

Association and impact between moral development by depression and anxiety in university students in Mexico

Asociación e impacto entre desarrollo moral por depresión y ansiedad en estudiantes universitarios en México

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SUMMARY

Introduction: University students develop academic, emotional, and social skills, which allow them to moral development, however, they also present risk factors in mental health, which can be derived from educational, family, and compliance with social demands.

Objective: Compare the associations and impacts of the level of moral development with the levels of anxiety and depression in university students.

Methods: 115 undergraduate students from the faculty of social and human sciences participated. Through an observational, cross-sectional study, two scales were

applied: Beck and Hamilton, to measure depression and anxiety respectively, and a moral developmental level using the Defining Issues Test (DIT) instrument, adapted, and applied to university students through dilemmas with $\alpha = 0.80$.

Results: The findings show that students are mainly at the conventional level and students who are at the pre-conventional level have higher levels of depression and severe anxiety ($P=0.0001$).

Conclusions: Suggests that depression and anxiety can affect when the relationship of health and education is not considered. Therefore, educational institutions must address these aspects in their students to support their personal appreciation in actions and strengthening their health and ethical awareness in decision-making.

Keywords: Mental health, depression, anxiety, moral development, Mexico

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RESUMEN

Introducción: Los universitarios desarrollan habilidad académicas, afectivas y sociales, que permiten el desarrollo moral, sin embargo, también presentan factores de riesgo en la salud mental, que pueden derivarse por cuestiones educativas, familiares y el cumplimiento de exigencias sociales.

Objetivo: Comparar las asociaciones y el impacto del nivel de desarrollo moral con los niveles de ansiedad y depresión en universitarios.

Método: participaron 115 estudiantes de pregrado, de la facultad de ciencias sociales y humanas, mediante un estudio observacional, transversal, se aplicó dos escalas: de Beck y Hamilton, para medir la depresión

y ansiedad, y un nivel de desarrollo de desarrollo por medio instrumento *Defining Issues Test (DIT)*, adaptado y aplicado a estudiantes universitarios a través de dilemas con una $\alpha = 0,80$.

Resultados: *Los hallazgos demuestran que los estudiantes principalmente se encuentran en nivel convencional y los estudiantes que están en nivel preconvencional, tiene niveles más altos de depresión y ansiedad severa ($P=0,0001$).*

Conclusiones: *Se sugiere que la depresión y la ansiedad pueden afectar cuando no se consideran la relación de la salud y educación. Por lo tanto, las instituciones educativas deben abordar estos aspectos en sus estudiantes para apoyar su apreciación personal en acciones y fortalecimiento de la salud y la conciencia ética en la toma de decisiones.*

Palabras clave: *Salud mental, depresión, ansiedad, desarrollo moral, México.*

INTRODUCTION

Ethical issues in student universities and academic scandals were driven by unethical behaviors are never far away from the college. In the short term, such behaviors may increase academic notes. However, in the long run, a student with poor ethics tends to demonstrate weaker performance due to a poor reputation. Universities not only offer to teach to achieve an educational level; also, space for young people to develop a human, social and professional, where there are more than 220 million students around the world (1). University students are a key group for social and human development and decision-making in public policies (2). Kohlberg in his theory of moral development proposes 3 levels and 6 stages in which each person goes up in the period of growth of moral judgment that he reaches. In the moral stage in which the university student is, the understanding can be based on certain explanations of authority that have moral charges, the principles are not innate, they are acquired with the coexistence of the social environment, allowing to increase the levels of morality According to the interpretation of the rationing of principles, in the university students these can be improved and sometimes it can stagnate (3).

Students are vulnerable to mental health problems that include psychosocial risks, such

as those associated with academic stress and anxiety (4). On the other hand, students are often at the epicenter of empirical research in education or intelligence, because it requires a cognitive understanding of situations that involve moral decisions and an understanding of the duty to be, however, in recent years many have been associated with mental health (4-6). Although both, moral distress, and academic stress, have been identified as educational hazards for mental health care to vulnerable populations, that is, college students (7-9) little is known about the association between them. This unethical behavior can manifest itself as abuses of power, acceptance or payment of bribes, fraud, corruption, misrepresenting the truth, or abuse of confidentiality.

