Motivation in psychology learning education

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Abstract

Objectives. This study aims to identify the main motivation characteristics in the process of learning education in psychology students.
Material and methods. For this objective, a pre-experimental design based on a one-shot case study type was conducted. Data were collected from 41 psychology undergraduates enrolled at the Faculty of Medicine and Psychology of Autonomous University of Baja California. The pre-experiment was conducted in two parts: treatment and measuring. The treatment condition consisted in a twelve-hours classroom course with the subject matter *introduction to educational theories*. After the treatment was applied, motivational characteristics were recorded using the 31 items from the motivation section of the *Motivational Strategies for Learning Questionnaire*. For determining the results, the mean, mode, standard deviation, and relative standard deviation were analyzed.
Results. Findings suggest influence of intrinsic goal motivation, extrinsic goal orientation, task value, control of learning beliefs, and self-efficacy for learning and performance in the learning process, while anxiety seems to be a non-negative element in the motivational process for the students.
Conclusions. Psychology´s students showed motivational influence in different topics, mainly in motivation aspects related to intrinsic and self-motivation. Meanwhile, if well there exists differences by gender in specific items, these differences were not significant.

Keywords: psychology, motivation, and learning.

Introduction

Motivation study incorporates the expectation about student's learning and the role of teachers for inducting their students to engage in classroom activities (Brophy, 2004). Both views consider "learn to experience satisfaction in setting and working toward goals, acquiring new knowledge, developing their skills, satisfying their curiosity – in a word, learning" (Brophy, 2004, p.2).

Motivation in learning processes is one of the main factors for efficient education (Kim & W. Frick, 2011). Motivation in learning processes reveals that students need to take part in, and learn from a training activity (Garavan, Carbery, Grace, and David, 2010). These are valid affirmations for health care education, which includes physical and psychological education.

This study considers important to analyze the motivational factor in higher education because researches have demonstrated the importance of this factor in educational environments (Lemos, & Veríssimo, 2014; Artino Jr, & Stephens, 2009; Pintrich, 2003; Vansteenkiste, Lens, & Deci, 2006). Furthermore, motivation has demonstrated to be an important element for academic

achievement and important to increase the productivity in psychology students (Chraif, Anitei, & Andreea, 2012).

Due the little evidence about the impact of motivation in psychology learning education, this study aims to identify motivational elements in psychology students from the Faculty of Medicine and Psychology at the Autonomous University of Baja California, in México.

For this purpose, this study presents a pre-experimental design, *one-shot case study* type. Results support previous findings for motivation in educational environments for the majority scales measured by the *Motivational Strategies for Learning Questionnaire* (MSLQ) created by Pintrich, Smith, Garcia, and McKeachie (1991).

Results may be used by the Autonomous University of Baja California to develop better strategies to universities in classroom courses. Besides, this research may provide basic information to further investigation about motivation in higher education.

Theoretical Framework

First, it is necessary to define the concept of motivation. Broussard and Garrison (2004, p. 106) defined motivation as "the attribute that moves us to do or not to do something". This applies for motivation in higher education, achieving academic goals successfully. Furthermore, motivation involves a complex interaction between beliefs, perceptions, values, interests, and actions that are closely related (Lai, 2011).

The social-cognitive theory has supported several researches of motivational factors in learning environments (Artino Jr, & Stephens, 2009; Pintrich, 2003). Motivation in students allows developing abilities of self-regulation, which permits learning engagement by students in learning processes (Artino Jr., 2005).

Following the social-cognitive tradition, this research is based on the cognitive factors of motivation; consequently, motivation is considered as a process that involves students' goals and their beliefs about the importance and interest of the tasks over academic courses (Pintrich, & Groot, 1990).

Pintrich, Smith, Garcia, and McKeachie (1991) proposed the integration of six components in the motivational process: intrinsic goal orientation, extrinsic goal orientation, task value, control of learning beliefs, self-efficacy for learning & performance, and anxiety during the application of test. This study considered these elements, which are to be explained hereafter.

The positive impact of intrinsic and extrinsic motivation has been demonstrated by several studies (Lemos, & Veríssimo, 2014; Vansteenkiste, Lens, & Deci, 2006; Deci, & Ryan, 1985).

