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#### Impact of the Mindful Emotional Intelligence Program on Emotional Regulation in College Students

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#### ABSTRACT

The present study tests the effectiveness of the Mindful Emotional Intelligence Program (PINEP) that appeared from the fusion of two concepts; emotional intelligence and mindfulness. The program was given as training to 136 college students during a two-month period. The purpose of the study was to determine the impact of (PINEP) and to know how students regulate their emotions. Student emotional behavior was evaluated before and after the PINEP program was carried out using self-report measures selected for their reliability. These were, burnout, engagement, neuroticism, extroversion, emotional regulation, and empathy. The results showed moderate significant differences (Cohen's *d*) in the dimension of extroversion, burnout, engagement, refocus on planning, positive reappraisal, putting into perspective and empathy. The outcome pointed toward favorable changes in relation with the program PINEP as the students showed significant changes in the way they regulated their emotions after the training.

Key words: mindfulness training programme, emotional intelligence, mindfulness, emotional regulation.

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#### Novelty and Significance

What is already known about the topic?

- Mindfulness is an effective tool for managing emotion.
- Previous research show the appropriateness of combining mindfulness and emotional intelligence training.

What this paper adds?

 A discussion and validation of the Mindful Emotional Intelligence Program (PINEP) in facing emotional challenges.

College students usualy face personal, socioeconomic and academic responsibilities that are often ignored (Barragán, Lewis, Palacios, 2007). Several studies shows that psychological problems suffered by college students are related to anxiety disorders, stress and fear of being evaluated (Salanova, Breso, & Schaufeli, 2005). These emotions have a really important and transcendental role on student's lifestyle, their way of interacting with their own reality and their everyday life.

Likewise, the increase of college workload, lack of motivation, the feeling of failure, hopelessness about the future or a low concept of auto efficacy have increased frustration expectancies among students because nowadays a bachelor's degree is not enough for young people to find a good job (Tejedor & García Valcárcel, 2007).

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One of the ways that this problem can be approached is through Mindfulness. On one side we have the theory model of Emotional Intelligence (EI) that can be defined as the ability to perceive, appreciate and express emotions; the ability to have access and generate feelings that provide thinking; the ability to understand emotions; and the ability to regulate emotions and to promote emotional development" (Mayer & Salovey, 1997). In these models the authors considered emotional intelligence as a conjunction of skills that include basic psychological processes (perception of emotions) until more complex psychological processes (regulation of emotions and promotion of emotional development). It is a hierarchical model where basic skills play an important role to acquire complex skills based on the adaptive use of emotions, in a manner where a person is able to solve their problems and adapt in an efficient manner to their surrounding (Salovey & Mayer, 1990, 1995).

On the other hand, we have mindfulness, understood as attentive presence, focusing on the moment in a non-judgemental way. It is merely a contemplative experience which consists of observing without evaluating, accepting the experience as it comes, open observation with absence of criticism. It could be described as a way of being in the world without judging and being open to sensorial experience without judging or rejecting certain experience (Vallejo, 2007). Emotional intelligence though mindfulness is related to a 3rd generation of cognitive-behavioral therapies, stressing the importance of improving the relationship with our inner experience rather than trying to eliminate or modify such experience. In addition, its principles could be directed to the general population and not just the clinical population (Ciarrochi & Godsell, 2006; Hayes, 2004; Linehan, 1993; Segal, Williams, & Teasdale, 2002).

If we attend to how the concept of intelligence has evolved, we will arrive at a point of EI where our emotional and rational side coincide (Mayer & Salovey, 1993) and a means of interacting both with reality in an optimal manner. These differences between the emotional and the rational processes can find its basis in the differences between the hemispheres (right hemisphere vs. left hemisphere) and how each hemisphere has specific functions. The left hemisphere is related to analytic and reflexive functions. Meanwhile the right hemisphere approaches reality in a global, emotional and intuitive manner. This gives as a result what Epstein defined as experiential mind vs. rational mind (Epstein, 1998).

