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Developing Norms for a Behavioral Profile of FASD for a Mexican-American Population

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by

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Abstract

Culturally relevant research has not kept pace with the most rapidly growing ethnic population in the United States. The Pacific Northwest consists of 1 million Mexican and Mexican Americans (López, 2015). Statistically, Latinos are considered one of the populations that is most often overrepresented within the lower socioeconomic status level. In addition, factors such as lack of resources, language barriers, and educational constraints play key obstacles to accessing medical treatment and mental health services in general and especially for specific groups such as those with Fetal Alcohol Syndrome (FAS; Lopez, 2015). Research has indicated high financial, emotional, and psychological expenses for society in order to care for people diagnosed with Fetal Alcohol Spectrum Disorders (FASD; Centers for Disease Control & Prevention, 2017). It is vital to provide this population with a tool that will be sensitive to the culture and help provide appropriate diagnoses and treatment for the family and community with individuals living with FASD. This study found 3 factors from the Culturally Correct FAS BeST (CCFAS BeST) that indicate behavioral differences in children born to younger mothers but no differences in behavior of children born to mothers who began drinking alcohol at a younger age.

While the study was not able to establish validity or reliability for the CCFAS BeST due to the small homogenous sample, much was learned for continuing with the research.

Keywords: Mexican, Mexican-American, Fetal Alcohol Spectrum Disorder, FASD.

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Chapter 1

Introduction

Cultural Aspects

Mexican culture is rooted in Roman Catholicism, woven in with Mayan and Aztec traditions due to colonization in 1521 (Butler, 2018). The Mexican culture is known for its authentic and unique traditions, culture, and values based on Roman Catholic beliefs (Recio, 2002). Its cultural values were ingrained within the family and community for the generations to come (Butler, 2018). At the core of the culture has been collectivism within family and community (Recio, 2002). Celebrations are held frequently within the communities to represent the richness and joy of the cultural traditions. The Mexican culture has had historical significance in the United States since the Mexican American war. It has become rooted in the diversifying cultures of American history, as Mexican migrants densely settled in the South, West, and the great Northwest (Recio, 2002).

Mexican culture has undergone cultural transformation as generations raised in the United States have become acculturated to the dominant culture (Recio, 2002). The United States is now home to approximately 36.6 million Mexican Americans located from coast to coast (Bustamante et al., 2019). About 11.7 million Mexicans, born in Mexico, live in the United States (Bustamante et al., 2019). The Mexican origin population has become the highest growing ethnic minority in the United States since 2010 (Bustamante et al., 2019).

Due to the Mexican-American War, Mexican immigration, settlement, and culture were transformed (Recio, 2002). Three historical events triggered Mexican migration to the United

States: the Reclamation Act of 1902, which allowed for agricultural work; the Mexican Revolution of 1910, which created much economic and political instability; and violence which caused many Mexicans to migrate into North America (Recio, 2002). The United States economy was also booming in the 1920s, which was very appealing to Mexicans who were in economic and political insecurity (Recio, 2002). In the 1920s it was common for Mexican men to cross the border from Mexico into the U.S. in search of one of the farm, railroad, and industry jobs (Recio, 2002).

Today the topic of the borders of the United States is highly contested. False information, an unclear perception of history, and lack of understanding, between the United States and Mexico has created turmoil about immigrants crossing the border (de Bustamante & Reyes-Escudero, 2018). Mexican communities are currently located in all 52 states with higher numbers of Mexican communities in the west coast and in the south of the United States (Bustamante et al., 2019). Settlement patterns are a result of needs in several areas: field work, meat packing, farm work, and other job opportunities. Both U.S. born and Mexican born populations make up 62% of the United States population (Bustamante et al., 2019).

Prohibition in Mexico

In 1910 to 1920, Mexico City, Durango, Chihuahua, and Sinaloa, were the first Mexican states to impose strict alcohol consumption and production laws (Recio, 2002). The Catholic Church began to impose strict rules on the people by shaping the forces of the government in Mexico (Butler, 2018). The Mexican government enforced prohibition starting with the President down to the governors (Recio, 2002), yet there was no support from the people to stop and restrict consumption of alcohol due to the income generated by alcohol sales (Recio, 2002). During the era of Mexican President Venustiano Carranza (1917-1920), the concern about

alcoholism became evident even as it became a million-dollar industry within the country. President Carranza asked for help from the United States to control the abuse and consumption of alcohol in the Country of Mexico. The anti-alcohol laws failed because production of alcohol created income for many people in Mexico (Recio, 2002).