According to Chyun, Moll, and Berg (2010, p.25) *Intrinsic goal orientation* refers to "motivation that stems from primarily internal reasons (e.g. being curious, wanting to challenge, wanting to master the control)". This intrinsic goal orientation is closed linked to promoting short and long-term persistence (Vansteenkiste, Lens, & Deci, 2006).

Other important element in the motivational processes is the *extrinsic goal orientation.* This element is caused "by primarily external reasons (e.g., getting good grades, competing with others, and seeking approval or rewards)" (Chyun, Moll, & Berg, 2010, p.25), and reinforced by contingences (Lai, 2011).

Task value plays an important role in motivation from the cognitive perspective. It refers to student perception of interest, usefulness, cost, and importance of a task (Wigfield & Eccless, 2002). The task value also can influence the learning processes "value attached to different tasks also will influence activity choice; individuals may have positive efficacy expectations about certain tasks yet not engage in them because the task has little value for them" (Wigfield, & Eccles, 1992, p.9).

The *control of learning beliefs* has demonstrated to have an important impact in learning processes (Artino Jr., 2005). Control beliefs "are the expectations individuals have that they can produce desired events" (Eccles, & Wigfield, 2002, p.112). For instance, there exist two kinds of beliefs: *epistemological* and *pedagogical beliefs*. Epistemic beliefs refers to personal beliefs about knowledge and the acquisition of knowledge, which have the function to manage and to control actions (e.g. academic learning) (Dimov, et al., 2015; Hofer, & Pintrich, 1997), while pedagogical beliefs are related in passive and active knowledge adquisition (knowledge transmission and constructivism view respectively) (Dimov, et al., 2015). Both kinds of beliefs are important to improve classroom activities (Brunning, et al., 2004). Meanwhile, Pintrich (1999, p.462) suggests three types of belief in academic environments: "(a) self-efficacy beliefs (that is, judgments of one's capabilities to do the academic task), (b) task value beliefs (that is, beliefs about the importance of, interest in, and value of the task), and (c) goal orientations (that is, whether the focus is on mastery and learning of the task, grades or extrinsic reasons for doing the task, or relative ability in relation to social comparisons with other students)".

From the perspective of the self-perception, Bandura (1994, p.2) conceptualized self-efficacy as "people's beliefs about their capabilities to produce designated levels of performance that exercise influence over events that affect their lives". The importance of studying self–efficacy lies in that "self-efficacy beliefs determine how people feel, think, motivate themselves and behave" (Bandura 1994, p.2). This study is particularly interested about the motivational effects of self-efficacy. According to Bandura (1994), most human motivation is cognitively generated through three forms of cognitive motivators: *causal attributions* in which "people regard themselves as highly efficacious attribute their failures to insufficient effort, those who regard themselves as inefficacious attribute their failures to low ability" (Bandura 1994, p.5), *outcome expectancies* (outcomes produced by a given curse of action), and *cognized goals* (comparing goals and adopting goals and then create incentives to persist in the effort for achieve them).

Last, *anxiety* is an affective component in self-efficacy (Bandura, 1994); thereby it has a strong impact on the motivational process (Artino, 2005). "Perceived self-efficacy to exercise control over stressors plays a central role in anxiety arousal" (Bandura, 1994, p. 5). Furthermore, "people who believe they can exercise control over threats do not conjure up disturbing thought patterns. But those who believe they cannot manage threats experience high anxiety arousal. They dwell on their coping deficiencies. They view many aspects of their environment as fraught with danger" (Bandura, 1994, p. 5). Finally, the importance to consider the anxiety as affective factor in the motivational process of learning is because "anxiety arousal is affected not only by perceived coping efficacy but by perceived efficacy to control disturbing thoughts" (Bandura, 1994, p.5).

Material and methods

Subjects

The sample included 41 fourth grade students between 18-31 ages (15 males; age $M = 21.12$ years; and 26 females; $M = 20.74$) from the Faculty of Medicine and Psychology of the Autonomous University of Baja California, who were enrolled in the Psychology bachelor on the month of August 2015. The participants who took part in the study were rewarded with an extra point in a specific course in their current semester.

Procedure

This research represented a pre-experimental design, *one-shot case study* type. Therefore, the group of students participated in a treatment, which consisted in a twelve-hours course with the subject matter *introduction to educational theories*. The subject matter of the course is a general

topic in the psychology undergraduate level and it was not represented a particular importance for the study purposes, then, when the last session of the course finished, the outcome measure was answered for all participants, which consisted of the *motivation category* from the *Motivated Strategies for Learning Questionnaire* (MSLQ) (Pintrich, Smith, Garcia, & McKeachie, 1991).