The construct of EI plays an important role in emphasizing the idea that excluding emotions from our lives can be considered wrong and we actually have to find a way of bringing them back and integrating them with decision making and using them as tools that would let us to have a better understanding of ourselves. Although EI has an influence on connecting the emotional and the rational processes, the reality of this is that when we focus our attention on programs that were created to enhance both kinds of connection, it is evident that emotional difficulties are approached in a purely emotional or rational manner (Ramos, Hernández & Blanca, 2009; Ramos, Recondo, & Enríquez, 2012).

When we analyse the different kinds of exercises on EI programs, although these activities apparently have an emotional content, they are still focused on intellectual efficiency. The user having to face imaginary situations that they could also face in real life, and having to look for a manner to solve these situations in a successful way. However, there is a possibility that in real life, when involved directly in a similar situation he or she would not be capable of handling them in a successful way. Knowledge of how to manage emotions is a necessary step, but it may not be sufficient alone to

handle emotional situations successfully. It is not enough just to know the best way of handling emotional situations; we also have to be sure that the user will be able to apply this knowledge when facing an emotional situation. Hence, we could talk about the lack of EI when the user is not capable of managing their emotions in an efficient way and on the other side an adequate level of EI when the user knows the best way to manage the situations. But we still need one more step, one that would guarantee that the user would know how to respond in an emotionally intelligent way. We believe that this level would only be possible when the individual integrates mindfulness into the management of emotions.

Mindfulness emphasises viewing an experience with openness, curiosity, lack of judgment and acceptance (Kabat-Zinn, 2003) This kind of attention is different to the attention we normally use (ordinary attention) which is characterized by analytical reflection and value judgment (Vallejo, 2007, 2008). If we talk about different ways of dealing with reality we may think the consciousness that emerges from both ways should be different too. In this way we could talk about full consciousness (the consciousness that emerges when the experience is embraced with acceptance, curiosity, lack of judgment and valuation) versus ordinary consciousness (consciousness that emerges when the current experience is met with valuation and judgment).

However, when we want to explore how we manage emotions, we could argue that an ordinary attention to our emotions could be the baseline where we can develop emotional intelligence. Meanwhile mindfulness guided to our emotions could be used to optimize emotional intelligence.

PINEP has been developed with the object of optimizing emotional intelligence through mindfulness and thus effectively face up to emotional challenges. The objective is to use mindfulness as a tool to deal with emotions as they arise, thereby reducing ordinary attention in these situations. In other words when an individual pays mindful attention to his immediate experience and considers the preconditioning of his perspective, it is possible to have access to more information (Ramos *et al.*, 2012).

It is conceivable that the consciousness that emerges from these different ways of attending to our emotions and managing them could result in two different realities. One a state of ordinary emotional cognitive consciousness (consciousness that emerges when we pay attention to emotional experience with valuation and judgment) and the other a mindful emotional cognitive consciousness (consciousness that emerges when the current experience is dealt with by acceptance, curiosity and lack of judgment).

Our ordinary attention is characterized by an up-down process determined by our own previous experience; meanwhile mindfulness is characterized by a down-up process guided by our own experience. (Simón, 2007). The up-down process classifies the upcoming information and fits it into old learning patterns, this process has a decisive value for survival but an inevitable loss of new information that does not fit easily into previously established categories (Engel, Fries, & Singer, 2001).

Having access to emotional reality using mindfulness will allow us to access richer detailed emotional information and in addition will also facilitate understanding of our ordinary reactions that on several occasions can make us feel that our emotional behavior is out of control. Emotional response is often based on the principles of personal conditioning and acquired habits that force us to respond in a rigid and inflexible way to emotional situations (Ramos & Hernández 2008; Ramos *et al.*, 2012). Mindfulness offers the possibility to experiment our emotions with freshness and to maintain certain perspective when facing our emotions. That is to understand automatic interpretations

and lastly, it gives us the opportunity to relate to our environment in another way (Ramos et al., 2012).

Our proposal is to harmonise the emotional and rational mind by including the millenary practice of mindfulness as a tool to help improve emotional inelligence. PINEP is an open and flexible program that can be adapted to particular characteristics and needs (Ramos *et al.*, 2012). The training has a dual focus on one hand it includes basic mindfulness training (Kabat-Zinn, 1990; 2003) and on the other allows participants to use mindfulness as a tool which allows them to enter into contact with their own emotional experience (both positive and negative) facilitating compassion and a gain in perspective. In consequence allowing more autonomy over decision making by rising above conditioning and learned responses.