METHODS

The sample consisted of 115 students from the Faculty of Social and Human Sciences, enrolled in the first, second, third, and fourth semesters. Students were questioned the cross design and voluntarily, without incentives, via questionnaire. Methods were carried out in accordance with the World Medical Association Declaration of Helsinki. Study protocols, instruments, and consent documents were approved by the data-protection supervisor and head of ethics committee De La Salle Bajío University. He excluded ethical concerns of any kind (negative clearance certificate 14th September 2019). Students perceived an information document the week before the first questioning. Only data sets of students (all > 18 years) who gave informed consent were included in the data analysis.

Instruments ($a_{\text{all instruments}} > 0.80$) listed to assess mental health constructs for all two measurement points; depression, for the (BDI) Beck Depression Inventory (10) is a 21-item questionnaire. The items cover affective, cognitive, and major depression. A shorter version, the BDI-Fast Screen or BDI-FS, was adapted in Mexico. Each of the seven items (sadness, pessimism, past failure, anhedonia, self-dislike, self-criticalness, and suicidal ideation) is rated on a four-point scale ranging from 0 to 3. For anxiety was used (HAM-A) Hamilton Anxiety Rating Scale (11) is a clinician-based questionnaire; however,

being available in the public domain, it has been employed as a self-scored survey. It consists of 14 symptom-defined elements, and caters for both psychological and somatic symptoms, comprising anxious mood; tension (including startle response, fatigability, restlessness); fears (including of the dark/strangers/crowds); insomnia; 'intellectual' (poor memory/difficulty concentrating); depressed mood (including anhedonia); somatic symptoms (including aches and pains, stiffness, bruxism); sensory (including tinnitus, blurred vision); cardiovascular (including tachycardia and palpitations); respiratory (chest tightness, choking); gastrointestinal (including irritable bowel syndrome-type symptoms); genitourinary (including urinary frequency, loss of libido); autonomic (including dry mouth, tension headache) and observed behaviour at interview (restless, fidgety, etc.). Each item is scored on a basic numeric scoring of 0 (not present) to 4 (severe): >17/56 is taken to indicate mild anxiety; 25-30 is considered moderate-severe.

The DIT that used the short version, is composed of three stories, each story contains a moral dilemma, and three parts are presented for each one. In the first part, the participant answered a question asked in the context of the dilemma, with one of the three possible options (yes, undecided, no); that is, you must decide with moral implications. In the second part, you should read twelve statements and assign each one importance according to the scale "very important - no importance". The items are constructed according to Kohlberg's theoretical approach to moral development; Thus, some are of the pre-conventional level, others of the conventional level, and others of moral principles, also, items whose approach is oriented against the social system (A), and items of an irrelevant type (M), whose writing does not have a relationship with history. In part 3, it is asked to select four approaches that are considered to be of greater importance from the 12 presented in part 2 (in the context of each story), in such a way that they are ordered from the most important to the least important according to the criteria of the competitor (12).

RESULTS

Table 1 shows that the total number of participants was 115 (62.6 % female y (37.4 % male, with an average age of 20.9 years old. Academic program: Law (58.2 %), Psychology (28.7 %) and Sports training (13.1 %), physical activity: 1-2 times/week (66.1 %), more than 3 times/week (26.1 %) and not reported (7.8 %).

Table 1
Sociodemographic characteristics of the participants
(N=115)

Var		Frequency	Relative frequency (%) *
Gender	Female	71	62.6
	Male	44	37.4
Age	18-19	28	24.3
	20-21	39	33.5
	22-23	21	18.3
	>24	27	23.5
Academic Program	Law	67	58.2
	Psychology	33	28.7
	Sports training	15	13.1
Physical activity	1-2 times/week	76	66.1
	More than 3 times/week	30	26.1
	Not reported	9	7.8

*Weighted

Table 2 presents a simple application of the correlation coefficient Spearman can be exemplified using data from a sample of 115 students. We found a positive linear relationship between moral development and anxiety ($r=0.81$) and moral development and depression ($r=0.96$).

Table 2
Pearson`s correlation coefficients between main study variables

Variables	Moral Development	Anxiety	Depression
Moral Development	1.00	0.81**	0.78**
Anxiety	0.81**	1.00	0.96***
Depression	0.78**	0.96***	1.00

P≤ 0.01 *P≤0.001

Table 3 shows a two-way ANOVA applied on a sample of 115 participants to examine the effect of moral development on depression. There was a significant interaction, $F(2,52) = 7.33$, P

$= 0.0016$. Simple main effects analysis showed that level pre-conventional was significant with severity depression ($P = 0.0001$).