Instrument

The full version of the MSLQ consists of 81 self-report items classified in two categories: 1) motivation section (31 items), and 2) learning strategies section (31 items to measure cognitive and metacognitive learning strategies, and 19 items to measure student management resources). The motivation section measures: intrinsic goal orientation, extrinsic goal orientation, task value, control of learning beliefs, self-efficacy for learning and performance, and anxiety perceived when students fulfill tests in a course. Following the main objective of this research, the motivation section was applied for a better understanding of the motivation in psychology learning education. For all items participants chose a number between 1 and 7 (1 = Not at all true for me, 7 = Very true for me).

Table 1. Scales, number of items, and sentences

Scale	Item number	Item
Intrinsic Goal Orientation	1	In a class like this, I prefer course material that really challenges me so I can learn new things.
	16	In a class like this, I prefer course material that arouses my curiosity, even if it is difficult to learn.
	22	The most satisfying thing for me in this course is trying to understand the content as thoroughly as possible.
	24	When I have the opportunity in this class, I choose course assignments that I can learn from even if they don't guarantee a good grade
Extrinsic Goal Orientation	7	Getting a good grade in this class is the most satisfying thing for me right now.
	11	The most important thing for me right now is improving my overall grade point average, so my main concern in this class is getting a good grade.
	13	If I can, I want to get better grades in this class than most of the other students.
	30	I want to do well in this class because it is important to show my ability to my family, friends, employer, or others.
Task Value	4	I think I will be able to use what I learn in this course in other courses.
	10	It is important for me to learn the course material in this class.
	17	I am very interested in the content area of this course.
	23	I think the course material in this class is useful for me to learn.
	26	I like the subject matter of this course.
	27	Understanding the subject matter of this course is very important to me.

	2	If I study in appropriate ways, then I will be able to learn the material in this course.
Control of Learning Beliefs	9	It is my own fault if I don't learn the material in this course
	18	If I try hard enough, then I will understand the course material.
	25	If I don't understand the course material, it is because I didn't try hard enough.
	5	I believe I will receive an excellent grade in this class.
	6	I'm certain I can understand the most difficult material presented in the readings for this course.
	12	I'm confident I can learn the basic concepts taught in this course.
Self-Efficacy for Learning & Performance	15	I'm confident I can understand the most complex material presented by the instructor in this course.
	20	I'm confident I can do an excellent job on the assignments and tests in this course
	21	I expect to do well in this class.
	29	I'm certain I can master the skills being taught in this class.
	31	Considering the difficulty of this course, the teacher, and my skills, I think I will do well in this class.
	3	When I take a test I think about how poorly I am doing compared with other students.
	8	When I take a test I think about items on other parts of the test I can't answer.
Test Anxiety	14	When I take tests I think of the consequences of failing.
	19	I have an uneasy, upset feeling when I take an exam.
	28	I feel my heart beating fast when I take an exam.

Results

Results have been inferring through the analysis of the motivation section from the MSLQ. Cronbach´s alfa was calculated to determine reliability of each scale of the questionnaire. Further, in this study was considered the higher and lower modes to identify significant values. For interpreting results, the mode (Mo) of each item was supported by means (M), and standard deviation (SD), which allowed to measure how spread out the values were respecting the means in each item.

A second stage of the analysis consisted in comparing genre (masculine vs. feminine) differences through analysis of means and relative standard deviations (RSD).

The findings showed high levels of reliability (above α = .75) for *Intrinsic Goal Orientation*, *Extrinsic Goal Orientation*, and *Task Value scales*, while lower levels of reliability were showed for *Control of Learning Beliefs*, *Self-Efficacy* for *Learning & Performance*, and *Test anxiety* (below α = .70).

