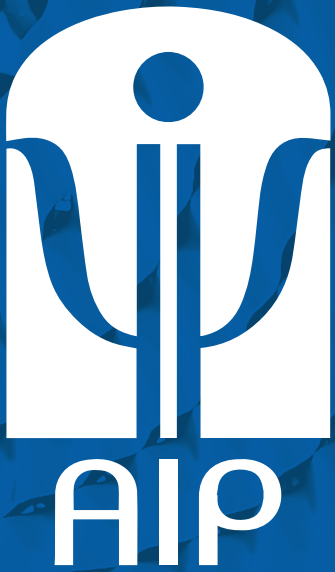


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En consideración de los criterios de visibilidad y circulación internacional, así como los estándares y parámetros de excelencia en la concepción teórica y metodológica de las revistas científicas de impacto, el volumen 9 número 2, correspondiente a agosto del 2019 de la Acta de Investigación Psicológica, incluye una serie de artículos sometidos por investigadores de alto nivel provenientes de Alemania, Brasil, Chile, China, Estados Unidos de América, Hong Kong, Inglaterra, México, Noruega, y Perú. Ocho de los nueve artículos aceptados para este número fueron sometidos a evaluación en inglés y responden a las especificaciones contemporáneas de calidad científica y aplicabilidad a las problemáticas más relevantes del momento alrededor del mundo. En primera instancia, refiriendo aspectos psicológicos sobre el campo de la salud, se presentan dos investigaciones orientadas a los efectos de la cultura sobre pacientes con Diabetes Mellitus tipo 2 y a los efectos de la autoestima sobre la depresión. Provenientes del campo de la psicología educativa, aparecen tres manuscritos elaborando sobre las creencias irracionales, el desarrollo de la autonomía y el rendimiento en estudiantes. Por último, cubriendo distintos ámbitos de la psicología social y la psicología transcultural, se presentan 4 artículos que versan sobre el papel de la socio-cultura en el comportamiento humano. En primera instancia, un tema actual con profundas repercusiones sociales se centra en el proceso de prejuicio hacia inmigrantes. En segundo manuscrito responde al estudio del “malinchismo”, un tema añejo de la psicología del carácter del mexicano. Un tercero versa sobre los valores y su impacto en la cohesión social. Para cerrar esta sección, se diserta en torno a la universalidad e idiosincrasia del autoconcepto en diversas regiones del mundo. Como en ediciones anteriores de acta, desde el escritorio del equipo editorial, agradecemos la incansable y magnífica labor de los revisores, en particular a los revisores angloparlantes que realizaron las evaluaciones de los artículos, y la paciencia y confianza de la comunidad científica al confiar sus valiosas investigaciones al proceso editorial.



## PREFACE

In consideration of the visibility and international circulation criteria, as well as the standards and parameters of excellence in theoretical and methodological conception of scientific journals, Volume 9, number 2, corresponding to August of 2019 of Psychological Research Records, includes a series of articles submitted by high-level researchers from Germany, Brazil, Chile, China, United States of America, Hong Kong, England, Mexico, Norway, and Peru. Eight of the nine accepted papers for this issue were submitted for evaluation in English and respond to the contemporary specifications of scientific quality and applicability. In the first instance, with regards to psychological issues in the health field, two research papers are presented, oriented to the effects of culture on patients with Diabetes Mellitus type 2 and the effects of self-esteem on depression. Representing the field of educational psychology, three manuscripts were accepted dealing with the elaborating on irrational beliefs, the development of autonomy and performance in students. Finally, covering different areas of social psychology and cross-cultural psychology, four articles dealing with the role of the socio-culture in human behavior are presented. In the first instance, a current issue with profound social impact is confronted in an article that focuses on the process of prejudice towards immigrants. A second manuscript responds to the study of “malinchismo,” a topic relevant the psychology of the character of the Mexican. A third article deals with values and their impact on social cohesion. To close this section, the universality and idiosyncrasies of self-concept in various regions of the world is addressed. As in previous editions of the Monograph, from the desk of the editor, I would like to thank the tireless and magnificent work of the editorial committee, in particular English speaking reviewers who evaluated the articles of this issue, as well as the patience and confidence of the scientific community in trusting their valuable research to the editorial process.





ORIGINAL

# Healthcare Mistreatment and Cultural Beliefs Impact HbA1c in Patients with Type 2 Diabetes Mellitus

## *La Negligencia Médica y las Creencias Culturales impactan BHA1C en Pacientes con Diabetes Mellitus tipo 2*

Hector Betancourt<sup>1 a, b</sup> and Patricia M. Flynn<sup>b</sup>

<sup>a</sup> Loma Linda University

<sup>b</sup> Universidad de la Frontera

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### Abstract

The aim of this research was to examine the effects of healthcare mistreatment and cultural beliefs on psychological, behavioral, and biological phenomena relevant to treatment adherence and health outcome among patients with Type 2 Diabetes Mellitus (T2DM). The study was conducted in Chile, where the prevalence of T2DM is one of the highest in Latin America and is increasing at an accelerated rate. The research was guided by Betancourt's Integrative Model and bottom-up mixed-method cultural research approach. Consistent with the hypotheses of the study, the test of a structural equation model based on the Integrative Model, including exposure to healthcare mistreatment, diabetes-related cultural beliefs, psychological distress, and medical avoidance as determinants of HbA1c, a biological measure of diabetes control, fit the data. The fact that the analysis of structural equations accounted for significant variance in HbA1c provides supporting evidence for extending the Integrative Model, to explain biological phenomena based on cultural and psychological factors.

**Keywords:** Healthcare, Culture, Diabetes, Beliefs, Integrative Model

### Resumen

El propósito de este trabajo fue evaluar los efectos de la negligencia médica y las creencias culturales sobre fenómenos biológicos, conductuales y psicológicos relevantes para la adherencia al tratamiento y consecuencias de salud en pacientes con diabetes mellitus tipo 2 (DMT2). El estudio se llevó a cabo en Chile, donde la prevalencia de DMT2 es una de las más altas de América Latina y sigue en aumento de manera acelerada. La investigación se basó en el Modelo Integrativo de Betancourt y en el enfoque mixto-abajo-arriba de investigación cultural. Congruente con las hipótesis del estudio, el modelo de ecuaciones estructurales basado en el modelo integrativo, que incluyó la exposición a negligencia médica, creencias culturales vinculadas a la diabetes, estrés psicológico,

1 Hector Betancourt, Department of Psychology, Loma Linda University, USA, and Universidad de La Frontera, Chile; Patricia M. Flynn, Department of Psychology and Department of Preventive Medicine, Loma Linda University, USA. Correspondence should be addressed to Dr. Hector Betancourt, Department of Psychology, Loma Linda University, Loma Linda, CA 92350. Email: hbetancourt@llu.edu. This research was funded by CONICYT (Government of Chile), FONDECYT Project 1090660, to Dr. H. Betancourt, P.I.

y evitación médica como determinantes del HbA1c, una medición biológica de control diabético, mostró buen ajuste. El hecho de que el modelo de ecuaciones estructurales explique gran parte de la varianza del HbA1c aporta suficiente evidencia para ampliar el modelo integrativo en la explicación del fenómeno biológico con base en factores culturales y psicológicos.

**Palabras Clave:** Salud, Cultura, Diabetes, Creencias, Modelo Integrativo

Patient-physician interactions are critical to managing chronic diseases (Aikens, Bingham, & Piette, 2005; Ratanawongsa et al., 2013) such as type 2 diabetes mellitus (T2DM). Yet, racial or ethnic minority and lower socioeconomic status (SES) patients, who in the U.S. experience higher rates of T2DM, are also more likely to feel disrespected, not listened to, and treated unfairly in the healthcare system (Barr & Wanat, 2005; Blanchard & Lurie, 2004; Blendon et al., 2008). Despite physicians' best intentions to provide equitable care, research reveals that providers' implicit cultural biases about racial or ethnic minority and low SES patients influence their medical interactions, including visit length, affect, empathy, and patient-centeredness (Cooper et al., 2012; Penner et al., 2016). Because patient perceptions of poor quality-of-care and healthcare mistreatment impact their subsequent medical interactions (Hagiwara, Dovidio, Eggly, & Penner, 2016; Hausmann et al., 2011; Hausmann, Kwoh, Hannon, & Ibrahim, 2013) and treatment adherence behaviors (Kronish et al., 2013; Ortiz, Baeza-Rivera, Salinas-Onate, Flynn, & Betancourt, 2016), this is a particularly important issue for minority and low SES populations who, in the case of T2DM, are less likely to meet HbA1c goals and are more likely to die from the disease than non-Latino White (Anglo) Americans in the United States (Xu, Murphy, Kochanek, Bastian, & Arias, 2018).

The present study, which examines diabetes outcomes in a Latin American country experiencing high rates of this disease, builds on our previous research examining the implications of healthcare mistreatment and cultural beliefs on cancer screening behaviors among low SES Latin Americans (Latino) and Anglo Americans in the United States (Betancourt, Flynn, & Ormseth, 2011; Betancourt, Flynn, Riggs, & Garberoglio, 2010; Flynn, Betancourt, & Ormseth, 2011). That research in the area of cancer screening

was guided by a bottom-up mixed-methods research approach (Betancourt et al., 2010), which resulted in the identification of several instances of healthcare mistreatment experienced by culturally diverse patients during routine cancer screening. These instances of healthcare mistreatment reflected poor interpersonal quality-of-care, such that healthcare providers "treat me like an object" and "do not listen to me" (Flynn et al., 2015). This line of research also led to the identification of several cultural factors relevant to cancer screening behaviors such as cultural biases about healthcare providers (Betancourt et al., 2011) and cancer screening fatalism (Flynn et al., 2011). This collective body of research revealed that both healthcare mistreatment and cultural beliefs predict cancer screening, medical avoidance, and continuity of healthcare among low SES Latino American patients in the United States.

The present study was designed to examine the impact of healthcare mistreatment and cultural beliefs about diabetes on disease outcomes among T2DM patients. The study was conducted in Chile, a country in which the incidence of T2DM is one of the highest in South America and is increasing at an accelerated rate. In 2013 the prevalence of T2DM in Chile was 10.4% and by the year 2035 it is projected to reach 12.7%, surpassing the 11.6% projection for the United States (Guariguata et al., 2014). The increasing prevalence of T2DM in Chile and problems related to the management of this complex disease have been attributed to globalization, economic growth, and urbanization, including changes in diet, physical activity, and lifestyle in general (Uauy, Albala, & Kain, 2001).

The treatment of T2DM requires the management of complex medication regimens and lifestyle changes, which highlight the critical need for quality patient-provider relations to ensure successful clinical outcomes. Our research with indigenous T2DM patients in Chile,

however, reveals high rates of healthcare discrimination, attributed by patients to their lower levels of education and income (Ortiz et al., 2016). Moreover, these attributions of healthcare discrimination resulted in a greater likelihood that patients would discontinue their diabetes medical care. These findings suggest that social inequities and socioeconomic disparities between patients and providers, within the context of a classist society, can affect healthcare interactions and behaviors relevant to seeking medical care for T2DM.

In addition to the noted experiences of mistreatment and discrimination in the healthcare setting, many individuals with T2DM also report stigma and social rejection from society in general, across many life domains including work and relationships (Browne, Ventura, Mosely, & Speight, 2013; Liu et al., 2017; Schabert, Browne, Mosely, & Speight, 2013). These socially shared experiences among individuals with T2DM could have significant implications for psychological well-being and clinical outcomes. In fact, an international study indicates that approximately

45% of patients experience diabetes-related distress (Nicolucci et al., 2013), which is associated with poor medication adherence and glycemic control (Gonzalez, Shreck, Psaros, & Safren, 2015). These findings suggest an important need for research that can systematically investigate the impact of socially shared (i.e. cultural) beliefs about diabetes and healthcare mistreatment as determinants of psychological distress, treatment adherence, and T2DM outcomes.

The present research is guided by Betancourt’s integrative theoretical model for the study of culture and behavior in psychology (Betancourt, Hardin, & Manzi, 1992; Betancourt & Lopez, 1993), adapted for health behavior (Betancourt & Flynn, 2009; Betancourt et al., 2010; Flynn et al., 2011). The model specifies how culture relates to health behavior and mediating psychological factors as well as to social structural factors conceived as sources of cultural variation. According to the Integrative Model (see Figure 1), aspects of culture (B) such as the socially shared beliefs, values, norms and practices relevant to

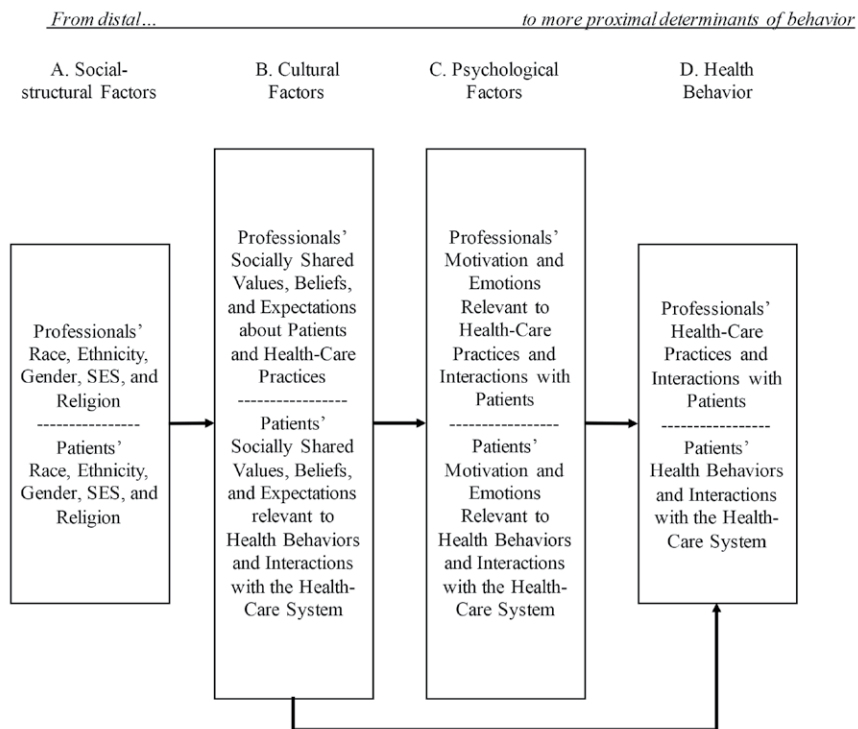


Figure 1. Betancourt’s Integrative Model Adapted for Health Behavior.

Reprinted from: Betancourt and Flynn (2009).



T2DM can directly impact health behaviors (D), such as those involved in the management of T2D (e.g. attending diabetes care visits, adherence to prescribed treatment). These aspects of culture can also indirectly influence health behavior through psychological processes (C), such as the experience of distress associated with diabetes and medical treatment. Such aspects of culture (B) may be shared among members of groups, such as racial, ethnic, SES, or other communities (A).

In a manner consistent with the Integrative Model that has guided our previous work on the role of culture and healthcare mistreatment in the context of cancer screening, the aim of this study was to test the effects of healthcare mistreatment and cultural beliefs on psychological and behavioral phenomena relevant to treatment adherence and health outcome among T2DM patients in Chile. Specifically, it was hypothesized that patients' level of exposure to healthcare mistreatment and their cultural beliefs about diabetes-related social rejection will be associated with higher scores on treatment-related psychological distress. It was also expected that diabetes-related psychological distress would predict greater medical avoidance, which will in turn negatively impact HbA1c (i.e. elevated levels), a biological measure of diabetes control. By including HbA1c along with social structural, cultural, psychological, and behavioral variables, this study represents a preliminary effort to extend the scope of the Integrative Model to also account for biological outcomes.

## Methods

This study was part of a larger research project designed to examine the role of culture, patient-provider healthcare interactions, and psychological factors relevant to treatment adherence and outcome among T2DM patients in Chile. Previous research (Ortiz et al., 2016) examined the impact of healthcare discrimination among T2DM patients of indigenous (Mapuche) background. The present study therefore focuses on the experience of healthcare mistreatment among non-indigenous Chilean T2DM patients.

**Table 1**

*Descriptive Statistics for Study Variables (N=143)*

	<i>n (%)</i>
Age	<i>M</i> = 55.64, <i>SD</i> = 14.41
Education	
Less than 8 years	53 (37.6%)
9-12 years	65 (45.5%)
More than 12 years	23 (16.2%)
Income	
\$0 - \$150,000	54 (37.8%)
\$151,000 - \$250,000	43 (30.1%)
\$251,000 - \$500,000	34 (23.8%)
\$501,000 - \$1,000,000	11 (7.7%)
More than \$1,500,000	1 (0.7%)

## Participants

A total of 400 T2DM patients from La Araucania region of Chile participated in the larger research project. Inclusion criteria for that larger study included a minimum age of 18, diagnosis of T2DM for at least one year, and not dependent on insulin. For the purpose of the present study, additional inclusion criteria involved at least one reported experience of past healthcare mistreatment, as measured by the Healthcare Mistreatment Scale (Flynn et al., 2015). As discussed earlier, our previous work examined the impact of healthcare discrimination on indigenous Chilean (Mapuche) T2DM patient outcomes (Ortiz et al., 2015). Hence, the focus of the present study is on mainstream Chilean T2DM patients. Of the 254 non-indigenous T2DM patients included in the larger study, 143 reported at least one experience of prior mistreatment. Demographics for the study sample are described in Table 1.

## Measures

*Cumulative Exposure to Healthcare Mistreatment.* The present study employed an adapted version of the Interpersonal Health Care Mistreatment scale (Flynn, et al., 2015), which was originally developed with low-income Latino and Anglo American women from Southern California, U.S.A., through a mixed-methods

research approach to instrument development (Betancourt et al., 2010). A similar mixed-methods approach was implemented with T2DM patients in Chile to refine existing items, eliminate non-relevant items, and identify additional instances of healthcare mistreatment experienced in the Chilean healthcare system. The adapted scale included seven items reflecting specific instances of negative interpersonal healthcare encounters such as a lack of respect and communication issues. Participants were presented with the seven items and asked to check a box if they ever experienced the mistreatment incident during a diabetes care visit. A sample item includes, "The physician showed no interest in me or my health." A cumulative exposure to healthcare mistreatment score was derived by summing the total instances of mistreatment endorsed by participants ( $\alpha = .81$ ).

*Cultural Beliefs about Diabetes-Related Social Rejection.* Guided by the bottom-up cultural research approach to instrument development (Betancourt et al., 2010), qualitative interviews with 50 T2DM patients in Chile were conducted to identify cultural beliefs, values, expectations, and norms relevant to T2DM and treatment adherence. The bottom-up cultural research approach begins with specific observations relevant to an area of research (e.g. treatment adherence), which are derived through interviews from the population of interest (e.g. Chilean diabetes patients), and evolves from these observations to the development of quantitative instruments. An advantage of this approach is that it allows for the identification of aspects of culture directly from individuals, rather than based on stereotypical views.

One of the cultural factors that emerged from the bottom-up cultural research approach reflected cultural beliefs about the social rejection of diabetes patients. Two close-ended items were developed to assess this cultural construct. Participants were asked to think about diabetes patients and indicate the extent to which they agreed with the following statements, "diabetes patients feel left out by others at parties where there is eating and drinking," and "diabetes patients feel discriminated because of their disease". Responses were recorded on a 7-point Likert scale anchored at the extremes from "strongly disagree" to

"strongly agree". Reliability for this factor was good ( $\alpha = .72$ ).

*Medical Treatment Distress.* The previously described mixed-methods research approach was also used to identify the psychological consequences of healthcare mistreatment, which resulted in the development of two items. Participants were asked, "As a result of what happened to you, were you more stressed or nervous about having to go to your next appointment?" and "As a result of what happened to you, were you more concerned about the future of your illness?" Participants responded to these items based on a Likert scale ranging from 1 "strongly disagree" to 7 "strongly agree". Higher scores reflect higher levels of distress. Reliability for the measure was .69.

*Medical Avoidance.* Participants indicated the extent to which they "postponed or delayed going to their next diabetes care appointment," as a result of the mistreatment incident. This item was based on a 7-point Likert scale, with higher scores reflecting greater medical avoidance.

*Glycosylated Blood Glucose Level (HbA1c).* Participants' HbA1c levels were measured at the time of data collection. HbA1c levels are indicative of the long-term level of glucose in one's blood. Higher HbA1c levels reflect poorer diabetes control.

*Social Structural Sources of Cultural Variation.* Demographic information including age, gender, income, and highest educational level, were self-reported on the demographic section of the research instrument.

#### *Procedures*

Approval for the study was obtained from the public university ethics committee for research and the regional office of the Chilean Ministry of Health (SEREMI de Salud, Region de La Araucanía). Participants were recruited through healthcare personnel and flyers posted and distributed at public and private healthcare centers. Individuals interested in participating contacted the study research office. Potential participants were provided with information on the study and were screened to ensure they met the study inclusion criteria. Eligible individuals were informed that their participation would involve answering a questionnaire

that took 30-45 minutes to complete. They were also told that they would receive free test-results of their HbA1c level and would be compensated 5,000 Chilean pesos (approximately \$10 USD) for their time. Those interested in participating scheduled a time for data collection and were provided with directions to one of the data collection locations.

Two research assistants were present during data collection, which included 4-6 participants per session. The research assistants reiterated the purpose of the study, reviewed the informed consent form, and obtained written consent from all participants. The research assistants distributed the questionnaire and encouraged the participants to ask any questions for clarification. If the participant was unable to read, one of the research assistants administered the questionnaire in a private setting. Once the questionnaire was completed, a trained research assistant obtained the participant's height and weight and administered the HbA1c test. Lastly, participants were given their HbA1c results and were provided with monetary compensation for their participation, which took approximately one hour including processing time for the HbA1c.

#### Statistical Analyses

Structural equation modeling with Maximum Likelihood (ML) estimation was used to test the study

hypothesis via EQS 6.3 (Bentler, 1985-2017). The data were screened revealing no outliers. Table 2 includes the means, standard deviations, and correlations among the study variables. There was a violation of multivariate normality and hence robust model fit indices are reported. Adequacy of model fit was assessed using the non-significant  $\chi^2$  goodness-of-fit statistic, a  $\chi^2/df$  ratio less than 2.0 (Tabachnick & Fidell, 2001), a Comparative Fit Index (CFI) of .95 or greater (Kline, 2015), and a Root Mean Square Error of Approximation (RMSEA) of less than .05, with the upper limit of the 90% confidence interval less than .10 (Kline, 2015). In conjunction with theoretical and conceptual reasoning, the Wald and LaGrange test statistics were reviewed to determine if eliminating or adding paths would improve model fit and if so they were implemented in a step-wise manner.

#### Results

A structural equation model including the hypothesized theory-based relations among cumulative healthcare mistreatment, cultural beliefs about diabetes-related social rejection, medical treatment distress, medical care avoidance, and HbA1c was tested. Age, gender, income, and education were also included in the tested model as sources of variation in the cultural factor. A review of the Wald test statistic suggested

**Table 2**  
Correlations, Means, and Standard Deviations for Study Variables

	1	2	3	4	5	6	7	8	9
1. Income	—								
2. Education	.53**	—							
3. Age	-.21**	-.31**	—						
4. Gender	.24**	.21**	.15	—					
5. Healthcare Mistreatment	.03	.03	.11	.11	—				
6. Cultural Beliefs	-.33**	-.31**	.08	.06	-.01	—			
7. Treatment Distress	-.30**	-.27**	-.05	-.04	.28**	.17*	—		
8. Medical Avoidance	-.13	-.10	-.09	-.04	.18*	.03	.49**	—	
9. HbA1c	.00	-.07	.00	.16	.12	.17*	.14	.21*	—
M	2.04	10.16	55.64	1.45	3.62	2.93	3.65	3.43	7.19
SD	2.12	3.94	14.41	0.50	2.34	2.08	2.25	2.52	1.94

\* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$ .

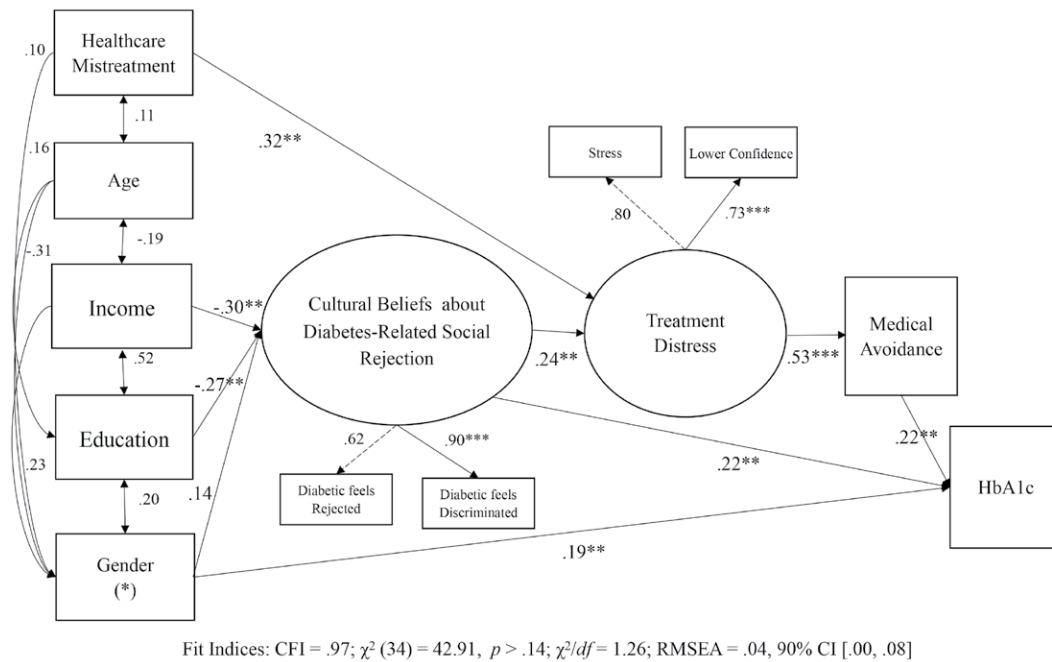


Figure 2. Results from the test of a structural equation model depicting the impact of healthcare mistreatment and cultural beliefs on treatment distress, medical avoidance, and HbA1c. (\*) Female=0; Male=1

eliminating the path from age to cultural beliefs. In addition, the LaGrange Multiplier Test indicated that adding a path from gender and cultural beliefs to HbA1c would improve model fit. Because these suggestions were consistent with prior research employing the Integrative Model, they were implemented in a step-wise manner. The resulting structural equation model including the hypothesized theory-based relations fit the data well [CFI = .97;  $\chi^2(34) = 42.91, p = .14$ ;  $\chi^2/df = 1.26$ ; RMSEA = .04, 90% CI (.00, .08); see Figure 2]. The study variables accounted for approximately 15% of the variance in HbA1c.

Consistent with the study hypothesis, greater exposure to healthcare mistreatment and higher scores on cultural beliefs about diabetes-related social rejection were associated with higher levels of treatment distress ( $\beta = .32, p < .05$ ;  $\beta = .24, p < .05$ ), respectively. Higher levels of treatment distress predicted greater medical avoidance ( $\beta = .53, p < .05$ ), which in turn predicted higher HbA1c ( $\beta = .22, p < .05$ ). In addition, there was a direct effect of cultural beliefs about diabetes-related social rejection on HbA1c ( $\beta = .22, p < .05$ ). Gender was also predictive of HbA1c such that males had higher HbA1c levels ( $\beta = .19, p < .05$ ).

Also consistent with the integrative model guiding this research, lower income and education were predictive of higher scores on cultural beliefs about diabetes-related social rejection ( $\beta = -.30, p < .05$ ;  $\beta = -.27, p < .05$ ), respectively. Males also reported higher scores on cultural beliefs about diabetes-related social rejection ( $\beta = .14, p > .05$ ).

**Discussion**

The test of the structural equation model including the theory-based structure of relations among healthcare mistreatment, cultural beliefs, distress, and medical avoidance as determinants of HbA1c, as a biological outcome of T2DM, fit the data well. These results, along with the finding that cultural beliefs associated with the social rejection of T2DM patients influenced HbA1, both directly and through its effect on the level of distress, are particularly significant. The fact that the way patients are treated by their healthcare providers increases the level of treatment-related distress, which in turn leads patients to avoid future medical interactions thereby impacting health outcomes, has major implications for healthcare.



Despite healthcare providers' best intentions to deliver high quality care to minority and low SES patients, it is possible that their biases and a lack of cultural awareness could unintentionally get in the way, ultimately resulting in poorer quality medical interactions and worse outcomes for patients from those populations. This suggests that, in order to improve health outcomes for T2DM and other chronic diseases, policies and interventions should include training on cultural competence, interpersonal communication skills, and the reduction of implicit biases in the healthcare system. This may improve medical interactions, the experience of patients in the healthcare system, and quality of care, all of which may positively impact patient health outcome.

From a theoretical and methodological perspective, the fact that the structural equation model accounted for a significant amount of variance in HbA1c is also quite noteworthy, as it represents a successful preliminary effort to extend the integrative model to explain biological phenomena. This is theoretically meaningful in that it illustrates how social structural and cultural factors may impact not only the psychological and behavioral phenomena, which we as psychologists tend to focus on, but also how such factors can explain variations in related biological outcomes.

In addition to confirming the fundamental propositions of the integrative model, results highlight the important role of psychological factors, such as distress, in understanding the influence of cultural and social structural factors in health behavior and outcome. This is important from a psychological perspective, as it confirms the need to consider relevant psychological processes when investigating health behavior and outcome from a cultural perspective. According to the integrative model, culture can influence behavior directly and/or through its effect on psychological processes. When the influence of psychological factors is not considered and no direct effect of culture on behavior is observed, one may wrongly conclude that culture does not play a role in that particular behavior. Consideration of these as well as the other findings of this study can significantly improve healthcare interventions.

Despite the significance of the study findings, there are limitations that must be considered. Specifically, even though the structure of hypothesized relations included in the structural equation model are solidly grounded in theory, the cross-sectional nature of the research must be noted. Hence, future research could further advance knowledge in this area by using structural equation modeling to test similar hypotheses with data from longitudinal research.

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ORIGINAL

# Autonomy Development: Gender and Age Differences from Adolescence to Emerging Adulthood

## *Desarrollo de la Autonomía: Diferencias por Sexo y Edad desde la Adolescencia hasta la Adulthood Emergente*

Luciana Dutra-Thomé<sup>1 a</sup>, Louise Florêncio Marques<sup>b</sup>, Maria Lucia Seidl-de-Moura<sup>b</sup>, Dandara de Oliveira Ramos<sup>c</sup>, and Silvia Koller<sup>d</sup>

<sup>a</sup> Federal University of Bahia

<sup>b</sup> State University of Rio de Janeiro

<sup>c</sup> Center for Data Integration and Health Knowledge (CIDACS-Fiocruz)

<sup>d</sup> Federal University of Rio Grande do Sul

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### Abstract

The development of autonomy during the transition to adulthood may present itself in different forms, depending on age, gender and cultural variations. Grounded in developmental psychology, this study examined gender and age differences in autonomy in Brazilian youth. Participants were 154 Brazilian adolescents and emerging adults (14-33 years old,  $M = 20.87$ ,  $SD = 3.74$ , 50% female) from the state capital of Rio de Janeiro. Our findings indicate a positive association between age and autonomy scores in the Kağıtçıbaşı's Autonomous, Related and Related-autonomous Self scales. Correlation results showed gender specific results in such associations, such as that for men, age was positively associated with autonomy, whereas for women, it was associated with related-autonomy. These results suggest that, in Brazil, traditional views continue to reinforce gender roles towards men's agentic behavior and women's communal behavior. These findings highlight the importance of elucidating gender differences in the development of autonomy in different sociocultural contexts.

**Keywords:** Emerging Adults; Adolescents; Autonomy

### Resumen

El desarrollo de la autonomía durante la transición a la edad adulta puede presentarse en diferentes formas, según la edad, el género y las variaciones culturales. Basado en la psicología del desarrollo, este estudio examinó las diferencias de género y edad en la autonomía de los jóvenes brasileños. Los participantes fueron 154 adolescentes brasileños y adultos emergentes (14-33 años,  $M = 20.87$ ,  $SD = 3.74$ , 50% mujeres) de la capital del estado de Río de Janeiro. Nuestros hallazgos indican una asociación positiva entre las puntuaciones de edad y autonomía en las escalas de Self Autónomo, Relacionado y Autónomo-relacionado de Kağıtçıbaşı. Los resultados de la correlación mostraron resultados específicos de género en tales asociaciones, como la de los hombres, la edad se

1 Contact: lucianaduth@gmail.com. Institutional Address: Federal University of Bahia, Department of Psychology. Rua Aristides Novis, 197, Estrada de São Lázaro. Salvador, Bahia, Brazil. Postal code:40110-060.

asoció positivamente con la autonomía, mientras que para las mujeres se asoció con la autonomía relacionada. Estos resultados sugieren que, en Brasil, las opiniones tradicionales continúan reforzando los roles de género hacia la conducta de los hombres y la conducta comunitaria de las mujeres. Estos hallazgos resaltan la importancia de dilucidar las diferencias de género en el desarrollo de la autonomía en diferentes contextos socioculturales.

