

Venezuelans' Report on the MMPI-2 RC Scales When Simulating a Pain Scenario

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Abstract

When experiencing a painful injury, some Latino subcultures (e.g., Puerto Ricans) tend to report more psychological distress than other Latinos and Caucasians. The purpose of this paper was to determine if Venezuelans, like Puerto Ricans, report higher levels of psychological discomfort when pretending to be in pain, when compared to Latinos and Caucasians living in the U.S. In this study, participants were asked to complete the MMPI-2 Restructured Clinical (RC) Scales in standard fashion and while pretending they have been in continuous pain for six months. Venezuelans scored significantly higher on RC1 and significantly lower on RC4 than the other groups when pretending to be in pain. The current results suggest that Venezuelans may feel comfortable reporting emotional stress via physical complaints and do not see themselves as acting antisocially as the result of a painful injury. Clinical implications are discussed.

Introduction

Latinos now comprise 17% of the total United States (U.S) population making them the largest ethnic minority group in the United States (U.S. Census Bureau, 2017a). Latinos also comprise a significant number of the U.S. construction work-force (Azaroff, Levenstein, & Wegman, 2002) and as such, these individuals have an increased likelihood to have injuries at work that could result in pain-related disabilities (Dong, Men, & Ringen, 2010). In fact, Latinos are nearly 30% more likely to have medical conditions due to work-related injuries than Caucasians after controlling for occupation, gender, age, and education (Pransky et al., 2002). As any other sociocultural group, Latinos who experience painful injuries often present in psychological settings with many related emotional symptoms (Chung et al., 2003). However, the literature focusing on emotional distress reporting among painfully injured Latinos includes only a few studies with mostly contradictory findings (Hollingshead, Nardo, Stewart, & Hirsh, 2016).

Country of heritage has been suggested to be a significant moderator on how Latinos tend to express emotional issues. For instance, Bates, Rankin-Hill, and Sanchez-Ayendez (1997), found that after controlling for other sociodemographic factors, Puerto Ricans reported higher number and severity of pain symptoms when compared to Mexicans, Mexican-Americans, and Caucasians. Similarly, Shrout et al., (1992) suggest

that Puerto Ricans are at higher risk of developing pain-related psychosomatic distress when compared to other Latino subgroups and Caucasians. While it is established that Puerto Ricans report higher number and severity of pain and pain-related emotional symptoms, not much is known regarding other Latino populations (e.g. Venezuelans).

The Venezuelan population is one of the fastest growing communities of Latinos in the U.S. In 2016, the total Venezuelan-origin population living in the U.S. was approximately 366,443 as reported by the 2016 American Community Survey 1-year estimates (U.S Census Bureau, 2017b). The Venezuelan-origin population has grown more than 388% since 1990, going from 49,000 to 248,000 over a 20-year period (López, 2015). Given that the reports of symptoms and disabilities by a Latino client can get complicated by their country of heritage, the purpose of this study is to determine if Venezuelans, like Puerto Ricans, have a greater tendency to integrate both physiological and psychological experiences when they are experiencing pain. In this study, first-year college students from Venezuela and the U.S. were asked to report emotional symptoms while pretending to be in pain for six months or longer. To measure emotional distress, we used the Minnesota Multiphasic Personality Inventory 2nd edition (MMPI-2) RC Scales. The MMPI-2 is widely recognized as a reliable measure of psychological problems commonly used in pain cases to evaluate mental health status (Boccaccini & Brodsky, 1999). The MMPI-2 has also been empirically studied with Latinos and in several Latin American countries (Suzuki, Ponterotto, & Meller, 2001). In fact, the MMPI-2 has been translated into Spanish and has a normative sample that includes a representative subset of Latino individuals (Butcher, Dahlstrom, Graham, Tallegen, & Kaemmer, 1989).

Method

Participants. Data were collected from a total of 146 first-year college students from the U.S. and 74 first-year college students the Bolivarian Republic of Venezuela. Students were recruited from two universities located in the Southern U.S. and from a university located in the Center-Occident of Venezuela, all of which were taking introductory psychology classes. The sample from the U.S. was divided into two groups: Caucasian Americans (CAM; $N= 72$; age $M= 23.75$ $SD= 6.53$; female= 66.7%), and Latino-Americans (LTA; $N= 74$; age $M= 21.57$ $SD= 2.84$; female= 62.2%). LTA students self-reported first, second or third generation Latino backgrounds and were able to fluently read and write in Spanish ($N= 74$; age $M= 20.24$ $SD= 2.11$; female=91.9%). The sample from Venezuela (VEN) consisted of college students living and studying in Venezuela. This study was approved by the Institutional Review Boards of both U.S. universities and by the *Comité de Ética Universitario* in Venezuela. All participants were given class credit for participating in this study.