For the development of this program different emotional situations, both at an intrapersonal and interpersonal level are selected. These exercises require lesser to more complex emotional abilities (perception, expression, understanding and regulation) based on the definition of Emotional Intelligence proposed by Mayer and Salovey (1997).

The PINEP program is structured in eight sessions that integrate content and practice based on a psychoeducational process planned for the progressive acquisition of emotional skills. The sessions have a duration of about three hours (with a short break in the middle). The program length is 8 weeks (a total of 24 hours) given as a weekly group session. The program focuses on adult population groups (between 15 to 20 members) although the exercises can be adapted to work with infants, adolescents and juvenile groups and to larger adult groups. The theoretical contents will be presented in a specific gap session to ease the learning process of every group. Nonetheless, these contents can be integrated subsequently as reflections to each practical exercise such as paying attention to; breathing, the senses, the body (bodily consciousness), movement, and daily life activities.

It is important that the program is mainly pragmatic (full attention is related to experience and not knowledge) and therefore is not overloaded with theoretical content. As such it is foreseen that there is an interval of feedback and drawing conclusions within the format of every session. Active participation must be facilitated and participants are invited to briefly share their experience with others. For this reason, the time for each exercise in the work plan includes a few extra minutes for the possible doubts that can arise from the group.

Participants are recommended to keep an *emotional diary* in which each member records his/her own process (findings, advances, difficulties, solutions, reflections etc.) This journal is personal, and it, will be shared only if the owner allows it to.

As a premise, we take as a reference a study led by Ramos, Jiménez, and Lopes (2009) which was applied to a group of students that took part in an emotional intelligence training program of an eight week duration where mindfulness practice was integrated, in accordance with the recommended guidelines in the stress reduction program proposed by Kabat-Zinn (1990). In comparison with the control group, the individuals that took part in the program, displayed less anxiety and experienced significant changes in the use of cognitive strategies of emotional regulation.

Ramos *et al.* (2014) analyzed the effect of mindfulness in a double sense, as a state and as a trait. Differentiating the mindfulness state experimentally induced transient form of mindfulness, from mindfulness as a personal trait, which characterizes the natural way that the individual relates to their environment. Mindfulness as a trait was associated with fewer intrusive thoughts 24 hours after the induction of stress,

but with no change in affect immediately after the acute stressor. The experimental induction of a state mindfulness showed the opposite pattern; It was associated with improvement immediately after the stressor, but without affecting the intrusive thoughts 24 hours later. These results highlight the importance of designing interventions based on mindfulness involving not only intensive practice, but also specific training to help people to use mindfulness to cope with acute stressors and therefore emotional situations where implementing mindfulness skills is required.

Páez, Ramos, and Hernández (2016) explain that with a training program based on the combination of exercises of mindfulness and emotional intelligence in just eight weeks, significant changes arise related to immune parameters in healthy patients.

The study expects to find that students that practice PINEP will improve the use of strategies for cognitive emotional regulation and will demonstrate a higher emotional wellbeing through maximizing emotional abilities with the practice of full attention. To achieve this the psycho-emotional variables are measured and correlated. Variables such as burnout, engagement, emotional stability extroversion, empathy and emotional regulation.

#### Метнор

#### **Participants**

The sample was composed of a total of 136 students from Universidad Autónoma de Ciudad Juárez (México) 71% women, with an age between 18-49 years, with a Mean of 21.8 years and a DT of 7.05 years. The sample includes 72 participants belonging to the experimental group and 64 to the control group. All participants are from the social studies areas (psychology, administration, law students, education, social work and accounting). 55% of the participants do not have a job, 61% were at an intermediate level in their academic careers the remaining, and 39% were in the first or final semesters.

#### Design

An experimental design was used to compare the groups using pre-test-post-test, with 3 experimental groups and two control groups. Once the pre-test score was obtained, the assignation of the participants to the control group and the experimental group was randomized.