**Palabras Clave:** Adultos Emergentes; Adolescentes; Autonomía

## Adulthood

The aim of the present study is to investigate gender and age differences in autonomy development in adolescence and emerging adulthood based on Kağıtçıbaşı's (2007) perspective on Self Development, and Arnett's theory. The rationale for doing this is that Arnett's theory of emerging adulthood has autonomy acquisition as an important marker, and a general contemporary characteristic of young people. We believe that Kağıtçıbaşı's propositions about different developmental trajectories taking into account culture are important to understand emerging adulthood as a phenomenon in context.

No longer associated to performing traditional adult roles, such as marrying, having children, and having a job (Arnett, 2000, 2011), emerging adults are considered as acquiring autonomy in terms of separation and independence from their families (Steinberg & Silverberg, 1986). By the age of 18-29 years old, adulthood involves assuming responsibility for oneself, and making independent decisions. Arnett (2011) identified four beliefs associated with emerging adults, focusing on becoming a self-sufficient person: (1) Independence and autonomy, which configure the primary challenges of this life stage, viewed as a prerequisite to long-term commitments to others. This is reinforced by the minimal social and institutional control experienced by emerging adults, because they are not bound to follow the rules set by others (Arnett, 2005); (2) Search for a love partner who could match their expectations. For them, romantic love is the base for marriage; (3) Search for a job opportunity connected with their personal interests and life. They strive towards the ideal of finding a job that is interesting and satisfying; (4) Enjoyment and self-leisure appear before assuming adult roles and long-term commitments.

This set of beliefs gives priority to individual autonomy. It can be questioned if this is an universal developmental goal (Kağıtçıbaşı, 2007). For some cultures it is certainly not. Seidl-de-Moura and colleagues have shown this in a set of Brazilian studies (Seidl-de-Moura, Vieira & Carvalho, 2013). Studies on familism and family allocentrism (Carlo, Koller, Raffaelli, & De Guzman, 2007; Manago, 2012; Seidl-de-Moura, Ziviani; Fioravanti-Bastos, Carvalho, 2012) have provided evidence on different tendencies in Latin American cultures, specifically in Brazil. In Brazil, family allocentrism relates to living in rural areas and sociocultural experiences during development. Familism scores are higher in low socioeconomic contexts, and emerging adults from those contexts considered "being capable of taking care of parents" as a more important marker of adulthood than high socioeconomic status emerging adults (Dutra-Thomé & Koller, 2014). Thus, it seems important to reevaluate the proposal of emerging adulthood as necessarily involving one view of autonomy and to take into account cultural particularities in each context and their effects during individuals' transition to adulthood.

Autonomy refers to a multidimensional construct conceived as the ability to make decisions and control important areas of one's life, self-determination by one's own means, and the right to make decisions freely, acting on one's moral and intellectual independence (Goossens, 2008). Although autonomy develops throughout a person's complete life cycle, it has been more studied until adolescence. Adolescents seem to experience autonomy differently than emerging adults, because their autonomy is usually related to exploring and experimenting new cognitive abilities and capacities; testing boundaries; and renegotiating with the parents his/her place in the family (Goossens,

2008; Ponciano & Seidl-de-Moura, 2011). For emerging adults, autonomy is associated with an exercise of becoming more responsible for their choices as well as experimentation. Individual's exploration provides a glimpse of what adult life may lay ahead, concerning, for instance, life partners and job opportunities (Arnett, 2011).

Kağıtçıbaşı (2013) considered autonomy as a basic human need that must be satisfied in some manner by healthy psychosocial development (Marques, 2014; Marques & Seidl-de-Moura, 2016; Noom, Dekovic, & Meeus, 2001; Reichert & Wagner, 2007) and it is not associated with distance from others. This author considered that two dimensions have to be taken into account: agency and distance from others. One of the poles of the agency axis is autonomy and the other is heteronomy.

She proposed a General Theory of Family Change and of Self Development, which encompasses three models of family interaction patterns that promote different models of development of the self (*Autonomous, Related, and Related-autonomous selves*; Kağıtçıbaşı, 1996, 2007): (1) *Independence model* reflects the importance attributed to agency and to more personal distance, and refers to the *Autonomous self*. It is most observed in middle class families of Western urban industrial societies. Separation, financial, personal autonomy, and feeling of singularity are valued within an individualistic ideology. Children are emotionally valued and parents' socialization goals focus on the development of self-value and the quality of being unique; (2) *Interdependency model* is the result of a tendency to value heteronomy and low personal distance from others, and refers to the *Related self*. This model is present in both rural and urban societies with low income, in which intergenerational interdependency has been necessary for family survival. Within this context, family members may interpret autonomy as a threat. They value both emotional and utilitarian ties that represent a guarantee for the safety of aging parents; (3) *The model of related autonomy* or psychological (emotional) interdependency is found in urban areas of countries that keep relational values of family such as closeness, even with socioeconomic growth, and refers to

the *Related-autonomous self*. They value autonomy mainly as a path to professional success, and loyalty to family and emotional interdependency remains. This represents the poles of autonomy and low personal distance. Based on these models, Kağıtçıbaşı (1996, 2007) developed three scales to measure the Autonomous, Related and Related-autonomous Selves (Kağıtçıbaşı, 2011). Considering these models, we may think that emerging adults in some contexts may show higher agency, but not necessarily become separated from others, specially their family nucleus.

In Brazil, a country with high familism e socioeconomic inequality, it is quite common that individuals count on their communities for mutual support. On one hand, this support is part of a population that values family as important, as a heritage of practices and beliefs influenced by Christian background (Carlo, Koller, Raffaelli, & De Guzman, 2007; Cerqueira-Santos & Koller, 2009). On the other hand, poorer settings lack of governmental investment (e.g. not decent access to health and education) and the context of insecurity faced by these families leads them to find strategies to support each other, count on their broad family and neighbors as reference, and build a solidarity network (Bem & Wagner, 2006; Llanos, Orozco, & Garcia, 1999; Schmidt, 2010). Not only that, but the general characteristics of Brazilian people formation, with its three main influences (indigenous people, slaves from African origin, and Portuguese colonizers may have fostered a tendency for a predominance of a developmental trajectory of Related-autonomous selves in Brazil, although it shows variations depending on sociodemographic variables (Seidl-de-Moura, Carvalho, & Vieira, 2013; Seidl-de-Moura, Mendes, Pessôa, & Carvalho, 2012). Brazilian families, especially mothers, in their conception of their children, their socialization goals, and their practices, value both autonomy and relatedness. Brazilian adolescent girls also indicated Related-autonomous selves, showing family cohesion and influence of parents when deciding about their future and professional plans (Ponciano & Seidl-de-Moura, 2011).

In other countries, autonomy during emerging adulthood studies showed independence and autonomy as important values, what might be related to



an Autonomous development of the self. A study with 332 American university students from different ethnic groups (average age of 21.7 years) showed that across different ethnic groups, higher levels of agency were positively related to exploration and flexible commitment; unrelated to conformity; and negatively related to avoidance. Findings suggested that one of the primary tasks of emerging adulthood may be to develop an orientation consonant with developmental individualization, since the degree of agency was directly related to the coherence of the emerging adult's identity (Schwartz, Côté, & Arnett, 2005).

Another study developed in U.S. examined 204 college students and their parents' ( $n=226$ ) expectations about autonomy during the transition to college. Although the encouragement of autonomy was present, emerging adults might need more family support during the transition than expected, probably because the period is characterized by instability and multiple transitions (Kenyon & Koerner, 2009). In the opposite direction, parents hold higher expectations for their emerging-adult children's future autonomy behaviors. This apparent contradiction in the American studies in emerging adulthood may be related to what has been observed in the adolescent studies. Adolescents and their parents disagree in terms of which spheres of the adolescent's life are entitled to adolescents to make a decision. Therefore adolescents may strive for autonomy in areas of their lives that their parents do not encourage (Smetana, Crean, & Campione-Barr, 2005), what may be a reality in further stages in life.

In the same direction as the one observed in Brazilian studies, a mixed-methods study interviewed 14 first-generation Mayan university students from Chiapas (Mexico), who were experiencing a transition from rural to urban settings. Quantitative analyses indicated a trend toward perceptions of more individual autonomy and gender egalitarian values. Qualitative analyses of interviews revealed that participants were thriving to harmonize new values of independence, self-fulfillment, and gender equality with the traditional values of respect for elders and family obligation (Manago, 2012).

Based on this literature, we intend to explore further the kind of autonomy presented by Brazilian

emerging adults. Most of the studies done by Seidl-de-Moura and colleagues had only women (mothers) as participants. There is no data on gender differences and their relation to individuals' autonomy. Traditionally, for the most part in Western urban cultures, society expects men to be strong in traits of agency, with an inclination to manifest independence and assertiveness, while women are expected to be strong on communal qualities such as warmth, friendliness, and nurturance (Bason & Rubin, 1999). Rogoff (2003) pointed out that socialization of men and women is different throughout childhood and adolescence, and that those gender differences, such as forcefulness and nurturance, indicate a clear connection with the roles they are supposed to play in their cultural communities. Research in some cultures has indicated that men and women differ concerning how they develop autonomy during adolescence and emerging adulthood. Women tend to keep closer relationships with their parents than do men, to decrease family contact more slowly, and they tend to be more strongly affected by their relationships with their parents than men are (Geuzaine, Debry, & Liesens, 2000; Sneed et al., 2006). Women also present higher levels of emotional and altruistic pro-social tendencies, internalization of values, and higher levels of religiosity than men (Padilla-Walker, Barry, Carroll, Madsen, & Nelson, 2008). A study in the U.S. assessing work preferences, life values, and personal views of highly talented and gifted math/science graduate students at 25 and 35 years found that men assumed a more agentic and career-focused attitude in life, whereas women favored their connection with the community, family, and friendships (Ferriman, Lubinski, & Benbow, 2009). Another study in U.S. with emerging adults found different trends, with values of autonomy and community balanced for both genders, with no expressive differences. This result was in some extend surprising, in a general way, because emerging adults were expected to privilege individualistic over communal values while concentrating on their personal interests in a self-focused period (Arnett, Ramos, & Jensen, 2001). All these studies were done in cultural contexts in which, theoretically, Kağıtçıbaşı's model in which agency and separation are fostered and



valued. Research in Brazil indicated this may not be universal, but there is not sufficient data. Women and adolescent girls in various contexts (Marques, 2014; Seidl-de-Moura, Carvalho & Vieira, 2013) presented characteristics of an autonomous related self, indicating the presence of both Autonomy and Relatedness (proximity of others).

Besides gender comparison studies, we observe a lack of longitudinal studies on emerging adulthood. Due to the extension of transition to adult life observed in the phenomenon of emerging adulthood, there are questions not yet answered regarding the development of autonomy in this period. Emerging adulthood shares some characteristics with adolescence (e.g. living with parents) and adulthood at the same time (e.g. having financial independence). Thus, autonomy development in transition to adulthood may present different forms, depending on the age.

This study is based on the three set of aspects discussed: the need to consider the cultural context in studies of emerging adulthood, the lack of gender comparisons and the absence of investigations taking age into account. Based on the literature that found the tendency of Related-autonomous self in Brazilian studies, and trying to bring evidence about emerging adults characteristics, the present study aims at

analyzing the orientation towards Autonomy, Relatedness, and Related-autonomy, taking into account age and gender differences. We hypothesize that (a) a general tendency for Related-autonomy is present in this group; (b) there are significant differences between male and female participants in the three scales, with the males presenting higher scores in autonomy than females; (c) an association of the participants' age with the Autonomy scores; and finally (d) significant age group differences in Self-development scores.

## Method

### Participants

The participants were 158 Brazilians, aged between 14 and 33 years old ( $M = 20.87$ ,  $SD = 3.74$ ; 50% female). Among them, there were adolescents (14 to 18 years old,  $N = 42$ ); early emerging adults (19 to 23 years old,  $N = 89$ ); and late emerging adults (24 to 33 years old,  $N = 27$ ) living and urban and suburban settings in Rio de Janeiro (Table 1).

### Instruments

*Autonomous, Related and Related-autonomous Self-Scales.* The Self-development Scale (Seidl-de-Moura, Ziviani, Fioravanti-Bastos, & Carvalho, 2013) based on the agency and interpersonal distance, measures three tendencies of trajectories of selves: Autonomous, Related, and Related-autonomous. The scale development began with a pool of 40 items (Kağıtçıbaşı, 2011, personal communication during visit to Brazil) administered to a sample of 117 university students of Istanbul, Turkey. Concurrent and construct validity tests in a sample of 677 Turkish participants indicated that the scale is valid for the three models of self (Kağıtçıbaşı, 2007). The Turkish structure of 27 items divided in three sub-scales with nine Likert-type items each was confirmed in Brazil (Seidl-de-Moura, Ziviani, Fioravanti-Bastos, & Carvalho, 2013). Examples of items included: "People close to me have little influence on my decisions" (Autonomous self;  $\alpha = .69$ ); "I need the support of persons to whom I feel very close" (Related self;  $\alpha = .67$ ); "It is important to have both close relationships and also to be autonomous" (Related-autonomous self;  $\alpha = .73$ ).

**Table 1**  
Socio-demographic characteristics of the total sample ( $N = 158$ )

Characteristics	n (%)	
Age	14-18	43 (27,2)
	19-24	89 (56,5)
	25-33	27 (16,3)
Sex	Male	79 (50)
	Female	79 (50)
Marital Status	Single	148 (93,7)
	Married/Living together	10 (6,3)
Education	Incomplete Middle School	5 (3,2)
	Middle School	2 (1,3)
	Incomplete High School	18 (11,4)
	High School	21 (13,3)
	Incomplete College Education	58 (36,7)
	College Education	42 (26,6)
	Graduate School	12 (7,6)

**Procedures**

*Data collection.* Data was gathered using a study approved by the Brazilian IRB (protocol = 017/2010). Participants were recruited in: 1) undergraduate psychology classes; 2) the research group members' social network; 3) the participants' social networks (snowball). All participants were interviewed in their classrooms, homes or other suitable places. After signing the informed consent form, they completed the instruments. Participants under 18, had the informed consent form signed by their parents.

*Data Analysis.* In order to identify the predominant model of self in our sample, the Autonomous, Related and Related-autonomous Self Scales scores were compared via one-sample *t*-tests. Secondly, independent samples *t*-tests were performed to analyze sex differences. Thirdly, the association of age with the Autonomous, Related and Related-autonomous scores was analyzed with pairwise Pearson correlations for the whole sample, and separately for males and females. Finally, a One-way ANOVA compared the scores in the Autonomous, Related and Related-autonomous self-scales of three age groups, namely Adolescents (14 to 18 years old); Early and Emerging Adults (19 to 23 years old); and Late Emerging Adults (24 to 33 years old).

**Results**

The Brazilian adolescents and emerging adults scored significantly higher in Related-autonomy than in Autonomy and Relatedness  $t(157) = 105,56; p < .05$ , indicating a predominance of the Related-autonomous model of self, confirming our first hypothesis. Autonomy was the lowest of the three scores.

There were no significant sex differences in Autonomy  $t(156) = 0,71; p > .05$  and Related-autonomy  $t(156) = -1,10; p > .05$ . Females had statistically significant  $t(156) = -2,26; p < .05$  higher scores in Relatedness ( $M = 29,84; SD = 4,65$ ) than males ( $M = 28,24; SD = 4,20$ ). This result did not confirm our second hypothesis.

Age was positively correlated with Autonomy ( $r = .23; p < .05$ ), but not with Relatedness ( $r = -.05; p > .05$ ) and Related-autonomy ( $r = .09; p > .05$ ), confirming our third hypothesis. These associations were only noticeable when analyzing males and females separately. Autonomy was associated with the participants' age for males ( $r = .25; p < .05$ ) and Related-autonomy was associated with age for female participants only ( $r = .25; p < .05$ ).

Levene's test indicated equal group variances for all dependent variables. There was a significant difference between the three age groups (adolescents,

**Table 2**  
Results ANOVAs between the Age groups and self scales and age (N=157)

Variables	Groups' Means (SD)			F	p	Testes Post hoc Bonferroni		Cohen's d
	Adol	Early	Late			Comparison	p	
Autonomy	24.80 (4.24)	25.18 (4.18)	26.96 (3.47)	3.063	=.05	Adol vs. Early	1.000	.009
						Adol vs. Late	.068	.552
						Early vs. Late	.100	.45
Relatedness	28.24 (4.16)	30.13 (4.22)	27.52 (4.95)	5.233	<.01	Adol vs. Early	.075	.159
						Adol vs. Late	1.000	.587
						Early vs. Late	<.01	.523
Relational Autonomy	34.10 (4.93)	35.68 (4.07)	36.10 (3.31)	2.675	>.05	Adol vs. Early	.145	.361
						Adol vs. Late	.120	.467
						Early vs. Late	1.000	.109
Age	16.47 (1.48)	21.01 (1.37)	26.09 (2.37)	317.2	<.0001			

early emerging adults and late emerging adults) on Relatedness at the  $p < .05$  [ $F(2, 154) = 5.233, p < .01$ ; see Table 2], confirming our fourth hypothesis. Post hoc comparisons using Bonferroni's test indicated that the mean score of Relatedness was significantly lower for late emerging adults (24 to 33 years old) than to early emerging adults (19 to 23 years old).

## Discussion

The purpose of this study was to investigate Autonomy in emerging adulthood, analyzing the orientation towards Autonomy, Relatedness, and Related-autonomy in Brazilians from both genders and different age periods. Brazil belongs to a Latin culture that gives high importance to family (familism; Carlo, Koller, Raffaelli, & De Guzman, 2007; Manago, 2012), which cultural specificities in terms of development of autonomy. Investigations in Brazil indicated trends toward Related-autonomy of adolescents (Ponciano & Seidl-de-Moura, 2011; Marques, 2014), as well as adult women (mothers) valued both Autonomy and Relatedness in their socialization goals (Seidl-de-Moura, Vieira, & Carvalho, 2013). Our results corroborate this trend because both participants in different age periods and developmental stages (adolescence and emerging adulthood) presented higher scores in Related Autonomy than in Autonomy and Relatedness.

Gender differences are also expressed in our results. Our hypothesis that men would present higher levels of Autonomy was not confirmed. However, in despite of having similar levels of Autonomy manifestation, women present higher levels of Relatedness in their self-development than males, which may indicate that Brazilian females prioritize family, children, and community aspects. Ordinarily, women in various cultures since their infancy and adolescence are socialized toward more communal aspects of life (Netherlands Noom, Dekovic, & Meeus, 2001) and more likely to show behaviors and characteristics of relatedness to others (Belgium; Geuzaine, Debry, & Liesens, 2000). Previous studies on emerging adulthood indicated a trend of women to present behaviors associated with Relatedness, such as having

higher levels of prosocial behaviors (Padilla-Walker et al., 2008), favoring connections with the community, family, and friendship, in despite of their similar professional achievements than men (Ferriman et al., 2009), higher tendencies to intimate friendships and relational-orientation than men (Way, 2011), as well as engagement in educational and social services occupations (Evans & Diekman, 2009).

We also found a correlation between age and Autonomy. Older participants scored higher in Autonomy, being consistent with the assumption that autonomy acquisition is a process one experiences throughout life. In adolescence, the experience of autonomy is usually related to experimenting and testing boundaries, with no long-term plans. During emerging adulthood, autonomy is more an exercise of becoming more responsible for one self's choices and experimentation as a preparation for adulthood and long-term decisions (Arnett, 2011; Goossens, 2008; Ponciano & Seidl-de Moura, 2011).

Male participants showed a positive correlation between autonomy and age; whereas for women, this correlation was found for related autonomy only. A possible influence for men's higher Autonomy levels with age is their tendency to present behavior associated with autonomy, such as observed in studies in the U.S., where men presented a more agentic and career-focused behavior (Ferriman et al., 2009), whereas women were not exclusive career focused and favor their connections with the community and family (Ferriman et al., 2009). It is also related to men's tendency to decrease family contact faster than women during emerging adulthood (Sneed et al., 2006). In addition, in industrialized and post-industrialized countries, men are constantly trying to respond to social expectations concerning their role as household and family providers (Santos & Kasouf, 2007). Women's higher levels of Related-autonomous self with age may indicate that their Autonomy comes together with behaviors of Relatedness. As stated before, women in various cultures since their infancy and adolescence are socialized toward more communal aspects of life (Netherlands; Noom, Dekovic, & Meeus, 2001) and more likely to show behaviors and characteristics of relatedness to others

(Belgium; Geuzaine, Debry, & Liesens, 2000). Thus, their Self-development integrates behaviors associated both with Autonomy (e.g. having a career, financial independence, making independent decisions) and Relatedness (e.g. raising kids, being attractive, communal and prosocial behaviors), favoring connections with the community, family, and friendship, in despite of their similar professional achievements than men (Ferriman et al., 2009; Padilla-Walker et al., 2008; Way, 2011).

These results reflect Brazilian contextual specificities. Brazil is predominantly Catholic (Cerqueira-Santos & Koller, 2009), and conservative perspectives remain reinforcing gender roles towards men's autonomy and agentic behavior, and women's norm compliance and other-focused behavior throughout the life cycle. Men have freedom to explore different experiences, and parents' monitoring towards them seems to be weaker compared to women in Brazil. Men's sexual activity inside parents' home might be encouraged in any situation before marriage. In the contrary, for women, when sex before marriage is allowed, it should happen with a steady boyfriend, and preferably outside of the family household (Romanelli, 1998). In addition, gender roles within the family dynamics still prioritize the roles of women as the main responsible for domestic activities and children raising, exposing women to a double shift daily life, conveying their jobs and domestic activities (Araújo, 2009).

In order to explore Self-development (Autonomy, Relatedness and Related-autonomy) in different ages, we explored mean scores among adolescents, early emerging adults and late emerging adults. There were statistically significant differences in lower levels of relatedness of late emerging adults in relation to early emerging adults. These results highlight that emerging adults become less dependent of other people in their late twenties. It might reflect participants' process of reaching autonomy through relevant events, such as leaving parental home and reaching their financial autonomy. In Brazil, it is quite common that individuals leave their parental home in their late twenties, considering Brazil is family oriented country, for both cultural and religious reasons

(Cerqueira-Santos & Koller, 2009), a longer period at the parental home is a usual situation (Camarano et al., 2004; Féres-Carneiro et al., 2004). In their late twenties, it is also common for young individuals to reach complete or partial financial autonomy, after a period of investment in higher education and/or better professional skills to face the job market. The latter situation mainly expresses the reality of medium socioeconomic status Brazilians, the majority of the sample (Dutra-Thomé & Koller, 2014).

Concerning the three groups of comparison, there were statistically significant differences in levels of Relatedness for early emerging adults and emerging adults. The decreasing level of Relatedness means may indicate that, in addition to higher Autonomy, late emerging adults also experience lower levels of dependence, what may be related to the fact that in their late twenties, they usually leave their parental house and reach at least some financial independence.

## Conclusion

Autonomy acquisition has been consistently addressed in developmental psychology as the ultimate goal for a healthy development, mainly in studies with adolescents. Nevertheless, a growing body of research acknowledges that Autonomy and Relatedness coexist and are both core universal psychological needs for an optimum development. Even though emerging adulthood is a recognizable period of the life cycle in industrialized societies that shares some similarities with adolescence, it has some distinctions of its own (e.g., making independent decisions and taking responsibility for one's actions), characteristics that stress the importance of individual autonomy.

The aim of our study was to investigate autonomy and its characteristics (age, gender) in this particular developmental phase in the Brazilian context. The findings added to our understanding that the development of autonomy continues to grow through life, even though its gains may not be remarkably substantial when comparing adolescents to emerging adults. It is worthy of note that the results in this study confirmed a tendency towards Related-autonomy that



has been observed not only in Brazil, but also in other majority world's research studies.

One of the aspects that may explain that is the fact that Brazil presents socioeconomic growth with socioeconomic inequality. Autonomy is valued and reinforced because the ability to make individual decisions is important for the job market, although due to its high familism and the need for network support parental socialization goals continue to reinforce family loyalty. The limitations of the present study are related to the fact that the participants are from the city of Rio de Janeiro and Brazil is a vast country with a wide diversity, what may restrict our ability to generalize our results. We consider that autonomy in emerging adulthood based on Kağıtçıbaşı (2007) perspective on Self Development in context, and Arnett's view about this life stage and autonomy acquisition may be added to contribute to the understanding of young adults lives.

Finally, it would be of great contribution to the field of emerging adulthood that other studies investigate Self-development in emerging adults within Kağıtçıbaşı's perspective (2005) in contexts with higher familism like Brazil (ex.: Latin America, Asia, Latin-European countries, Latino-Americans within U.S.) and lower familism (Caucasian-Americans, East and North-Europe), taking into account the General Theory of Family Change and of Self Development. This set of different context might clarify the diverse forms of autonomy development during emerging adulthood.

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ORIGINAL

## Prejudice towards Immigrants: Competences Elicit Stronger and more Favorable Sentiments

### *Prejuicio hacia Inmigrantes: Las Competencias Elicitan Sentimientos más Fuertes y Favorables*

Elia Hilda Bueno and Roque V. Mendez<sup>1</sup>

Texas State University in San Marcos, Texas

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#### Abstract

We examined prejudice and discrimination toward immigrants, specifically Mexican immigrants, as a function of their perceived competence and warmth, and the perceiver's agreeableness, attitudes and acculturation level. We found that an immigrant's competence evoked stronger feelings and responses than their warmth. Moreover, pre-existing attitudes strongly predicted prejudices toward immigrants. Of the Big Five variables, only Agreeableness predicted positive sentiments and actions toward immigrants. Finally, acculturation within Latinos correlated negatively with positive feelings and actions toward immigrants. More acculturated Latinos were less welcoming of immigrants. The results are partially explained by the Stereotypic Content Model.

**Keywords:** Prejudice, Immigrants, Discrimination, Big Five

#### Resumen

Se examinaron la discriminación y el prejuicio hacia los inmigrantes, específicamente hacia inmigrantes mexicanos, en función de su competencia percibida y afecto, y la agradabilidad, actitudes y nivel de aculturación del perceptor. Se encontró que la competencia del inmigrante evoca sentimientos y respuestas más fuertes que el afecto. Aún más, actitudes pre-existentes predicen fuertemente los prejuicios hacia inmigrantes. De las variables de los Cinco Grandes, sólo la agradabilidad predijo sentimientos y conductas positivos hacia los inmigrantes. Finalmente, la aculturación en los latinos correlacionó de manera negativa con sentimientos positivos y conductas hacia los inmigrantes. Los latinos más aculturados son menos abiertos con los inmigrantes. Los resultados son parcialmente explicados por el Modelo de Contenido Estereotípico.

**Palabras Clave:** Prejuicio, Inmigrantes, Discriminación, Cinco Grandes

In recent years, wars, political unrest, ethnic or religious conflicts and economic instability have displaced millions of people worldwide. These immigrants hold varied skills that may benefit the host countries, but

the resettlement of these masses has given rise to anti-immigrant sentiments and stereotypes in the U.S. and abroad with governments taking or threatening to take harsher actions to limit immigration (Quintero,

<sup>1</sup> Contact: Roque V. Mendez, mail: rm04@txstate.edu

2017; Sunstein, 2016). Fears of immigrants lacking abilities, taking jobs away from citizens or corrupting American values persist and are as present today as they were in the nation's founding (Merelli, 2017; Shear & Benner, 2018). However, contrasting views supporting the benefits of immigration are also present. Evidence shows that immigration vitalizes the host country. For example, immigrants have higher rates of entrepreneurialism and acquisition of skills than natives of a host country (Lofstrom, 2014; Reeves, 2016). Moreover, immigrant children demonstrate extraordinarily strong upward educational and income mobility of any group of children (Betts & Lofstrom, 2000; Reeves, 2016).

People immigrate to the United States for different reasons, to attend school, for leisure, to reunite with family members, for political reasons, to escape religious or ethnic persecution and seek asylum or in search of better jobs to support their family (Navarro, 2009). Regardless of the reasons, immigrants bring with them varied skills which reflect the range of the educational opportunities and training that they received in their home countries (Moore, 2017). Many were farmers, electricians, carpenters, paramedics, dentists, physicians, therapists or pharmacists in their respective countries (Moore, 2017).

We examined the range of attitudes and sentiments toward immigrants, and we asked if the prejudices and discrimination varied as a function of their skills and competences. Though stereotypes of immigrants persist and are generalized (Caprariello, Cuddy, & Fiske, 2009), we posited that sentiments toward immigrants vary, and that how welcoming hosts are of immigrants depends on the perceived competences and warmth of the immigrants. We further asked if personality and acculturation levels of their hosts mitigated these prejudices and discrimination.

The Stereotypic Content Model (SCM) has been widely used to explain why people hold stereotypes about others, and more importantly, are prejudiced and discriminate against others (Lee & Fiske, 2006). According to this model, how we feel and act toward others are based on two criteria: our perceptions of others' competence and warmth (Lee & Fiske, 2006). Competence may be assessed based on an individual's

acquired skills, performance level, job status and income, with higher competence attributed to those with better skills and performance, and higher income levels and job status. A person's warmth is based on similarity and cooperation, with higher warmth attributed to those with shared common attitudes and who contribute to group goals. The two dimensions are assessed in combination. For example, the homeless, who are perceived low on both warmth and competence, are likely to elicit contempt and disgust and be demeaned (Lee & Fiske, 2006). The elderly, perceived to be high in warmth and low in competence, elicit feelings of warmth and pity and are likely to be helped. College students, perceived as both high in warmth and competence, evoke feelings of admiration and are welcomed.

The model is useful in assessing prejudices toward immigrants. For example, immigrants who are perceived as competing for American jobs as compared to those who do not, elicit lower warmth attributions and greater discrimination (Caprariello, Cuddy, & Fiske, 2009). Levine & Campbell (1972) labelled such a competition for perceived limited resources Realistic Conflict theory. By contrast, one would expect that low-skilled immigrants would be perceived as less threatening because they are not competing for jobs (Fiske, 2012). However, evidence suggests that the American public views low status migrants with much more contempt and disgust, seeking to exclude them from the country (Caprariello et al., 2009). In a society that places greater value on merit than on need or equality (Berman, Murphy-Berman & Singh, 1985), low competence may outweigh attributions of warmth or sympathies for those in need.

There is also evidence that fear and anxiety of an out-group, with different cultural practices and a language, may exacerbate negative attitudes toward them (Plant, Butz, & Tartakovsky, 2008). Times of economic decline may heighten prejudices and evoke feelings of relative deprivation in the hosts (Smith & Pettigrew, 2015). Nevertheless, prejudice may be mitigated if immigrants are perceived assimilating to the host culture. When an out group adapts and cooperates with the in group, their intent is seen as friendly and trustworthy (Fiske, Cuddy, & Glick, 2006). Indeed, prejudices may be mitigated by a forged commonness in group



identity (Gaertner & Dovidio, 2012). By contrast, an uncooperative out group is ascribed negative traits and is more likely to be discriminated against (Fiske, Cuddy, & Glick, 2006; Riek, Mania, & Gaertner, 2006).

The model may prove useful in testing prejudices and discrimination that favor or disfavor an immigrant based on their perceived competence levels and warmth (Cuddy, Glick, & Fiske, 2007), but personality factors, attitudes and acculturation levels may also provide a better understanding of prejudices toward immigrants. Ekehammar and Akrami, (2003) proposed that attitudes toward various out groups stem from one or more personality basic traits. Their findings show that Openness to Experience and Agreeableness were highly significant and negatively correlated with generalized prejudice. Moreover, Hodson, Hogg, and MacInnis (2009) found that Openness to experience negatively predicted prejudice even when statistically controlling for other Big Five factors. In this study, the Right Wing Authoritarianism scale (RWA) and the Social Dominance Orientation (SDO) were negatively correlated with Openness whereas SDO was negatively correlated with Agreeableness (Hodson, Hogg, & MacInnis, 2009). These findings suggest that people who score high on openness to experience and agreeableness may be more welcoming and accepting of immigrants compared to those who score low on both personality traits.

Attitudes are the most direct way of measuring prejudice toward others, and indeed sentiments toward immigrants have been openly expressed in opinion polls, public debates and policy forums, and range from outright hostility and fear to sympathy and support (Navarro, 2009; Suarez-Orozco, C. & Suarez Orozco, M., 2002). Immigrants have been depicted as incompatible with American culture, cunning opportunists who manipulate the system, and culturally inferior and prone to crime. Positive attributes describe immigrants as hardworking and dedicated, loyal and willing to make familial sacrifices, and ambitious and entrepreneurial (Suarez-Orozco, C. & Suarez Orozco, M., 2002).

Pre-existing stereotypes and prejudices based on others' race, gender, nationality, religion, profession, socioeconomic status, and similar social categories

may be an important source of error in our judgments of others (Cuddy, Glick, & Beninger, 2011), and thus, important to take into account. For example, Plant et al. (2008) found that participants with more reported anger and anxiety toward out groups avoided interethnic interactions and blamed the out group if the interactions were negative. Specifically, anger in White participants was linked with avoidance of Hispanics, while anxiety in Hispanics was associated with avoidance of Whites (Plant et al., 2008). By contrast, if Hispanics and Whites had more positive expectations about interacting with each other, behavioral avoidance of the out group was lower. (Plant et al., 2008). Thus, individuals may respond with greater affect and make more extreme decisions about who to trust, doubt, defend, avoid or associate with based on existing stereotypes and prejudices (Cuddy, Glick, & Beninger, 2011). Thus, pre-existing attitudes toward others may influence how we feel and behave toward them.

