

MINNESOTA MULTIPHASIC PERSONALITY INVENTORY-2 AS A DETECTOR OF EMOTIONAL RISK FACTORS FOR THE ACADEMIC PERFORMANCE OF NEWLY-ADMITTED UNDERGRADUATE PSYCHOLOGY STUDENTS

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Abstract

Currently, many universities are demonstrating interest in identifying the factors that may place their students' psychological well-being at risk. It is considered important to identify the personality traits that may endanger students' university education and professional activities. The sample consisted of 324 students recently entering an undergraduate program in psychology. The Spanish-language version of the Minnesota Multiphasic Personality Inventory-2 (MMPI-2) with standards for Mexican university students was used.

Female students report feelings of sadness, depression and anxiety, as well as behaviors that are demanding, histrionic, persuasive and impulsive, and they indicate a desire that situations be adapted to them. Male participants report immature and rebellious behavior toward authority figures and tend to blame others for their problems. The Cronbach's alpha coefficient for internal consistency of the instrument was calculated for the Validity, Basic, Supplementary and Content scales, yielding a total score of 0.824.

These results indicate that the MMPI-2 version for Mexico is a reliable measure for the university students tested.

Key words: *academic risk, low school performance, MMPI-2, psychological profile, university students.*

Introduction

Currently, many universities demonstrate great interest in identifying the factors that may place students' psychological well-being, academic education and professional activities at risk.

The literature reports three primary risk factors in academic performance. Castro and Solano (2001) and Avanzini (1985) consider intellectual resources to be important factors; Hernandez and Polo (1993) comment that school failure results from errors in planning studies; and Santin (1999), Portellano (1989), Mendez, Macias and Olivares (1993), and Davila, Ruiz, Moncada and Gallardo (2011) attribute school failure to emotional factors.

Establishing whether there is a relationship between low school performance and personality traits is a topic that has been addressed from different angles. In 1943, Hathaway, Mckinley and the University of Minnesota published a Multiphasic Personality Inventory (MMPI), and it has now been translated over 150 times into other languages. One population studied extensively with the MMPI consists of university students from all around the world (Hathaway and Monachesi (1963); Nuñez (1968); Rivera (1991); Fernandez and Rivera (1984), and others), with the aim of learning about their personality traits.

Although this instrument was originally designed for clinical purposes, it has since been used for different objectives in Mexico and other countries, and one of those is the selection of students and personnel. In 1960, Rafael Nuñez published the first MMPI for the Mexican population (Lucio and León, 2003). With the passing of time and the social, ethnic and cultural changes that have taken place, many of the reactivities in the inventory are now obsolete. Consequently, the Re-Standardization Committee was established in 1982, and it made the decision to design a new version that would reduce its cultural contents and facilitate translation and adaptation. This new version is known as the MMPI-2 (Butcher, Cabiya, Lucio and Garrido, 2009). Then in 1992, in Mexico, Lucio and Reyes-Lagunes began the work of the adaptation and standardization of the MMPI-2 for Mexican university students (Lucio and Reyes-Lagunes, 1994).

Given the academic difficulties experienced by some psychology students when they begin their undergraduate program, it was considered important to conduct a psychological evaluation of new students.

Beginning university life can be an experience full of emotions, changes and opportunities. However, not knowing how to handle high academic levels, use of personal time, changes in social life, etc. are factors that may place students' psychological well-being at risk. Thus, the following questions were posed:

1. What personality characteristics may jeopardize the academic training of university students?
2. Does the use of the MMPI-2 as an assessment tool serve to detect the emotional factors that may endanger the academic training of new students?
3. Is a student's stage of development an academic risk factor?

The answers to these questions were helpful in determining the objectives of this study:

- To identify the personality traits that may endanger students' university education.
- To establish if the MMPI-2 in its Spanish-language version for Mexico is a good tool for detecting emotional risk factors for the academic performance of newly-admitted undergraduate psychology students.

Research Methodology

Sample

The study was conducted with 324 students recently entering an undergraduate program in psychology in the years from 2008 to 2011. The sample consisted of 190 female students with an average age of 19.03 years and $\sigma=1.793$, and 134 male students with an average age of 18.72 years and $\sigma=1.648$. Participants were students entering the program during the following academic periods: 52 students in Fall 2008, 66 students in Spring 2009, 87 students in Fall 2009, 90 students in Fall 2010 and 47 students in Spring 2011.