Prohibition in the United States

Prohibition was enforced from 1920 until 1933 by the 18th Amendment to the United States Constitution. The ban on alcohol was due to the political instability and the movement to sober the society. Historical research indicates that prohibition decreased "overall consumption in half during the 1920s" (Recio, 2002, p. 7). An observable decrease in consumption continued until the 1940s (Recio, 2002). Federal law set limitations on what types of alcohol were prohibited. Local community laws became stricter on the ban by prohibiting ownership and consumption of any alcohol beverage. The 18th Amendment led to an increase in crimes and decrease in revenue for the government. Prohibition ended on December 5, 1933 (Recio, 2002). Research in the 1990s indicated there was approximately $136 million dollars in revenue a year from alcohol consumption in the United States (Stutts et al., 1997).

Fetal Alcohol Spectrum Disorders and Fetal Alcohol Syndrome

Fetal Alcohol Spectrum Disorders (FASDs) are a series of diagnoses in which there are neurological impairments defined as "the spectrum of physical, mental, behavioral, and/or learning disabilities" due to exposure of alcohol in utero (Project Choices, 2009, pp. 10-11). Within the disorders, Fetal Alcohol Syndrome (FAS) is the most predominant and severe form of the diagnoses. Physical abnormalities, cognitive limitations, and behavioral dysregulation are characteristics of FAS (Astley, 2004). Studies suggest that, depending on the amount of consumption and developmental stage of the fetus, physical and cognitive abnormalities can

range on a spectrum (Colunga & Andrews, 2015). Recent research is suggesting that men can also contribute to exposure of alcohol to the fetus when they are inebriated at the point of conception (Chang et al., 2019).

Although the physical abnormalities can be detected and are prevalent in some cases, it is the cognitive limitations and behavioral dysregulations that go untreated for many children and adults (Seiders et al., 2017). Because these deficits are largely invisible, most others do not see the sufferers as having a disability. Mattson (2011) reported neuro-ramifications have been seen in the areas of verbal comprehension, where the ability to process, understand, and apply information, have been effected (Mattson, S. N., Crocker, N., & Nguyen, T. T., 2011). Sullivan has also reported a wide range of behavior difficulties that deal with executive functioning and impulse control (Mattson, S. N., Crocker, N., & Nguyen, T. T., 2011). Parents and caregivers of children and adolescents with an FASD have described the need for higher levels of supervision for the child, difficulty connecting cause and effect, a lack of impulse control, organization, and understanding daily information (Colunga et al., 2017). These cognitive and behavioral dysregulations cause heartache and misunderstanding for families and support costs can be overwhelming. The lack of education about FASD and understanding makes it difficult for parents, providers and educators to be aware of the risks. In many cases, adults who have gone undiagnosed with FASD were imprisoned or in the legal system. And in other cases, FASD diagnoses were misdiagnosed with ADHD or Conduct Disorders (Colunga et al., 2017). Unfortunately, there is no research indicating frequency of FAS or FASD within the Latino community in order to help with understanding similarities or differences in the behavioral profile of this cultural group.

Community and Family Expenses

Families and communities financially struggle to care for individuals with FASD. Bustamante et al. (2019) reported that Mexican and Mexican-American households earn an average of $32,000 a year (full time work and year around workers); compared to the mean income of the general U.S. population which is $35,000 to $40,000 dollars a year. Mexicans and Mexican-Americans are estimated to have a higher poverty rate (20%) compared to the general U.S. population (15%; U.S. Census Bureau, 2018). It is also estimated that 19.3% of the Mexican population is uninsured; 17.8 % of the Hispanic population was reported to have no health insurance (U.S. Census Bureau, 2018). Estimated cost for care and treatment for an individual with FAS is $4 billion dollars annually (Centers for Disease Control & Prevention [CDC], 2017). Taking into consideration the insufficient resources the Mexican and Mexican-American population may experience, it is important to consider their financial and community strain (López, 2015). A community such as Mexican and Mexican-Americans that are monolingual and unacculturated may struggle to understand the diagnosis of an individual (López, 2015). Families and communities may also experience difficulty in finding resources for an individual who may need assistance (Woods et al., 2011).

Lack of Awareness of Fetal Alcohol Spectrum Disorder

According to the US CDC (2017), rates of FAS are approximately 1 within 1,000 live births. The World Health Organization (2013) reports similar statistics. The dangers of alcohol upon the developing fetus have been debated within medicine and among other professionals regarding women of childbearing age (Niclasen, 2014. Specker et al. (2018) reported that even low amounts of alcohol exposure prenatally could results in “poor birth outcomes” (p. 89). Research methods of accounting for prenatal exposure, including “dose (how much is actually

consumed), pattern (binge drinking or consumption spread over several days), and timing (at what times)" are key factors that many studies have not incorporated (Niclasen, 2014, p. 771). These factors are essential to understanding the possible outcomes that a child may have due to prenatal exposure of alcohol.