Another study by Binder, Polinard, and Wrinkle (1997) measured Mexican-American and Anglo attitudes toward immigration reform. The study, conducted in the Rio Grande Valley, and bordering Mexico, involved a large Latino population. This study found that Latino attitudes toward immigration policies can be characterized as presenting "two competing views, which involves the cultural perspective and the socio-economic status (SES) perspective". The former suggests that Latinos, because of their cultural affinity with nations south of the U.S. border, are more likely than Anglos to oppose restrictions imposed by immigration policies. The latter, on the other hand, suggests that differences between Latino and Anglo immigration attitudes are less a function of national origin than how integrated Latinos are into American society. Thus, the more integrated the Latino populations are into American society, the more the Latino attitudes will resemble Anglo attitudes toward immigration (Binder, Polinard, & Wrinkle, 1997). By contrast, the more Mexican a respondent identified him or herself to be, the less restrictive was their stance toward immigration policies. These findings suggest that the more acculturated a Hispanic is, the less welcoming they will be towards an immigrant.

Our key research question then asked whether individuals' sentiments and behaviors toward an immigrant would vary as a function of their perceived competence and warmth. We reasoned that prejudices and discrimination would vary, and that individuals would be more welcoming of immigrants who were perceived as warm and competent. Thus, for the first hypothesis we predict that more positive feelings and actions will be expressed toward immigrants who are perceived to be warmer and more competent.

Auxiliary research questions about how prejudice is expressed toward immigrants also concerned personal factors and pre-existing prejudices. Specifically, we reasoned that individuals who were higher in Openness to experience and Agreeableness would be more welcoming of immigrants. Thus, for our second hypothesis, we predict that more positive feelings and actions will be expressed toward immigrants by those who were more open to experience and agreeable. Moreover, attitudes and behaviors had to be assessed controlling for pre-existing prejudices. For our third hypothesis we expected that individuals with more positive attitudes toward immigrants would be more welcoming of immigrants.

We also reasoned that those who were less acculturated would be more welcoming of immigrants. Thus, we predicted for our fourth hypothesis that within the Hispanic sample, the less acculturated Hispanics will express more positive feelings and behaviors toward immigrants.

## Method

### *Participants, Design and Procedure*

The participants in the study were undergraduate students who were recruited from a central Texas university. Participants were randomly assigned to one of four vignettes in a 2 x 2 between-subjects factorial design. The vignette was created about a Mexican immigrant because Mexican immigrants make up the majority of the immigrant population in the United States, constituting more than 11.7 million immigrants by 2014 (Zong & Batalova, 2016). The vignette below describes one of four conditions. In this particular vignette an immigrant is highly competent

and skilled and warm, who will not be competing with Americans for jobs or resources.

An immigrant from Mexico, with name initials C.G., arrives in the United States. C.G. can speak, read, and write in English and Spanish, is highly skilled and has a master's degree from a well-respected university. C.G. will not likely compete for the same job positions that Americans will be applying for, but because C.G. is self-sufficient and self-reliable, will not take advantage of social services and resources available to Americans.

The other three conditions varied the descriptions. A low competent immigrant was described as someone without degrees and who could only speak Spanish. An immigrant in a low warmth condition was described as someone who would be competing with Americans for jobs and taking advantage of resources.

*Dependent Variables.* Immediately following the manipulation, participants answered 4 questions about how they felt towards the immigrant and 4 questions about how they would behave towards the immigrant in the story. Specifically, four questions asked the extent to which they would admire, envy, feel disgust towards, and sympathize with the immigrant. Four questions asked the extent to which they would exclude, help, associate with, and fight with the immigrant. The responses were noted on a 7 point Likert scale from Very Unlikely to Very Likely.

*Manipulation Checks.* Two items asked participants about how warm the immigrant was. And, two questions asked participants about how competent the immigrant was. These items were rated on a 5 point Likert scale from Extremely to Not at all.

### *Additional Measures*

*Big Five.* The brief and revised 10 item measure of the Big Five adapted from the original scale (Costa and McCrae, 1992) was used (Gosling, Rentfrow and Swann, 2003). Participants rated the extent to which they agreed or disagreed with a descriptor, Likert scaled on 7 points ranging from disagree strongly to strongly agree. Openness to experience and agreeableness were measured with two items each. Examples of items measuring Openness to Experience were:

“Complex” and “Conventional.” Examples of items measuring Agreeableness were “Sympathize” and “Quarrelsome.” Test-retest reliability for agreeableness and open to experience were  $r = .58$  and  $r = .48$ , respectively. Inter item reliability was not reported.

*Attitudes toward Immigrants.* Ashby Plant, David Butz, and Margarta Tartakovsky (2008) developed a scale to measure attitudes toward Hispanics. Inter item reliability tests of these developed scales are quite robust with alpha of .94 for White participants and .90 for Hispanic participants. Nine questions were adapted from this questionnaire to measure Attitudes toward Immigrants. An example of a question is: “Many Americans are unable to get jobs because so many Hispanic immigrants are taking them.” Participants rated the extent to which they agreed with each statement on a 7 point Likert scale ranging from strongly disagree (1) to strongly agree (7).

*Acculturation Scale.* Participants who identified themselves as Hispanic/Latina (o) on the survey, were administered a 13 item acculturation scale (Marin, Sabogal, Marin, Otero-Sabogal, and Perez-Stable, 1987) that asked participants about their preferred usage of language and racial/ethnic group. The Likert scaled items on 5 points from Only Spanish to Only English measured language use and media preference items. Ethnic social relations preferences ranged from Only Latinos/Hispanics to Only Americans. This scale’s inter item reliability that combined the language use with social relations preferences subscales has been shown to be quite robust with the reliability alpha coefficient at .92 (Marin, et al., 1987).

## Results

### Participants

There were originally 507 college students in this study. Seventy-eight participants were eliminated for not completing the survey or having missing data. The data for 429 participants was left to analyze in this study. Of the 86 male participants, 2.3 % identified as Asian, 8.1 % as African American/Black, 33.7 % as Hispanic/Latino, 46.5 % as White, 8.1 % as Mixed, and 1.2% as Other. Of the 343 female participants, 3.5 % identified as Asian, 14 % as African-American/

Black, 30.6 % as Hispanic/Latina, 42.6 % as White, 9 % as Mixed, and 3 % as Other.

### Preliminary Analysis

The two items measuring Openness ( $r = .104$ ,  $p < .05$ ) and the two items measuring Agreeableness ( $r = .208$ ,  $p < .001$ ) were not correlated with each other. Thus, the two Openness and two Agreeableness items were analyzed separately. The reliability for the 9 item Attitudes toward Immigrants scale was quite robust ( $\alpha = .93$ ). The reliability of the 13 item Acculturation scale was also acceptable ( $\alpha = .89$ ).

Independent sample t-tests conducted to check whether the manipulations worked indicated that only the two competence items, were both statistically significant,  $t(426) = 3.893$ ,  $p < .001$ , and  $t(425) = 9.010$ ,  $p < .001$ . The manipulation checks for the two warmth items were not statistically significant.

### Tests of Hypotheses

The first three hypotheses were tested using a MANOVA that allowed 2 dichotomous and their interaction and 5 continuous independent variables to be regressed on 4 emotional (disgust, sympathize, admire, envy) and 4 behavioral (help, fight, associate, exclude) variables. The analysis met assumptions of normality, equality of covariance and absence of multicollinearity. In addition, scatterplot matrices show linearity among the dependent variables. The multivariate tests of this model using Wilks’ Lambda criteria showed that both Warmth ( $F(8, 398) = 2.21$ ,  $p < .05$ ) and Competence ( $F(8, 398) = 15.51$ ,  $p < .001$ ), but not their interaction, were significant (Table 1). Additionally, two Agreeableness items were significant, ( $F(8, 398) = 3.70$ ,  $p < .001$ ) and ( $F(8, 398) = 1.98$ ,  $p < .05$ ) including the Positive Attitudes toward Immigrants ( $F(8, 398) = 26.19$ ,  $p < .001$ ). The two Openness items were not significant.

Tests of Between-Subjects Effects were conducted only if the Multivariate tests using the Wilks’ Lambda criteria showed significance. The Warmth manipulation elicited main differences between Low and High Warmth conditions in two emotions: Disgust ( $F(1, 405) = 125.93$ ,  $p < .05$ ) and Admiration ( $F(1, 405) = 75.69$ ,  $p < .05$ ). Disgust was far more likely

to be elicited in the Low warmth and Admiration in the High warmth conditions. See Table 2 for mean differences between conditions for Warmth.

The Competence manipulation elicited significant condition differences for Disgust ( $F(1, 13.57) = 7.68$ ,

$p < .05$ ), Admiration ( $F(1, 129.60) = 68.60$ ,  $p < .001$ ), Envy ( $F(1, 107.78) = 55.53$ ,  $p < .001$ ), Helping ( $F(1, 6.02) = 4.36$ ,  $p < .05$ ), Associate ( $F(1, 55.08) = 33.65$ ,  $p < .001$ ) and Exclude ( $F(1, 17.99) = 12.84$ ,  $p < .001$ ). Table 3 shows mean differences between conditions

**Table 1**  
MANOVA

IV	DV	MANOVA			ANOVA				
		Wilk's <i>k</i>	F	df	p	MS	F	df	p
Sym.Agr.		.931	3.696	398.00	.000				
	Admire					15.233	8.063	1	.005
	Sympa.					26.782	17.686	1	.000
	Help					26.949	19.507	1	.000
	Exclude					7.809	5.570	1	.019
Crit. Agree		.962	1.977	398.00	.048				
Pos.Att.		.655	26.190	398.00	.000				
	Disgust					222.456	125.933	1	.000
	Admire					143.004	75.689	1	.000
	Sympa.					120.360	79.483	1	.000
	Help					122.436	88.627	1	.000
	Fight					25.759	18.151	1	.000
	Assoc.					178.146	108.812	1	.000
	Exclude					92.637	66.082	1	.000
Warm		.957	2.212	398.00	.026				
	Disgust					16.851	9.539	1	.002
	Admire					15.401	8.151	1	.005
Compete.		.762	15.514	398.00	.000				
	Disgust					13.569	7.681	1	.006
	Admire					129.604	68.596	1	.000
	Envy					107.783	55.533	1	.000
	Help					6.020	4.358	1	.037
	Assoc.					55.083	33.645	1	.000
	Exclude					17.992	12.835	1	.000

**Table 2**  
Mean Differences between conditions for Warmth

	Warm	N	Mean	Std. Deviation	95% Confidence Interval Lower - Upper	
Disgust	Low	219	2.54	1.68	2.38	2.70
	High	211	2.15	1.43	2.01	2.28
Admire	Low	220	4.48	1.76	4.31	4.64
	High	210	4.88	1.49	4.73	5.02



for Competence. There is less Disgust, greater Admiration and Envy for immigrants in the High Competence condition than those in the Low competence condition. Additionally, immigrants with higher competence were more likely to be Helped, associated with and less likely to be Excluded than immigrants in the low competence condition.

Only one Agreeableness item significantly predicted two emotions and two behaviors. Specifically, Agreeableness predicted Admiration ( $F(1, 405) = 8.06, p < .05$ ), Sympathize ( $F(1, 405) = 17.69, p < .001$ ), Help ( $F(1, 405) = 19.51, p < .001$ ) and Exclude ( $F(1, 405) = 5.57, p < .05$ ). Correlation analyses examining

the relationships between this predictor and these four criteria, shown in Table 4, indicate that the more Agreeableness of the participant, the more likely they were to admire, sympathize, help and include the immigrant.

Attitudes toward Immigrants significantly predicted three emotions and four behaviors. Specifically, Attitudes predicted Disgust ( $F(1, 405) = 125.93, p < .001$ ), Admiration ( $F(1, 405) = p < .001$ ), Sympathize ( $F(1, 405) = 79.48, p < .001$ ), Help ( $F(1, 405) = 88.63, p < .001$ ), Fight ( $F(1, 405) = 18.51, p < .001$ ), Associate ( $F(1, 405) = 108.81, p < .001$ ) and Exclude ( $F(1, 405) = 66.08, p < .001$ ). Table 4 shows that

**Table 3**  
Mean Differences between conditions for Competence

	Competent	N	Mean	Std. Deviation	95% Confidence Interval Lower - Upper	
Disgust	Low	202	2.59	1.56	2.44	2.73
	High	228	2.13	1.56	1.98	2.27
Admire	Low	202	4.03	1.53	3.88	4.17
	High	228	5.24	1.53	5.09	5.38
Envy	Low	202	2.15	1.21	2.03	2.26
	High	228	3.14	1.53	2.99	3.28
Help	Low	202	4.91	1.40	4.77	5.04
	High	229	5.28	1.32	5.15	5.40
Associate	Low	202	4.33	1.55	4.18	4.47
	High	229	5.18	1.41	5.04	5.31
Exclude	Low	202	2.55	1.38	2.41	2.68
	High	229	2.05	1.21	1.93	2.16

**Table 4**  
Correlation Matrix of Key Variables

DV	Warm	Competent	Agree	Pos.Att.
Disgust	-.124**	-.148**		-.518**
Admire	.121*	.367**	.207**	.410**
Sympathize			.263**	.433**
Envy		.336**		
Help		.134**	.290**	.456**
Fight				-.251**
Associate		.277**		.490**
Exclude		-.187**	-.194**	.407**

Note: N = 423 – 428. \*  $p < .05$ , \*\*  $p < .01$

individuals with the more positive attitudes toward immigrants were more likely to admire, sympathize, help, and associate with the immigrant. Also, these individuals were less likely to feel disgust, fight, and exclude the immigrant in the vignette.

A correlation analysis was used to test the fourth hypothesis. The analysis showed that Acculturation was correlated negatively with Admire ( $r(129) = -.260, p < .001$ ), Help ( $r(129) = -.314, p < .001$ ), and Associate ( $r(129) = -.306, p < .001$ ). Thus, the more acculturated the participant, the less likely they were to admire, help and associate with the immigrant in the vignette.

## Discussion

We examined prejudices and discrimination against immigrants as predicted by their perceived competence and warmth, and the Openness of experience and Agreeableness, pre-existing attitudes and the acculturation levels of the participants. Hypotheses 1 and 2 were partially supported. Hypotheses 3 and Hypothesis 4 were more strongly supported.

The Competence condition evoked far more emotional and behavioral outcomes than the Warmth condition. High competent immigrants were more likely to be admired and envied and more likely to be included, associated with and helped. This finding suggests that our high regard for highly skilled and competent immigrants mitigates prejudices and discrimination against them. This finding also reflects the tendency to weigh stable factors such as Competence more highly than Warmth (Fiske, Cuddy, Glick, & Xu, 2002). For example, while ability is perceived as a fixed construct, warmth, by contrast may vary and be unreliable. A person may cooperate today but compete tomorrow, but their ability or competence is perceived as unchanging. Thus, an immigrant's Competence, or the lack of, may evoke more emotions and behaviors than an immigrant's Warmth.

The strength of the competence condition may also reflect the valued stereotypes Americans see themselves as possessing and expect others to have, such as hard working, skilled and prosperous (Weber, 1904/1992, p175). Immigrants with high competence

may be perceived as assimilating to these values and as a better fit with the host country. In sum, highly skilled immigrant may be more likely to be welcomed and accepted because they are perceived to be more as an in-group than an outgroup (Gaertner & Dovidio, 2012; Linville & Jones, 1980).

Additionally, only one Agreeableness item, but not Openness to experience was linked with two emotions and two behaviors. Our results partially support previous findings linking Agreeableness with greater acceptance of out-groups (Hodson, Hogg, & MacInnis, 2009). We suspect that the Openness to experience items, may have been misunderstood. Participants' feedback of the descriptor Conventional indicated that they did not understand the term. Additionally, the term Complex was also ambiguous to many participants and was interpreted by many to mean problematic rather than someone who is open to experience.

Attitudes toward immigrants showed the strongest and most consistent correlations with all but one criterion variable. This suggests that the Likert measure of attitudes is a robust and reliable predictor of how individuals will feel and intend to behave toward immigrants. The Acculturation results within the Latino sample were as predicted and support prior findings (Binder, Polinard, & Wrinkle, 1997). More acculturated Latinos have adopted more mainstream attitudes toward immigrants.

## Limitations and Future Directions

There are limitations in the current study. First, the vignettes presented were hypothetical. Participants may not respond or express themselves so openly in person as they would toward a character in a story. For example, an individual may control or keep their prejudices in check in a real interaction. A future study may assess reactions based on face to face interactions with immigrants. Second, the vignette in the story was about a Mexican immigrant. Participants may have prejudices that extend beyond or toward a different ethnic group. For example, different prejudices may have been elicited toward an immigrant from Western Europe. A future study would examine

prejudices toward immigrants from different countries or cultures. Third, our Warm condition was weak. The manipulation check indicated that it did not have the intended effect. Perhaps a vignette about an immigrant who cooperated or sacrificed for the host country would increase the strength of this condition. Fourth, our participants were college students, and their sentiments toward immigrants may not be the same as those who are not college students. Thus, even though our participant sample was diverse, the generalizability of the findings may be limited to attitudes held by college students.

## Conclusion

This Stereotypic Content Model along with additional measures were tested to determine how people would feel and behave toward immigrants who varied in their competence and warmth. These measures not been previously been tested together in previous research. Our findings suggest that immigrants are not all treated the same, and that a better understanding of how immigrants are treated are obtained by examining the issue in a multifactorial way. Immigrants are welcomed differently depending on their competence, to some extent warmth, and by the agreeableness, attitudes and acculturation level of the perceiver. This serves to inform policymakers of the varied prejudices held of immigrants and the types of discrimination they are likely to face in order to implement humane policy options.

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ORIGINAL

## Are Value Preferences and Social Cohesion Interconnected? The Case of Mexico<sup>1 2</sup>

### *¿Están Conectadas las Preferencias de Valores y la Cohesión Social? El Caso de México*

Klaus Boehnke<sup>3 a, b</sup>, Adriana Berrueto<sup>c</sup>, Georgi Dragolov<sup>a</sup>, and Paloma Ocampo Villegas<sup>a</sup>

<sup>a</sup> Jacobs University Bremen

<sup>b</sup> National Research University Higher School of Economics

<sup>c</sup> Gabinete de Comunicación Estratégica

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#### Abstract

Social cohesion, the modern version of the *fraternité* motto of the French revolution, has become a hot social science topic. The paper addresses it from a social-psychological perspective, asking whether individually and societally prevailing value preferences are interconnected with the level of cohesion in society. Mexico serves as the case to examine whether findings for European countries, obtained in the Bertelsmann Social Cohesion Radar, can be generalized to Latin America. Is it true also in Mexico that strong self-transcendence values (Universalism) foster social cohesion, whereas strong self-enhancement values (Power) impede it? A large random probability quota sample (N = 2,003) was gathered to answer the research question. Results showed that, largely, findings from Europe could be generalized to the Mexican context. However, the role of Security values emerged as different. Whereas in Europe such value preferences covaried with low levels of cohesion, in Mexico they were generally associated with higher levels. The authors interpret this as evidence for negative consequences of neoliberal economic policies for social cohesion. Unlike in Europe, strong support for Security values seems to serve as a safeguard against capitalist economic pressures more so than being a sign for an egoistic preservation of one's own lot.

**Keywords:** Social Cohesion; Value Preferences, Schwartz Values, Mexico, Security Values

#### Resumen

La cohesión social, versión moderna del lema *fraternité* de la revolución francesa, se ha vuelto un tópico relevante en la ciencia social. Este trabajo aborda el tema desde una perspectiva socio-psicológica, preguntándose si preferencias en valores individuales o sociales están relacionadas con el nivel de cohesión en la sociedad. México funciona como punto de comparación para ver si los hallazgos en países europeos, obtenidos del Radar de

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3 Klaus Boehnke, Bremen International Graduate School of Social Sciences (BIGSSS), Jacobs University Bremen, Campus Ring 1, D-28759 Bremen, Germany. E-mail: k.boehnke@jacobs-university.de

Cohesión Social Bertelsmann, pueden ser generalizados a América Latina. ¿Será también verdad que en México fuertes valores de auto-trascendencia (universalismo) fomentan la cohesión social, mientras que fuertes valores de auto-promoción (poder) la impiden? Una muestra aleatoria probabilística por cuotas (N=2003) se utilizó para contestar la pregunta de investigación. Los resultados muestran que, en su mayoría, los resultados de Europa podrían ser generalizados al contexto mexicano. Sin embargo, el rol de los valores de conservación resultó ser diferente. Mientras que en Europa dichas preferencias en valores covarían con bajos niveles de cohesión, en México están asociadas con altos niveles. Los autores interpretan esto como evidencia de las consecuencias negativas de las políticas neoliberales económicas para la cohesión social. A diferencia de Europa, un fuerte apoyo a los valores de conservación parece servir como factor de protección ante las presiones capitalistas económicas más allá de ser una señal de tendencias egoístas de preservación hacia lo que uno tiene.

**Palabras Clave:** Cohesión Social, Preferencias en Valores, Valores de Schwartz, México, Valores de Seguridad

Early traces of the social cohesion concept can be found in the work of historians, philosophers, sociologists, and economists. They all were concerned with the idea of holding society together “as one” and fostering social cooperation. This is very much in line with the present-day understanding of cohesion; it literally means, “sticking together” (cf., Chan, To, & Chan, 2006). The study of social cohesion, thus, amounts to the quest for forces that make social atoms form a society characterized by a “we-feeling” and solidarity. This is not the place to delve deeply into the history of the concept, which can at least be traced back to the French Revolution with its three mottos, “liberté, égalité, fraternité,” where the latter addresses the issue of social cohesion. A brief look into the most prominent contributions, however, seems in place.

Durkheim (1952) described the maintenance of social order in societies based on two very different forms of solidarity, *mechanical* and *organic*. Mechanical solidarity is a characteristic of traditional and small-scale societies, where cohesion and the integration of individuals stems from their homogeneity—individuals are connected by similar work, education, religious background, and lifestyle. Contemporary industrial capitalist societies, in contrast, are kept together by organic solidarity. It is a form of social cohesion based on the interdependence of individuals because of specifics of the division of labor. Durkheim argues that the advancement of the division of labor could also bring about disorder and anomie, which

he considers to be pathological aspects of modernity. However, once an advanced stage has been reached successfully, societies become much stronger, and the social bonds are more flexible than in a context of mechanical solidarity.

Tönnies (1957) proposed a basic distinction between *Gemeinschaft* (community) and *Gesellschaft* (society) to describe the type of social ties among people. In a *Gemeinschaft*, social ties belong to personal social interactions, and the roles, values, and beliefs that originate from these interactions. A *Gesellschaft* exhibits indirect interactions, impersonal roles, formal values, and corresponding beliefs. In response to Tönnies, Weber (1978) wrote of *Vergemeinschaftung* (community formation) and *Vergesellschaftung* (society formation). Weber saw *community* rooted in affectual or traditional feelings, and *society* rooted in rational agreements by mutual consent, e.g., a commercial contract.

Drawing heavily on Durkheim, Parsons (1971) saw a necessity for value-normative integration in modern societies. According to him, a society can be integrated in substantive and functional terms only if social interactions are centered around a set of ultimate values, which are shared visions on the desirable state of affairs. For Parsons, common values internalized during the socialization process therefore, are key for holding together the societal community—the integration function which this subsystem plays to maintain the entire society as a social system.

Although it is focused on the centuries-old question of what keeps a society together and what motivates individuals to cooperate, social cohesion as an applied concept in empirical research did not gain much prominence until the 1990s. Then, however, it increasingly received attention. Currently social cohesion is a “hot topic” in academia, public policy, and mass media. The reasons for this can be found in the growing concerns that megatrends such as increasing ethno-cultural diversity (immigration), a widening gap between rich and poor, technological progress, and recurrent financial crises weaken the social fabric of present-day societies.

A review study by Schiefer, van der Noll, Delhey, and Boehnke (2012) screened the relevant academic and institutional sources on theories behind the concept of cohesion (see also Schiefer & van der Noll, 2017). They, first, point to a consensus among scholars that cohesion is a characteristic of a social entity. While individuals’ values and behaviors do affect (and are affected by) social cohesion, cohesion itself is *not* a characteristic of individual members of a society. Scholars also agree that cohesion is a graduated phenomenon: There are different degrees of cohesion and social entities can, thus, be more or less cohesive. Next, the level of cohesion is reflected in the attitudes and behaviors of individuals and groups in a given society. Its manifestations encompass the micro, meso, and macro levels of human interaction. Finally, there is consensus that social cohesion is a multidimensional construct (cf., Dickes, Valentova, & Borsenberger, 2010).

Schiefer et al. (2012) do not stop here; they ascertain that there is something like a core meaning of cohesion. From the various definitions that have been proposed, Schiefer et al. identify a small number of domains consensually seen as components of social cohesion, namely intact social relationships, high connectedness to the social entity at stake, and an overarching orientation towards the common good. The authors then formulate a definition in line with the core consensus of current research on social cohesion, which was adopted with slight modifications in the Social Cohesion Radar series of comparative studies on social cohesion of Bertelsmann Stiftung

(cf., Dragolov et al., 2016; Arant, Larsen & Boehnke, 2016; Arant, Dragolov & Boehnke, 2017; Delhey et al., 2018). For the purposes of the present article, we apply this concept, as elaborated below.

Social cohesion is the quality of social cooperation and togetherness of a collectivity, defined in geopolitical terms, that is expressed in the attitudes and behaviors of its members. A cohesive social entity is characterized by resilient social relations, a positive emotional connectedness between its members and the community, and a strong commitment toward the common good.

Social relations are understood as the horizontal network that spans individuals and groups within a society. Connectedness refers to the positive vertical ties among individuals and their social entity of belonging and that entity’s key institutions, respectively. A commitment to the common good, finally, is reflected in the actions and attitudes of the members of society that demonstrate solidarity, responsibility for others, and engagement for the community as a whole. These are the three core aspects (in the following called domains) of cohesion.

Each of these three domains, in turn, unfolds into three dimensions: Social relations are measured by the strength of social networks, the degree to which people trust each other, and the extent to which diversity is accepted. Connectedness is measured in terms of the strength of people’s identification with their residential social entity, the degree to which they trust that entity’s major institutions, and their perception of fairness in it. A focus on the common good manifests itself in the level of solidarity and helpfulness, people’s willingness to abide by social rules, and civic participation.

Compared to other academically well-received approaches to cohesion, the concept that the present article uses strengthens one important aspect, the focus on to the common good, as it is neither entirely “horizontal” nor entirely “vertical;” it rather connects or complements the two. Figure 1 offers a graphic display of the conceptual approach.

One advantage of using the above-outlined Bertelsmann definition of cohesion is that it deliberately excludes material wealth, social inequality, *values*,

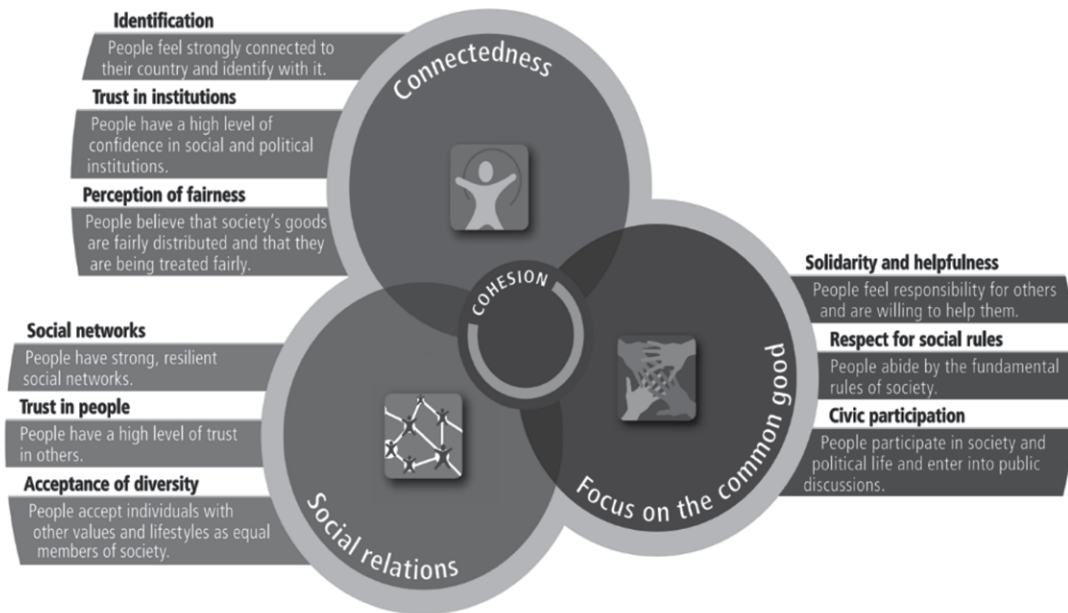


Figure 1. The Bertelsmann Social Cohesion Concept

and well-being, despite the fact that these factors may play an important role in other authors' definitions (cf. Janmaat, 2011). Grounded in substantive conceptual reasons (cf. Dragolov et al., 2016), this streamlining focuses the concept on the key aspects of social cohesion only, thereby enabling a systematic empirically driven differentiation with respect to conditions, components, and consequences of social cohesion. Particularly in light of the aims of the present article, the application of the Bertelsmann concept makes it possible to investigate which values affect (and are affected by) social cohesion.

The relationship between values and cohesion has not been explained in depth yet. Although researchers agree that individual values and behavior affect (and are affected by) social cohesion, it is debatable whether social cohesion in modern, diverse and complex societies needs indeed homogeneity of values. The evidence provided in this paper cannot answer the question. It only attempts to shed light on (a) the relationship between value preferences of individuals and the—perceived—level of social cohesion in their residential social entity, and (b) the aggregate value climate in that social entity and the degree of social cohesion measured for it. We do so by analyzing data from a representative survey conducted in Mexico,

which encompasses data on social cohesion and on value preferences assessed within the theory of values introduced by Schwartz (1992). Figure 2 depicts the classical Schwartz Value Circumplex model for individual-level values.

How do people's values interact with social cohesion? Do the guiding principles people follow in their lives (i.e., their value preferences) preform (perceived) social cohesion, or does the degree of social cohesion

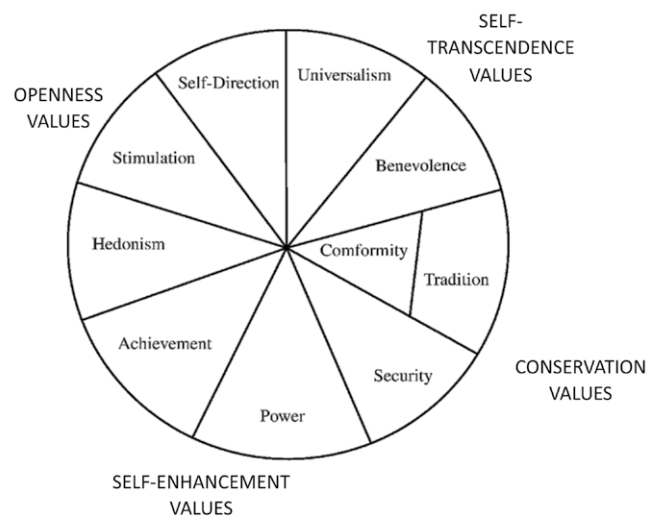


Figure 2. Schwartz Value Circumplex (Individual-Level Values)



experienced in a geopolitically defined social entity shape people's value preferences? We approach the response to this preliminary research question by conducting two types of analyses, one on the individual level, and the other on the aggregate level of the 31 Federal States of Mexico plus the Capitol District. On the individual level, we relate value preferences to perceived levels of social cohesion. On the aggregate level, we relate the average value climate in a federal state to the level of social cohesion in the state.

Boehnke et al. (2016) related social cohesion scores to value preferences for European countries based on data from the European Social Survey (ESS). They showed that high preferences of self-enhancement and of conservation values were typically associated with *low* levels social cohesion. High levels of social cohesion were positively associated with self-transcendence and openness values. We now enlarged the scope of Dragolov et al.'s (2016) study of Anglo and European OECD countries to Mexico, one of the only three Latin American OECD members (Chile and Colombia being the other two member states). To assess value preferences, the present study employed Schwartz's Portrait Values Questionnaire as used in the European Social Survey (ESS). Thus, our research can be seen as a test whether findings from the Dragolov et al. study generalize to Mexico.

In summary, our hypotheses—regardless of level of analysis—read:

*Social cohesion is positively related to openness and to self-transcendence values.* These values stand for openness towards others and engagement for their interests, both being integral parts of social cohesion.

*Social Cohesion is negatively related to conservation and self-enhancement values.* These values stand for outperforming others and preserving one's own lot, both standing against solidarity and helpfulness as well as interpersonal trust.

## Method

### Participants

The present study was conducted by *Gabinete de Comunicación Estratégica*, Mexico City, under the leadership of the second author as a face-to-face

quota survey. The study had 2,003 participants. Of them 826 (41%) were men and 1,177 (59%) were women. The average age of the sample was 37. All 31 states of Mexico and Ciudad de México were represented proportionally with a minimum sample size of ten respondents. A list of how many participants came from which state can be taken from Table A in the Appendix. That table also documents the relative distribution of value preferences in the 32 Mexican federal entities.