Instrument

The Minnesota Multiphasic Personality Inventory-2 (MMPI-2) (Lucio et al., 1994), in its Spanish-language version with standards for Mexican university students, was used to achieve the objectives proposed for this research and due to the instrument's statistical rigor. The version of the MMPI-2 for Mexico consists of 567 reactivities in a true-false format, with three validity scales (L, F, K), 10 basic scales, 15 content scales and 12 supplementary scales.

In this study the instrument's internal consistency was analyzed using the Cronbach's alpha test for validity, basic, content and supplementary scales. The total score obtained for the inventory was 0.824, with 0.845 for female students and 0.733 for male students. These results indicate that the MMPI-2 version for Mexico is a reliable measurement for the university students evaluated.

Procedures

Information was gathered during the first week of each semester from students entering the psychology undergraduate program, in Fall 2008, Spring 2009, Fall 2009, Fall 2010 and Spring 2011. The inventory was applied in group sessions lasting a maximum of two hours for each student in their respective classrooms. Before beginning their participation, all students signed a letter of consent, indicating their voluntary participation. This guaranteed that the information they provided would be confidential and used exclusively for research purposes. They were also informed that their participation in the study would not affect their academic status.

Statistical Treatment

Response sheets were scored electronically by the UNAM's Psychology Faculty. First, an analysis of central tendency was conducted, and later the scores for each scale were analyzed for scores above T65. The Cronbach's alpha coefficient for the instrument's internal consistency was calculated for the Validity, Basic, Supplementary and Content scales, yielding a total score of 0.824.

Research Results

The nature of the current study is exploratory. Results are reported by scale and by sex. None of the inventories were eliminated, since all 324 students responded to all the reactivities and the validity scales indicated that each of the participating students had an appropriate attitude toward responding to the inventory.

In the total sample, the clinical scales with high scores (above T65) are the following: Hypomania (Ma-9) for 9.3% of students; Psychopathic deviate (Pd-4) for 8.6%, Paranoia (Pa-6) for 8.3%; and Hysteria (Hy-3) for 5.9%.

Table 1. Clinical scales with scores above the average.

Clinical scales	Females %	Males %	Total sample %
1 Hypochondriasis	5.3	6.0	5.6
2 Depression	5.3	4.5	4.9
3 Hysteria	5.3	6.7	5.9
4 Psychopathic Deviate	10.5	6.0	8.6
5 Masculinity-Femininity	5.8	6.0	5.9
6 Paranoia	8.4	8.2	8.3
7 Psychasthenia	10	6.0	8.3
8 Schizophrenia	7.4	3.0	5.6
9 Hypomania	8.4	10.4	9.3
10 Social Introversion / Extroversion	4.7	2.2	3.7

In female students, the scales with scores above T65 were: Hypochondriasis (Hs-1), Depression (D-2) and Conversion hysteria (Hy-3), each at 5.3%; Psychopathic deviate (Pd-4) at 10.5%; Paranoia (Pa-6) and Hypomania (Ma-9), each at 8.4%; Schizophrenia (Sc-8) at 7.4%; and Psychasthenia (Pt-7) at 10%.

In the case of male students, they scored above T65 on the following scales: Hypochondriasis (Hs-1), Psychopathic deviate (Pd-4), Masculinity-femininity (Mf-5), and Psychasthenia (Pt-7), each at 6%; Hysteria (Hy-3) at 6.7%; and Paranoia (Pa-6) at 8.2%.

In the case of content scales, high scores for the total sample were found in the following: Work

interference, for 11.1% of students; Obsessiveness (OBS), for 10.2%; Anger (ANG), for 10.2%; Type A Personality (TPA), for 9%; and Low self-esteem (LSE), for 7.7%.

Table 2. Content scales with scores above the average.

Content scales	Females %	Males %	Total sample %
Anxiety	7.9	3.7	6.2
Fears	2.1	1.5	1.9
Obsessiveness	11.1	9.0	10.2
Depression	3.7	2.2	3.1
Health Concerns	5.3	0.7	3.4
Bizarre Mentation	8.9	3.0	6.5
Anger	11.6	8.2	10.2
Cynicism	1.1	0.7	0.9
Antisocial Practices	3.7	2.2	3.1
Type A	9.5	8.2	9.0
Low Self-Esteem	6.8	9.0	7.7
Social Discomfort	3.7	6.0	4.6
Family Problems	6.8	3.0	5.2
Work Interference	11.6	10.4	11.1
Negative Treatment Indicator	4.2	4.5	4.3

The content scales with scores above T65 among female students were: Obsessiveness (OBS) for 11.1%; Anxiety (ANX) for 7.9%; Bizarre Mentation (BIZ) for 8.9%; and Type A (TPA), Work Interference (WRK), and Anger (ANG), 11.6%. High scores for male students were found in the following scales: Obsessiveness (OBS) for 9%; Anger (ANG) and Type A (TPA) for 8.2%; Low Self-Esteem (LSE) for 9%; and Work Interference (WRK) for 10.4%

Lastly, the supplementary scales with high scores for the total sample were: Overcontrolled Hostility (O-H) for 9.3%; Dominance (Do) for 6.2%; Gender Role – Masculine (GM) for 6.5%; and Gender Role – Feminine (GF) for 5.2%.