Table 3
Impact Moral Development level on depression level

Level depression	Mild depression Mean (SD)	Moderate depression Mean (SD)	Severity depression Mean (SD)
Moral Development			
Preconventional	43.1 (9.3)	59.9 (10.3)	65.1 (11.2)
Conventional	35.7 (9.1)	27.2 (7.1)	29.3 (9.6)
Postconventional	22.2 (10.7)	0.016	13.9 (8.5)
P value	0.001**	6.6 (2.2)	0.001***

P≤ 0.01 *P≤0.001

Table 4 is shown a two-way ANOVA applied on a sample of 115 participants to examine the effect of moral development on anxiety. There was a significant interaction, $F(2, 87) = 6.25$, P

$= 0.0025$. Simple main effects analysis showed that level pre-conventional was significant with severity anxiety ($P = 0.0001$).

Table 4
Impact Moral Development level on anxiety level

Level anxiety	Mild anxiety Mean (SD)	Moderate anxiety Mean (SD)	Severity Anxiety Mean (SD)
Moral Development			
Preconventional	32.6 (10.4)	42.9 (11.2)	60.6 (19.4)
Conventional	33.7 (9.1)	35.8 (9.2)	38.3 (12.6)
Postconventional	38.7 (12.1)	21.3 (8.5)	2.1 (1.7)
P value	0.671	0.025**	0.001***

*P≤ 0.05 ***P≤0.001

DISCUSSION

Regarding the mental health problems that have the highest prevalence in the university, the population is anxiety 10.4 % and depression 10.7 % (13) and 35.3 % present any disorder of university students (14). According to Lagunes-Cordoba et al., few university students go to mental health services, it is mainly because a serious emotional and/or behavioral problem is already identified, in this sense, this research found that there are university students with feelings of anxiety and depression, at different levels of severity. Under this order of ideas, these university students have repercussions both in the personal and in the school environment: failure and possibly dropping out (15).

The contribution of Mortie et al. where the mean age of this problem is between 14 and 15 years old, so it becomes evident that when they enter the University, they have this experience between three to four years with anxiety and depression problems, and it is worrying that not all receive care (16). In a Mexican context, there is a relatively high prevalence of mental disorders and a low proportion of people seek mental health care, and few receive care (17), even seeking support is related to decision-making from of moral development.

Moral development, in particular, appears to be a key positive psychological marker to ethical judgment and intent, and it is, in particular, this element, together with anxiety and depression (for negative impacts) that schools should be aware of: by encouraging their students to be more self-compassionate, to gain a greater sense of being in control over what they do and what happens to them and to improve their mental health may well result in better ethical judgment and intent (18).

The educational and ideological work cannot be standardized or carried out uniformly, therefore, university students can adapt flexibly and creatively to the school context under a moral development focused on the needs of the people to whom it is directed, this is coherent with our findings because the university students are in conventional development.

The results obtained in this research constitute a root, to carry out intervention programs in students in mental health and moral development, and that seek to motivate and modify their adverse behaviors, thus promoting the establishment and consolidation of healthy habits that lead them to have a good physical and mental state and decision making. An alternative is that psychologists or university care centers can provide students with useful and effective tools to achieve change in behaviors that are not conducive to health; however, achieving or maintaining these changes is a complex process that also requires an approach that prioritizes comprehensive education. This is what provides the foundation for work, within the university space, under a healthy university approach.

The strengths and limitations of the current study are determined by several issues. The e-questionnaire allows assessing the prevalence of anxiety and depression among university students. Moreover, the data for the e-survey was collected by globally validated standardized tools for quantitative analysis. On the contrary, given the limited resources available, the not random samples strategy was chosen instead of random samples. In this cross-sectional study, the identified factors are regarded as moral development level, which could be either be the causes or the results of depression or anxiety. Furthermore, due to ethical requirements on anonymity and confidentiality, the contact details of the respondents were not collected. However, the use of validated screening e-questionnaire was considered as a cost-effective approach to explore the situation in general, therefore, used in this study. Since the research methodology could not reach students' depression and anxiety symptoms, the provision of the results may not fully reflect the severity of depressive and anxiety symptoms among students. Meanwhile, it would be ideal for conducting a prospective study on the same group of participants with tools developed especially for the COVID-19 pandemic after a period to provide a concrete finding and to facilitate the demand for a focused public health initiative.

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