### Materials and Procedures

Among other instruments, the study contained items that measured social cohesion in a way compatible with the above-elaborated conceptualization. Table 1 reiterates the dimensions of social cohesion assessed in our measurement concept and offers the items meant to measure it. The table also documents scores for the items, rescaled to a range from 0 (intended to denote very weak cohesion) to 100 (very strong cohesion).

According to the conceptual considerations by Schiefer et al., social cohesion is a formative index. It should not be misunderstood as a reflective index. Its aggregation follows the 'basket of goods' logic used, for example, to determine consumer price indices. Aggregation should thus not be seen as the calculation of a scale score. It just serves as an aid to data interpretation, when domain scores were calculated by averaging the three dimension scores that make up the respective domain. In a final step, the three domain scores were averaged to an overall social cohesion score.

To assess value preferences, the Schwartz's Portrait Value Questionnaire was used in the 21-item version also utilized in the European Social Survey.<sup>4</sup> This instrument portrays individuals by describing their value preferences and then asking respondents how similar the described person is to them on a scale from '1' (*not at all like the respondent*) to '6' (*very much like the respondent*)—reversed from the original poling in the ESS. For further analyses, data were ipsatized, i.e. the respondent's mean rating

<sup>4</sup> [https://www.europeansocialsurvey.org/docs/round8/fieldwork/spain/spanish/ESS8\\_questionnaires\\_ES\\_spa.pdf](https://www.europeansocialsurvey.org/docs/round8/fieldwork/spain/spanish/ESS8_questionnaires_ES_spa.pdf)

across all 21 items is subtracted from each single value preference and then a constant (4) is added to bring scores back to the initial value range of the response scale ('MRAT-correction'). The instrument offers three items for Universalism and two items for all other values. Table 2 presents definitions for the ten values assessed by the instrument (Schwartz, 1992) and gives MRAT-corrected means for the ten values. Values are grouped into the higher-order value types that Schwartz assumes to be adequate descriptors of the two dimensional space that his value theory spans.

As briefly elaborated in the introduction, data are to be subjected to analyses on the individual level and on the level of the 32 federal entities of Mexico. In order to prepare the value preference data for the latter analyses, individual-level data were not simply averaged to state-level means, but were transformed to the seven culture-level values that Schwartz (2006) proposes for aggregate-level analyses: Harmony, Embeddedness, Hierarchy, Mastery, Affective Autonomy, Intellectual Autonomy, and Egalitarianism. Details on the transformation procedure are documented in Table B in the Appendix. Table 3 documents means

for the state-level value preferences, scores being aggregated to the state-level and then averaged across the 32 federal entities.

## Results

In order to test the exploratory hypotheses, we conducted simple correlational analyses, a procedure advocated by Schwartz for all initial work on relationships of value preferences with other constructs. As spelt out in the introduction, the to-be-tested hypotheses were: Social Cohesion is positively (but not always significantly) correlated to Self-Transcendence (UN, BE) and Openness (SD, ST, HE) values, whereas it is negatively (but not always significantly) correlated to Self-Enhancement (PO, AC) and Conservation (TR, CO, SE) values. Transformed to the state-level, the hypotheses then propose that Social Cohesion is positively related to Affective Autonomy, Intellectual Autonomy, Egalitarianism, Harmony, and Embeddedness, while being negatively related to Hierarchy, and Mastery.

Table 4 documents correlation coefficients for the individual-level data. It not only reports findings for

**Table 1**  
*Domains and Dimensions of Social Cohesion*

Domain	Sample Item Dimension	Mean (rescaled)
Social Relations		
Social Networks	How many people do you have with whom you can discuss intimate and personal matters?	38.8
Trust in People	Most people can be trusted vs. you cannot be too careful.	47.2
Acceptance of Diversity	Gays and lesbians are free to live life as they wish.	70.5
Connectedness to the Social Entity		
Identification	How emotionally attached are you to Mexico?	87.3
Trust in Institutions <sup>a</sup>	How much do you trust the National Electoral Institute?	36.7
Perception of Fairness	The government should reduce differences in income levels	63.3
Focus in the Common Good		
Solidarity and Helpfulness	How often have you helped strangers in past four weeks?	36.4
Respect for Social Rules	How safe do you feel walking alone in your local area after dark?	41.2
Civic Engagement	How interested are you in politics?	37.9

<sup>a</sup> In the assessment of 'Trust in Institutions' scores for four institutions were obtained and averaged: Congress, judicial system, presidential institution, and political parties.

the overall Social Cohesion scores but also for the three cohesion domains separately. Findings in line with the stated hypotheses (as far as the sign of the correlation is concerned) are set in **bold**; findings not in line with the hypotheses are set in *italic*. Findings for the single dimensions can be found in Table C in the Appendix.

Concerning the overall score for (perceived) Social Cohesion, seven out of ten signs of correlations were

in line with the expected associations as formulated in our hypotheses. For the social cohesion domain score Social Relations, eight signs of correlations were in line with the hypotheses. For Connectedness, only five correlations had the predicted sign, whereas for Focus on the Common Good again eight signs were correctly predicted. Using the binomial test at a significance level of  $p \leq .10$ , this result means that the null hypothesis has to be retained for the overall

**Table 2**

Mean Scores for Schwartz Individual-Level Values

Higher-Order Value Type Value Type	Definition	Mean (MRAT-corrected)
<b>Self-Transcendence Values</b>		
Universalism (UN)	Understanding, appreciation, tolerance, and protection for the welfare of all people and for nature.	4.8
Benevolence (BE)	Preserving and enhancing the welfare of those with whom one is in frequent personal contact.	4.5
<b>Conservation Values</b>		
Tradition (TR)	Respect, commitment, and acceptance of the customs and ideas that one's culture or religion provides.	4.4
Conformity (CO)	Restraint of actions, inclinations, and impulses likely to upset or harm others and violate social expectations or norms.	3.9
Security (SE)	Safety, harmony, and stability of society, of relationships, and of self.	4.6
<b>Self-Enhancement Values</b>		
Power (PO)	Social status and prestige, control or dominance over people and resources.	2.7
Achievement (AC)	Personal success through demonstrating competence according to social standards.	3.4
<b>Openness Values</b>		
Hedonism (HE)	Pleasure or sensuous gratification for oneself.	3.2
Stimulation (ST)	Excitement, novelty and challenge in life.	3.8
Self-Direction (SD)	Independent thought and action—choosing, creating, exploring.	4.4

**Table 3**

Mean Scores for Schwartz' State-Level Values

Value Type	Core Values	Mean (MRAT-corrected)
Harmony	Unity with Nature/World at Peace	1.1
Embeddedness	Social Order/Obedience/Respect for Tradition	0.3
Hierarchy	Authority/Humility	-1.3
Mastery	Ambition/Daringness	-0.7
Affective Autonomy	Pleasure/Excitement in Life	-0.5
Intellectual Autonomy	Broadmindedness/Curiosity	0.4
Egalitarianism	Social Justice/Equality	0.6

score and for the domain score for Connectedness, whereas for Social Relations and for Focus on the Common Good, our hypotheses were supported ( $p = .05$ ). The social cohesion domains Social Relations and Focus on the Common Good were found to be related to the values of the Schwartz value circumplex as expected. Universalism and Self-Direction values exhibited most positive and Power values most negative correlations.

Table 5 reports correlations for the state-level. It documents simple correlations between the overall Social Cohesion score, the three domain scores and the seven state-level value priorities that Schwartz assumes. Coefficients for the nine single dimensions of social cohesion can be found in Table D in the Appendix.

For state-level analyses, findings were similar. For the overall Social Cohesion score, all seven correlations had the predicted sign ( $p < .01$ ). This was also the case for Focus on the Common Good. For Social Relations six correlations had the predicted sign, whereas for Connectedness only four did. The prior

result is significant on the  $p \leq .10$  level, whereas the result for Connectedness is insignificant.

## Discussion

The present paper addressed the question to what extent value preferences are interconnected with social cohesion in Mexico. Starting point of the paper was the finding by Boehnke et al. (2016) that in European countries value preferences (as assessed within the framework of Schwartz's value circumplex) emerged as 'perfectly' related to values around Schwartz's circumplex (see Figure 2). Values on one half of the circle—from tradition to achievement—were negatively (but not always significantly) related to social cohesion in Europe, whereas values on the other half of the circle—from hedonism to benevolence—were positively (but also not always significantly) related to social cohesion. To what extent does this finding generalize to one of the only three Latin American OECD countries, Mexico? The study reported here used the same measurement strategy as was used by

**Table 4**  
*Correlations of Individual-Level (Perceived) Social Cohesion with Value Preferences*

Higher-Order Value Type	Correlations			
Value Type	Social Cohesion (Overall)	Social Relations	Connectedness	Focus on the Common Good
Self-Transcendence Values	.11**	.05*	.09**	.10**
UN	.13**	.08**	.11**	.09**
BE	.03	-.00	.02	.04
Conservation Values	.05	-.03	.15**	.01
TR	-.01	-.03	.04	-.02
CO	-.00	-.04*	.07**	-.01
SE	.10**	.03	.15**	.05*
Self-Enhancement Values	-.18**	-.06**	-.09**	-.12**
PO	-.14**	-.07**	-.11**	-.11**
AC	-.07**	-.04	-.03	-.07**
Openness Values	.01	.07	-.11**	.03
HE	-.04	.04	-.12**	-.03
ST	-.01	.01	-.08**	.05*
SD	.07**	.08**	.01	.05*
No. of correctly predicted signs of correlations	7 ( $p = .17$ )	8 ( $p = .05$ )	5 ( $p = .62$ )	8 ( $p = .05$ )

Note: \*\*  $p \leq .01$ ; \*  $p \leq .05$



Dragolov and colleagues. For value preferences, the 21-item PVQ from the European Social Survey was used. To assess social cohesion, a short instrument modelled after the measurement concept of the Bertelsmann Social Cohesion Radar was employed, which matched the approach by Dragolov et al. (2016), except for the number of indicators altogether used to assess social cohesion.

Core findings of the present study can be summarized as follows. First of all, it must be stated that interconnections between value preferences are weak to moderate only. Individual-level correlations between values and (perceived) social cohesion do not exceed  $r = .18$ ; state-level correlations go up as high as  $r = .43$ . Considering that the individual-level sample is very large ( $N = 2,003$ ), a correlation of size  $r = .18$  is not a negligible result, and so is a correlation of size  $r = .43$  neither negligible for an aggregate sample of  $N = 32$ . However, sizable interconnections look different, even against the fact that Boehnke et al. (2016b), who conducted multi-level analyses for 30 European states, reported similar, if not sometimes smaller effect sizes.

Secondly, the general pattern of correlations between values and social cohesion matched the pattern found by Boehnke et al. (2016b) for European countries. On the individual level, Universalism and Self-Direction values were the strongest positive predictors of—overall—Social Cohesion; Power values—also for Mexico—emerged most strongly

negatively related to social cohesion. It became evident, however, that Social Cohesion—as a formative index—is not uniformly related to value preferences in the way portrayed in the Dragolov et al. study. It emerged that the social cohesion domain Connectedness was in principle unrelated to value preferences. At the same time, Security values were often related *positively* to Social Cohesion, whereas they were predicted to relate *negatively*. A closer look at the single dimensions of social cohesion on the individual level suggested that of all nine of them only the dimension ‘Solidarity and Helpfulness’ was systematically related to all values (as would be expected in light of Schwartz’s assumption of a circumplex relationship between all values). Security values as such seem to be responsible for at least one crucial difference between Mexico and Europe. As in Europe, it was indeed the case that Universalism, Self-Direction, and Benevolence were positively related, and Power negatively related to the nine dimensions of social cohesion. However, Security values—assumed to be negatively related to Social Cohesion—exhibited six positive correlations (three of them significant): If security values were high among citizens of Mexico, perceived social cohesion also tended to be high. The same finding (with slightly lower sizes of coefficients) emerged for Conformity values. On the state level, only for Hierarchy values the relationship was clear-cut: Except for the Connectedness domain and among it the Trust in Institutions dimension,

**Table 5**  
Correlations of State-Level Social Cohesion with Aggregated Value Preferences

State-Level Value Type	Correlations			
	Social Cohesion (Overall)	Social Relations	Connectedness	Focus on the Common Good
Harmony	.13	.25	-.16	.13
Embeddedness	.05	-.07	.11	.10
Hierarchy	-.37	-.26	-.32	-.33
Mastery	-.39	-.43	.02	-.42
Affective Autonomy	.21	.31	.11	.08
Intellectual Autonomy	.20	.33	-.13	.20
Egalitarianism	.35	.24	.18	.39
No. of correctly predicted signs of correlations	7 ( $p = .01$ )	6 ( $p = .06$ )	4 ( $p = .50$ )	7 ( $p = .01$ )

Hierarchy value preferences were always negatively related to Social Cohesion.

Limitations of the present study must be sought in the selection of items for measuring social cohesion. Not in all cases may the selection of single items from the Bertelsmann Social Cohesion Radar have been the wisest decision. And beyond: A one-item per dimension measure, utilized for eight of the nine dimensions of Social Cohesion may have jeopardized reliability of the data to a certain degree. On the other hand, only using a short Social Cohesion instrument enabled us to obtain such a large sample of Mexican to participate in our study.

Two final questions arise. The most general one is, “What does the evidence mean?” The second one is the question of policy implications. In response to the first question, two points spring to the forefront: The basics of a relationship between value orientations and social cohesion generalize from European OECD countries to Mexico. A value climate dominated by Hierarchy and Mastery values is detrimental for social cohesion. Individuals that cherish strong power values are ‘antagonists’ of social cohesion. Individuals holding Universalism, Self-Direction, and Benevolence values are ‘protagonists’ of social cohesion. The puzzle lies in the role of Security values. Security values usually stand for a low degree of flexibility, and foster distrustful social interaction. In Mexico, these values are high on the current-day agenda. There are many people for whom they are a concern of first order. At the same time, high Security values go along with higher levels of (perceived) social cohesion. This may suggest that people who experience high levels of security concerns are more prone to match up with other citizens in the current political situation in Mexico (instead to—as in Europe—just fear for their own little lot).

Policy advice is fairly easy to formulate, but—as usual—rather difficult to implement. Differences in effect sizes (stronger correlations on the state level than on the individual level) suggest that modification of the prevalent value climate in the country seems more success-prone than attempting to modify people’s value orientations by starting something like Value Education for young Mexicans. According to Schwartz’

(2008) world map of value preferences, Mexico is a country with a non-extreme value climate. None of the seven culture-level value orientations seems to exhibit very high scores in Mexico. In the current study, the country seems to have moved towards the Hierarchy and Mastery poles. Herein lies the crux of current day Mexican affairs and at the same time possibly the key for policy interventions: *No*, we do not always need to be better in comparison to others, and *no*, it does not help social cohesion just to accept the existing hierarchy structures. The climate of neo-liberalism that some authors see as clearly on the rise in Mexico for several decades (Laurell, 2015) obviously has a certain destructive potential for social cohesion.

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ORIGINAL

## Dimensions of Self-Construal Associated with Self-Esteem and Depression: A Study among Mexican Students

### *Dimensiones de La Auto-Definición Asociadas a la Autoestima y Depresión: Un Estudio en Estudiantes Mexicanos*

Peter B. Smith<sup>1 a</sup>, Lorena Pérez Floriano<sup>b</sup>, and Paola Eunice Díaz Rivera<sup>c</sup>

<sup>a</sup> University of Sussex

<sup>b</sup> Colegio de la Frontera Norte

<sup>c</sup> National Autonomous University of Mexico

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#### Abstract

The relationship between dimensions of self-construal and reported mood states is examined among two samples of Mexican students. Scales focused on seven different aspects of self-construal were employed. Respondents favored predominantly individualistic ways of describing themselves, but also scored high on connection to others. These effects were particularly strong among respondents from Tijuana when compared with those from Mexico City. Depressive mood state was predicted by higher self-reported connection with others, commitment to others, receptiveness to influence and behavioral variability. High self-esteem was predicted by higher self-reported consistency, self-orientation, self-direction and expressiveness.

**Keywords:** Self-construal, Self-esteem, Mexico, Individualism

#### Resumen

La relación entre las dimensiones de la autodefinición y los estados de ánimo auto-reportados fueron evaluados en dos muestras de estudiantes mexicanos. Las escalas que se emplearon se enfocaron en siete diferentes aspectos de la auto-definición. Las respuestas de los participantes favorecieron predominantemente maneras individualistas de describirse a sí mismos, aunque también puntuaron alto en mediciones de conexión con los demás. Estos efectos son particularmente fuertes en los participantes de Tijuana cuando se comparan con los de Ciudad de México. Estados de ánimo depresivos fueron predichos por altos niveles auto-reportados de conexión con otros, compromiso con otros, receptividad a la influencia, y variabilidad conductual. Alta autoestima fue predicha por alta consistencia auto-reportada, auto-orientación, auto-dirección y expresividad.

**Palabras Clave:** Auto-definición, Autoestima, México, Individualismo

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1 Contact: Peter B. Smith, e-mail: psmith@sussex.ac.uk, School of Psychology, University of Sussex, Falmer, Brighton, BN1, 9QG, UK



This study examines which particular aspects of self-construal may be associated with positive and negative affect within the contemporary Mexican cultural context. In order to accomplish this, we first examine evidence as to the nature of self-construal in two Mexican regions, using recently developed measures. We then examine the reasons why associations between self-construal and affect might be expected to vary between different cultural contexts.

### Self-construal

Cross-cultural psychologists (e.g., Smith, Vignoles, Fischer & Bond, 2013) have typically considered the way in which individuals perceive themselves as dependent upon the type of cultural context within which they are located. Following the pioneering study of Markus and Kitayama (1991), a distinction between independent self-construal and interdependent self-construal has been widely used. Those who perceive themselves as relatively independent of others are more frequently found within more individualistic nations, while those who see themselves as more strongly interdependent with others are more frequently found within more collectivistic nations. A measure of independent and interdependent self-construal developed by Singelis (1994) has been used in many studies (Oyserman, Coon & Kemmelmeier, 2002), but doubts have been raised as to its measurement validity. Reliability for this scale varies between samples, and the items do not control for the tendency for some respondents to respond positively to all items. Some authors have also suggested that the items fail to distinguish self-construal from other aspects of cultural difference such as attitudes, values and beliefs. There has been a need for newer and more carefully designed measures that can differentiate the elements of Singelis' more global measure.

Within Mexico, Diaz-Loving and his colleagues (La Rosa & Diaz-Loving, 1991; Díaz-Loving & Draguns, 1999; Diaz-Loving, 2005, 2006, 2015) have developed a comprehensive set of scales measuring self-construal, tapping physical, social, emotional, moral and occupational aspects. Within these domains they noted the strong emphasis on interpersonal

relationships that is characteristic of collectivist cultures, exemplified by a willingness to preserve harmony by adapting to the wishes of others, obeying one's parents and presenting oneself as happy and cheerful. These ways of describing oneself are clearly characteristic of more interdependent self-construals, but we need more recent information, given the substantial social changes that have occurred with Mexico over the past several decades.

Aside from the social changes that have occurred in all areas of Mexico, it is likely that the values and personality of those living in close proximity to the US border will have been distinctively affected by the threats to their identity that this entails. These stigmatizing threats include unfavorable comparisons of oneself with those north of the border, the presence of constant migratory flow, and images of local violence (Campos & Ortiz, 2012). Given the contrast between the relatively tight structure of Mexican culture and the distinctively loose culture of neighboring California (Gelfand et al., 2011; Harrington & Gelfand, 2014), a more strongly individualistic self-construal can be predicted.

In a recent study, Vignoles et al. (2016) distinguished between seven different aspects of self-construal. Each of these aspects was seen as expressing an element of independence versus interdependence, but doing so in a way that is not necessarily correlated with other elements. The new measure was first developed using samples of students from 16 nations and then fully tested within 55 samples of adults drawn from 33 nations. The items comprising these measures improved on earlier measures in three ways. Firstly, the contrasting poles defining each dimension were identified. For instance, the first dimension was defined in terms of self-reliance versus dependence on others, rather than in terms of high versus low self-reliance. Secondly, some of the items defining this dimension were phrased in terms of self-reliance and others were phrased in terms of dependence on others. This makes it possible to estimate and control for acquiescent responding. Thirdly, the response scales for each item were keyed in terms of 'how well does this describe you?', which provides a more direct focus on oneself in contrast to the 'agree/disagree'

scales used in earlier measures. The seven dimensions of self-construal are shown in Table 1, along with a sample illustrative item for each.

Vignoles et al. (2016) showed that the endorsement of these seven aspects of independence/interdependence across their 55 samples did not match exactly with the contrast between cultures thought to be individualistic and those thought to be collectivistic. Looking at the different scores can provide a more precise indication of the distinctive ways in which culture members perceive themselves. The survey by Vignoles et al. included nine samples from South America, but none from meso-America. The South American samples scored distinctively high on self-expression and on difference from others. The first task of the present paper will be to examine which aspects are emphasized within a contemporary Mexican sample.

### Self-construal as a predictor of affect

Positive and negative affects are known to be associated with both personality and a wide variety of short- and long-term life experiences (e.g., Carver & Connor-Smith, 2010; Kim et al., 2016). In addition to these more immediate causal agents, there are further factors that may enhance or mitigate their effect. One of these is the cultural context within which an individual is located. If a person construes him or herself in a relatively similar way to those with whom they associate, a negative mood may be mitigated and a positive mood may be enhanced. In contrast, where self-construals

of a person and those around them differ, these effects may be reversed. In more specific terms, we can predict that independent self-construals will be a stronger protective factor against depression and in favour of self-esteem in cultural groups where independent self-construals are prevalent. Conversely, interdependent self-construal should be a stronger protective factor against depression and in favour of self-esteem where interdependent self-construals are prevalent.

An initial study relevant to these predictions was reported by Chen, Chan, Bond, & Stewart (2006). Comparing students from Hong Kong and the US, these authors found support for their prediction that self-efficacy would be a stronger protective factor against depression in the US than in Hong Kong. However, a prediction that relationship harmony would be a stronger predictor in Hong Kong was not supported. Smith et al. (2016) extended this study by surveying students from ten nations. Self-efficacy and a measure of relationship harmony were found to be protective factors against depression in almost all samples. However, as predicted, self-efficacy was found to be a stronger protective factor against depression in more individualistic nations. Furthermore, the measure of relationship harmony was found to be a stronger protective factor in nations where some (but not all) of the specific aspects of interdependent self-construal identified by Vignoles et al. (2016) were prevalent. In the most recent study of this type, Maass et al. (2019) found that independent self-construal was a significant protective factor against depressive mood among a sample of Dutch nationals. However,

**Table 1**

*Dimensions of individual-level self-construal*

<b>Independence</b>	<b>Interdependence</b>	<b>Sample item</b>
Self-Reliance	Dependence on Others	You prefer to ask other people for help rather than relying only on yourself
Self-Containment	Connection to Others	Your happiness is unrelated to the happiness of your family
Difference from Others	Similarity to Others	Being different from others makes you feel uncomfortable
Self-Interest	Commitment to Others	You value personal achievements more than good relations with those around you
Consistency	Variability	You behave differently when you are with different groups of people
Self-Direction	Receptiveness to Influence	You prefer to do what you want without letting your family influence you
Self-Expression	Harmony with Others	You try to adapt to those around you even if it means hiding your inner feelings

among a sample of immigrants from more collectivist cultures who were living in the Netherlands there was no such relationship, and there was a trend toward a link between interdependent self-construal and low depression. Thus, there is strong evidence that independent self-construal is a protective factor against depression, but mixed evidence relating to interdependent self-construal. We need more evidence from cultural groups in collectivist contexts.

Self-esteem in 53 nations has been surveyed by Schmitt and Allik (2005). Mean scores proved unrelated to levels of individualism-collectivism. The reason for this may be provided by the results of Becker et al. (2014) who examined the bases self-esteem among adolescents across 20 different cultural groups. Their results showed that levels of self-esteem in different groups varied in relation to cultural values. For instance, in more individualistic groups self-esteem was predicted by feelings of being in control one's life. In contrast in more collectivistic groups self-esteem was predicted by feelings that one was doing one's duty. Thus, more finely specified measures of self-construal may show which aspects of independence and interdependence relate to self-esteem in a given cultural context.

The prior studies linking affect to culture form the basis for the present investigation. We explore links between affect and self-construal within a collectivist culture. The previous studies of La Rosa and Diaz-Loving (1991) and Diaz-Loving (2006) provided evidence confirming the conclusions of Hofstede (1980) and others that Mexico is a collectivist culture. However, as in other nations, there will be individual-level variability in how individuals construe themselves, with some favouring independent self-construal, and rather more favouring interdependent self-construal. We can therefore test whether interdependent self-construal would be a protective factor against depression, and would favour self-esteem. The availability of measures for the seven dimensions of self-construal devised by Vignoles et al. (2016) means that this hypothesis can be tested seven times, to give maximum clarity as to which dimensions are most relevant to positive and negative affect.

## Method

### *Participants*

The sample comprised 93 students of varied subjects from the Autonomous National University of Mexico (54 percent male; mean age 19.8), and 130 students of social science majors from El Colegio de la Frontera Norte, Tijuana ( $n = 14$ ) and the Baja California State University ( $n = 116$ ) (56 percent male; mean age 22.5). All participants had Mexican nationality. Mean rating on a seven point scale of their rural versus urban origins was 6.8 (highly urban) for Mexico City and 6.5 for Tijuana.

### *Measures*

Each of the seven dimensions of self-construal identified by Vignoles et al. (2016) and shown in Table 1 were surveyed, using six items per dimension. Table 1 shows a sample item for each of the dimensions. Nine-point response scales were used, keyed from 'Describes me exactly' to 'Does not describe me at all'. High scores on each dimension refer to the independence rather than interdependence. Depression was measured with the 20-item version of the Centre for Epidemiological Studies Depression scale (CES-D) (Radloff, 1977). These items have 4-point response scales keyed in terms of frequency of symptom occurrence. A sample item is: 'I felt that everything that I did was an effort'. Four of the items describe positive symptoms and these are reverse keyed. Self-esteem was measured using Rosenberg's (1979) self-esteem scale. A sample item is: 'I feel that I have a number of good qualities'. Responses are on 4-point scales, keyed from 'strongly disagree' to 'strongly agree'. Five of the ten items are reverse keyed. All survey items were translated from English to Spanish and then back-translated independently (van de Vijver & Leung, 1997). Corrections to the translated items were made through discussion.

### *Procedures*

Participants completed paper versions of the survey, which included additional items not analysed in the present paper. 30 of the respondents from Mexico City completed the survey in a classroom and

**Table 2***Details of All Measures*

	Mean	Standard Deviation	Cronbach's alpha
Self-Reliance versus Dependence on Others	6.56	1.52	.70
Self-Containment versus Connection to Others	3.98	1.56	.72
Difference from Others versus Similarity to Others	6.79	1.40	.67
Self-Interest versus Commitment to Others	5.46	1.39	.57
Consistency versus Variability	5.87	2.04	.88
Self-Direction versus Receptiveness to Influence	6.77	1.38	.73
Self-Expression versus Harmony with Others	6.15	1.57	.70
Depression	1.92	0.60	.91
Self-Esteem	3.12	0.60	.86

the remainder were approached in public spaces on the university campus. Respondents from Northern Mexico completed the survey in classrooms.

## Results

Details of all measures are provided in Table 2. Cronbach alpha was adequate, except in the case of the self-orientation scale. Fourteen of the 222 respondents had mean scores above 3 on the 4-point scale measuring depression. The mean score for self-esteem is similar to that reported by Schmitt and Allik (2005) for their sample of Mexican students.

After controlling for gender, the mean scores for the two samples differed significantly for self-esteem ( $M_{\text{Tijuana}} = 3.20$ ;  $M_{\text{MexicoDF}} = 3.01$ ;  $p < .05$ ) and for perceiving oneself as different from others ( $M_{\text{Tijuana}} = 7.12$ ;  $M_{\text{MexicoDF}} = 6.30$ ;  $p < .001$ ). Six of the northern respondents originated from southern states. After reassigning these cases to permit north-south

comparisons, the contrast in perceiving oneself as different from others remains significant ( $M_{\text{north}} = 7.28$ ;  $M_{\text{south}} = 6.38$ ;  $p < .001$ ). The remaining means did not differ between samples. To test more precisely whether this difference reflects the cultural effect of residence close to the US border, the analysis was repeated, including only those born in Tijuana state and those from Mexico City. Respondents from Tijuana perceive themselves as more different from others ( $M_{\text{Tijuana}} = 7.16$ ;  $M_{\text{MexicoDF}} = 6.40$ ;  $p < .001$ ). They also perceive themselves as even less self-contained than those in Mexico City ( $M_{\text{Tijuana}} = 3.73$ ;  $M_{\text{MexicoDF}} = 4.22$ ;  $p < .03$ ).

Six of the seven self-construal scales have means in excess of the midpoint, indicating that most respondents preferred to see themselves as predominantly independent rather than interdependent. However, Latin American respondents are frequently found to use more extreme points on response scales than those from other cultural groups (Hui & Triandis, 1989;

**Table 3***Partial Correlations of Self-Construal with Depressive Mood and Self-Esteem, controlling for Gender and Sample*

Self-Construal	Depressive Mood	Self-Esteem
Self-Reliance versus Dependence on Others	-.07	.19**
Self-Containment versus Connection to Others	-.18**	.10
Difference from Others versus Similarity to Others	-.04	.13
Self-Interest versus Commitment to Others	-.18**	.26***
Consistency versus Variability	-.25***	.36***
Self-Direction versus Receptiveness to Influence	-.21**	.24***
Self-Expression versus Harmony with Others	-.08	.24***



Smith, 2004). It is more instructive to examine which dimensions received the most extreme ratings. Respondents reported themselves as distinctively high on self-direction, self-reliance, difference from others and self-expression. They also reported themselves as distinctively low on self-containment. Thus, consistent with the results of Vignoles et al. (2016), some aspects of independence are emphasized, but some aspects of interdependence are also salient.

Partial correlations between self-construal and mood states are shown in Table 3. High self-esteem is significantly associated of five of the seven dimensions of independent self-construal. In contrast, depression is linked with four of the dimensions of interdependent self-construal. In relation to both mood states, the strongest predictor is the dimension of consistency versus variability.

## Discussion

This study has addressed two issues. Firstly, we considered whether contemporary Mexican students describe themselves in ways that are consistent with earlier findings, and whether there are regional differences in how students now describe themselves. Secondly, we examined the aspects of self-construal most strongly associated with positive and negative mood states. Our use of the scales developed by Vignoles et al. (2016) provides evidence from this sample both for a continuing commitment to collectivism and also for several predominantly individualistic dimensions of self-construal. We cannot judge the extent to which these results provide evidence for change, because the measurement instruments that have been employed in different studies have not been the same. What is clear is that there is substantial overlap between the present results and those reported by Vignoles et al. (2016) for the mean of nine adult samples from South America. In both studies the means for difference from others, for self-reliance and for self-expression were distinctively high. However, Vignoles et al. also found high scores for consistency versus variability, whereas we found an additional high score for self-direction. Further sampling would be required to determine the extent to which these similarities

and differences prove replicable. The low score for self-containment, which is equivalent to a high score for connection with others provides the strongest indication of a continuing collectivistic orientation.

The differences found between respondents from Tijuana and those from Mexico City are consistent with the expectation of influence attributable to the proximity of the US border, representing two different styles of life in highly urban Mexican culture. Tijuana respondents most strongly emphasize their difference from others, but also show a weak tendency to feel more connected to others. Interview data would be needed to shed light on this combination of effects.

The finding that positive and negative affect are most closely associated with self-construals for consistency versus variability is of particular interest. We all vary our behaviours between the differing social contexts encountered within a single day. However, this variability appears particularly marked within the collectivist nations of East Asia, where the preference for harmony more strongly mandates the requirement to adjust one's behaviour to the specific requirements of each context (Tafarodi et al., 2004; English & Chen, 2007). For East Asians but not for European Americans, variability across context has been found to be associated with higher relationship quality (English & Chen, 2011). The results from the present study suggest that respondents interpreted the variability of their behaviour as negative, rather than as being situationally appropriate. It is likely that the self-construal items that we used tapping consistency versus variability are insufficiently precise to distinguish variability that is adaptive rather than disorganised. The significant associations between depressed mood and other aspects of interdependence suggest a loss of autonomy rather than disorganisation. Further studies from other cultural groups are required in order to determine in which contexts variability is experienced positively and in which it is experienced negatively.

In this study, we investigated whether previous results showing independent self-construal to be a protective factor against depression would be replicable in a more collectivist context, or whether

interdependent self-construal would instead become a protective factor. The results obtained show that independence remains predictive within the Mexican context. However, our data also showed that contemporary Mexican students construe themselves in ways that have some substantially individualistic components. Even in relation to their endorsement of connection with others (an element of interdependence), there was no association with positive or negative affect. To identify contexts in which interdependence could be protective, it may be necessary to survey samples that are less urban and less cosmopolitan than students from these two major Mexican cities.