Respecting *Intrinsic Goal Orientation* scale, items 16 (*Mo* = 7, *SD* = 1.37) and 22 (*Mo* = 7, *SD* = 1.35) appear as the highest modes. The meaningful modes for the *Extrinsic Goal Orientation* were for items 7 (*Mo* = 7, *SD* = 1.71) and 11 (*Mo* = 7, *SD* = 1.66), item 30 was considered due its standard deviation (*Mo* = 6, *SD* = 2.22). For the *Task Value* scale the mode 7 was showed for all items: 4 (*SD* = 1.26), 10 (*SD* = 1.26), 17 (*SD* = 1.45), 23 (*SD* = 1.10), 26 (*SD* = 1.40), and 27 (*SD* = 1.38). Regarding *Control of Learning Beliefs* scale, the representative modes were for items 2 (*Mo* = 7, *SD* = 1.42), 9 (*Mo* = 7, *SD* = 1.48), and 18 (*Mo* = 7, *SD* = 1.75). For the *Self-Efficacy for Learning Performance* scale the main items for analysis were 12 (*Mo* = 1, *SD* = 1.93), 21 (*Mo* = 7, *SD* = .99),

and 29 (*Mo* = 7, *SD* = 1.30). Last, for *Test Anxiety* scale, items 3 (*Mo* = 1, *SD* = 1.98), 8 (*Mo* = 1, *SD* = 1.81), and 28 (*Mo* = 1, *SD* = 2.23) were considered.

      Analysis of the RSD by genre showed differences between items 16, 24 for *Intrinsic Goal Orientation* scale, 7, 11 for *Extrinsic Goal Orientation*, 4, 10, 17, 23, 23, 26, 27 for *Task Value*, 2, 18 for *Control Learning Beliefs*, 5, 12, 21, 31 for *Self-Efficacy for Learning & Performance*, and 14, 19, 28 for *Test Anxiety* scale. Nevertheless, all means showed low significance (lower than *m* = 1.5).

Table 2. Modes, Mean, and Standard Deviation for each items. Cronbach's Alpha for each scale

Scale	Item	Mode	Mean	Std. Deviation	Cronbach's Alpha
Intrinsic Goal Orientation	1	5	5.40	1.24	0.80
	16	7	5.64	1.37	
	22	7	5.97	1.35	
	24	5	4.92	1.56	
Extrinsic Goal Orientation	7	7	5.32	1.72	0.76
	11	7	5.83	1.66	
	13	5	5.18	1.78	
	30	6	4.51	2.22	
Task Value	4	7	6.10	1.26	0.94
	10	7	6.45	1.08	
	17	7	5.59	1.45	
	23	7	6.28	1.10	
	26	7	5.79	1.40	
	27	7	5.92	1.38	
Control of Learning Beliefs	2	7	6.32	1.42	0.68
	9	7	5.82	1.48	
	18	7	5.82	1.75	
	25	6	5.10	1.35	
Self-Efficacy for Learning & Performance	5	6	5.43	1.20	0.69
	6	5	4.93	1.25	
	12	1	3.50	1.93	
	15	4	4.75	1.50	
	20	6	5.82	1.14	
	21	7	6.74	0.99	
	29	7	5.82	1.30	
	31	6	5.97	1.26	
Test Anxiety	3	1	3.13	1.98	0.70
	8	1	2.85	1.81	
	14	7	4.82	2.20	
	19	6	4.79	1.74	
	28	1	4.15	2.23	