Measures. The Minnesota Multiphasic Personality Inventory 2nd edition (MMPI-2; Butcher et al., 1989; Butcher, Cabiya, Lucio, & Garrido, 2007; Graham, 2006) is a widely used personality measure. The MMPI-2 consists of 567 True/False statements. Either the English version (Butcher et al., 1989) or the Spanish version (Butcher, Cabiya, Lucio, & Garrido, 2007) of the MMPI-2 were administered to participants depending on group assignment. VEN and LTA students completed the MMPI-2 and read the vignette in Spanish, while CAM completed the English version of the test and read the vignette in English. Age and gender-standardized t-scores were calculated for all participants to

control for these confounding demographic factors. Variables used in this study were clinical restructured scales: RCd thru RC9. Please refer to Table 1 for a detailed description of the RC scales (Ben-Porath & Tallegen, 2008).

Group Assignments. Participants in each group (i.e., Venezuelans, Latinos, Caucasians) were randomly assigned to two conditions. The ‘control’ condition was asked to complete the MMPI-2 in a standard procedure, while the ‘injury simulators’ condition was instructed to complete the test following a chronic injury scenario). Number of participants per group by condition: CAM standard = 34; CAM simulator = 38; LTA standard = 34; LTA simulator = 40; VEN standard = 40; VEN simulator = 34. Please note that the scenario was given in Spanish to Latino Americans, and Venezuelans (Appendix A). To ensure accuracy, the scenario was translated into Spanish and then back-translated to English (Brislin, 1970).

Chronic Injury Scenario *Imagine that you have been in an accident and suffered an injury to your neck, shoulder, and back. Initially, you experienced significant pain. Now, 6 months later, it has gotten a little better, but it is still there. You find that because of your pain you are not as able to do the things you used to do and are always somewhat uncomfortable. If you are physically active like you were before you were injured, you experience more severe pain for several days. You continue to be treated by doctors who are trying to help you reduce your problems with pain. You really want to get better, but there has not been much improvement in your condition. Now you are beginning to wonder if you would ever get better... Please answer the following questions based on this scenario. Remember this is about yourself and how you will think and act in this situation*

Table 1

Minnesota Multiphasic Personality Inventory-2nd Edition Restructured Clinical Scales

RCd	Demoralization	General dissatisfaction, unhappiness, hopelessness, self-doubt, inefficacy.
RC1	Somatic Complains	Self-reported neurological, gastrointestinal, and pain related complains.
RC2	Low Positive Emotions	Lack of or incapacity to experience positive emotions. Core vulnerability factor for depression.
RC3	Cynism	Non-self-referential belief in human badness.
RC4	Antisocial Behavior	Including juvenile misconduct, family problems, substance misuse.
RC6	Ideas of Persecution	Self-referential persecutory ideation.

RC7	Dysfunctional Negative Emotions	Including anxiety, irritability, anger, oversensitivity, vulnerability.
RC8	Aberrant Experiences	Unusual perceptual and thought processes.
RC9	Hypomanic Activation	Impulsivity, grandiosity, aggression, and generalized activation.

Results

MMPI-2 scale comparisons across administration type by cultural group

A 3(cultural group) x 2(condition) MANOVA was conducted to determine differences on the MMPI-2 RC scales. A significant main effect was obtained for *Condition* (*Wilk's Lambda* [9,206] = 8.60), $p < .001$), *Culture* (*Wilk's Lambda* [18,206] = 8.60, $p < .001$) and a significant *Interaction* (*Wilk's Lambda* [18,206] = 8.60, $p < .05$). Table 2 shows scaled means and standard deviations for each cultural group by condition. As expected, there were no differences in MMPI-2 mean scores between the three groups in any of the selected variables when the MMPI-2 was administered in standard fashion. When asked to simulate an injury, differences were observed on RC1 and RC4, where Venezuelan students reported higher levels of somatization and less reliance on antisocial behaviors than Caucasians and Latinos in the US, respectively. No differences were found between the Caucasians and Latinos in any of the scales on any of the conditions.