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ORIGINAL

# Testing the Validity of GRE Scores on Predicting Graduate Performance for National and International Engineering Students

## *Capacidad Predictiva de los Puntajes REG sobre el Rendimiento de Graduados Nacionales e Internacionales de Ingeniería*

Wei Wang<sup>a</sup>, and Kurt F. Geisinger<sup>1 a b</sup>

<sup>a</sup>Department of Educational Psychology, University of Nebraska-Lincoln

<sup>b</sup>Buros Center for Testing

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### Abstract

Numerous research studies have examined the validity of GRE scores in predicting graduate success, however, some limitations still exist. This study targeted graduate engineering programs and investigated the validity of GRE scores in predicting graduate engineering GPA (GGPA). In addition, the differences in the validity of GRE scores between American and international students and between masters' and doctoral students were compared. The GRE's incremental predictive ability over undergraduate GPA (UGPA) and TOEFL scores was examined. Data were obtained from 1083 students from the engineering programs in a large, comprehensive midwestern university. Results indicated that GRE was useful in forecasting GGPA of graduate engineering students. The GRE scores explained more criterion variance for American students than for international students, but statistically significant differences were only found when GRE-Quantitative predicted GGPA. The GRE-Verbal and GRE-Quantitative scores had different patterns in predicting graduate grades for master's and doctoral students. UGPA was found to be a very strong predictor, and TOEFL scores were significantly correlated with the criterion variables. GRE scores, however, were found to have significant incremental validity over UGPA and TOEFL scores. TOEFL scores were less able to make predictions.

**Keywords:** Graduate Record Examinations, Predictive Evidence of Validity, Prediction of International Students, Language Proficiency

### Resumen

Gran cantidad de estudios han examinado la validez de puntajes REG (Registro de Examinación de Graduados) como predictores del éxito de graduación, aunque aún existen algunas limitaciones. Este estudio se enfocó en programas de ingeniería y evaluó la validez de puntajes REG como predictor del GPA (*Grade Point Average*, Puntaje Promedio de Calificaciones) (GGPA). Adicionalmente, las diferencias en la validez de puntajes REG entre los estudiantes americanos e internacionales, así como los puntajes entre estudiantes de maestría y doctorado, fueron comparadas. La capacidad predictiva incremental del REG sobre el GPA de los estudiantes de pregrado (UGPA) y

<sup>1</sup> Contact: Kurt Geisinger, mail: Kgeisinger2@unl.edu



los puntajes TOEFL también fue evaluada. Se obtuvieron datos de 1083 estudiantes de programas de ingeniería de una universidad grande de la zona centro-oeste. Los resultados indicaron que el REG fue útil como predictor del GGPA de los estudiantes de ingeniería. Los puntajes REG explicaron mayor cantidad de varianza para estudiantes americanos que para estudiantes internacionales, aunque sólo se encontraron diferencias estadísticamente significativas cuando el REG cuantitativo predijo GGPA. Los puntajes REG verbal y REG cuantitativo presentaron puntajes diferentes al predecir calificaciones de los graduados de maestría y doctorado. El puntaje UPGA resultó ser un buen predictor, y los puntajes del TOEFL estuvieron correlacionados significativamente con las variables de criterio. Los puntajes REG, sin embargo, resultaron tener validez incremental significativa por encima de los puntajes UPGA y TOEFL. Los puntajes TOEFL fueron menos capaces de hacer predicciones.

**Palabras Clave:** Registros de Examinación de Graduados, Evidencia Predictiva de Validez, Predicción de Estudiantes Internacionales, Competencia Lingüística

The Graduate Record Examination (GRE), published by the Educational Testing Service (ETS), is a battery of standardized tests designed to determine the scholastic potential of graduate students and is commonly used in admission decisions by many universities and institutions. Because of the wide use of GRE scores in admission decisions and the critical importance of the predictive evidence of validity of the GRE, numerous studies about the GRE validation have been conducted since GRE was created and administered by ETS in 1949. Kuncel, Hezlett and Ones (2001) conducted a comprehensive meta-analysis of the predictive evidence of validity of the GRE. Their study integrated a variety of previous studies, including 1,753 independent samples and 82,659 graduate students, and considered the topic from different aspects including multiple disciplines, different criterion measures, and correction for statistical artifacts. It demonstrated that GRE scores were generalizably a valid predictor of graduate performance. However, as Kuncel et al. (2001) stated, there existed inconsistent results across studies and strong opinions of both sides on the usefulness of the GRE in predicting graduate performance. The limitations and gaps of previous studies are impetus for further research about the validity of GRE scores.

### Issue of Language Proficiency

The relationship between GRE scores and graduate performance may be moderated by some variables. One potential moderator is language proficiency. The

GRE tests are focused on students' cognitive abilities but also reflect their language proficiency to some extent. As Sandoval and Durán (1998) stated, "When used with nonnative speakers, a test in English must be interpreted as measuring English proficiency in addition to the constructs it was designed to measure (p. 181)". Stricker (2004) found high correlations of TOEFL (the Test of English as a Foreign Language, a test that evaluates the English proficiency of people whose native language is not English) scores with GRE-V and GRE-A and moderate correlation with GRE-Q. A qualitative study by Mupinga and Mupinga (2005), by exploring the perceptions of international students toward the GRE, found that it was very hard for a test to measure all aspects of cognitive performance no matter how well it was developed, and that the content and context of the GRE test, especially the GRE verbal section, were considered to be biased against international students. Pennock-Roman (2002) found that many Puerto Rican students performed better on a Spanish language standardized test than on the GRE.

English language proficiency is a critical factor of the academic performance for non-native speaker students in a setting where English is used for teaching and learning. For this reason, besides GRE scores, colleges or universities in the United States usually request international students to reach a minimum level of language proficiency –usually determined by TOEFL scores –as a threshold of admission (Cho & Bridgeman, 2012; Wait & Gressel, 2009). Some studies have

showed that TOEFL scores played an important role on the academic performance, as indicated by factors such as GPA, pass rates on comprehensive assessment examinations, and graduation rate for international students (Cho & Bridgeman, 2012; Wait & Gressel, 2009). However, Cho and Bridgeman (2012) concluded that research findings on the power of TOEFL scores to predict academic success were mixed and inconsistent, so it was difficult to make a definitive conclusion about the validity of TOEFL. Thus, how language proficiency predicts graduate performance and how much more variance GRE explains beyond language proficiency are worthy to study.

### **Undergraduate Academic Performance in Graduate Admission**

Undergraduate GPA (UGPA) is considered a good indicator of students' academic knowledge, abilities and performance during undergraduate studies. Applicants' GRE scores and UGPAs are the two most heavily weighted numerical and objective pieces of information in graduate admissions process (Kuncel et al., 2001; Norcross, Hanych, & Terranova, 1996). The combination of GRE scores and UGPA was a fairly robust predictor on multiple measures of performance, and the combination explained more variance in the dependent variable than either independent variable did by itself (McKee, Mallory, & Campbell, 2001; Power, 2004; Reisig & DeJong, 2005). Milner, McNeil and King (1984) found a significant increase in the minority enrollment rate –doubled from 9.85% to 17.56% –when GRE scores were eliminated from admission process but using only UGPA as the sole quantitative admission variable. However, in a very few cases, the power of UGPA in predicting graduate success was not obvious. For example, Smaby, Maddux, Richmond, Lepkowski, and Packman (2005) found that GRE scores and UGPA were of limited value when used to predict success for graduate students in counseling programs.

### **Specificity of Academic Disciplines in GRE Validity**

The relationship of GRE scores and graduate performance may be dependent on the particular discipline

or academic background (House & Johnson, 1993; Stack & Kelley, 2002; Thornell & McCoy, 1985). Though there are similarities in some of the fundamental tasks required, the types of training, the demands, the grading standards and evaluation criteria differ from discipline to discipline. Thus, the predictive evidence of validity of the GRE for different disciplines needs consideration. Kuncel et al. (2001) categorized different disciplines into four different fields: social sciences, math-physical sciences, humanities, and life sciences. Their meta-analysis found that the predictive values of the GRE were inconsistent across disciplines and across test segments (i.e., GRE-Q and GRE-V). For example, the GRE-V accounted for more variance in graduate GPA (GGPA) in the social sciences than in the math-physical sciences, and the GRE-Q was less predictive of GGPA in the social sciences, life sciences, math-physical sciences than in the humanities. In addition, Stack and Kelly (2002) stated that GRE scores might be more predictive of GGPA in disciplines with low mean GRE scores than in disciplines with high mean GRE scores. House and Johnson (1993) also found that the relationships between predictor variables and degree completion varied by areas of graduate study or academic background.

Among various disciplines, engineering is one of the very important graduate programs in many universities. The importance of engineering graduate degrees is increasingly recognized by the professional engineering community (National Academy of Engineering, 2005; Rogers & Goktas, 2010). As a consequence of the awareness of this importance, the number of applicants to U.S. engineering graduate programs increased annually by an average of about 4% over the period of ten years from 1997 to 2007 (Bell, 2008). However, GRE validity studies have not widely extended to the discipline of engineering. Thus, the present study intended to help fill this gap and to target the population of engineering students to study the predictive validity of GRE scores in predicting graduate performance.

### **Purpose and Research Questions**

Summarizing the studies reviewed, it was found that using GRE scores as one of the admission tests to

predict graduate performance has both a strong theoretical rationale and empirical support. However, the predictive evidence of validity of the GRE is inconsistent across studies, with the variance of graduate success explained by GRE ranging from less than 10% to as high as about 36% (Goldberg & Alliger, 1992; Fenster, Markus, Wiedemann, Brackett, & Fernandez, 2001; Morrison & Morrison, 1995; Powers, 2004; Sternberg & Williams, 1997). More research about this topic is needed to fill the gaps existing in previous studies. A test is considered to be biased if its predictive power is not equivalent for different subgroups (Johnson, Carter, Davison, & Oliver, 2001). In the present study, the difference in the validity of GRE scores between American students and international students in engineering was tested. Both the language issue and previous academic performance were taken into account to investigate the incremental validity of GRE scores over language proficiency and UGPA. In addition, the influence of degree level on the validity of GRE was also examined, considering that there are differences in program complexity and structure by degree level and that the effectiveness for predicting performance at both the master's and doctoral levels had gone unexamined until recent years (Kuncel, Wee, Serafin, & Hezlett, 2010).

Although GGPA has been shown to have limited value in reflecting how much students master the material and acquire the knowledge of the field of study, GGPA (especially the 1<sup>st</sup>-year GGPA and cumulative GGPA) is by far the most widely used criterion of graduate school performance (Fenster, Markus, Wiedemann, Brackett, & Fernandez, 2001; Kuncel, Crede, & Thomas, 2007; Kuncel et al., 2001). For most of the specific research studies, either 1<sup>st</sup>-year grades or cumulative grades were used as the measure of graduate success, but the performance of the second year was less frequently studied (Educational Testing Services, 2008a; Goldberg & Alliger, 1992; Perez, 2011; Sternberg & Williams, 1997). As is the 1<sup>st</sup>-year GPA and overall GPA, the 2<sup>nd</sup>-year GPA is also a reasonable criterion of graduate performance, one that was also included in the present study.

Specifically, the research questions of the present study were:

- 1) How do GRE scores predict engineering students' 1st-year, 2nd-year, and total GGPA in graduate program?
- 2) What are the differences in the validities of GRE scores between American students and international students?
- 3) What are the differences in the validities of GRE scores between masters' and doctoral students?
- 4) How does UGPA predict engineering students' 1st-year, 2nd-year and total GGPA in graduate program? What is the incremental validity of GRE over UGPA?
- 5) Specifically for international students, how does the language proficiency (measured by TOEFL) predict engineering students' 1st-year, 2nd-year and total GGPA in graduate program? What is the incremental validity of GRE over language proficiency?

## Method

### Sample

The sample for this study was from the various engineering programs in a large comprehensive midwestern university in the United States. Student records were obtained from the university's institutional research office. The data included all students who were enrolled in these engineering programs during the 11 academic years, from 2000 to 2011, with the number of these students totaling 1452. But only the students who had registered for classes for at least one and a half years or three academic semesters (in order to get the 1st-year and the 2nd-year GGPA) were retained for use in this study, which resulted in a total of 1096 students. Among the 1096 students, only 591 students had GRE scores, and 398 students had UGPA, 575 students had TOEFL scores. Thirteen students did not have scores for any of the three predictors and were hence excluded. Considering the existence of considerable missing or incomplete data for many students, and in order to keep as much information as possible, the students who had complete GPAs (1st-year, 2nd-year, and cumulative GGPA) and at least one predictor score (i.e., either GRE, TOEFL,

or UGPA) were retained. Finally, a total of 1083 students ( $N=1083$ , 79.8% were male and 20.2% were female) were available in the final database. Amongst these students, 39.6% of the students were originally from the United States (41.6% were non-alien), 24.6% were from China, 14.3% were from India, and the rest (21.5%) were from other 62 countries around the world. Among the international students in this sample, there were rarely students from such English-speaking countries as the United Kingdom and Australia.

### Measures

**Graduate Student Performance.** Three measures were used as the indicators of graduate performance: the 1st-year GGPA, the 2nd-year GGPA, and the total GGPA (or cumulative GGPA). GGPA was evaluated on a 0-4.0 continuous scale. The 1st-year GGPA and the 2nd-year GGPA both covered one academic year. The total GGPA was different and it covered the period of time from the initial enrollment in graduate study until the end they graduated or until the last semester the data covered in the database (i.e., 2012 Fall). Considering the number of classes that students registered in each year differed individually, the corresponding credit hours for each student in each period of time were also kept.

**UGPA.** The UGPA is a cumulative grade-point average covering all the undergraduate coursework. It was also on a 0-4.0 scale. However, in this study, this measure was only available for 398 students who studied and got their bachelor's degrees from the targeted midwestern university. For other students (i.e.,  $n = 685$ ) who graduated from other universities or colleges, their UGPAs were not retained in the university system.

**Graduate Record Examination.** The GRE used in this study has three subtests that measure verbal reasoning (GRE-V), quantitative reasoning (GRE-Q), and analytical writing skills (GRE-A) (Educational Testing Services, 2013). At time of this study, the GRE-V and the GRE-Q had a possible score range from a minimum of 200 to a maximum of 800. The GRE-Total was the sum of the GRE-V and GRE-Q scores. In this study, only GRE-V, GRE-Q, and GRE

total scores were used in the analysis because the Analytic writing scores were not available for all students.

**TOEFL.** The TOEFL is a test to evaluate the English proficiency of people whose native language is not English. Since 2006, the Internet-based version of the TOEFL test (TOEFL iBT) had been phased in worldwide. Before 2006, TOEFL tests had two versions: paper-based (PBT) and computer-based (CBT) (Alderson, 2009). In this study, 53.1% ( $n = 575$ ) of the total students had TOEFL scores but in different versions. Because the three versions have different scoring scales and in order to integrate the test scores, these three versions of scores were placed on a single scale according to the TOEFL Score Comparison Tables (Educational Testing Services, 2005). In this study, TOEFL iBT scores and PBT scores were transformed into scores using the scale of CBT, which has a scoring range from 0 to 300. For those students who took the TOEFL more than one time (only five students in this study), the highest score was used as his or her TOEFL score, as that was the admissions practice of this university.

**Demographics.** The term alien status in this study represented whether or not the students were the residents of the United States. In terms of the degree level, students who enrolled as a doctoral students or originally as master's students and then continued to the doctoral programs of the same university were noted as doctoral students. Students who enrolled as master's students and did not continue to the doctoral programs of the same university were noted as master's students. Table 1 shows some detailed demographic information of the sample.

**Table 1**  
Frequency and Percentage of Master's and Doctoral Students by Alien Status

Alien Status	Master's Students		Doctoral Students		Total
	N	%	N	%	
US	370	55.7%	81	19.3%	451
Alien	294	44.3%	338	80.7%	632
Total	664	100%	419	100%	1083



### Data Analysis

The data analysis for this study consisted of both descriptive and inferential statistics. To test the validity of GRE scores, 1st-year GGPA, 2nd-year GGPA, and total GGPA were regressed separately on GRE-V, GRE-Q, and GRE total scores. Hierarchical multiple regression analyses were conducted to examine the incremental validity of GRE scores over UGPA and TOEFL scores. To solve the problem of missing data, the method of Listwise deletion was applied.

### Results

Table 2 shows the descriptive statistics for both predictor variables and criterion variables. The means of the three criteria, 1st-year GGPA ( $M = 3.64$ ,  $SD = .32$ ), 2nd-year GGPA ( $M = 3.68$ ,  $SD = .33$ ), and total GGPA ( $M = 3.68$ ,  $SD = .27$ ), were quite similar. The corresponding credit hours in each period of time, however, were different. The 1<sup>st</sup>-year mean hours were 20.24 ( $SD = 6.21$ ), the 2<sup>nd</sup>-year hours were 17.14 ( $SD = 7.64$ ), and the total mean hours were 50.21 ( $SD = 27.24$ ). The GRE-V had a lower mean score, larger standard deviation, and larger range ( $M = 435.25$ ,  $SD = 119.42$ , 200-800 range) than GRE-Q ( $M = 731.74$ ,  $SD = 73.32$ , 320-800 range). The mean of UGPA was 3.41 ( $SD = .36$ ) and the mean of TOEFL total scores was 236.14 ( $SD = 27.30$ ).

Pearson correlations were computed among all variables. All correlations were statistically significant at the alpha level of either .01 or .05. The correlation between 1st-year and 2nd-year GGPA was .56,

and they had a spurious correlation with the total GGPA at .82 and .81, respectively. GRE-V correlated with GRE-Q at .34, and these two subtest scores had a spurious correlation with GRE total scores at .90 and .71, respectively. The correlations between the predictor variables (i.e., GRE and TOEFL scores) and the criterion variables ranged from .17 to .28. In contrast, the correlations between UGPA and the three criterion variables ranged from .52 to .64. GRE scores had correlations with UGPA, ranging from .37 to .51, and with TOEFL, ranging from .23 to .54.

### Difference of Descriptive Statistics by Alien Status and by Degree Level

In order to see the differences between two groups (American students vs. international students; master's students vs. doctoral students), descriptive statistics of each group were given and independent sample *t* tests were conducted, as shown in Table 3. There were no significant differences between American students and international students in graduate performance as measured by 1<sup>st</sup>-year, 2<sup>nd</sup>-year, and total GGPA at the alpha level of 0.05. American students had higher GRE total scores than international students, but this difference was not statistically significant. For the subtests, American students had significantly higher GRE-V scores but lower GRE-Q scores than international students. Doctoral students had significantly higher scores than master's students in 1<sup>st</sup>-year GGPA, 2<sup>nd</sup>-year GGPA and total GGPA, also in GRE-Q scores and GRE total scores, and in UGPA. The differences in GRE-V and TOEFL were not found to be significant.

**Table 2**  
Descriptive Statistics of the Predictors and the Criteria

Variables		N	M	SD	Minimum	Maximum
Criteria	1.GGPA-1	1083	3.64	.32	2.00	4.0
	2.GGPA-2	1083	3.68	.33	1.67	4.0
	3.GGPA-tot	1083	3.68	.27	2.44	4.0
Predictors	GRE-V	591	435.25	119.42	200	800
	GRE-Q	591	731.74	73.32	320	800
	GRE-tot	591	1166.99	159.95	650	1600
	UGPA	398	3.41	.36	2.49	4.0
	TOEFL	575	236.14	27.30	130	293

**Table 3**  
*Difference of Descriptive Statistics of Variables by Alien Status and by Degree Level*

Variables	Alien status	N	M (SD)	t	Degree	N	M (SD)	t	
Criteria	GGPA-1	Alien	632	3.65 (.32)	.461	MS	664	3.58(.35)	9.78**
		US	451	3.64 (.33)		PHD	419	3.76(.24)	
	GGPA-2	Alien	632	3.69 (.31)	1.54	MS	664	3.63(.35)	6.14**
		US	451	3.66 (.34)		PHD	419	3.75(.27)	
	GGPA-tot	Alien	632	3.70 (.26)	1.61	MS	664	3.62(.28)	10.55**
		US	451	3.67 (.28)		PHD	419	3.78(.20)	
Predictors	GRE-V	Alien	461	421.52(121.97)	6.17**	MS	292	429.35(117.44)	1.19
		US	130	483.92 (95.47)		PHD	299	441.00(121.24)	
	GRE-Q	Alien	461	741.32 (66.06)	5.31**	MS	292	717.95(79.13)	4.59**
		US	130	697.77(86.78)		PHD	299	745.22(64.49)	
	GRE-tot	Alien	461	1162.84(159.48)	1.19	MS	292	1147.29(161.94)	2.98**
		US	130	1181.69(161.36)		PHD	299	1186.22(155.86)	
	UGPA					MS	342	3.39(.36)	3.88**
						PHD	56	3.59(.31)	
	TOEFL					MS	278	235.16(29.76)	.83
						PHD	297	237.05(24.80)	

\*  $p < .05$ , \*\*  $p < .01$

### Validity of GRE Scores on Predicting Graduate Performance

As GRE-V, GRE-Q, and GRE total scores were considered separately, three simple linear regressions (SLR) were conducted on all criterion variables. As shown in Table 4, all standardized regression coefficients were significant, indicating the usefulness of the GRE-V, GRE-Q, and GRE total scores in predicting 1<sup>st</sup>-year, 2<sup>nd</sup>-year, and total GGPA. The variances in criterion variables that were explained by GRE scores, indicated by  $R^2$ , ranged from 2.8% to 7.9%. Across the three criterion variables, more variance in total GGPA was explained by GRE scores (ranging from 4.6% to 7.9%) than that in 1<sup>st</sup>-year and 2<sup>nd</sup>-year GGPA (ranging from 2.8% to 5.2%).

### Differences in the Validity of GRE Scores by Alien Status and Degree Level

Regression of graduate performance on GRE scores was conducted separately for American students and international students. As shown in Table 5, all the standardized coefficients were significant, which indicated the usefulness of GRE scores in predicting

**Table 4**  
*The Index (Standardized Regression Coefficient and R Square) of the Regression of GGPA on GRE scores*

	GGPA-1		GGPA-2		GGPA-tot	
	$\beta$	$R^2$	$\beta$	$R^2$	$\beta$	$R^2$
GRE-V	.167**	.028	.185**	.034	.214**	.046
GRE-Q	.224**	.050	.180**	.032	.263**	.069
GRE-tot	.227**	.052	.221**	.049	.281**	.079

$p < .05$ , \*\*  $p < .01$ .

graduate performance for both American students and international students. For American students, the variance in across the three criterion variables explained by GRE scores ranged from 10.5% to 22.2%. By contrast, for international students, the variance explained by GRE scores was much smaller, only ranged from 1.4% to 5.5%. Although the difference in the validity by Alien Status appeared to be large, however, in testing the interactions between Alien Status and GRE scores, the interactions were not found to be significant except the one between Alien Status and GRE-Q in predicting GGPA\_tot ( $F(23,$

531) = 1.66,  $p < .05$ ). Namely, the statistically significant difference in the prediction between American students and international students was found only when GRE-Q was used in predicting GGPA total scores.

The same method was used to test the validity of GRE for masters' and doctoral students. As shown in Table 6, except the prediction by GRE-V on the 2<sup>nd</sup>-year GGPA and total GGPA for doctoral students, all other regressions were significant at either alpha level of .05 or .01. The differential validity by degree level differed among the three GRE scores. GRE-V explained relatively more variance for master's students (3.5%, 7.4%, 8.7%, respectively) than for doctoral students (1.7%, 0.7%, 1.2%, respectively) in 1<sup>st</sup>-year, 2<sup>nd</sup>-year, and total GGPA. GRE-Q explained relatively larger variance for doctoral students (6.3%, 3.6%, 8.3%, respectively) than for master's students (1.9%, 1.7%, 3.1%, respectively) in the three criteria. GRE total scores explained more variance for master's students ( $R^2 = 6.8\%$  and  $9.0\%$ , respectively) than doctoral students ( $R^2 = 2\%$  and  $4.2\%$ , respectively) in 2<sup>nd</sup>-year GGPA and total GGPA, but no difference in 1<sup>st</sup>-year GGPA. However, further statistical tests with both degree level and GRE scores in the regression model showed no significant interactions between degree and GRE scores except two: one interaction between degree and GRE-V in predicting 1<sup>st</sup>-year GGPA ( $F(47, 487) = 1.46, p < .05$ ), and another one between degree and GRE-Q in predicting 2<sup>nd</sup>-year GGPA ( $F(26, 528) = 1.57, p < .05$ ).

### Incremental Validity of GRE over UGPA and TOEFL

The incremental predictive ability was analyzed by using hierarchical multiple regression. This method was used first to test the incremental validity of GRE over UGPA. Because of the reason that only a small portion of the students who had UGPA had GRE scores (65 out of 398), the predictive ability of UGPA was tested by simple linear regression (SLR) prior to MR so as to include all the 398 students. As shown in Table 7, the results of the SLR ( $n = 398$ ) indicated that UGPA explained 40.8%, 27.4%, and 40.3% of variance (indicated by  $R^2$ ) in 1<sup>st</sup>-year GGPA, 2<sup>nd</sup>-year

**Table 5**

The Index (Standardized Coefficient and R Square) of the Regression of GGPA on GRE scores by Alien Status

		GGPA-1		GGPA-2		GGPA-tot	
		$\beta$	$R^2$	$\beta$	$R^2$	$\beta$	$R^2$
GRE-V	Alien	.118*	.014	.154**	.024	.172**	.030
	US	.325**	.106	.324**	.105	.362**	.131
GRE-Q	Alien	.211**	.044	.144**	.021	.233**	.055
	US	.430**	.185	.369**	.136	.471**	.222
GRE-tot	Alien	.178**	.032	.177**	.031	.228**	.052
	US	.423**	.179	.390**	.152	.467**	.218

\*  $p < .05$ , \*\*  $p < .01$ .

**Table 6**

The Index (Standardized Coefficient and R Square) of the Regression of GGPA on GRE scores by Degree Level

		GGPA-1		GGPA-2		GGPA-tot	
		$\beta$	$R^2$	$\beta$	$R^2$	$\beta$	$R^2$
GRE-V	MS	.187**	.035	.272**	.074	.294**	.087
	PhD	.131*	.017	.081	.007	.111	.012
GRE-Q	MS	.139*	.019	.131*	.017	.176**	.031
	PhD	.251**	.063	.189**	.036	.287**	.083
GRE-tot	MS	.204**	.041	.261**	.068	.299**	.090
	PhD	.206**	.042	.141*	.020	.205**	.042

\*  $p < .05$ , \*\*  $p < .01$ .

GGPA, and total GGPA, respectively. In the hierarchical multiple regression with a smaller sample size ( $n = 65$ ), UGPA alone explained 36.7%, 26.9%, and 40.3% of variance in 1<sup>st</sup>-year, 2<sup>nd</sup>-year, and total GGPA, respectively. After adding GRE scores into the model, the proportions of variance in three criterion variables increased significantly, indicated by  $R^2$  and  $R^2$  change, which indicated that GRE scores explained a significant additional proportion of variance over/beyond what UGPA explained. This incremental validity was presented more obviously for 1<sup>st</sup>-year GGPA and 2<sup>nd</sup>-year GGPA than total GGPA. Specifically, GRE scores explained additional 5% to 10% of variance beyond UGPA for 1<sup>st</sup>-year GGPA, additional 5.2% to 8.4% for 2<sup>nd</sup>-year GGPA, and additional 2.8% to 4.7% for total GGPA.

**Table 7**  
Hierarchical Multiple Regression of GGPA on UGPA and GRE scores

		GGPA-1			GGPA-2			GGPA-tot			
		$\beta$	$R^2$	$\Delta R^2$	$\beta$	$R^2$	$\Delta R^2$	$\beta$	$R^2$	$\Delta R^2$	
SLR ( $n=398$ )	UGPA	.639**	.408		.524**	.274		.635**	.403		
MR ( $n=65$ )											
Model	1	UGPA	.605**	.367		.519**	.269		.635**	.403	
	2a	GRE-V	.240*	.416	.050*	.270*	.332	.063*	.180	.431	.028
	2b	GRE-Q	.359**	.462	.096**	.264*	.321	.052*	.227*	.441	.038*
	2c	GRE-tot	.365**	.466	.100**	.335**	.353	.084**	.251*	.450	.047*

Note. SLR = simple linear regression, MR = multiple regression.

\*  $p < .05$ , \*\*  $p < .01$ .

The incremental validity of GRE scores over TOEFL scores was also examined. As shown in Table 8, the results of SLR ( $n = 575$ ) showed that TOEFL scores explained 2.2%, 3%, and 4.9% of variance in 1<sup>st</sup>-year GGPA, 2<sup>nd</sup>-year GGPA, and total GGPA, respectively. However, after using the method of Listwise deletion in the hierarchical multiple regression ( $n = 401$ ), TOEFL scores did not explain significant proportions of variance. After adding GRE scores into the model, the proportions of explained variance increased significantly for all the three criterion variables, which indicated that GRE scores explained a significant additional proportion of variance over/beyond TOEFL scores. Specifically, GRE scores explained additional 1.7% to 4.6% of variance beyond TOEFL scores for 1<sup>st</sup>-year GGPA, additional 1.4% to 2.7% for 2<sup>nd</sup>-year GGPA, and additional 2.7% to

5.3% for total GGPA. In addition, GRE-V explained less additional variance (at most 2.7%) than GRE-Q (at most 5.2%) over TOEFL.

## Discussion

The purpose of this study was to investigate the predictive evidence of validity of GRE scores in predicting graduate performance for engineering students. The predictions for different demographic groups (American students vs. international students, and masters' vs. doctoral students) were compared. The language issue and undergraduate performance were taken into account to study their contributions to the graduate performance, as well as to examine the incremental validity of GRE scores beyond language proficiency and UGPA.

**Table 8**  
Hierarchical Multiple Regression of GGPA on TOEFL and GRE scores

		GGPA-1			GGPA-2			GGPA-tot			
		$\beta$	$R^2$	$\Delta R^2$	$\beta$	$R^2$	$\Delta R^2$	$\beta$	$R^2$	$\Delta R^2$	
SLR( $n=575$ )	TOEFL	.149**	.022		.173**	.030		.221**	.049		
MR ( $n=401$ )											
Mode	1	TOEFL	.052	.003		.057	.003		.093	.009	
	2a	GRE-V	.154**	.019	.017**	.171**	.024	.021**	.197**	.036	.027**
	2b	GRE-Q	.220**	.049	.046**	.123*	.018	.014*	.234**	.060	.052**
	2c	GRE-tot	.230**	.042	.039**	.191**	.030	.027**	.268**	.062	.053**

Note. SLR = simple linear regression, MR = multiple regression.

\*  $p < .05$ , \*\*  $p < .01$ .



In this study, no significant differences were found between international students and American students in graduate performance, as measured by 1st-year GGPA, 2nd-year GGPA, and total GGPA. American students had higher GRE-V and GRE total scores but lower GRE-Q scores than international students. This result, to some extent, corresponded to the findings of ETS (Educational Testing Services, 2008) that minority students usually received significantly lower GRE scores than White students, with the exception that Asian students usually got higher score on the GRE-Q section.

This study started from a comprehensive perspective and examined both short-term (as measured by 1st-year GGPA, as well as 2nd-year GGPA) and long-term performance (as measured by total GGPA). The result of testing the general predictive ability of GRE scores indicated that GRE was a valid predictor in predicting all three criterion variables. Across the three criterion variables, relatively more variance in total GGPA was explained than that in 1st-year and 2nd-year GGPA. One possible explanation could be that total GGPA (which covered more years of grades) is more reliable than the one-year GGPA. Moreover, the subtests of GRE differed in the prediction (GRE-Q and GRE total scores were found to have higher predictive ability than GRE-V), which suggested the right choice to consider GRE-V and GRE-Q separately in the analysis. Kuncel et al. (2001) also found GRE-Q had higher predictive ability than GRE-V (i.e., operational validity coefficients = .31, and .26, respectively) for students in STEM fields in which engineering students were included. In the discipline of engineering, students are usually required to have high abilities in Math, statistics, numerical logic, and some other advanced quantitative skills. Not surprising, the quantitative abilities appear more important than verbal abilities for engineering students. From this logic, GRE-Q would be likely to have a higher correlation with graduate performance than GRE-V for engineering students.

In testing the differences in the prediction of GRE scores between different groups, this study found that in general GRE scores explained more variance in graduate performance for American students

(explained 10.5% to 22.2% variance) than for international students (explained 1.4% to 5.5% of variance), although statistical tests did not find all significant differences. There were very few studies in literature that examined the GRE validity for international students, or differentiated GRE validity by alien status. Thus, the findings of the present study were not comparable to many previous studies.

Regarding degree level, GRE scores significantly predicted the three criterion variables for both masters' and doctoral students. For masters' students, GRE-V and GRE total explained larger variance than GRE-Q scores across 1st-year, 2nd-year, and total GGPA. For doctoral students, by contrast, GRE-Q and GRE total scores better predicted the three criteria than GRE-V. This finding was consistent to the results in Kuncel et al. (2010) meta-analysis which found that for master's students, GRE-V had a slight larger operational validity than GRE-Q ( $\rho = .38$  and  $.35$  for GRE-V,  $\rho = .30$  and  $.28$  for GRE-Q in final GGPA and 1st-year GGPA, respectively); and for doctoral students, GRE-Q had a slight larger operational validity than GRE-V ( $\rho = .28$  and  $.33$  for GRE-Q, and  $\rho = .27$  and  $.29$  for GRE-V in final GGPA and 1st-year GGPA, respectively). In the present study, although the values of  $R^2$  in regression models were different by degree level, results did not indicate statistically significant differences. As reported above, doctoral students had higher GGPA scores and higher GRE scores than masters' students, which made the distribution of the scores of doctoral students tend to be in the higher end. This range restriction may make it hard to test the difference even if the difference existed.