#### Procedure

A control group of 64 participants was created and three experimental groups of 24 participants each. A personal growth program was given to the control group subjects based on 6 conference-like sessions by professors and the PINEP programme was given to the subjects in the experimental groups during 8 sessions in 8 weeks (Ramos *et al.*, 2012). The pre and postest measurements were taken before the first and after the last session, respectively. The training length was eight sessions, one session of three hours each week, this meaning a total of 24 hours of training.

PINEP is a training program which includes the formal and informal practice of pondering. In each session of training, the individual execute a range of exercises: Mindfulness exercises; INEP exercises. (explanation of different emotional circumstances

with the purpose of doing it with a mindfulness attitude -curiosity, opening, not judgement, for instance conscious affective communication, conscious dancing; Emotional diary (emotional register in relation to the personal experience about the practice); Homework (mindfulness practices weekly registered).

#### Instruments

- Maslach Burnout Inventory-Student Survey (MBI-SS, Maslach & Jackson, 1981). The Spanish version was used (Schaufeli, Martínez, Márques Pinto, Salanova, & Bakker, 2002). It has 15 items, which are divided into emotional exhaustion, cynicism and academic efficiency. The values reached on the alpha Cronbach's coefficient were .75 for emotional exhaustion, .67 for cynicism and .72 for academic efficiency. The student shows more burnout when he or she reaches high marks in exhaustion and cynicism, besides low marks in their beliefs about efficacy academy.
- Student Academic Engagement (SAE; Schaufeli, Salanova, Gonzales Roma, & Bakker, 2002). Engagement is defined as a psychological positive and meaningful mind associated with the researches. The escale is made up by 17 items of 3 dimensions: vigour, dedication and absorption. The answer scale interval goes from 0 (never) to 6 (everyday/always). The reliability rates reached on the engagement dimensions were: .74 for vigor, .75 for dedication and .70 for absorption.
- Big Five Questionnaire (Caprara, Barbaranelli, & Borgoni, 1993). The Spanish adaptation was used (Bermúdez, 1995). Scale composed by 132 items that uses a Likert-like scale with 5 linking points from 1 (completely false for me) to 5 (completely true for me). It assesses 5 dimensions: Energy (E), Affability (A), Tenacity (T), Emotional Stability (EE) and Open-mindedness (AM). With the aim of data collection, only the two relevant variables will be classified for this specific study. The factors energy (extraversion) and emotional stability are considered for analysis, with 12 items each. Cronbach's alpha for energy is .75) in its original scale and .87 for emotional stability, displaying a very acceptable internal consistency.
- Cognitive Emotion Regulation Questionnaire (CERQ I; Garnefski, Kraaij, & Spinhoven, 2001). Consists of 36 items and covers a serie of subscales that assess dimensions of the global concept: Self-blame, Acceptance, Rumination, Positive refocusing, Refocus on planning, Positive reappraisal, Putting into perspective, and Catastrophizing. The answer categories go from 1(hardly ever) to 5 (most of the times). Studies have showed strong reliability converging with other scales conceptually related. The previous studies on cognitive regulation strategies development have shown that all the subscales have good internal consistency from .68 to .86 (Garnefski, Kaaij, & Spinhoven, 2002).
- Interpersonal-empathy Reactivity Rate (IRI; Davis, 1980, 1983). One of the most used auto-reference assessment instrument used to measure empathy. It consists of 28 items with a Likert-like scale of five points, where 1 means "does not describe me well" and 5 "it describes very well". The items are distributed in groups of seven with four subscales that assess four dimensions of the global concept of empathy: Perspective-taking scale (PT), Fantasy scale (FS), Empathic Concern Scale, and Personal Distress Scale (PD). The reliability rates obtained from the Spanish version go from .56 for the Perspective-taking to .70 for Fantasy. By gender, it is observed that women reach higher values in the subscales of Fantasy (FS) and empathic concern (EC) (Davis, 1983; Mestre, Pérez Delgado, Frías & Samper, 2004).

