 28 percent of students in Group 4. Table 3, Panel B, indicates the mean standardized beta weights for the three second-level outcomes differed only slightly by gender. To test the relationship between gender and motivational influence we ran unbalanced ANOVA in which the standardized beta weight for the second-level outcome was the dependent variable and gender was the independent class variable. We found no significant differences between males and females regarding the influence of GPA, SAT, or EST. The percentages of males and females having GPA, SAT, or EST as their most influential motivator also were similar: 64 percent of the males and 57 percent of the females indicated GPA was their most influential motivator; 24 percent of the males and 31 percent of the

females indicated SAT was their most influential motivator; and 12 percent of both males and females indicated EST was their most influential motivator. These findings suggest gender differences did not bias the group-level valence model results.

Hypothesis 2

The second hypothesis proposes groups having higher proportions of academically distinguished students would place more emphasis improving overall GPA as a potential motivator. Table 1 reveals Groups 1 and 3 had a relatively large number of academically distinguished students. Specifically, 44 percent of the students in Group 1 and 53 percent of the students in Group 3 had cumulative GPAs ranging from 4.5–5.0, while only 32 percent of the students in Group 2 and 33 percent of the students in Group 4 had cumulative GPAs in the 4.5–5.0 range. The second hypothesis implies students in Groups 1 and 3 will place more emphasis on improving overall GPA relative to the students in Groups 2 and 4.

The mean standardized beta weights reported in Table 3, Panel A, provide some insight into the relationship between academic achievement and the influence of GPA as a motivator. Groups 1 and 3, the high-performance groups, had mean standardized beta weights for improving overall GPA of 0.76 and 0.68, respectively, while Groups 2 and 4, the low-performance groups, had mean standardized beta weights for improving overall GPA of 0.40 and 0.57, respectively. To test for statistical significance, we ran an unbalanced ANOVA in which the mean standardized beta weight for improving overall GPA was the dependent variable and classification in either a high-performing group or low-performing group was the independent variable. We found statistically significant differences ($p < .01$) between individuals in high- and low-performing groups regarding the attractiveness of improving overall GPA as a motivator. These findings provide some support for the second hypothesis.

Hypothesis 3

The third hypothesis predicts the valence (attractiveness) of academic success will be more influential than the expectancy of achieving academic success in motivating Russian accounting students to exert academic effort. Harrell et al. (1985) and Geiger and Cooper (1996) find valence dominated expectancy in determining the effort-level decisions of accounting students in the United States, and Geiger et al. (1998) find valence dominance among accounting students in most of the national cultures they examined. Russian accounting students were expected to follow this general pattern; however, contrary to our expectations the force model results reported in Table 4 reflect expectancy dominance in the effort-level decision. Strong negative correlations were observed between valence and expectancy, indicating the participants generally focused on either valence or expectancy in arriving at their effort-level decisions. Of the 133 students with significant force models, 53 placed more weight on valence, while 80 placed more weight on expectancy.

A gender effect is responsible, in part, for the unexpected emphasis on expectancy. Sixty-five percent of the female participants were influenced more by expectancy compared to only 44 percent of the male participants. Panel B of Table 4 indicates for females the mean standardized beta weight for expectancy was higher than the mean standardized beta weight for valence. However, for males the mean standardized beta weight for valence was equal to the mean standardized beta weight for expectancy. These results suggest Russian female accounting students have a higher aversion to uncertainty than their male counterparts.

Hypothesis 4

The fourth hypothesis predicts the weights placed on valence and expectancy in the force model would not differ across the four student groups. Table 4, Panel A, shows the mean R^2 (adj.) statistics for the force model were high across all four student groups and the mean standardized beta weights

TABLE 4
Summary of Significant Individual Force Model Results

Panel A: Group Results

	<u>Group 1</u>	<u>Group 2</u>	<u>Group 3</u>	<u>Group 4</u>
R ² (adj.)	.89	.93	.92	.91
VAL	.44 (13) ^a	.48 (12)	.44 (11)	.53 (17)
EXP	.58 (24)	.55 (19)	.60 (22)	.48 (15)

Panel B: Gender Results

	<u>Male</u>	<u>Female</u>
R ² (adj.)	.91	.91
VAL	.51 (14) ^a	.46 (38)
EXP	.51 (11)	.57 (70)

^a Number of students having their highest standardized beta weight for this variable.

VAL = mean standardized beta weight for valence; and EXP = mean standardized beta weight for expectancy.

were also consistent across groups. The majority of students in Groups 1, 2, and 3 weighted expectancy more heavily than valence in their effort-level decisions. For Group 4, the mean standardized beta weight for valence slightly exceeded the mean standardized beta weight for expectancy. This result is likely due to Group 4 containing a larger proportion of males than the other three groups. To test for group-level differences in the emphasis placed on valence and expectancy, we performed an unbalanced ANOVA in which the standardized beta weights for valence and expectancy were the dependent variables and the student group was the independent class variable. We found no significant difference ($p = .33$) across groups in the importance of valence and no significant difference ($p = .23$) across groups in the importance of expectancy. These results support H4 and suggest the relative importance of valence and expectancy is not determined by organizational practices at the group subculture level.

SUMMARY AND CONCLUSIONS

In this paper, we use expectancy theory and a within-persons decision modeling approach to assess accounting student motivation in Russia. Four groups of Russian accounting students participated in the study. We find significant differences across individuals in different groups regarding the relative influences of three potential motivators: improving overall grade point average, increasing personal satisfaction, and increasing esteem within the group. Improving overall grade point average was a particularly dominant motivator for individuals in groups containing larger numbers of academically distinguished students. Contrary to the results of prior studies, we find no evidence of valence dominance in the Russian accounting students' effort-level decisions. Our evidence indicates most Russian accounting students tend to value expectancy over valence in their effort-level decisions; however, this finding is due, in part, to gender differences. We do not find differences across groups in the relative influences of valence and expectancy.

One limitation of our study concerns the causal relationship between the group-learning experience and individual motivation. Our student participants were not randomly assigned into groups, nor did they form groups voluntarily. Instead, group designations were imposed by a university administrator. Selection differences normally appear in such naturally occurring groups and the differences we observed may have been the result of preexisting differences rather than the group-learning experience, or some combination of these two factors.

Our evidence has implications for accounting educators and future research. For accounting educators the present study reinforces the basic conclusion of Geiger et al. (1998) that student motivation is culturally influenced and, therefore, cultural influences should be incorporated into any attempt to encourage students to exert academic effort. However, our results extend this conclusion by suggesting student group subcultures are probably more influential than national cultures in determining the valences of second-level outcomes. A theoretical rationale for this alternative interpretation is provided by Hofstede (1991), who maintains organizational practices (such as grading) determine organizational culture, while basic values determine national culture. Our evidence suggests the influence of a particular motivator is more a function of organizational practices than basic values. Thus, accounting educators might enhance student motivation by grouping similarly motivated students together and reexamining institutional norms such as grading practices.

Geiger et al. (1998) also concluded students from different countries placed significantly different emphasis on the probability of success in the force model. Our results suggest this conclusion is correct, as we found no significant group-level differences in the relative importance of valence and expectancy. The theoretical rationale provided by Hofstede (1991) is that the relative importance of valence and expectancy is a function of basic values determined at the national culture level. We leave the relation between other levels of culture and individual student motivation to future research.

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