In terms of the contributions of undergraduate performance in predicting graduate performance, the UGPA explained 40.8%, 27.4%, and 40.3% of the variance in 1st-year, 2nd-year, and total GGPA, respectively. This result was consistent with some previous findings that also indicated UGPA was a strong predictor of graduate performance (Kuncel et al., 2001; McKee, Mallory, & Campbell, 2001; Powers, 2004; Reisig & DeJong, 2005). GRE scores were found to have significant incremental validity over UGPA, increasing the explained variance by 3.8% to 10%. In

addition, corresponding to some previous studies, this study also found that the amount of variance in graduate performance that explained by GRE alone was less than that by UGPA though GRE explained some additional variance that UGPA did not explain (Milner, McNeil & King, 1984; Reisig & DeJong, 2005).

The GRE scores also had a significant incremental predictive power over TOEFL in predicting graduate performance, which confirmed that GRE was more than a test of language skills. The GRE explained a significant additional amount of variance that language proficiency test (as measured by TOEFL) could not explain. As to the two GRE subtests, GRE-V had lower incremental ability than GRE-Q subsequent to the use of TOEFL. This difference can be explained by the specific purpose and content of each subtest. GRE-V is more related to reasoning ability and language skills, while GRE-Q is more related to quantitatively problem-solving ability (e.g., arithmetic, algebra, geometry and data analysis), thus the GRE-V was found to add less power in predicting graduate performance over TOEFL compared to the GRE-Q.

### Limitations and Implications of this Study

There are various limitations in this study. The first one is both a limitation and an advantage. On one hand, this study only targeted students from engineering programs, so the findings and implications can only be directly applied to this specific discipline. Generalization of the findings of this study to other disciplines should be with caution. On the other hand, focusing on the discipline of engineering can draw accurate conclusions and implications for this specific discipline. The second limitation concerns the missing data in this study. In the database in university's system, many students did not have complete data on all variables and the reasons for these deficiencies were unknown, so the representativeness of the data could not be tested. Thus, the results should be interpreted with some caution. Another limitation concerns the restriction of range of scores and especially, graduate grades, as is so often the case. Correction for range restriction was recommended because it was found that the corrected correlation between

predictor variables and criterion variables improved (Chernyshenko & Ones, 1999; Kuncel et al., 2001; Powers, 2004). As Kuncel et al. (2001) mentioned, to correct for the restriction of range, the definition of the interested population is critical, and the standard deviations of both sample and population should be known. However, this information was not available for this study, so the correction of range restriction was not possible, which may make it hard to determine the exact relationships between variables.

Above all, this study confirmed the usefulness of the GRE in predicting graduate performance, as measured by 1<sup>st</sup>-year, 2<sup>nd</sup>-year, and total GGPA, for engineering students. The test of the incremental validity suggested combining GRE with UGPA and TOEFL in consideration in graduate admission decisions. Although the differences in the validity by alien status and degree level were not found to be statistically significant in all cases, the absolute values of the explained variance, to some extent, showed some difference. In order to use GRE scores more wisely in graduate admission, this possible difference should be taken into consideration. In addition, a great amount of variance in the criterion variables remains unexplained by the predictors in this study, so there may be room and a need to conduct more research to study the unexplained portion of variance in graduate performance. As suggested by Kuncel et al. (2010), multiple aspects of student performance should be considered to have a more comprehensive picture about students' performance. The criteria may include such information as faculty ratings, degree attainment, degree completion, and research productivity. Moreover, as to the factors that may impact the graduate performance, not only cognitive abilities should be considered, but also some noncognitive characteristics of the applications, such as motivation, interest, personality, and some other characteristics.

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ORIGINAL

## A Malinchismo Scale for Use among Adolescents

### *Escala de Malinchismo para Adolescentes*

Jaime Sebastián F. Galán Jiménez<sup>a</sup>, Gail Marcia Ferguson<sup>1 b</sup>, Omar Sánchez Armáss Cappello<sup>a</sup>, Luz Paulina Torres Colunga<sup>a</sup>, and Carmen Elizabeth Cerda Escobedo<sup>a</sup>

<sup>a</sup> Autonomous University of San Luis Potosí

<sup>b</sup> Institute of Child Development, University of Minnesota

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#### Abstract

Malinchismo is a recently documented concept referring to preferencing the culture, ideas, tastes and behaviors of another nation/culture over one's own. First, we introduce this new concept in relation to post-colonial theory, social identity theory, and remote acculturation theory, explaining its relevance to adolescent development. We then introduce and validate a new Malinchismo scale using a derivative sequential method among two samples of adolescents in Mexico ( $n = 560$  total). Our Malinchismo Scale is more comprehensive than existing alternatives and is the first to be validated for use among adolescents. We assessed 1) content validity using the responses of content experts who served as judges, 2) construct validity using exploratory and confirmatory factor analyses (EFA and CFA, respectively), and 3) convergent and discriminant validity using participant responses to the Ingroup Interethnic Bias Test. In total, 366 adolescents were in the EFA sample ( $M=16.18$  years,  $SD=0.74$ , 62% female) and 194 adolescents were in the CFA sample ( $M=16.17$ ,  $SD=1.06$ , 57% female). Results revealed excellent psychometric properties on all indices, supporting the Malinchismo Scale as a valid and reliable measure for adolescents.

**Keywords:** Remote Acculturation, Assimilation, Social Identity, Psychometry, Adolescents.

#### Resumen

El malinchismo es un concepto que hace referencia a la actitud de privilegiar la cultura, ideas, gustos y comportamientos que provienen de países o culturas diferentes de la persona que les elige. Si bien, el concepto remite a la conquista española del continente americano, la literatura científica considera que es aplicable a otros países y culturas. Es debido a esto que el constructo se aborda desde la teoría poscolonial, la teoría de la identidad social y la concerniente a la aculturación remota, con base en ellas se explica la importancia del estudio en las nuevas juventudes mexicanas. El método empleado para la validación de la escala de Malinchismo es uno secuencial derivativo, inicialmente evaluando los ítems con jueces para la obtención de la validez de contenido, posteriormente con una muestra total de 560 participantes se buscó la validez de constructo mediante Análisis Factorial Exploratorio, seguido de un Análisis Factorial Confirmatorio. Una vez obtenido el modelo definitivo

1 Gail Ferguson, Institute of Child Development at the University of Minnesota, 51 E. River Road, ChDev 160, Minneapolis, MN 55455, mail: gmfergus@umn.edu

se procedió hacia la obtención de validez concurrente y divergente, empleando el cuestionario de sesgo intergrupar interétnico. La muestra para el Análisis Factorial Exploratorio fue de 336 participantes ( $M=16.18$  años,  $DE=0.74$ , 62% mujeres 38% hombres) y para el Análisis Factorial Confirmatorio se trabajó con 194 adolescentes ( $M=16.17$ ,  $DE=1.06$ , 57% mujeres y 43% hombres). Los resultados muestran una escala con excelentes propiedades psicométricas en todos los elementos del modelo factorial confirmatorio, así como de validez y confiabilidad de cada una de las dimensiones que le componen, haciendo de la escala de malinchismo una ideal para la medición de dicho fenómeno en adolescentes. La escala de malinchismo puede abordar cuatro factores que consisten en el privilegiar o preferir: comida, productos, personas o entretenimiento proveniente de otros países. La escala permitirá reconocer fenómenos sociales migratorios, de consumo y transformación cultural en las nuevas juventudes mexicanas.

**Palabras Clave:** Aculturación Remota, Asimilación, Identidad Social, Psicometría, Adolescentes.

Malinchismo is a recently documented concept which refers to giving preference and privilege to the culture, ideas, tastes and behaviors of another nation or culture over one's own (Carrillo, Pérez, Carrillo, Carrillo, & Carrillo, 2015). The term itself stems from the legend of a native slave woman around the end of the 15<sup>th</sup> century named "La Malinche" who was considered a traitor because she was companion and lover to the Spanish Conquistador, Hernán Cortés. Malinchismo is still observable in Mexico today, especially among youth, who are actively constructing social and cultural identities during adolescence, and who now have access to many more foreign cultures via modern globalization avenues. However, malinchismo has not yet been connected to the psychological or developmental literatures, and remains understudied among youth due to the lack of a measurement tool. To this end, the goal of this paper is to embed malinchismo in post-colonial, social identity, and remote acculturation theories, and describe the validation of the first Malinchismo Scale for adolescents using a sample of youth from San Luis Potosí, Mexico. The development of a valid and reliable Malinchismo Scale for adolescents will propel future research on this phenomenon in Mexico and elsewhere.

### The History and Context of Malinchismo in Mexico

Deriving its meaning from the collaboration between La Malinche (native slave) and the Spanish in the process of colonizing Mexico centuries ago,

Malinchismo connotes being traitorous to one's origins, or betrayal of one's own culture and nationality in favor of cultural models and goods from abroad (Carrillo, et. al., 2015; Heredia, 2008). La Malinche, is named "la chingada" in Octavio's Paz (1950) book *The labyrinth of solitude*, meaning "the raped mother", and was reformulated by Crhová and Estandón (2011) to be a character who betrays his people by having a preference for foreign things.

The term "malinchista", therefore, refers to those who have adopted preferences or conduct from abroad, and favor products, people, customs, traditions that come from outside their country while showing contempt for the domestic (Morett, 2014). Rodríguez (2009) refers to malinchismo as the purchase of imported products with the idea that they are of higher quality and status. For example, there are known brands made with Mexican raw materials and labor that are sold at a higher price simply because they bear a foreign brand name.

### The United States as target of Mexican Malinchismo.

At first, Spain, the colonizer, was the desired country and culture targeted by Mexican malinchismo, even after Mexico's independence (Paz, 1950). This remained so until the other 'children of the malinche' appeared (Pardo, 2013) and the target of affection shifted to the United States. The signing of the Guadalupe agreement in 1848 at the end of the Mexican-American war was likely to have played a role.

This bilateral agreement ceded significant territory, including California, and roughly 100,000 individuals originally counted as part of Mexico, to the United States (Pardo, 2013). This was a significant historical event that meant the abrupt and artificial creation of transnational communities and families, and may have begun shifting the gaze of resident Mexicans towards the United States as a particularly desired destination. An affection for the United States is reflected in the literature: Crhová y Escandón (2011) have focused malinchismo on preference for goods from the United States.

The phenomenon of malinchismo has also been noticed elsewhere in Latin America (e.g., Heredia, 2008). For example Mastrodoménico (2011) refers to the adoption of lifestyles in Colombia from external groups to which the person does not belong, thus extending the term “malinchista” to any Latin American [and possibly to other former/current colonized countries globally]. This scholar’s description of the phenomenon includes negative race-based treatment towards people who have physical characteristics which differ from those of the colonizers. The ideology of malinchismo has also been described as permeating scientific fields and the process of publishing in Latin America because Mexican journals tend to be less preferred than foreign outlets (Carrillo, et. al. 2015). The current study builds on prior Latin American publications cited here by introducing Malinchismo to a broader international audience, given that other post-colonial regions may also experience this phenomenon.

### **Theoretical Perspectives Relevant to Malinchismo**

**Post-Colonial Theory.** Post-colonial theory is clearly relevant to malinchismo. “Postcolonial studies... would incorporate the study of all the effects of European colonization in the majority of the Cultures of the world” (Payne & Rae, 2010, p. 562). In fact, the colonial vision of the world extended beyond the end of colonial rule into neocolonialism, taking the form of economic, ethnic, and gender factors that dominate in settings where economic power, Western culture, and androcentrism exist (Estermann, 2014).

There is wide acknowledgment that “all post-colonial societies are still subject in one way or another to overt or subtle forms of neo-colonial domination, and independence has not solved this problem” (Ashcroft, Griffiths, & Tiffin, 1995, p. 2). Part and parcel of colonialism is the inculcation of the ideology of inferiority of the native culture replaced by a dotting gaze towards the presumed superiority of the colonizer (Ashcroft, Griffiths, & Tiffin, 1995). These manufactured sentiments in post-colonial nations can be transferred to neocolonial powers with stature in the global capitalist system, such as the United States. Bishop (1995) describes Western education, as a weapon because it is taught globally and represents a dehumanized, objectified ideology which is used to control the physical environment, an ideology which is incompatible with some native views of ideal human-environment relations.

**Social identity theory.** Social identity theory can also be applied to understanding malinchismo. Social identity is the concept of self that a person derives from the perception of belonging or membership to different social groups (Hogg & Vaughan, 2010). Marín and Sell (2012) affirm that there are groups in which belonging is established only by birth (e.g., nationality); however, other social groups are selected by a person to provide their social identity. Ingroup(s) are social groups to which people belong and outgroup(s) are ones to which they do not belong and from which they want to distance themselves, often through prejudices and stereotypes (Tajfel & Turner, 1986). The more an individual identifies with a group, the more central it is to their self-concept, and the status of this ingroup is higher than the group(s) to which it is compared. Interestingly, the malinchista favors the outgroup while still being identified with the ingroup.

**Remote Acculturation Theory.** Remote acculturation theory adds something unique to our understanding of malinchismo. Acculturation is a process of cultural and psychological change which occurs after contact with a new culture (Sam & Berry, 2016) and remote acculturation is a non-migrant form of acculturation based on cultural exposure to distant cultures via globalization (Ferguson & Bornstein, 2012). Mexicans have had contact with

multiple foreign cultures though a variety of globalization avenues including former colonization, current back-and-forth migration and transnationalism, as well as increasingly accessible global media and technology (Hernández, 2016). In particular, the Mexican state of San Luis Potosí places sixth in terms of highest emigration to the United States (Consejo Nacional de Población, 2012) with 62% of its municipalities characterized as having a ‘medium’, ‘high’, or ‘very high’ migration rate. Friends and family who return to Mexico or send products from the United States introduce those in the home country to elements of U.S. culture, which can engender a fondness for the U.S. culture and subsequent remote acculturation.

According to remote acculturation theory, remotely acculturating individuals choose the degree to which they will maintain local cultural identity and practices and the degree to which they will adopt/reject foreign cultural influences (Ferguson, 2013). Remotely acculturating individuals will experience changes in their behaviors, values, and/or identities depending on those cultural preferences. One can choose to maintain one’s local culture and reject outside influences (remote separation), maintain one’s local culture while also adopting outside influences (remote integration), fully adopt foreign culture(s) while loosening one’s connection to the local culture (remote assimilation), or withdraw from both local and foreign cultural affiliations (remote marginalization). Remote separation and remote integration, respectively, have been the most commonly identified remote acculturation profiles in studies among adolescents and emerging adults in Jamaica, South Africa, and Zambia. Remote assimilation is a much less common outcome and has only been found in Malawi to date: a substantial minority of adolescents who had lived at least half their lives in Malawi reported a strong orientation to British culture but a weak orientation toward their own local Malawian culture (K. Ferguson, Y. Ferguson, & G. Ferguson, 2017). Malinchismo can be considered a type of remote assimilation.

Adolescence is considered to be a sensitive period for remote acculturation because identity formation is a central task during this developmental stage

(Erikson, 1968). Social and cultural identities are perhaps most readily influenced by cultural globalization because modern adolescents are now offered many more possibilities for self and identity (Jensen, Arnett, & McKenzie, 2011). For example, Ferguson and Bornstein (2012) found that remote integration – “Americanized Jamaican” profile in Jamaica – was three times more likely to occur among adolescents (33% of urban adolescents sampled) than among adults (11% of mothers). In Mexico, Lorenzo-Blanco and colleagues recently found that an orientation towards foreign cultural experiences is associated with poor health habits -- adolescents who were more oriented towards watching English language movies had more positive attitudes towards and were more susceptible to smoking (Lorenzo-Blanco et al., 2017).

#### **Prior Empirical Research on Malinchismo**

Our literature search for empirical work focusing specifically on malinchismo produced two student theses, a book chapter, and one empirical journal article. However, all four studies involved adult samples rather than youth, and only one study measured malinchismo with a scale (a brief subscale to be precise) whereas the others used idiosyncratic single items written by researchers for their particular studies. Leija’s and Nava’s joint (2010) undergraduate thesis found that 70% of young adult participants chose ‘brand’ as a purchasing criterion whereas only 24% chose based on their nationality, indicating low own-country preference in consumer purchases. Juarez’s (2011) dissertation study on malinchismo investigated whether Mexican adults considered themselves better than foreigners and whether they identified with other cultural lifestyles. She found that only 32% showed own-country preference, 23% remained neutral, and about 43% identified more with other countries. Similarly, in a sample of Mexicans adults from Central Mexico, Crhová y Escandón (2011) reported in their book chapter 36.36% had a preference for foreign things or making purchases in the United States.

In their recent journal article, Vasquez-Parraga and Valencia (2017) defined malinchismo as a “generic notion of love of the foreign [which] is shared with the other Latin American countries” (p. 13), and



administered a four-item malinchismo scale to mostly Latino adults in the United States (89% of the sample was U.S. immigrants, with the remaining minority being residents in Latin America). They reported a reliability coefficient of .72 for the malinchismo subscale and indicated that longer length of residence outside of the country of origin was associated with lower malinchismo.

### Current Study

The growth of research evidence on malinchismo has been limited by the absence of a valid and reliable measure for adolescents. Such a measure would make an important contribution to science because the developmental stage of adolescence is a sensitive period for remote acculturation, hence also for malinchismo. A more comprehensive and rigorously validated malinchismo scale for adolescents is needed (i.e., longer than a brief 4-item screen, and demonstrating multiple types of validity as well as reliability). Hence, the purpose of this study is to introduce and validate a new Malinchismo Scale for adolescents using a sample of adolescents living in Mexico. We aimed to establish adequate content and construct validity in this sample expecting that malinchismo would correlate positively with outgroup preference and correlate negatively with ingroup preference.

### Method

We used a sequential derivative methodology meaning that different samples and phases of data collection were required (Hernández, Fernández and Baptista, 2014). *Participants.* A total of 560 adolescents from two institutions in San Luis Potosí, Mexico completed paper surveys. The validity of the Malinchismo Scale was assessed using two convenience samples collected from two different schools. The first sample of 366 participants ( $M_{age} = 16.18$  years,  $SD = .74$ , range = 14 - 19; 38% male) was used to compute the exploratory factor analyses (EFA). The second sample of 194 participants ( $M_{age} = 16.17$ ,  $SD = 1.06$ , range = 15 - 21) was then recruited in order to compute the confirmatory factor analyses (CFA). Both samples excluded participants who failed a lie test item (i.e., “robo dinero para comprar

cosas de otro país” [I steal money just to purchase foreign goods] approximately 5% of the original sample where excluded with these procedure, suggested by Cohen & Swerdlick, 2006).

### Measures

*Malinchismo Scale Construction.* Altogether 56 items were written to measure malinchismo guided by our understanding of the definition of the construct (per the preceding literature review) combined with general observations of the Mexican society. These 56 scale items were crafted to assess malinchismo in four dimensions: Favoring Foreign Entertainment (10 items), Favoring Foreign People (13), Favoring Foreign Food (13) and Favoring Foreign Products (20). Participants responded to each item on a 5-point Likert-type scale ranging from 1 (*nunca/never*) to 5 (*siempre/always*) and reverse-scored items were recalculated. After a series of steps were completed to assess the validity of the measure (detailed in plan of analysis below), a 9-item Malinchismo Scale remained: Favoring Foreign Entertainment (2 items), Favoring Foreign People (2), Favoring Foreign Food (2) and Favoring Foreign Products (3). See Appendix A for the final Malinchismo Scale.

*Intherethnic Ingroup Bias Test.* The 14-item Ingroup Interethnic Bias Test was administered ( $\alpha = .82$ ; Rojas, Garcia, & Navas, 2003), which measures positive attitudes towards one's own native culture, and towards “foreign” cultures. Slight adaptations to this measure were made such that participants rated positive attitudes towards their own countrymates, and also towards foreigners (e.g., given that the measure was originally designed for Spaniards, the reference to ‘Spanish’ was changed to read ‘Mexicans’ and ‘Maghreb’ was changed to read ‘foreigners’).

### Plan of Analysis

First, content validity was assessed using the responses of content experts in the content areas of culture and adolescent development, who served as judges. Judges were asked to evaluate the original 56 items considering three criteria: relevance/utility, ability to discriminate or classify, and clarity of syntax/semantics. Aiken's V (1980) was then calculated as it

is used to summarize item content-relevance ratings from a panel of expert judges, and items with values below .70 were dropped. Second, exploratory factor analyses (EFA) were conducted on the remaining items with the Factor 10.3 program using the method of extracting unweighted least squares factors with a *normalized direct Oblimin rotation* (Lorenzo-Seva, 2000). We used a parallel analysis based on minimum rank factor analysis to get the appropriated dimensions (Timmerman & Lorenzo-Seva, 2011). Items with EFA loadings below .4 were then dropped. Third, confirmatory factor analyses (CFA) on remaining items were performed using AMOS 21.0 software and maximum likelihood to obtain estimates and after discarding poorly fitting items, the remaining items comprised the final Malinchismo Scale. Fourth, analyses to examine convergent and discriminant validity were computed. It was expected that the Malinchismo Scale score would correlate positively with the outgroup preference factor of the Interethnic Ingroup Bias Test and correlate negatively with the ingroup preference factor.

## Results

### Content Validity

For the content validity, we kept the items that displayed a mean value less than .7 as suggested by Soto and Segovia (2009). Five items with Aiken's V loadings below .7 were discarded leaving 51 items. The initial mean Aiken's V was .87 (utility .87, discriminate/classify .86 and semantics .88) and the final value was .9 having a confidence interval with lower limit .66 and upper limit .97. This is considered adequate content validity; therefore; we proceeded with the remaining items.

### Construct Validity

In regard to EFAs, a cumulative variance of 0.51 was obtained across all four factors, whose constituent items had a factorial load higher than 0.4 (EFA loadings of 38 items retained after dropping those with coefficients < .4). The adequacy of the correlation matrix was demonstrated with a determinant of = 0.000000005498811, Bartlett's statistic = 6685.1 (df = 703; P = 0.000010), and a very good Kaiser-Meyer-Olkin (KMO) test = 0.90970. There was also strong goodness of fit: Comparative Fit Index (CFI) = 0.89, Goodness of Fit Index (GFI) = 0.99, and Adjusted Goodness of Fit Index (AGFI) = 0.98. Bentler's simplicity index for the scale was .99 and the loading simplicity index was .71 (see Bentler, 1977; Lorenzo-Seva, 2003). The scale also achieved the Root Mean Square Residual (RMSR) of .0341, which is lower than Kelley's (1935) Criterion of .052.

The different CFA models are described in Table 1. The first model started with the remaining items of the EFA, we proceed to erase items based on Standardized Residual Covariances (SRC), the second model start without the items 1, 10, 29 & 44. The third model continue searching for the ideal characteristics, to achieve that goal we drop the items: 1, 5, 9, 11, 12, 14, 15, 21, 22, 23, 24, 25, 36, 38, 39, 40, 41, 42, 43, 45, 46,49 and 50, only retaining 13 items to preserve the four initial factors, most of the ideal characteristics where achieved except the p value for the model. The final model provided the following psychometrics results, indicating it to be a good model: Chi-square = 29.98 with Degrees of freedom = 20; relative model of 1.49 with a probability level = 0.070 (Hu and Bentler, 1999). See Figure 1 for the final retained model. The Comparative Fit Index of .985 was ideal with a Goodness of Fit Index of .969

**Table 1**  
*Different models of CFA*

Model	Chi-Square	DF	cmin/df	p	TLI	CFI	GFI	AGFI	SMRM	RMSEA	ECVI	p-close
1	1422.67	659	2.16	.00	.79	.80	.73	.69	.07	.08	8.22	.00
2	1107.09	582	1.90	.00	.84	.86	.76	.73	.07	.07	6.61	.00
3	99.82	57	1.75	.00	.95	.96	.93	.89	.04	.06	0.87	.15
4 (final)	29.98	20	1.50	.07	.97	.99	.97	.93	.03	.05	0.41	.45
Unifactorial 5	18.53	11	1.69	.07	.97	.99	.97	.93	.03	.06	0.27	.33

(Adjusted .93), a Root Mean Residual of .044, and an adequate Square Root Median Residual (SRMR) of .0019 (less than .09). The Root mean square error of approximation (RMSEA) was moderate (.051) with a P-Close of 0.448 according to the threshold indicated by Hu and Bentler (1999), Arias (2008), Batista-Foguet, Coenders, & Alonso (2004), Herre-ro (2010), and Lloret-Segura, Ferreres-Traver, Hér-nandez-Baeza, and Tomás-Marco (2014). As it can be appreciated in Table 1. the unifactorial model is not ideal for explaining the malinchismo scale. See Table 2. for reliability (exceeded 0.7 for all four factors, indicating high reliability) and validity of the final 9-item measure (these characteristics are sug-gested by Asyraf, 2013) Table 3. displays descriptive

statistics for the final 9 items and four factors, and Table 4. displays norms of the Malinchismo Scale in the validation sample.

**Convergent and Discriminant Validity**

Finally, correlations were computed to assess conver-gent and discriminant validity with the Interethnic Ingroup Bias Test (See Table 5). As expected, results revealed that malinchismo (Total Score, Favoring Fo-foreign People Subscale, Favoring Foreign Food Sub-scale Subscale) was significantly and positively corre-lated with the outgroup preference, and negatively correlated with the ingroup preference (Malinchismo Total Score, Favoring Foreign Entertainment Subsc-a-le, Favoring Foreign Food Subscale).

**Table 2**  
*Validity and Reliability from the Confirmatory Factor Analysis of the Malinchismo Scale*

Dimensions	CR	AVE	MSV
Favoring Foreign Entertainment (Factor 2)	0.77	0.63	0.23
Favoring Foreign People (Factor 1)	0.81	0.68	0.11
Favoring Foreign Food (Factor 3)	0.86	0.68	0.23
Favoring Foreign Products (Factor 4)	0.83	0.71	0.14

Note: CR = Composite reliability; AVE = Average variance extracted; MSV = Maximum shared variance; and MaxR = Maximum reliability; “Factor” refers to the factor reported in Table 1

**Table 3**  
*Descriptive Statistics for Final 9-Item Malinchismo Scale*

Factors and Items	Minimum	Maximum	Mean	SD
<i>Favoring Foreign Entertainment</i>	2.00	10.00	6.46	2.25
47. I would rather listen to music from other countries	1.00	5.00	3.49	1.19
48. I listen to songs from another country because I consider them better	1.00	5.00	2.98	1.29
<i>Favoring Foreign People</i>	2.00	10.00	3.86	1.98
34. I give preferential treatment to people with foreign heritage	1.00	5.00	1.94	1.05
35. I give preferential treatment to people who come from another country	1.00	5.00	1.93	1.08
<i>Favoring Foreign Food</i>	2.00	10.00	4.15	1.75
18. I rather buy food from another country because I consider they have greater quality	1.00	5.00	2.01	1.00
19. I believe that food in other countries have better quality	1.00	5.00	2.14	0.96
<i>Favoring Foreign Products</i>	3.00	15.00	9.07	2.58
4. I obtain more satisfaction with a trade mark from another country	1.00	5.00	3.03	1.05
6. I believe that a foreign brand is better	1.00	5.00	3.07	1.05
13. I consider that foreign products are better	1.00	5.00	2.97	0.96
<i>Total Malinchismo Scale</i>	9.00	42.00	23.54	5.85

**Table 4**  
Norms for Factor and Total Scores of the Malinchismo Scale in the Validation Sample

Percentiles	Favoring Foreign Entertainment	Favoring Foreign People	Favoring Foreign Food	Favoring Foreign Products	Total Malinchismo
1	2.0	2.0	2.0	3.0	11.6
5	3.0	2.0	2.0	5.0	14.0
10	3.0	2.0	2.0	6.0	16.0
15	4.0	2.0	2.0	6.0	17.0
20	4.0	2.0	2.0	7.0	18.0
25	5.0	2.0	3.0	7.0	20.0
30	5.0	2.0	3.0	8.0	20.0
35	6.0	2.0	3.0	8.0	21.0
40	6.0	3.0	4.0	8.0	22.0
45	6.0	3.0	4.0	9.0	22.0
50	6.0	4.0	4.0	9.0	23.0
55	7.0	4.0	4.0	9.0	24.0
60	7.0	4.0	4.0	10.0	25.0
65	7.7	4.0	5.0	10.0	25.0
70	8.0	5.0	5.0	10.0	26.0
75	8.0	5.0	5.0	11.0	27.0
80	8.0	6.0	6.0	11.0	28.0
85	9.0	6.0	6.0	12.0	30.0
90	10.0	7.0	6.0	13.0	31.0
95	10.0	8.0	8.0	14.0	34.0
99	10.0	10.0	9.0	15.0	38.0

**Table 5**  
Pearson's Correlations between Malinchismo Scale and the Modified Interethnic Ingroup Bias Test

Interethnic Ingroup Bias Test Subscale		Favoring Foreign Entertainment	Favoring Foreign People	Favoring Foreign Food	Favoring Foreign Products	Total Malinchismo Scale
Outgroup Preference ("Foreigners")	Correlation	.073	.134***	.089*	.029	.113**
	<i>p</i>	.080	.001	.036	.493	.007
Ingroup Preference ("Mexicans")	Correlation	-.090*	-.081+	-.129**	-.067	.130**
	<i>p</i>	.036	0.054	0.002	.114	.002

Note. +  $p < .10$  \*  $p < .05$  \*\*  $p < .01$  \*\*\*  $p < .001$

## Discussion

Malinchismo is a concept embedded in Mexican society referring to privileging the culture, ideas, tastes, and behaviors of another nation/culture over one's own. The purpose of this study was to connect the concept of malinchismo with relevant theories

(post-colonial, social identity, remote acculturation), and validate a new measure of this construct for use among adolescents. Our findings confirm the validity and reliability of our Malinchismo Scale in a sample of adolescents in Mexico (i.e., content, construct, convergent, and discriminant validity),



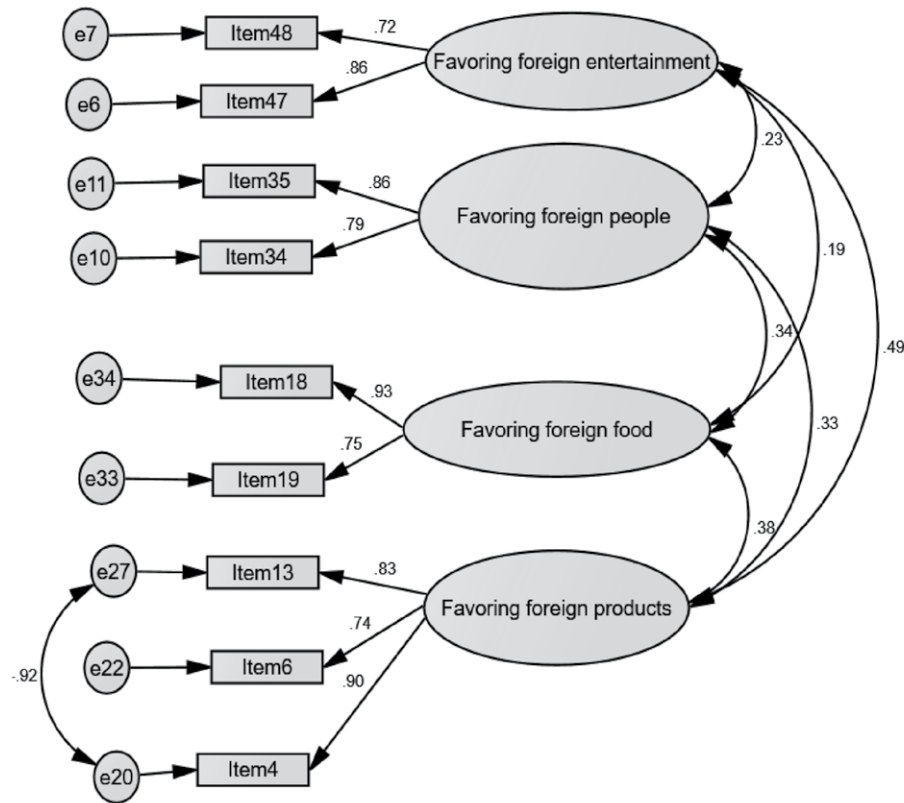


Figure 1. Confirmatory factor analysis of the Malinchismo Scale

and suggest that it may be useful in other adolescent populations.

Malinchismo can be explained by post-colonial theory (doting gaze of people in post-colonial nations towards neo-colonial capitalist nations/culture: Ashcroft, Griffiths, & Tiffin, 1995), social identity theory (self-selected favoring of the outgroup: see Tajfel & Turner, 1986), and remote acculturation theory (malinchismo is a form of remote assimilation via globalization: Ferguson, 2013). The overall mean on our Malinchismo Scale shows a moderate degree of malinchismo in this adolescent sample overall, as well as a moderate degree of favoring foreign entertainment and foreign products, with a low level of malinchismo in terms of favoring foreign people and foreign food.

We developed and validated our Malinchismo scale using a multi-step process. It is a more comprehensive measure than the only other published scale – a 4-item brief subscale within Vasquez-Parraga and

Valencia’s broader measure (2017) – although the contents of our Favoring Foreign Products subscale are quite similar to the prior measure (e.g., focus on consumer preferences). An additional benefit of our measure is that we have validated the Malinchismo Scale for use in the Majority World (i.e., developing countries) whereas the prior scale was validated largely among Latinos in the U.S. having immigrant backgrounds. Malinchismo of individuals not living in the preferred foreign nation/culture may be a truer or stronger form of the phenomenon, and better embody remote assimilation.