Table 2

MMPI-2-RF Restructured Clinical scales means and standard deviations by group and condition

	Standard Condition						Simulated Pain Condition					
	<i>Caucasian Americans</i>	<i>Latino Americans</i>	<i>Venezuelans</i>				<i>Caucasian Americans</i>	<i>Latino Americans</i>	<i>Venezuelans</i>			
	<i>N= 34</i>	<i>N= 34</i>	<i>N=40</i>				<i>N= 38</i>	<i>N= 40</i>	<i>N=34</i>			
	<i>M(sd)</i>	<i>M(sd)</i>	<i>M(sd)</i>	<i>F</i>	<i>p<</i>	η^2	<i>M(sd)</i>	<i>M(sd)</i>	<i>M(sd)</i>	<i>F</i>	<i>p<</i>	η^2
RCd	51.4(10.8)	53.7(9.4)	51.8(7.3)	0.62	.541	0.01	57.8(14.5)	64.3(11.1)	61.3(12.9)	2.56	.082	0.05
RC1	56.2(11.6)	59.8(10.8)	60.8(10.6)	1.70	.187	0.03	70.6(16.9)^a	70.2(13.9)^a	78.5(12.7)^b	3.62	.030	0.09
RC2	47.4(11.1)	50.2(10.1)	49.0(8.4)	0.71	.496	0.01	57.3(19.6)	59.9(14.2)	60.8(13.1)	0.42	.645	0.01
RC3	53.1(10.5)	54.9(7.7)	55.3(10.0)	0.55	.557	0.04	57.4(12.2)	59.2(11.1)	57.3(10.9)	0.35	.709	0.02
RC4	56.1(10.3)	53.6(12.5)	51.9(7.0)	1.61	.204	0.05	58.7(13.7)^b	60.0(9.0)^b	48.5(8.8)^a	12.18	.001	0.18
RC6	54.6(9.9)	58.5(10.4)	58.4(9.1)	1.90	.154	0.01	64.4(14.9)	66.9(13.1)	62.6(9.6)	1.03	.361	0.01
RC7	52.1(12.1)	55.1(14.2)	48.3(10.3)	2.90	0.60	0.05	57.3(13.8)	59.6(15.4)	58.9(12.2)	0.29	.751	0.00
RC8	55.4(9.5)	56.4(8.4)	56.2(6.1)	0.16	.848	0.01	63.2(16.1)	64.6(13.4)	63.9(13.4)	0.10	.900	0.00
RC9	55.5(12.6)	55.4(13.3)	50.5(7.3)	2.48	.089	0.00	56.0(9.6)	57.6(9.5)	55.0(11.4)	0.60	.550	0.01

Note. ^{ab} row means with the same letter are not significant at alpha < .05 using Tukey's b post-hoc test. RCd-RC9: RCd: Demoralization; RC1: Somatic Complaints; RC2: Low Positive Emotions; RC3: Cynicism; RC4: Antisocial Behavior; RC6: Ideas of Persecution; RC7: Dysfunctional Negative Emotions; RC8: Aberrant Experiences; RC9: Hypomanic Activation

Discussion

The results of the current study showed that Venezuelan students -- when asked to pretend to be experiencing a long-lasting injury -- tend to report higher levels of somatization and lower levels of antisocial behavior than Caucasian and Latinos living in the U.S. The current results support the argument that Latinos do not represent a uniform and discrete cluster of individuals when reporting pain-related emotional symptoms (Magni, Rossi, Rigatti-Luchini, & Merskey, 1992; Shrout et al., 1992). Venezuelans tend to report a higher number of somatization symptoms than their more U.S. acculturated counterparts when presented with similar pain scenarios. One possibility is that as a Caribbean Latino culture, Venezuelans may be more likely to assimilate psychological experiences and express them in a physical form than their Latino's U.S. acculturated counterpart (Kirmayer & Sartorius, 2007). Thus, psychologists evaluating Venezuelan patients must take into consideration that culturally-bound somatization may likely have an impact on the presentation and recovery after painful events.

However, this is not to say that low somatization scores found in more-U.S. acculturated Latinos represent a greater likelihood to adequate recovery. High-acculturated Latinos may have cultural views that inhibit symptom reports (Zamora-Kapoor et al., 2015), and may experience acculturative stressful events, such as the tendency to perceive discrimination by healthcare professionals (Hiott, Grzywacz, Arcury, & Quandt, 2006). Moreover, our results (i.e., higher scores on RC4) suggest that Latinos' antisocial behaviors such as aggressiveness and impulsivity may increase as they become more acculturated to the U.S. culture (Dubowitz, Bates, & Acevedo-Garcia, 2010). Together, these results suggest that greater acculturation to the U.S. culture, the higher likelihood that Latinos will use detrimental coping strategies (i.e., higher consumption of alcohol, cigarettes, and high-calorie foods) to deal with stressful events (Abraido-Lanza et al., 2005).

In short, the results of the current study describe how culture and nationality can influence one's perception of painful injuries and the psychological effects of such injuries. Thus, the current study highlights the importance of understanding and evaluating the socio-cultural factors that can influence pain-related outcome in clinical settings.

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Acknowledgement

The authors thank Dr. Kevin W. Greve for his support during the initial stages of this project.

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