#### RESULTS

Group differences were analyzed before the implement program of the pretest measurements (see Table 1). There were some statistically significant differences between

Table 1. Pre test measurements

Table 1. Pre test measurements.					
Variables	t (p)	M	SD	Cohen's d	
Neuroticism	0.28/.78	control= 38.6 exp= 38.2	8.6 7.9	NA	
Extroversion	1.53/.13	control= 35.9 exp= 33.5	8.9 8.5	NA	
Burnout	-2.12/.04	control= 20.0 exp= 23.5	9.5 9.6	0.37	
Engagement	1.35/.18	control= 71.5 exp= 68.5	12.2 12.8	NA	
Empathy (IRI)	2.65/.01	control= 94.4 exp= 90.7	7.7 7.8	0.48	
Perspective-taking scale (IRI)	0.77/.44	control= 25.1 exp= 24.5	4.5 4.7	NA	
Fantasy scale (IRI)	1.27/.21	control= $22.4$ exp= $21.2$	5.7 5.2	NA	
Empathic concern scale (IRI)	0.47/.64	control= 25.1 exp= 24.7	3.7 4.1	NA	
Personal distress scale (IRI)	0.14/.89	control= 19.0 exp= 19.0	4.3 3.8	NA	
Self-blame (CERQ)	-0.01/.99	control= 9.3 exp= 9.3	3.3 2.7	NA	
Acceptance (CERQ)	1.64/.10	control= 15.3 exp= 14.4	3.3 3.2	NA	
Rumination (CERQ)	0.99/.33	control= 19.1 exp= 18.5	3.5 3.7	NA	
Positive refocusing (CERQ)	3.4/.001	control= 15.0 exp= 12.9	3.6 3.5	0.59	
Refocus on planning (CERQ)	2.29/.02	control= 16.2 exp= 14.9	3.3 3.1	0.41	
Positive reappraisal (CERQ)	1.99/.05	control= 16.7 exp= 15.6	3.0 3.4	0.34	
Putting into perspective (CERQ)	1.86/.07	control= 14.8 exp= 13.5	4.0 4.1	NA	
Catastrophizing (CERQ)	0.28/.78	control= 8.5 exp= 8.3	3.2 3.4	NA	
Emotional regulation (CERQ)	2.86/.01	control= 114.7 exp= 107.3	14.7 13.9	0.52	

Note: NA= Does not apply.

groups. A covariance analysis was performed where pretest results were used as a covariant to statically control possible differences in the pretest between the control group and the experimental group. Meaningful differences were obtained on extroversion, burnout, engagement, refocus on planning, positive reappraisal, putting into perspective and empathy (perspective-taking). Cohen's d was used to obtain the effect of the difference magnitude between the two conditions (see Table 2)

According to the data a difference in scores can be observed. The highest score was obtained by the "Putting into perspective" variable of the emotional regulation scale with a Cohen's d of .57 (high/moderate) followed by Perspective-taking form the empathy scale with .42 (moderate). All the other variables show lower scores. Cohen (1977) classifies the differences in means known as Cohen's d as follows: 0.20 as low, 0.50 as moderate and 0.80 as high. This classification was applied to the results.

The emotional regulation scale (CERQ) results show that out of the eight dimensions of the scale, three reached a significance level. The Putting into perspective dimension was the one that reached the highest score obtained in Cohen's *d* with .57 (moderate/high), followed by Positive reappraisal with .32 (moderate/low), and finally Refocus on planning with .27 (moderate/low). These three dimensions are profiled in

Table 2. Analyses of Covariance.