Of greatest importance is our Malinchismo Scale’s demonstrated suitability for use among adolescents. Adolescents are expected to be even more likely than adults to experience malinchismo given that adolescence is a sensitive period for remote acculturation; therefore, a valid and reliable measure is an important research tool to advance science in this area.

### Limitations

This study had some limitations. First, the instructions to our Malinchismo Scale could have been phrased more simply and clearly. Thus, we recommend that instructions be revised for future use (see Appendix A). Second, our Malinchismo Scale had only modest correlations for convergent and divergent validity; however, the directions of effects and statistical significance were perfectly in line with expectations. Moreover, the modest correlation strength indicates that the Malinchismo Scale is tapping a distinct thought related construct from the one measured by the Interethnic Ingroup Bias Test.

### Future Research

The Malinchismo Scale validated in this paper is ripe for use in research investigating this phenomenon in Mexico and other Latin American countries. It would also be a useful addition to remote acculturation studies among youth across regions as a measure of remote assimilation. It will be interesting to study whether and how Malinchismo is associated with a range of developmental, health, lifestyle variables including food consumption, family relations, and career plans. Finally, in the future it may be useful to assess the usefulness of this scale with adult populations.

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### Appendix Final Malinchismo Scale

Edad/Age: \_\_\_\_\_ Sexo/Sex: \_\_\_\_\_ Estatura/Height: \_\_\_\_\_ Peso/Weight: \_\_\_\_\_

Mi país favorito es/My favorite country is: \_\_\_\_\_

Idiomas que habla/Languages spoken: \_\_\_\_\_

Escolaridad/Highest level of education: \_\_\_\_\_

Se solicita amablemente que responda los siguientes enunciados tomando en cuenta igual cantidad, calidad o profesionalismo que al interior de su país de origen, salvo que se indique lo contrario. Ninguna respuesta es correcta o incorrecta, lea atentamente y marque con una "X" su respuesta. [English: You are requested to answer the following statements assuming that the product mentioned is of the same quantity, quality, or professionalism as in your country of origin, unless otherwise stated. No answer is correct or incorrect, read carefully and mark with an "X" your answer.]

Reactivos/Items	Nunca/Never (1)	Rara Vez/Rarely (2)	Algunas veces/ Sometimes (3)	Casi siempre/ Often (4)	Siempre/Always (5)
4. Pienso que una marca proveniente de otro país me satisface mejor.					
6. Creo que es mejor una marca de otro país.					
13. Considero mejores los productos de otro país.					
18. Escojo alimentos hechos en otro país porque considero que son de mejor calidad					
19. Creo que la calidad de alimentos de otro país es mejor					
34. Mi trato es preferencial con personas de ascendencia de otro país					
35. Le doy un trato preferencial a las personas que provienen de otro país.					
47. Disfruto más de música de otros países					
48. Escucho canciones de otro país porque creo que son mejores					

Note. Numbered items missing (e.g., #3) were dropped during the CFA process. English item wording in Table 3.

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ORIGINAL

## Creencias Irracionales en Estudiantes de Psicología de una Universidad Privada de Lima Metropolitana, según el Nivel de Estudios, Sexo y Lugar de Origen

### *Irrational Beliefs in Psychology Students of a Private University in Metropolitan Lima, an Analysis by Level of Studies, Sex, and Place of Origin*

Mónica Alexandra Tamayo Toro <sup>1</sup>

Universidad Norbert Wiener

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#### Resumen

La presente investigación plantea que las creencias irracionales descritas por Albert Ellis son afirmaciones anti empíricas que causan un malestar emocional en quienes las poseen. Por ello se busca analizar la presencia de estas en estudiantes de psicología y su asociación con el nivel de estudios, sexo y lugar de origen. Fueron seleccionados 278 estudiantes de una universidad privada de Lima Metropolitana. Se utilizó el Registro de Opiniones de Ellis. Los resultados muestran que los estudiantes de psicología presentan la creencia 6 (se debe sentir miedo o ansiedad ante cualquier cosa desconocida o potencialmente peligrosa) de manera sumamente limitante, y las creencias 2 (uno debe ser indefectiblemente competente y casi perfecto en todo) y 8 (se necesita contar con algo más grande y fuerte que uno) de manera posiblemente limitante. Por otro lado, se encontró asociación con el nivel de estudios de las creencias 3 (ciertas personas son malas y deberían ser castigadas) y 8, donde, a mayor nivel de estudios, menos creencias. También se verifica asociación entre las creencias irracionales 1 (para un adulto es necesario tener el cariño y la aprobación de sus semejantes, familia y amigos), 3 y 10 (la felicidad aumenta con la inactividad) con sexo.

**Palabras Clave:** Creencias, Creencias Irracionales, Nivel de Estudios, Sexo, Lugar de Origen.

#### Abstract

The research suggests that Albert Ellis irrational beliefs are antiempirical statements that cause emotional distress in people who possess them. In his theory A B C, argues that what we feel is not based on what happens around us, but on how we interpret that reality. Then, A would become the event that occurs, B the interpretation we make, and C the emotional and behavioral consequence. From this, Albert Ellis groups this idea generating ten final irrational beliefs and creates an instrument to measure them called *Registro de Opiniones*, which has 100 items, 10 for each of the beliefs. That is why I attempt to analyze the presence of irrational beliefs in psychology students and their correlation with educational level, sex and place of origin. I selected 282 university students getting their BA in psychology at a private university in *Lima Metropolitana*. The Albert Ellis Inventory,

<sup>1</sup> Número telefónico: (00 51) 948 176 407, E-mail: psicologa.tamayo@gmail.com

*Registro de Opiniones*, was applied after obtaining written informed consent. The hypothesis was that there is a correlation between the irrational beliefs of the students and their educational level, sex and place of origin. The results showed than psychology students that the sixth irrational belief is found in an (it should feel fear or anxiety to any unknown, uncertain or potentially dangerous thing) extremely limited way. Belief number 2 (must be unfailingly competent and almost perfect in everything I undertake) and 8 (you need to have something bigger and stronger than oneself) were found in a possibly limiting manner. Beliefs number 3 and 8 were found in a correlating manner with education level. Seeming that as higher level of education less strength of the belief. There was also an association between irrational beliefs 1 (for an adult is absolutely necessary to have the love and approval of their peers, family and friends), 3 and 10 (happiness increases with inactivity, passivity and leisure undefined) with sex. Finally, no association was found between irrational beliefs and place of origin.

**Keywords:** Beliefs, Irrational Beliefs, Educational Level, Sex, Place of Origin.

La investigación presentada trata de brindar un aporte a la psicología, pues indicaría la presencia de las creencias irracionales planteadas por Albert Ellis en estudiantes de la carrera de psicología.

Se asumió como postura teórica la Terapia Racional Emotiva planteada por Albert Ellis, quien plantea que la presencia de estas creencias genera, en la persona que las posee, malestar emocional. En su teoría ABC plantea que lo que sentimos no se basa en lo que ocurre a nuestro alrededor, sino en cómo interpretamos esa realidad. Entonces A vendría a ser el acontecimiento que ocurre, B la interpretación que hacemos, y C la consecuencia emocional y conductual.

Ellis afirma que las creencias irracionales son afirmaciones no empíricas o irreales que uno mismo se plantea y donde influyen aspectos innatos como aprendidos de cada persona. Son “supra-generalizaciones sacadas de los datos que observas” (Ellis y Grieger, 1981).

Casi siempre, por tanto, las creencias irracionales no solamente brotan de tu tendencia humana a ver el mundo algo deformado y a hacer afirmaciones anti empíricas acerca de lo que te ha ocurrido o te ocurrirá probablemente, sino de tus afirmaciones exigentes e imperativas acerca de ‘te debería ocurrir’ o ‘es preciso que te ocurra’, de tal forma así puedes conseguir absoluta y necesariamente lo que deseas (...) Pero tan pronto como conviertes tus deseos en horribles necesidades, tales afirmaciones irreales se originan casi inevitablemente, y con frecuencia, en grado abundante (p.22).

En una primera formulación Albert Ellis agrupó en torno a 10 todas las ideas irracionales básicas de la civilización occidental actual. Estas eran:

1. Para el ser humano adulto es una necesidad extrema el ser amado y aprobado por prácticamente toda persona significativa de su comunidad.
2. Para considerarse a sí mismo valioso hay que ser muy competente, suficiente y capaz de lograr cualquier cosa en todos los aspectos posibles.
3. Es tremendo y catastrófico el hecho de que las cosas no vayan por el camino que a uno le gustaría que fuesen.
4. Cierta clase de persona es vil, malvada e infame; estas personas deben ser seriamente culpabilizadas y castigadas por su maldad.
5. Si algo es o puede ser peligroso o terrible, uno debe sentirse muy inquieto por ello y deberá pensar constantemente en la posibilidad de que esto ocurra.
6. Invariablemente existe una solución precisa, concreta y perfecta para los problemas humanos, y si esta no se encuentra, sobreviene la catástrofe.
7. La desgracia humana se origina por causas externas y la gente tiene muy poca capacidad, o ninguna, para controlar sus penas y perturbaciones.
8. Es más fácil evitar que afrontar ciertas responsabilidades y dificultades en la vida.

9. La historia pasada de uno es un determinante decisivo de la conducta actual, algo que ocurrió una vez y le conmocionó; debe seguir afectándole indefinidamente.
10. Hay que lograr la felicidad por inercia y sin hacer nada, o “divertirse” solo y pasivamente.

Se dividió el nivel de estudio en primeros ciclos (I, II y III), ciclos intermedios (IV, V, VI y VII) y ciclos finales (VIII, IX y X) para poder encontrar una asociación con la variable creencias irracionales, dividida en: creencia no existente (puntaje 0-4), creencia existente y limitante en determinadas circunstancias (puntaje 5-6), creencia existente y limitante en muchas áreas de la vida (puntaje 7-10); así como para observar si la cantidad y el tipo de creencias irracionales varía en los estudiantes. También se tuvo en cuenta el sexo para observar si existen diferencias entre los varones y las mujeres. Finalmente se observó si el lugar de origen influye en la posesión de creencias irracionales por parte de los estudiantes, separando a los de la capital Lima de los de las demás provincias.

En base a lo expuesto, los objetivos centrales de esta investigación fueron los siguientes: 1) Estimar si los estudiantes de la carrera de psicología de una universidad privada de Lima Metropolitana poseen creencias irracionales, y 2) Identificar si existe asociación entre las creencias irracionales que poseen los estudiantes de psicología de una universidad privada de Lima Metropolitana y su nivel de estudios, sexo y lugar de origen.

## Método

### Hipótesis

Existe asociación entre las creencias irracionales que poseen los estudiantes de psicología de una universidad privada de Lima Metropolitana y su nivel de estudios, sexo y lugar de origen.

### Tipo de investigación

Es una investigación cuantitativa de tipo descriptiva, correlacional, de corte transversal. Baptista, Fernández y Hernández (2010) explican que:

Los estudios descriptivos buscan especificar las propiedades, las características y los perfiles de personas, grupos, comunidades, procesos, objetos o cualquier otro fenómeno que se someta a un análisis (Danhke, 1989). Es decir, miden, evalúan o recolectan datos sobre diversos conceptos, aspectos, dimensiones o componentes (variables), del fenómeno a investigar. En un estudio descriptivo se selecciona una serie de cuestiones y se mide o recolecta información sobre cada una de ellas, para así describir lo que se investiga (p. 102).

También mencionan que “en ciertas ocasiones, el investigador pretende realizar descripciones comparativas entre grupos o subgrupos de personas u otros seres vivos, objetos, comunidades o indicadores (esto es, en más de un grupo)”.

Por otra parte indican, con respecto a la investigación correlacional, que “este tipo de estudios tiene como propósito conocer la relación que exista entre dos o más conceptos, categorías o variables en un contexto en particular”.

### Participantes

Estudiantes de una Universidad Privada de Lima Metropolitana pertenecientes a la facultad de psicología, siendo un total de 575 matriculados hasta el semestre 2014-II.

Al inició se buscó evaluar todos los alumnos matriculados. Sin embargo, no se consiguió pues los días de evaluación no estuvieron todos presentes, hubo retiros académicos y también porque no se contó con la colaboración de todos (consentimiento informado rechazado). De esta manera solo se consiguió evaluar a 322 estudiantes, de los cuales quedaron 278 registros válidos, luego de realizado el descarte por respuestas perseverativas y omisión de al menos un ítem.

A continuación, se describe la distribución final de la muestra de estudio obtenida según ciclo de estudios y género.

### Instrumento de recolección de datos: Registro de Opiniones de Albert Ellis.

Este instrumento fue desarrollado para medir qué tanto limita una creencia irracional a la persona. Son

**Tabla 1**

Distribución de estudiantes de una universidad privada de Lima Metropolitana según ciclo de estudios y género

Ciclo de estudios	Sexo		Total	
	Masculino	Femenino		
Ciclos iniciales	I	10	16	26
	II	4	12	16
	III	5	15	20
Ciclos intermedios	IV	16	26	42
	V	8	11	19
	VI	8	36	44
	VII	10	16	26
Ciclos finales	VIII	8	30	38
	IX	0	20	20
	X	7	20	27
Total	76	202	278	

Elaboración: propia

10 las creencias irracionales que mide el test, cada una representada por 10 ítems.

Esta escala no presenta estudios de validez, sin embargo, la amplia aceptación y el uso en la práctica clínica y en la investigación le otorga al instrumento validez de contenido. A pesar de ello, se realizó la modificación de algunos ítems a partir de una muestra piloto, y ellos fueron revisados por jueces expertos.

Por otro lado, con respecto a la confiabilidad de este instrumento, ha sido estudiada por Pacheco (1998), a través del coeficiente de consistencia interna, obteniendo un valor de 0,78. Este resultado se asemeja al obtenido por Velásquez (2002) quien usó el coeficiente Alfa de Cronbach, donde obtuvo un coeficiente de 0,74. Asimismo, en el análisis realizado en esta investigación haciendo también uso del Alfa de Cronbach, se obtuvo un coeficiente de 0,79. Estos resultados permiten concluir que la prueba es confiable y permite obtener puntuaciones consistentes (Kline, 2000).

## Resultados

### Distribución de frecuencias y porcentajes

La mayoría de estudiantes (41.73%) poseen de manera significativa la creencia de que *uno debe ser indefectiblemente competente y casi perfecto en todo lo*

*que emprende*, siendo esta en sus vidas posiblemente limitante.

La mayoría de estudiantes (37.05%) poseen de manera significativa la creencia de que *se debe sentir miedo o ansiedad ante cualquier cosa desconocida, incierta o potencialmente peligrosa*, siendo esta en sus vidas sumamente limitante.

La mayoría de estudiantes (42.45%) poseen de manera significativa la creencia de que *se necesita contar con algo más grande y más fuerte que uno mismo*, siendo esta en sus vidas posiblemente limitante.

### Análisis con la prueba chi-cuadrada de independencia

Al analizar la asociación entre la creencia 3 (*ciertas personas son malas, viles y perversas y deberían ser castigadas*) y el ciclo de estudio, se puede afirmar que existe asociación entre estas dos características a un nivel de significancia de 0.05. Es decir, los estudiantes de los ciclos finales son los que menos poseen esta creencia, mientras que los que más la poseen de manera posiblemente limitante son los de los ciclos

**Tabla 2**

Distribución de estudiantes de una Universidad Privada de Lima Metropolitana según la Creencia Irracional 2

Creencia 1	Frecuencia	Porcentaje
No hay creencia	105	37.77
Creencia existente y posiblemente limitante	116	41.73
Creencia sumamente limitante	57	20.5
Total	278	100.0

Elaboración: propia

**Tabla 3**

Distribución de estudiantes de una Universidad Privada de Lima Metropolitana según la Creencia Irracional 6

Creencia 1	Frecuencia	Porcentaje
No hay creencia	97	34.89
Creencia existente y posiblemente limitante	78	28.06
Creencia sumamente limitante	103	37.05
Total	278	100.0

Elaboración: propia



**Tabla 4**

Distribución de estudiantes de una Universidad Privada de Lima Metropolitana según la Creencia Irracional 8

Creencia 1	Frecuencia	Porcentaje
No hay creencia	115	41.37
Creencia existente y posiblemente limitante	118	42.45
Creencia sumamente limitante	45	16.19
Total	278	100.0

Elaboración: propia

iniciales, y los que más la poseen de manera sumamente limitante son los de los ciclos intermedios.

Al analizar la asociación entre la creencia 8 (*se necesita contar con algo más grande y más fuerte que uno mismo*) y el ciclo de estudio, se puede afirmar que existe asociación entre estas dos características a un nivel de significancia de 0.05. Es decir, los estudiantes de los ciclos iniciales son los que menos poseen esta creencia, pero también son los que más la poseen de manera sumamente limitante, mientras que los que más la poseen de manera posiblemente limitante son los de los ciclos intermedios y finales.

Al analizar la asociación entre la creencia 1 (*para un adulto es absolutamente necesario tener el cariño y la aprobación de sus semejantes, familia y amigos*) y el sexo, se puede afirmar que existe asociación entre estas dos características a un nivel de significancia de 0.05. Es decir, los estudiantes de sexo masculino son los que menos poseen esta creencia, pero también son los que más la poseen de manera sumamente limitante, mientras que los estudiantes de sexo femenino son los que más la poseen de manera posiblemente limitante.

Al analizar la asociación entre la creencia 3 (*ciertas personas son malas, viles y perversas y deberían ser castigadas*) y el sexo, se puede afirmar que existe asociación entre estas dos características a un nivel de significancia de 0.05. Es decir, los estudiantes de sexo femenino son los que menos poseen esta creencia, mientras que los estudiantes de sexo masculino son los que más la poseen de manera posiblemente limitante y sumamente limitante. Claramente se observa que los hombres en general creen que las personas malas, viles y perversas deberían ser castigadas, a comparación de las mujeres que en su mayoría no piensan de esta forma.

**Tabla 5**

Asociación entre la creencia irracional 3 y el ciclo de estudio

Ciclo de Estudio	Tamaño de la muestra	Creencia 1			Estadis. Chi cuadrado	P
		No hay creencia	Existente y posiblemente limitante	Sumamente limitante		
Iniciales	62	54.8	37.1	8.1	22.461	0.000
Intermedios	131	40.5	45	14.5		
Finales	85	72.9	21.2	5.9		

Elaboración: propia

**Tabla 6**

Asociación entre la creencia irracional 8 y el ciclo de estudio

Ciclo de Estudio	Tamaño de la muestra	Creencia 1			Estadis. Chi cuadrado	P
		No hay creencia	Existente y posiblemente limitante	Sumamente limitante		
Iniciales	62	48.4	27.4	24.2	10.685	0.030
Intermedios	131	36.6	46.6	16.8		
Finales	85	43.5	47.1	9.4		

Elaboración: propia

**Tabla 7**

Asociación entre la creencia irracional 1 y el sexo

Sexo	Tamaño de la muestra	Creencia 1			Estadis. Chi cuadrado	P
		No hay creencia	Existente y posiblemente limitante	Sumamente limitante		
Varón	76	82.9	7.9	9.2	6.075	0.048
Mujer	202	72.3	20.3	7.4		

Elaboración: propia

**Tabla 8**

Asociación entre la creencia irracional 3 y el sexo

Sexo	Tamaño de la muestra	Creencia 1			Estadis. Chi cuadrado	P
		No hay creencia	Existente y posiblemente limitante	Sumamente limitante		
Varón	76	43.4	36.8	19.7	10.725	0.005
Mujer	202	57.4	35.6	6.9		

Elaboración: propia

**Tabla 9**

Asociación entre la creencia irracional 10 y el sexo

Sexo	Tamaño de la muestra	Creencia 1			Estadis. Chi cuadrado	P
		No hay creencia	Existente y posiblemente limitante	Sumamente limitante		
Varón	76	57.9	25	17.1	9.542	0.008
Mujer	202	37.6	40.6	21.8		

Elaboración: propia

Al analizar la asociación entre la creencia 10 (*la felicidad aumenta con la inactividad, la pasividad y el ocio indefinido*) y el sexo, se puede afirmar que existe asociación entre estas dos características a un nivel de significancia de 0.05. Es decir, los estudiantes de sexo masculino son los que menos poseen esta creencia, mientras que los estudiantes de sexo femenino son los que más la poseen de manera posiblemente limitante y sumamente limitante. Claramente se observa que las mujeres en general creen que la felicidad aumenta con la inactividad, la pasividad y el ocio indefinido, a comparación de los hombres que en su mayoría no piensan de esta forma.

### Discusión

Se han realizada diversas investigaciones usando las creencias irracionales planteadas por Albert Ellis.

Esta variable no solo ha sido descrita con distintas muestras, sino también ha sido correlacionada con varias otras variables.

Una de las investigaciones más significativas de todas es la realizada por Argibay en el año 2009, en Argentina, cuyo título es *Creencias irracionales, nivel de estudio, neuroticismo y conducta depresiva* y fue realizada en la Universidad de Ciencias Empresariales y Sociales. Es la única hallada que tiene también en cuenta el nivel de estudios y en su mayoría obtuvo también una muestra con prevalencia de mujeres (310 sujetos de ambos sexos, 61,9% de mujeres y 38,1% de hombres). Argibay encontró que no hay una clara asociación entre creencias irracionales y nivel de estudio. En la presente investigación sí se encontró asociación entre las creencias irracionales 3 y 8 con respecto al nivel de estudio.

Con respecto al sexo, han sido encontradas varias investigaciones a nivel internacional y nacional. En el Perú se pudo encontrar dos. La primera fue realizada por Barrientos en el año 2002 en la Universidad Ricardo Palma. Su investigación se tituló *Creencias irracionales en jóvenes con diferentes concepciones religiosas del cono sur de Lima metropolitana*. Los resultados mostraron que existen diferencias significativas en las creencias irracionales teniendo en cuenta el sexo. La otra investigación fue realizada por León, R. y Vidarte, L. (1998) y se tituló *Creencias irracionales en un grupo de adolescentes: un estudio inicial con el inventario de conducta Racional*. Ellos encontraron que sí existen diferencias ligadas al sexo observando que los hombres presentaban más creencias irracionales que las mujeres.

Por otra parte se encontraron dos investigaciones realizadas en el extranjero. La primera corresponde a Coppari y fue realizada en el año 2010, en Paraguay. Se tituló *Relación entre Creencias Irracionales e Indicadores Depresivos en Estudiantes Universitarios*. Sin embargo, contrario a las anteriores investigaciones, Coppari no observó diferencias significativas en relación al sexo. Finalmente, la otra investigación realizada a nivel internacional fue la de Amutio y Smith en el año 2008, en España, titulada *Estrés y creencias irracionales en estudiantes universitarios*. Ellos encontraron diferencias de género en algunas de estas creencias irracionales, ya que las mujeres puntuaron significativamente más alto que los hombres en las creencias catastróficas (la 3, la 4 y la 6), y los varones en las creencias que minimizan/evitan (la 7 y 10).

En conclusión, comparando los resultados de esta investigación con los de las cuatro recién mencionadas,

se puede afirmar que, básicamente, existe asociación entre el sexo y las creencias 1, 3 y 10.

Para finalizar con esta variable, es importante mencionar la investigación realizada por Acosta en el año 2012 en Cuba, titulada *Estudio de la relación entre ideas irracionales y el rendimiento competitivo en el baloncesto*. Se trabajó con el equipo masculino de baloncesto conformado por 10 atletas. Se obtuvo que el 100% del equipo posee ideas irracionales, evidenciándose con más frecuencia y de forma significativa las ideas 8, 6, 4, 2 y 3.

La variable restante vendría a ser lugar de origen o lugar de nacimiento. En este sentido solo se pudo encontrar una investigación que mencione el tema. Es la realizada por Lega et al. en el año 2009, en Colombia, investigación titulada *Aculturación y diferencias en las creencias irracionales sobre el rol femenino tradicional (O'Kelly Women Beliefs Scale) en mujeres colombianas residentes en su país de origen y en Estados Unidos*. Encontraron que existen diferencias transculturales en los puntajes totales de los tres grupos. Esto indicaría que la cultura y el lugar de origen influyen mucho en la cantidad de creencias irracionales que se posee. Sin embargo, estos resultados son contrarios a lo encontrado en esta investigación puesto que no se encontró ninguna asociación entre creencias irracionales y el lugar de origen.

Finalmente, específicamente en alumnos de la carrera de psicología, fue realizada una investigación por Coppari en el año 2008 y se titula *Estudio Descriptivo y Correlacional sobre Creencias Irracionales e Indicadores Depresivos en Estudiantes de Psicología*. Se encontró que los valores más altos en ambos sexos se hallaban en la creencia 6.

**Anexo**  
**Instrumento de recolección de datos**

**REGISTRO DE OPINIONES**

Edad: \_\_\_\_\_ Sexo: M - F Ciclo: \_\_\_\_\_

En los siguientes enunciados encontrarás pensamientos que las personas tienen de manera frecuente. Lee cada uno de ellos y marca con un aspa (X) si estás o no de acuerdo con ese pensamiento, basándote en cómo tú piensas.

Ejemplo:

	Estoy de acuerdo	No estoy de acuerdo
Tengo que hacer todo bien para sentirme bien.	X	

No es necesario que te tomes mucho tiempo pues no existen respuestas buenas ni malas, por lo que se te pide que respondas con tranquilidad y sinceridad. Asegúrate de no dejar ninguna sin contestar y de poner lo que realmente piensas, no lo que crees que deberías pensar.

	Estoy de acuerdo	No estoy de acuerdo	Ptje.
1 Para mí es importante recibir la aprobación de los demás.			
2 Odio equivocarme en algo.			
3 La gente que se equivoca, recibe su merecido.			
4 Generalmente, acepto los acontecimientos con sabiduría.			
5 Si una persona quiere, puede ser feliz en casi cualquier circunstancia.			
6 Temo a las cosas que, a menudo, me resultan objeto de preocupación.			
7 Normalmente, postergo las decisiones importantes.			
8 Todo el mundo necesita de alguien a quien recurrir en busca de ayuda y consejo.			
9 “Una cebra no puede cambiar sus rayas”.			
10 Prefiero, sobre todas las cosas, pasar el tiempo libre de una forma tranquila.			
11 Me gusta que los demás me respeten, pero yo no tengo por qué manifestar respeto a nadie.			
12 Evito las cosas que no puedo hacer bien.			
13 Hay demasiadas personas malas que escapan del castigo del infierno.			
14 Las frustraciones no me distorsionan.			
15 A la gente no le trastornan los acontecimientos sino la percepción que tienen de ellos.			
16 Me producen poca ansiedad los peligros inesperados o los acontecimientos futuros.			
17 Trato de afrontar los trabajos fastidiosos y hacerlos cuanto antes.			
18 En las decisiones importantes, consulto con una persona que sabe al respecto.			
19 Es casi imposible superar la influencia del pasado.			
20 Me gusta disponer de muchos recursos.			
21 Quiero gustar a todo el mundo.			
22 No me gusta competir en aquellas actividades en las que los demás son mejores que yo.			
23 Aquellos que se equivocan, merecen cargar con la culpa.			
24 Las cosas deberían ser distintas a como son.			
25 Yo provoqué mi propio mal humor.			
26 A menudo, no puedo quitarme algún asunto de la cabeza.			



Anexo  
Continuación

	Estoy de acuerdo	No estoy de acuerdo	Ptje.
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Anexo  
Continuación

	Estoy de acuerdo	No estoy de acuerdo	Ptje.
66	Me preocupa mucho determinadas cosas del futuro.		
67	Me resulta difícil hacer las tareas desagradables.		
68	Me desagrada que los demás tomen decisiones por mí.		
69	Somos esclavos de nuestro pasado.		
70	A veces desearía poder irme a una isla tropical y tenderme en la playa, sin hacer nada más.		
71	A menudo me preocupo que la gente me apruebe y me acepte.		
72	Me trastorna cometer errores.		
73	No es equitativo que “llueva igual sobre el justo que sobre el injusto”.		
74	Disfruto honradamente de la vida.		
75	Debería haber más personas que afrontaran lo desagradable de la vida.		
76	Algunas veces me resulta imposible apartar de mi mente el miedo a algo.		
77	Una vida fácil, muy pocas veces resulta compensadora.		
78	Pienso que es fácil buscar ayuda.		
79	Una vez que algo afecta tu vida de forma importante, seguirá haciéndolo siempre.		
80	Me encanta estar echado, sin hacer nada.		
81	Tengo considerable preocupación por lo que la gente piensa de mí.		
82	Muchas veces me enfado muchísimo por cosas sin importancia.		
83	Generalmente doy una segunda oportunidad a quien se equivoca.		
84	La gente es más feliz cuando tiene metas y problemas que resolver.		
85	Nunca hay razón para permanecer afligido mucho tiempo.		
86	Raramente pienso en cosas como la muerte o una guerra.		
87	Me disgustan las responsabilidades.		
88	No me gusta depender de los demás.		
89	La gente básicamente nunca cambia.		
90	La mayoría de las personas trabajan demasiado y no toman el suficiente descanso.		
91	Ser criticado es algo incómodo pero no perturbador.		
92	No me asusta hacer aquellas cosas que no hago del todo bien.		
93	Nadie es malo a pesar de que sus actos lo sean.		
94	Raramente me incomodan los errores de los demás.		
95	El hombre construye su propio infierno interior.		
96	Muchas veces me sorprende planeando lo que haría si me encontrara en determinadas situaciones de peligro.		
97	Si tengo que hacer algo, lo hago a pesar de que no sea agradable.		
98	He aprendido a no estar pendiente de nada que no esté relacionado con mi bienestar.		
99	No miro atrás con resentimiento.		
100	No me siento realmente contento hasta que no estoy relajado y sin hacer nada.		

**Notas de autor**

Como se ha mencionado en el presente estudio, las creencias irracionales interfieren considerablemente en las emociones y comportamientos de las personas que las poseen. Por tal motivo, se sugiere proponer nuevas alternativas de investigaciones sobre el tema, tratando de controlar, de ser posible, todas las variables que puedan interferir y buscar disminuirlas para incrementar la validez de tales propuestas.

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ORIGINAL

## Universalities and Idiosyncrasies in Self-Concept: East-West and North-South<sup>1</sup>

### *Universalidades e Idiosincracia del Autoconcepto: Este-Oeste y Norte-Sur*

Rolando Díaz Loving<sup>2 a</sup>, María José Baeza Rivera<sup>a, b</sup>, Ilse González Rivera<sup>b</sup>, and Michael Harris Bond<sup>c</sup>

<sup>a</sup> National Autonomous University of Mexico

<sup>b</sup> Universidad Católica de Temuco, Chile

<sup>c</sup> Hong Kong Polytechnic University

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#### Abstract

Self-concept has been crucial to the description of human beings since ancient times. Different authors have offered definitions and approaches to the study of the self. Many instruments have been developed to measure this multi-faceted construct. However, there is great difficulty in using definitions and instruments developed in one ecosystem to describe the peoples from different cultures. In order to include the universals and idiosyncrasies of the self, a model that takes culture into account is needed. The purpose of this article is to compare the cognitive, emotional, and motivational aspects of the self-concept in different countries representing the east-west and north-south axis, such as Mexico, Peru, Japan, China, United States and Chile, from a psycho-socio-cultural point of view. The paradigm for this purpose included descriptions and comparisons based on Hofstede's cultural syndromes, as well as an overview of some instruments that have been used to measure the construct. The discussion focuses on the importance of considering culture to understand the meanings of this construct, placing emphasis on the methodological tools derived from the theoretical orientation and the attentions that must be had when making cross-cultural comparisons, be it Between countries and even within the same country. This means that we must not forget the aspects shared by cultures in the relationship with oneself (etic), but we must forget about the particular aspects (emic) or idiosyncratic aspects, which are what are finally given by the particularities to self-concept.

**Keywords:** Self-Concept, Personality, Culture, Cultural Syndrome, Psycho-Socio-Cultural

#### Resumen

El auto-concepto es un constructo crucial en el estudio de los seres humanos desde la antigüedad. Diferentes autores han propuesto definiciones y acercamientos al estudio del *self*, así como muchos instrumentos para medir este constructo en sus diversas aproximaciones (social, académico, entre otros). Sin embargo, existe una

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2 Rolando Díaz-Loving, Facultad de Psicología, Universidad Nacional Autónoma de México, Avda. Universidad 3004, Coyoacán, Ciudad de México, México. E-mail: rdiazl@unam.mx

gran problemática, la cual se asocia a el uso que tienen los instrumentos sin considerar la realidad cultural para la cual se utiliza, es decir, al describir a las personas de una cultura cuando las hemos evaluado con instrumentos desarrollado en una cultura diferente. Por lo tanto, es necesario desarrollar la discusión respecto de cuestiones universales como específicas de cada cultura en relación al autoconcepto. El propósito del presente artículo es realizar esta discusión en relación a comparar los aspectos cognitivos, emocionales y motivaciones del auto-concepto en diferentes países del este-oeste y norte sur desde una perspectiva psico-socio-cultural, los países considerados son: México, Perú, Japón, China, Estados Unidos y Chile. Para ello se incluyen descripciones y comparaciones basadas en los síndromes culturales planteados por Hofstade así como una revisión de los instrumentos que se han utilizado para medir este constructo. La discusión se centra en la importancia de considerar la cultura en el estudio del auto-concepto, haciendo énfasis en las herramientas metodológicas que se derivan de las orientaciones teóricas propuestas y de las atenciones que se deben tener a la hora de realizar comparaciones transculturales, ya sea entre países e incluso dentro de un mismo país. Esto quiere decir, que no se debe olvidar los aspectos compartidos por las culturales en relación al self (etic), pero sin caer en el olvido de los aspectos particulares (emic) o idiosincrático, que son los que finalmente le dan las particularidades al autoconcepto.