Table 3. RSD by gender

Scale	Item	Mean	Std. Deviation	RSD	Mean	Std. Deviation	RSD
				Men		Woman	
Intrinsic Goal Orientation	1	5.33	1.18	0.22	5.44	1.29	0.24
	16	5.13	1.64	0.32	5.96	1.08	0.18
	22	5.53	1.64	0.30	6.26	1.05	0.17
	24	4.60	2.10	0.46	5.13	1.12	0.22
Extrinsic Goal Orientation	7	4.40	1.92	0.44	5.88	1.33	0.23
	11	5.33	1.95	0.37	6.12	1.42	0.23
	13	5.47	1.85	0.34	5.00	1.76	0.35
	30	4.00	2.45	0.61	4.83	2.06	0.43
Task Value	4	5.33	1.59	0.30	6.56	0.71	0.11
	10	6.00	1.41	0.24	6.72	0.74	0.11
	17	5.00	1.89	0.38	5.96	0.95	0.16
	23	5.80	1.47	0.25	6.58	0.65	0.10
	26	5.20	1.93	0.37	6.17	0.76	0.12
	27	5.00	1.56	0.31	6.50	0.88	0.14
Control of Learning Beliefs	2	5.67	2.09	0.37	6.72	0.54	0.08
	9	5.87	1.55	0.26	5.79	1.47	0.25
	18	5.40	2.26	0.42	6.08	1.32	0.22
	25	5.67	1.23	0.22	4.75	1.33	0.28
Self-Efficacy for Learning & Performance	5	5.00	1.51	0.30	5.68	0.90	0.16
	6	5.00	1.41	0.28	4.88	1.17	0.24
	12	4.27	1.87	0.44	3.04	1.86	0.61
	15	5.13	1.88	0.37	4.52	1.19	0.26
	20	5.67	1.50	0.26	5.92	0.88	0.15
	21	6.40	1.55	0.24	6.96	0.20	0.03
	29	5.27	1.53	0.29	6.17	1.01	0.16
	31	5.64	1.69	0.30	6.17	0.92	0.16
Test Anxiety	3	2.60	1.84	0.71	3.44	2.02	0.59
	8	2.80	1.66	0.59	2.88	1.92	0.67
	14	4.60	2.56	0.56	4.96	1.99	0.40
	19	4.07	1.90	0.47	5.21	1.53	0.29
	28	3.53	2.13	0.60	4.54	2.25	0.49

Discussion

Motivation in psychology students at the Autonomous University of Baja California seems to support previous research concerning to intrinsic goal orientation, extrinsic goal orientation, task value, control of learning beliefs, and self-efficacy for learning and performance.

In line with Lemos, and Veríssimo (2014), Deci, and Ryan (1985), *intrinsic goal orientation* in students concerns to material that challenges student to learning new things, and understanding of content as thoroughly as possible by students.

To get a good grade in the course, to improve overall grade point average, and to show off their academic ability to their family, friends, employer, etc., were *extrinsic goal orientation* items indicated by mostly of the students, in line with Chyun, Moll, and Berg's findings (2010).

Respecting *task value* scale, the results showed hard consistency with Wigfield and Eccles (1992), in such a way as student's motivation is related to: student's thinking about the learning of the course to be used in other courses, learning of (here I do not know what you want to put a substantive or a verb) course material, interest in the content of the course, utility of the course material for learning, interest on the subject matter, and the importance of understanding the subject matter of the course for the students.

Results about *control of learning beliefs* were in line with Artino Jr. (2005), Wigfield, and Eccles (1992), principally for the self beliefs about understanding the course material when they try enough; thinking if the students don't learn the material in the course is because of their own fault; and if the students understand the course material is because they tried hard enough.

On the other hand, *self-efficacy for learning and performance* scale is valid for students because they expected to do well and master the skills being taught in the course. However, the results don't support the suggestions made by Bandura (1994), because the majority of students referred disagree respecting their capability to learn only the basic concepts taught in this course.

Nevertheless, results showed contradictory findings for suggestions made by Artino Jr. (2005). Items related to think about how poorly they were doing compared with other students, thinking about items on other parts of the test they can't answer, and feeling heart beating fast when they take an exam, were not at all true for students.

Finally, gender differences were showed for certain items, but mean differences were below 1.5, this indicates a low significance for all items. This means that genre is not representative in motivation characteristics in classroom courses.

Conclusions

The findings of the present research show a positively impact of intrinsic goal orientation, extrinsic goal orientation, task value, control of learning beliefs and self-efficacy for learning & performance, and task value in psychology students from the Faculty of Medicine and Psychology at Autonomous University of Baja California, in México. Nonetheless, anxiety has not a significant impact in psychology students when they respond to tests.

This study found higher levels of reliability for *intrinsic goal orientation*, *extrinsic goal orientation*, and *task value* scales and lower levels of reliability for *control of learning beliefs*, *self-efficacy for learning & performance*. For its part, *task anxiety* might be tested under different conditions to delimitate better reliability values.

Finally, the present findings seek to stimulate future studies about motivation in healthcare education, providing methodological cues to create useful information to improve the learning process in psychology learning education and to improve the learning process in other health learning careers.

Recommendations

For stimulating future directions about motivation in psychology learning education, this study recommends future analysis using quasi-experimental and experimental designs. Furthermore, future studies might improve the methodology of this research on a larger population. Finally, future studies might consider qualitative methods for a deeper understanding of the motivational factor in higher education learning.

Acknowledgements

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