Variables	F (p)	M	SD	Cohen's d
Neuroticism	.04/.85	control= 35.1 exp= 34.5	8.9 8.4	NA
Extroversion	6.2/.02	control= 33.8 exp= 36.2	10.2 9.8	0.30
Burnout	3.9/.05	control= 25.4 exp= 22.7	12.9 10.9	0.33
Engagement	6.3/.01	control= 65.6 exp= 70.0	14.5 13.8	0.35
Empathy (IRI)	7.2/.01	control= 90.3 exp= 93.4	10.5 6.9	0.39
Perspective-taking scale (IRI)	7.4/.007	control= 22.9 exp= 25.1	4.6 4.3	0.42
Fantasy scale (IRI)	0.14/.71	control= 21.8 exp= 20.7	6.6 5.0	NA
Empathic concern scale (IRI)	0.66/.42	control= 23.8 exp= 24.4	4.3 4.1	NA
Personal distress scale (IRI)	0.67/.42	control= 17.9 exp= 18.7	4.0 3.6	NA
Self-blame (CERQ)	0.83/.37	control= 9.3 exp= 8.8	3.0 2.5	NA
Acceptance (CERQ)	0.52/.47	control= 14.8 exp= 15.0	4.3 3.6	NA
Rumination (CERQ)	3.04/.08	control= 17.5 exp= 18.5	4.1 4.0	NA
Positive refocusing (CERQ)	0.58/.45	control = 14.2 $exp. = 14.1$	3.6 4.0	NA
Refocus on planning (CERQ)	5.6/.019	control= 15.0 exp. = 15.9	4.1 2.7	0.27
Positive reappraisal (CERQ)	5.57/.020	control= 15.9 exp. = 16.9	3.7 2.9	0.32
Putting into perspective (CERQ)	9.8/.002	control = 13.0 $exp. = 15.0$	4.3 3.6	0.57
Catastrophizing (CERQ)	0.12/.73	control = 9.3 $exp. = 8.9$	3.7 3.5	NA
Emotional regulation (CERQ)	11.32/.001	control= 109.2 exp. = 114.5	18.7 13.5	0.33

Note: NA= Does not apply.

a positive purport on the experimental group, on the other hand, self-incrimination and catastrophism in a negative purport. The control group achieved higher mean scores, although in a non-significant way.

#### DISCUSSION

It can be concluded that the participants showed important changes in the way that they regulate their emotions after receiving the PINEP training. However, to arrive at more reliable and valid conclusions there is a need to continue testing the program on different sample groups. The results show how PINEP effects emotional regulation, facilitating the development of cognitive strategies that help individuals cope with stressful situations. Specifically, the program had significant effects on some dimensions of this questionnaire which evaluate adaptive cognitive strategies in the face of adversity. More specifically, the effect on the ability to put things into perspective, which is the ability to reduce and relativize the event's severity. Also on refocusing plans, which is the ability to think of the steps that must be taken to solve the problem. And finally, on the Positive Reinterpretation variable, which is to see the positive side of an unpleasant event.

PINEP also significantly reduced the burnout of students, which is related to a decrease of exhaustion and low scores on their beliefs in academic effectiveness. Conversely, there was a significant positive increase in engagement or positive psychological states related to their studies. This program has also shown positive effects on empathy, which is related to prosocial conduct and the inhibitory function of aggressiveness, more specifically to the individual's ability of Perspective-taking, which is related to the spontaneous attempts of the subject to adopt the other's perspective to real situations in everyday life. That translates as the ability to understand the point of view of the other person. However, it was not found any significative difference among the emotional reactions with someone else's discomfort. Future researches would investigate the compassion variable, with distinguishing features in relation to the constructed empathy and more appropriate empathy in order to investigate the final effects of full attention to it.

The effect of PINEP on extraversion or the degree to which the subject shows openness to others and channels their energy into social contexts is also evident. Any direct effect was detected in the neuroticism variable; it is believed that in order to find this specific effect, more training is required. It should not been forgotten that the participant was showed in very little time, with new emotional situations, in which some of them could have been rejected in the past, in its original context.

The practice of mindfulness has a clear effect on emotional regulation, helping the individual to stay present and nonreactive. Exposing individuals to different emotional situations and asking them to take on a mindfulness attitude is the main objective of the training program (PINEP), thereby favoring the generalization of what we learn with classical mindfulness practice in regards to specific emotional situations.

One of the objectives of the program is to help generalize and adapt what is learned in mindfulness training to foment emotional intelligence. In fact it can be said that this type of training could be beneficial on intrapersonal and interpersonal levels to help cope with emotional challenges of everyday life (Body, Ramos, Recondo y Pelegrina 2016). The results of this study help to understand how this training could have effect not only on coping with everyday student performance, but also improve interpersonal relationships, the development of empathy, and strategies to deal with stressful situations.

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