**Palabras Clave:** Auto-Concepto, Personalidad, Cultura, Síndromes Culturales, Psico-Socio-Cultural.

For millennia, philosophers like Socrates, Plato, Francis Bacon and Nietzsche have described and analyzed self-concept as a crucial construct in understanding individuals (Oñate, 1989) However, the discourse on the self had its greatest development in the field of psychology, where it has been under study from different theoretical orientations (Díaz-Loving, Reyes-Lagunes & Rivera-Aragon, 2002). As result of different perspectives and theoretical backgrounds of the proponents, many definitions have been proposed. However, all of them share the idea that the self-concept develops or emerges in and from the constant dialectic of relationships with others. It is therefore not a static structure, but a reflection about the interplay between the me and the I (Díaz-Loving, et al., 2002). Early on, James (1890) defines the self-concept by indicating that this construct involves not only the image one has of self, but also that others have of one, this fact gives an account of the multiple number of selves that a person may have, based on their social field. Following in James's steps, Cooley (1902) indicates that the self-concept is nothing more than the result of the interactions a person has with their social environment and the reactions of this social milieu to one. Subsequently, Mead (1934) adds the use of symbols in its development, i.e., he states that the use of language and the interactions of the

different roles that are played, allow people to think about themselves in a variety of ways.

The psychological literature in the 70's is witness to the growing recognition that the self-concept is multidimensional. Marsh (1986, 1990), makes it evident that the self-concept is the result of partial perceptions of the self, resulting in a multidimensional entity composed by different and dynamic components. This definition of self-concept, or of the I, has been resumed by different authors, postulating a variety of dimensions of the construct, for example, the academic, the social, the personal and the physical, which are further divided into dimensions of greater specificity (Axpe & Uralde, 2008).

In summary, self-concept can be described as a psychosocial mental structure built on the experience of interacting with others (Valdez-Medina, 1994), and the way in which individuals define themselves and give meaning to previous and new experiences (Baumeister, 1998; Markus, 1977). This also includes a set of self-perceptions that make up the schema that people have of themselves (Shavelson, Hübnner, & Stanton, 1976). These authors point out that the self-concept has at least seven characteristics: it is organized, multifaceted, hierarchical, stable, experimental, evaluative and differentiable. Thus, the perception of self is formed from interactions with

a particular ecosystem, influenced by reinforcements of the environment and the evaluations of significant others, comprising schemas and cognitive structures that determine how information is processed, in a manner similar to the attachment styles proposed by Bowlby (1969). In other words, we are continuously under construction by the experiences and social interactions experienced throughout the life cycle (Bandura, 1997; Spinath & Steinmayr, 2012). That is why a person can have an overall positive or negative self-concept depending on what dimensions and factors they set their attention upon (Neeman & Harter, 1986). It should be noted that once a mental schema is established, there are self-verification and self-reference processes that ensure the stability and permanence of the self-concept across situations and time (Swann 1987). Furthermore, as Bem (1972) points out in the Self-perception Theory, previous behaviors serve as the basis for the construction of self-descriptions of the future, especially when people need to publicly justify their actions.

Assessing culture's influence is important because self-concept is found to vary across cultures, in fact, cultural contexts provide different opportunities for engagement, and thus different opportunities to experience the self (Kitayama, Duffy, & Uchida, 2007; Markus & Hamedani, 2007; Markus & Kitayama, 2003; Markus, Mullally, & Kitayama, 1997). Coşkan, Phalet, Güngör, & Mesquita (2016), conclude that overall patterns of self-construal at the cultural level may indicate context-specific differences in selves. Given the reliance of the construal of the self on dimensions that evolved from varied experiences in different cultures and ecosystems, various self-concept measures have been developed.

On the other hand, cross-cultural research is important because it is a tool for researchers to explore differences and cultural convergences, and thus identify overlapping constructs. These constructs are then used to predict many psychological variables, such as cognitive styles, welfare, self-regulation, self-esteem or social anxiety, among others (Vignoles et al., 2016).

A derivation of the attempt to conceptualize self-construals based on cultural experiences is that

the operationalization of the psychological variable carries with it a cultural flavor. Thus, nomothetic measures used across cultures are adequate to make comparisons, as long as they are equivalent, but fail to identify idiosyncrasies evident in ideographic measures. Table 1 covers several of the most widely used scales in Latin-America.

Scales presented above account for instruments translated or developed for measuring self-concept used in Latin-America. Evident is the multiplicity of proposed dimensions, as well as the weight given to social-emotional aspects in the scales developed in Latin-America. This leads us to question if the categories proposed throughout different cultures are universal (etic), while those which only appear in certain cultures are idiosyncratic to this ecosystems (emic). An alternative is that factors that repeat across measures are related to human characteristics, and thus pose as universal, but concurrently have culturally specific manifestations or salience. Based on these assertions, it behooves us to obtain evidence that measures not only have psychometrically reliable and valid qualities, but that they are also culturally sensitive and relevant to diverse populations.

Taking on the challenge of developing equivalent measures that would allow comparisons of people from different places of the world, Hofstede (1984) developed the concept of cultural syndrome as a main construct of cross-cultural experience, and thus provide parameters of comparison among populations with distinct features that can be grouped by countries (their use and relationship with the concept of Self will be explained later).

Behavior patterns vary based on psychological phenomena that by their nature are affected by cultural variables. Therefore, models and constructs must be applied and interpreted with caution in different regions of the world. Hence, in many sectors of psychology we should not claim universal validity (Alarcon, 2010). Taking this a step further, we still want to make accurate descriptions at the time that we would attempt to make comparisons across groups. This requires instruments that allow cross-cultural comparisons, which is a major challenge. Measures will require recognizing the importance of incorporating

**Table 1**  
**Self-concept measuring instruments: source, target group and dimensions**

Scale	Participants	Items	Dimensions
Tennessee self-concept scale (Fits, 1965)	12 years and older	100 items, 45 positive, 45 negative. 10 from L of the MMPI	Identity, self-satisfaction, behavior. Physical, moral, personal, family, and social
Semantic differential self-concept scale (Andrade and Pick, 1986)	9 to 15 years old	48 bipolar items	Physical, relationship with friends, as a son, as a student; moral and emotional
Juvenile self-concept-scale (Piers 1984)	8 to 18 years old	80 items	Perceptions of: social behavior, intellectual status, body image, anxiety feelings, popularity, well-being
Self-concept scale (La Rosa and Díaz- Loving, 1991)	16 and older	64 bipolar semantic differential type items	Social, emotional, moral, and occupational
Self-Description Questionnaire (Marsh, 1992)		102 items	11 factors. 3 academic dimensions: mathematics, verbal and general. 7 non-academic dimensions: physical capabilities, physical appearance, relations with other sex, relations with same sex, relations with parents, sincerity and emotional stability. It includes a self-esteem scale
Self-concept questionnaire (Valdez-Medina, 1994)	High-school students	28 adjectives	Social-normative, social-expressive, affectionate, intellectual and rebellion to culture
Actual and ideal self-concept in children (Muñiz Campos & Andrade-Palos 2000)	Elementary school	32 items	Social normative, physical, social expressive, and intellectual
Self-concept Scale (Díaz-Loving, Reyes Lagunes and Rivera, 2002)	Mexicans ages 17 to 55.	90 attributes	9 factors: Social expressive, ethical normative, socio-emotional intelligence, passive negative external control, social affiliative, emotional negative self-affirming, constructive instrumental, emotionally vulnerable and depressive.

Source: by authors

indigenous and universal elements in studies aimed at the measurement of any psychological construct (Cheung, Van de Vijver, & Leong, 2011; Van de Vijver, 2013), especially when it can be so dependent on everyday experiences as is the case of the self-concept. In fact, several studies have shown evidence of this phenomenon. For example, Asian cultures have different conceptions of individuality (Markus & Kitayama, 1991), because they engage in practices calling for connection and adjustment (co-sleeping, self-criticism, and acceptance by others; Coşkan et al., 2016). Furthermore, even within the same country there may be differences in the perception of me based on the group to which people belong (Fetvadjev, Meiring, Van de Vijver, Alewyn, & Hill, 2015). In the case of Mexico, given its diverse pre-Columbian diversity and a history of wars and conquests, the definition of self-concept has been constructed from different cultural roots (Díaz-Loving, 2006). Several

intellectual figures have confronted the description of the Mexican self-concept from a philosophical perspective (Samuel Ramos, 1934), a literary position (Octavio Paz, 1950) and a cultural psychoanalytic analysis (Santiago Ramirez, 1959). It safe to say that in each account, a projective universal approach was taken that paid minor attention to cultural variables and was based primarily on disciplinary orientations. Relatively recently, from an integral psycho-socio-cultural perspective, Díaz-Guerrero (1972) provides a bio-psycho-socio-cultural paradigm that considers the individual in his or her environment, and focuses on the social and historical features that have had an effect on the development of the self-concepts of the Mexicans. In this proposal, culture can be measured through culturally significant statements that are supported by the majority of the people of a given culture. He coined the term, “historical socio-cultural premises”, to refer to such statements that represent



the beliefs and the norms that are prevalent in a given group (PHSC).

A key concept to understand the relation between culture and self-concept from the perspective of Díaz-Guerrero is that personality, of which self-concept is a key component, develops through a lifelong dialectic interaction between the premises and the biopsychic needs of each individual (Díaz-Guerrero, 1994). With this position as the starting point, we may take a closer look at the Mexican culture. Díaz-Guerrero initially identified nine factors composing the PHSC that permeate the community and the family identity and interactions (Díaz-Loving, 2006), they are: affiliative obedience, virginity, self-sacrifice, machismo, fear of authority, family status quo, respect over love, family honor, and cultural rigidity. Although premises are fairly stable, changes due to age (generational), social mobility, political revolutions, modernization and migration have been documented (Díaz-Guerrero, 1994).

The PHSC provides a profile of individuals' self-images, interpersonal relationships, group and social communication (Díaz-Guerrero, 1994). In this sense, PHSC provides norms for the feelings, ideas and thoughts, as well as the interaction with family and others (Díaz-Guerrero, 1972), and determines the categories of perception people use to understand themselves. For example, the affiliative obedience premise indicates that Mexican children should always obey their parents (90 percent of junior high school students agree with this statement from 1960 to 1990; Díaz-Guerrero, 2003), and believe that in return they will receive love and affection. To carry out this premise one should develop a sense of urgency for the comfort of others, that leads to a consistent self-modification behavior (behavior in which a person changes to fulfill the needs and like of others), since Mexicans in general prefer to meet others' needs before their own. This constant pattern, using self-verification and self-reference processes (Swann, 1987), concludes in the development of a self that is highly social and emotional (Díaz-Loving & Draguns, 1999).

It should be noted that premises are not static, and that they express general guidelines that specify

different behaviors as adequate for different groups within a cultural group. As a consequence, self-concept varies across individuals and accordance with culture, age and sex. In fact, Díaz-Guerrero (1977), proposes eight different personality types that describe more than 90% of the Mexican population. For example, in relation to norms dealing with women and men, the stricter the attachment to traditional norms and beliefs in Mexico, the more men tend to perceive themselves as dominant and instrumental and with the need to prove their masculinity, while women tend to perceive themselves as dependent and expressive with a freedom to express their feelings (Díaz-Loving, et al., 2002; Valdez & González, 1999; Díaz-Loving, Rivera Aragón, & Sánchez Aragón, 2001; Fernandez, Paez, & González, 2005).

Given the undeniable relationship found between culture and self-concept, more studies have focused on analyzing the association between the two (for reviews see Heine, 2001; Markus & Kitayama, 2003; Oyserman & Lee, 2008; Triandis, 2001). For example, Markus and Kitayama (1991) indicate that in Western cultures self-concepts are about independence, making reference to personal skills, preferences, feelings, values and attributes, i.e., the self focuses on individual features to define itself, self-construals would strive for self-expression, uniqueness, and self-actualization, based on personal thoughts, feelings, and goals. While in Eastern cultures, there is an interdependent self, that focuses on social and interpersonal categories, for example national or gender groups are used to define the self (Kanagawa, Cross, & Markus, 2001; Kitayama, Markus, Matsumoto & Norasakkunkit, 1997). Self-construals would strive to fit in and maintain social harmony, basing their actions on situationally defined norms and expectations (Markus & Kitayama, 1991). Other studies have documented the relationship between interdependence, national identity, social status and sharing feelings. For example, with increased interdependence, there is a greater national identity, lower social status, and there is greater willingness to share positive feelings. On the contrary, greater independence is linked to higher social status and cultures with more females in power positions (Fernandez, et al., 2005).

A way of understanding how culture influences the construction of the self is by means of cultural scripts. An example of this is what occurs with the cultural script of sympathy (*simpatico*, in Spanish), very characteristic of Latino and Hispanic populations. In Latin America, a clear schema indicates that the purpose of the self is to allow harmony and positive feelings to emanate from interpersonal relationships, rendering the self as an amiable, courteous and modest individual, centered on making others feel comfortable (Triandis, Marin, Lisansky, & Betancourt, 1984).

However, a study conducted with Belgium and Turkish students, indicated that dependency is not necessarily typical of collectivist cultures (Coşkan et al., 2016). Kağıtçıbaşı (2005) proposed that another way of conceptualizing cultural differences in self-construal is in terms of the *relative* focus on autonomy and relatedness. A number of studies have shown that self-construals in different cultures vary with respect to the relative levels of autonomy and relatedness (Georgas, Berry, van de Vijver, Kağıtçıbaşı, & Poortinga, 2006; Tamis-LeMonda, Way, Hughes, Yoshikawa, Kalman, & Niwa, 2008).

As we attest to the role of culture on the development of the self, it compels us to search for further cultural models to more fully understand such a crucial construct. One possible approach to the study of the self-concept is through cultural syndromes. Hofstede (1984) developed five cultural syndromes, individualism-collectivism, power distance, masculinity-femininity, aversion to uncertainty, long-short term orientation and a recent sixth syndrome, Indulgence-Restraint cited by Minkov (2013). Individualism-collectivism, proposed Hofstede and elaborated by Triandis (1996, 2001), indicates that people from individualistic societies, found more in Western countries, define themselves by using elements of their personality (“I’m outgoing, I like pop music”). In addition, individualistic cultures emphasize achieving a high social status and trading in social relations (Fernandez, et al., 2005). While people from collectivist cultures, found more in Asia, Africa and South America, highlight structural variables such as social class, their national group, or the opinions of other people in regards to defining their own selves (“my

friends think that am modest and humble” - Triandis, Bontempo, Villareal, Asai, & Lucca, 1988), and emphasize loyalty, social norms and group obligations (Fernandez, et al., 2005).

The Power Distance cultural syndrome refers to the degree a group accepts greater or lower inequality or a hierarchical power structure. Some cultures easily accept inequality, which in turn is associated with greater violence, while other cultures accept it to a lesser degree, and seek to have equal rights. A third syndrome, Masculinity-Femininity, represents the preference for achievement or cooperation among its members. Some societies are more instrumental and competitive and are characterized by heroism, assertiveness and material rewards, while other societies are characterized by the pursuit of harmony and collaboration between members and are considered more feminine. A fourth dimension, Uncertainty Avoidance, refers to the degree in which members of a society are more or less comfortable with ambiguity about the future. Some societies have rigid beliefs, behaviors and standards; while others have a more relaxed attitude in their practices and standards. Long-term Orientation, that refers to the degree in which societies prefer to keep their traditions and rules and struggle against social changes, while there are other cultures that stress long term benefits of making changes and new decisions, which are considered more pragmatic (Hofstede, 1991). In recent analysis, Hofstede, Hofstede & Minkov, (2010, p. 281) introduce the syndrome of Indulgence-Restraint. “Indulgence stands for a tendency to allow relatively free gratification of basic and natural human desires related to enjoying life and having fun”; while restraint stands for a society that suppresses gratification of needs and regulates it by means of strict social norms (Hofstede, et al., 2010, p. 281).

A combination of the cultural syndromes proposed by Hofstede, the dependence and interdependence features advanced by Markus and Kitayama (1991) and the historic-socio-cultural premises proposed by Diaz-Guerrero (1972), converge in that individual differences are modeled by social and cultural factors. That is to say, individual features such as feelings, thoughts and motivations are developed and modified

by the social environment through interactions with others. Using cultural syndromes and cross-cultural literature on the self as the basis to describe differences among societies, we will analyze descriptions of the self for individuals from: Peru, Chile, Japan, China, the United States of America and Mexico, and group them into three main areas, cognitive, emotional, and motivational dimensions. These countries were selected to represent typical features of East, West and of North and South America.

### Cognitive Aspects

In relation to cognitive processes, societies can be grouped into two - those places where people think in individual terms and thus are governed by their own needs and values, and those ecosystems where people look to norms and the social interpersonal context in order to make their choices.

When looking at the spectrum of the effects of individualism and collectivism on the way people process information, with regard to countries where the focus is on the interpersonal context, we find among others, Mexico. In this society, the information is processed in terms of social categories, norms and beliefs derived from social entities like the family (Díaz-Guerrero, 2003). Hierarchy, traditions and status direct social evaluation and functioning, which places in a complex dialectic of power, respect and love. Besides the importance of a self that is able to transit through harmonious interpersonal relationships, there is a strong sense of social responsibility evident in selves who endorse characteristics such as efficiency, and industriousness (Díaz-Loving, 2006). In a similar fashion, in Mexico the reference group is the family, while in Japan the self is construed in terms of relations with society in general, with emphasis on hierarchy, loyalty and social categories (Cousins, 1989). In China, its citizens also put emphasis on social hierarchy and give special importance to the loyalty between individuals (Liu, 1986); they are guided by social norms and structures, which limits their creativity (Liu & Hsu, 1974).

Therefore, in terms of cultural syndromes, in these cultures collectivism and the power distance are the fundamental axes of action. In the case of Peru,

individuals tend to perceive their worlds in terms of external social pressures; they tend to see their selves as pessimistic, conformist, submissive and corrupt, although they also retrieve some positive aspects having to do with the capacity of adapting to situations, and thus see themselves as creative (Genna, 2010). For the case of China, Bond (1979 a, b) indicates that conscientiousness is a central trait, that when Chinese are exposed to English questionnaires they adhere to Chinese attitudes more strongly than Western attitudes, but surprisingly, he identifies that people who anticipated competition against others were rated more positively, contrary to what they expected. For the case of Chile, there is a mix of individualism since they see themselves as being intelligent, suspicious, honest, applied, apathetic and sincere, while on the collectivist side they consider themselves as committed, responsible, active, loyal, helpful, friendly and distrustful (Gutiérrez, 2012). From a predominantly individualistic perspective, in the United States they see themselves as unique, less similar to others, highlighting the peculiarities of each individual, by stressing aspects related to traits, behaviors, achievements and psychological attributes (Cousins, 1989; Greenwald & Pratkanis, 1984).

In general, Mexicans have a tendency to be vertical collectivist with a diminution of this attribute with education; power distance is characterized by large status differences with stress on following family norms and traditions; females tend to be expressive and dependent while males are instrumental and dominant; there is a tendency to maintain norms and respond to immediate situational stimuli, and the majority of the population is culturally rigid with high aversion to uncertainty (Díaz-Guerrero, 2003).

For the case of Chile, a Latin-American country, we find greater individualism that is expressed by assertiveness and autonomy when something does not seem right to them, in terms of power distance, reminiscence of authoritarian regimes favors hierarchical structures and marked social classes, especially in older people, A for masculinity and femininity, young and educated people value gender equality and flexibility, and tend to resolve gender conflicts by collaboration; obedience to authority is traditional and

still prevalent, but broken by progressive and youth movements. The older generations continue to have a long term orientation that seeks absolute truth and normative thoughts and traditions. Finally, for Peru, the trend is of collectivism with a strong sense of belonging. Peruvians favor hierarchical and centralized structures, with high need for authority and obedience were family and close contact guide their values and norms systems to absolute truths (Hofstede, 1991).

### Emotional Aspects

With regards to the emotional aspects of the self, there is a similar pattern to the one found for cognition, with some societies stressing individual feelings while others center on socio-centric and interpersonal stimuli in understanding their emotions.

In the case of Peru, a clear allocentric (other-focused) perspective is evident when Peruvians describe their emotive selves as friendly, cheerful, hospitable, supportive and optimistic (Genna, 2010). The same occurs for Chileans, who describe themselves in relation to others, as showing solidarity, generosity, and highlight aspects of relationships as being sentimental and romantic (Gutiérrez, 2012). On the egocentric end of the spectrum, individuals in United States, see emotions as reflecting their inner feelings and [allow themselves full public exercise of their inner states (Matsumoto, Kudoh, Scherer & Wallbott, 1988).

Societies that overstress socio-centric traditions emphasize interpersonal aspects even more when describing their selves in emotional terms. For example, in Japan people suppress and give less importance to their emotional experience, experience emotions less intensely, and can't recognize them easily (Matsumoto, 1989). Japanese show what Hofstede classified as an orientation towards instrumentality, more than toward expressive characteristics. In turn, they give greater importance to harmony and cooperation with others (Li, Cheung, & Kau, 1979). The Chinese experience is similar in that they center their emotional states on the experience of others. For example, they focus on interpersonal aspects to show their emotions, that is to say, they use situations of others as cues for their feelings, and express anger when something happens to someone else, for example if

someone does not yield their seat to an old lady (Stipek, Weiner, & Lee, 1989) this is typical in collectivistic cultures, where the focus is on the both dyadic and group relationships, (Bond, 2010). Finally, in Mexico people highlight the values of obedience and family harmony, stressing social roles and family structure as the guide to their feelings (Díaz-Loving, et al., 2002). This makes being happy or sad fundamental for peoples' evaluation of life's success, as well as positive instrumental features and internal control in order to present the self as amiable, courteous, friendly, romantic, tranquil and patient (Díaz-Loving, 2006).

Generalizing from the Latin-American cultures, emotions in Mexico are built on family harmony and values, with strong emphasis on obedience, a notion of love being more important than power and with high fear of authority. Gender issues are driven by male machismo (superiority in power) and females "marianismo" (power adjudicated from love, for being virgins and mothers). Males can express anger and joy; females are encouraged to express joy and sorrow. Emotions are openly displayed in traditional social events and guided by categories, with a paramount importance given to happiness, to the extent that being happy implies success in life (Díaz-Guerrero, 2003). For the case of Chile, emotions are driven and controlled by traditions, authority figures who protect others and thus give meaning to correct emotions to certain interpersonal settings. Gender differences are less visible (Gutiérrez, 2012). Finally, in the case of Peru, traditions are of great importance, status makes authority figures distant, and the expression of emotions is only acceptable within social categories, with great respect for gender differences (Genna, 2010).

### Motivational Aspects

The major differences between the countries in regards to motivation are twofold - on one hand, individualism vs. collectivism, and on the other, within collectivism, to what groups do selves respond. For example, Mexico and Peru are similar in that the self is driven by relationships in which individuals fulfill the needs of others. However, in Peru, individuals see themselves as driven to fulfill social roles of providing for the wellbeing of the community through



perseverance and hard work (Genna, 2010); in Mexico, individuals characterize themselves as self-modifying to make others, specially family and friends, feel comfortable. In Mexico this is characterized by the self-denial of the mother, the superiority of the father who provides for the family, and an affiliative obedience of the children who respect their parents in exchange for their love and protection, highlighting the group hierarchy (Diaz-Loving, et al., 2002). In Japan, the concern centers on a societal interpersonal harmony that is the most important motivator (Li, et al., 1979). In China, people show profound levels of social achievement orientation, directed at maintaining order and group care and resisting change. This orientation in Japan and China translates into high achievement orientation, driven by the idea of being the pride of a family (Blumenthal, 1977; Maehr & Nicholls, 1980), in terms of Markus & Kitayama (1991) implying an orientation towards interdependence. China and Japan are societies that have a tendency to cynicism and pessimism, people have the perception that their actions are restrained by social norms and feel that indulging themselves is somewhat wrong (Bond, 2010).

On the individualistic spectrum of the analyzed societies, individuals in the United States see themselves as driven from within. Thus, an important aspect in their motivation is maintaining congruence between their emotions and their behavior (Doi, 1986). Given that their energy come from fulfilling their personal needs and likes, they see themselves as having features of leadership, such as skill and competence (Felder, 1978; Hollander, 1985). In the United States, as a norm, people indulge in their needs and desires, this produces seemingly contradictory attitudes and behaviors, such as “work hard and play hard”. The case of Chile is a hybrid situation. Most of its population is European given the small original autochthonous population, showing individualistic tendencies within a larger collectivistic Latin-American ecosystem. Their selves thus include individualistic attributes, such as being loose, rebellious and aggressive (Gutiérrez, 2012), while also expressing some group attributes to guide their behavior, such as being loyal and group oriented (Fernandez, et al., 2005).

Motivation and behavior in Mexico is based on self-modification in favor of the group, strict group hierarchy and family status guidelines, self-denial of the mother and superiority of the father, and given the uncertainty, few long term investments with high stakes on following norms and roles. True to their hybrid traditions, in Chile individuals are empowered, but present themselves as cautious and moderate in their behaviors and attitudes; they search for adequate rules to adjust and guide their lives, and they look for quick results with emphasis on the short term. Likewise, México and Chile have a indulgent orientation, people exhibit a willingness to realize their impulses and desires with regard to enjoying life and having fun, people are optimism and give great importance to leisure time, act as they please when the family accepts and spend money as they when they have it. On the other hand, in Peru, emphasis is placed on security over autonomy, hierarchical guides for behavior, keeping a low profile and humbleness, not showing emotions that may disturb other people, unless it is related to grief; motivation is related to short term goals.

## Discussion

If the self is a social entity derived from the dialectic of bio-psychic needs and socio-cultural and eco-systemic stimuli, then the self-concept cannot be studied in an individual vacuum, and it is essential to consider the culture inhabited by that self (Esteban, Bastiani, & Vila, 2009). It is also necessary to consider that cultural variations do not necessarily correspond to variations in self-concept of the individuals within them. It is important to have a separate conceptualization and measurement of norms and values at the macro level, and beliefs and attributes at the individual level. Cross-cultural studies show general trends derived from the insertion of individuals in their respective cultural syndromes, but there are also intra-cultural differences according to sex, age, education and/or economic status of individuals.

In relation to the patterns of self that exist in each culture, it is important to consider all syndromes to analyze their differences and similarities. Societies offer and produce differing amounts of individualism

or collectivism, have different power distance relationships and are masculine, feminine or androgynous, for example. Taking all cultural syndromes into account can help understand that, while Mexico and Japan are collectivist countries, there are differences in cognitive and affective aspects arising from the group used as the referent (family versus social), and the combination of power distance and masculinity-femininity. Mexico as a country has very clear vertical hierarchical relations that are controlled mainly by affect, and attach great importance to the family and loyalty to it; the self in Mexico is to strictly follow cultural rules, show high uncertainty avoidance and have males as controlling power (*machismo*) and females being responsible for affect (*marianismo*). In terms of motivation and behavior, Mexicans tend to follow traditions and focus on short term rewards (Hofstede, 2001). In Japan, the emphasis is on honor and power. Despite the fact that they impose vertical relations, i.e., acknowledge the importance of hierarchies, the reference group in the case of Japan is the organization or society as a whole. However, even in this orientation, they differ in the sense that Japanese culture is not as hierarchical as other Asian cultures (Hofstede, 2001).

In this respect, although Peru and Chile and are considered collectivistic societies, they demonstrate a higher degree of masculine agentic orientation than does Mexican society. Although this instrumental perspective is more prevalent in Chile than Peru, and Peru has similar levels of expressive affiliative attributes to those found in Mexico. Unlike Japan, these cultures are more tolerant of unequal distribution of resources and power, and have high uncertainty avoidance. As a general rule, in all these different types of collectivism, there is a tendency to follow the rules and traditions over time.

China shares characteristics with the four collectivistic cultures, but differs in the long-term-oriented dimension, Chinese people emphasize the current situation and norms as determinant in the emotions, cognitions and motivations that guide the self in a given ecosystem. However, the context can easily change their traditions, when this happens, they can adapt and are likely to invest to achieve long-term

results. Both China and Japan show a distinct difference from the Latin American Countries for the Indulgence-restraint syndrome. The two Asian countries have strong restraint norms, while in Mexico and Chile, indulgence in group happiness is widely encouraged. Peruvians stand in the middle of the two orientations.

Of the cultures considered in the paper, the United States and Belgium would be considered horizontal individualist societies. The main premise for these groups is the importance of personal needs and likes, making the right to freedom and justice for all the masterpiece of their ideology. The selves in these cultures have high levels of instrumentality and have a high degree of acceptance of uncertainty; this flexibility implies the acceptance of new ideas, compelling them to respond to new stimuli without dwelling very much on past events. Their society is more pragmatic and pursues shortterm benefits (Hofstede, 2001).

The availability of large number of self-concept measures with a single culture perspective and the need for instruments that are not only valid and reliable, but also culturally sensitive and relevant, imposes the need for the creation of scales that are cross-culturally valid. A step back to conduct exploratory research in each ecosystem is especially important because it can safe guard the literature from ethnocentric positions and help researchers overcome their own cultural biases when seeking to identify the constructs about which to theorize (Bond, 2009). If all the idiosyncrasies representative of all levels of each cultural syndrome were taken into account in the development of a self-concept inventory, it would be possible to make comparisons across cultures with respect to the self. Not taking into account these considerations for cross-cultural studies, would lead to erroneous assumption of the universality of the resulting patterns (van de Vijver & Leung, 2000).

The use of the self-concept construct generally has been associated to various fields of development, but mainly to the academic (Gonzalez, Leal, Segovia and Arancibia, 2012;) Gorostegui, and Dorr, 2005; Villarroel, 2011), showing the particularities that are present in the West. Thus, the mainstream definition itself considers primarily achievements in this area,

showing how culture affects the development of research and the conceptual definition of the phenomena it studies. The above begs the question about the role that culture plays in the development of the self and the particularities that will be considered in research. We must remember observers construct reality based on their own beliefs and conceptions and that these will be tainted by their own culture. Therefore, measures considered in this review respond to the characteristics and use that are given to the self-concept in different countries, this conceptualization varies depending on stereotypes that tend to be generalizations based on group identification. In these regard, it should be pointed out that the idiosyncratic descriptions made by country are based on means, and that important variations exist within groups. That is to say that to characterize all Chileans, Peruvians, Mexicans, Chinese, Japanese, American, would be a generalization mistake, that does not consider that within individual countries large variations exist. We thus invite readers to consider culture as a cornerstone of psychological research with impacts both on the conceptualization of terms and phenomena and on the operationalization and measures used to describe and understand groups and individuals.

Without a doubt, a thorough and objective description of the selves of individuals who inhabit different socio-cultural ecosystems requires measures that incorporate universal categories of the self (social, emotional, physical, ethical, instrumental, etc.), and the idiosyncratic manifestations of each category in a variety of cultural settings. In addition to the consideration of variations in cultural syndromes at the group level, considerations of structural variables such as age, education, sex, etc. should be incorporated to account for the diversity of personal characteristics at the individual level of analysis. The case of Mexico is an example of this type of work, with the development of the socio-cultural historical premises that allow further understanding of the beliefs and norms that underlie behavior and personality of individuals (Díaz-Loving, 2006).

There is no doubt that the complexity lies in the methodological aspects, either because of the

availability of instruments, or in the way of analyzing the results. In sum, to facilitate future theorizing and research into the relationship between culture and self, Vignoles et al. (2016) identified an urgent need for systematic exploratory research into the dimensionality of independent and interdependent self-construals, involving (a) improved sampling of item content, (b) improved sampling of cultural groups, and (c) appropriate statistical procedures for analyzing data from multiple cultural groups. Only then do the questions that these authors propose become relevant, changing the focus from asking where to asking why different models of selfhood may be prevalent in different parts of the world. As Bond (2010) states, it is important to consider the scientific method to understand and analyze how culture manifests its self in the lives of its members.

Finally, it is clear that individuals may be different in many ways, thus, to classify cultures solely based on the proposed dimensions may not be useful to show the complexity of cultural models. Rather we need to identify what are the different ways in which individuals can express themselves and vary in each context. In fact, the original proposal of Markus and Kitayama does not suggest that cognition, emotion and behavior are the only categories that exist, so it is important to explore the possibility of more models that represent individual and cultural differences (Vignoles et al., 2016). Likewise, the division between Western and Eastern cultures, does not even account for the nuances that may exist within each of these cultures, let alone what occurs when you introduce North South of the equator into the equation, in fact, Chile is South, and closer to the Pole, making it a more agentic culture than Peru. So, it is important to consider both indigenous and universal qualities when conducting research, paying special attention to situations in which results of studies appear inconsistent (Kitayama, Park, Sevincer, Karasawa, & Uskul, 2009; Levine et al., 2003). Including the consideration of structural variables such as religion, education, socio-economic levels that will allow a broader and clearer vision of self construals around the globe (Vignoles et al., 2016).

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