Table 3. Supplementary scales with scores above the average.

Supplementary scales	Females %	Males %	Total sample %
Anxiety	5.8	3	4.6
Repression	2.6	3	2.8
Ego Strength	3.2	1.5	2.5
MacAndrew Alcoholism	5.3	3	4.3
Overcontrolled Hostility	7.9	11.2	9.3
Dominance	4.7	8.2	6.2
Social Responsibility	5.8	6	5.9
College Maladjustment	8.4	3	6.2
Gender Role Masculine	6.3	6.7	6.5
Gender Role Feminine	4.2	6.7	5.2
Posttraumatic Stress Disorder	6.3	3.7	5.2
Psychoticism	7.4	6	6.8
Infrequency Psychopathology	5.8	1.5	4.0
Addiction problem	9.5	5.2	7.7

The high scores for female students were in the following scales: Anxiety (A) for 5.8%; Overcontrolled Hostility (O-H) for 7.9%; College Maladjustment (Mt) for 8.4%; Schlenger post-traumatic stress disorder (EPS) for 7.4%; and Addiction potential (PPA) for 9.5%. And in the case of male students: Overcontrolled Hostility (O-H) for 11.2% and Dominance (Do) for 8.2%.

Discussion and Conclusions

The group profiles for the scales do not indicate scores above the average (T65). However, there are individual profiles that indicate pathologically high scores on one or more scales.

The high scores above the average in the profiles for participating female students correspond to feelings of *sadness, depression and anxiety*; with behavior that is *demanding, histrionic, persuasive and impulsive*; and with the desire that *situations adapt to them*. They also present *difficulties in adapting to school, lack of concentration, obsessiveness and tension*, as well as *difficulty in making decisions*.

As for profiles with high scores for participating male students, they correspond to *immature and rebellious* behavior toward *authority figures*, there is a tendency to *blame others for their problems*, and there is some indication of low school performance. Frequently, among male students there is *inconformity and difficulty in concentrating*. In addition, they also present traits of *dominance*, which allow them to *feel secure about themselves*, take *social initiative*, and demonstrate *perseverance and leadership in groups*.

In general, because of the age at which students enroll in undergraduate programs, they are experiencing a stage characterized by changes and a search for their identity. In terms of development, many students entering the university are in a stage of late adolescence (Papalia, 2010) and depending on the culture, this stage may last longer.

In this phase of transition to adulthood, students experience greater stress and anxiety since they are establishing their identity, exploring their sexuality and intimacy, as well as establishing independence from their parents and deciding upon a career, and all of this can have repercussions on their mental health (Kitamura and Matsudaira, 2006).

As observed in this study, participating students presented feelings of anxiety and tension, as well as mistrust, sleep disorders and a tendency to overreact to the slightest pressure. Also, they manifested signs of thinking disorders, obsessiveness and difficulties in thinking, concentrating and making decisions. These high scores can indicate behaviors or attitudes that can lead to poor school performance.

The university system requires students to have greater autonomy, good use of personal time, and certainty in making decisions and adapting to the new academic level they are initiating. This can affect their lifestyle and can be reflected in common problems for adolescents and young people, such as anxiety, tension and fear of not being able to respond to academic demands.

The results of this study indicate that the use of the MMPI-2 in its Spanish-language version for Mexico is an additional evaluation tool for detecting emotional problems that can place the academic education of undergraduate psychology students at risk. Nevertheless, it is important to clarify that this should not be used as an exclusive criterion or as an indicator for rejecting admission into programs.

It is worth highlighting that students who have high scores in their psychological profile may have serious difficulties in handling academic, professional and everyday responsibilities.

It is important to promote a comprehensive education that involves the students, the educational institution and the family environment, so that each can serve as a factor for protecting against the potential difficulties that students may find it necessary to confront and to facilitate their social, academic and personal performance. For this reason it is suggested that students are channeled into academic tutoring programs when they enter the university.

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