Cultural barriers were created through Western societies' inability to bridge with the Mexican population to adequately provide resources. Juckett (2013) argued there is cultural mistrust between the Western medical system and the Mexican population. He argued that much of the distrust is due to cultural insensitivity and political turmoil. He suggested that the population would much rather treat themselves with herbal and natural remedies than insert themselves in a system where their culture is not respected (Juckett, 2013). Adding to that, the history of immigration, oppression, and racial inequality has played a role in the mistrust. The cultural mistrust and inadequate culture humility has resulted in outcomes of limited resources and a lack of awareness in psychological and medical conditions within the Mexican population (Juckett, 2013).

The misconception of "Spanish language" being equally and generally used in all Latino ethnicities has become a source of harmful and unethical misinformation. Juckett (2013) argued that in addition to the cultural barriers, language barriers also have had "a consequence of disparity in the quality of caring for Latinos" (Juckett, 2013, p. 48). This observation in the medical system is parallel in the research conducted in Western society. Research influences the development of culturally sensitive neuropsychological assessments. The inability to understand the Latino's varying Spanish dialects within ethnic groups and the varying nuances can be harmful when conducting research using general, translated materials, especially neuropsychological assessments that are meant to help treat and resource patients. There are no

current assessments within the Mexican population that will help screen for FAS. There is no current research or statistics that allow us to know and understand the FAS characteristics and rates in the Mexican population. Therefore, it is paramount to norm neuropsychological assessments to the culture and language of the specific communities.

FAS BeST Reliability and Validity

The FAS BeST is a tool developed to identify behaviors exhibited by children due to prenatal exposure to alcohol (DeVries et al., 2001). The tool was developed with the help of parents and caregivers who were raising children with prenatal exposure to alcohol (PEA). With their assistance, the developers and caregivers developed a list of behaviors unique to children with PEA and developed the FAS BeST (DeVeries et al., 2001).

Research on the reliability and validity of the FAS BeST was initially conducted by Porter and Andrews (2004). The analysis was performed across varying ages (1½ years to adults age 52 years). The results indicated a cutoff score of 75 was accurate for differentiating behavioral characteristics of FAS from those diagnosed with ADHD (Porter & Andrews, 2004). Further research established a positive hit rate of 78% to 100%, which was found to be reliable and valid when differentiating behavioral characteristics of FASD, from those with dysgenesis of the corpus callosum (DCC), and attention deficit hyperactivity disorder (ADHD; Robins & Andrews, 2010). Updated analysis indicated that the tool is valid and reliable for confirming characteristics of FAS (Seiders et al., 2017). An additional analysis using a ROC indicated a sensitivity of .736 and a specificity of .413, with a cutoff of a 75. The analysis concluded an accuracy of 100% for those with FAS. A second analysis of a cutoff of 67 resulted in a sensitivity of .83 and a specificity of .5 verifying a classification of controls at a 92% (Colunga et

al., 2017). The FAS BeST has been demonstrated to be a tool that can accurately differentiate and identify behavioral characteristics of FASD.

Why Is it Important to Norm to Mexican-Americans?

It is important to have tests that are normed properly and have the ability to adequately evaluate Mexican and Mexican American populations. A standardized FAS BeST will include culturally sensitive items and take into consideration the characteristics and behaviors of Mexican and Mexican American populations. It is important to develop a Mexican Spanish language tool that is effective for individuals and families for whom Spanish is the single or most easily understood language. Limited research has been done with this population. There is an increased need within the Mexican and Mexican-American population to norm tools such as the FAS BeST to improve services for the population.

Hypotheses

The purpose of this research is to develop a culturally sensitive, Mexican Spanish language FAS BeST that will be normed for Mexican and Mexican-American populations living in the U.S. and is reliable and valid in screening behavioral characteristics for FASD.

H1: The Spanish FAS BeST items will correlate with the Spanish Language items on the Child Behavior Checklist (Achenbach, 2014) to establish validity of the FAS BeST.

H2: The Spanish Language FAS BeST will differentiate children with prenatal exposure to alcohol (suspected or confirmed) from those children without PEA.

H3: The Spanish language FAS BeST will differentiate children with PEA with a behavior profile from children with other behavioral diagnoses and those with no diagnosis.

Chapter 2

Methods

Participants

Participants consisted of individuals of Mexican and Mexican American heritage living in the United States (n = 35). The data collected were from Mexican parents with children ages 6 to 17 years of age (M = 12,03, Med = 12.00, Mode = 12). Participants were from a small rural area in the Northwest states of the United States. Some parents reported on multiple children.

The data sample consisted of 17 child or adolescent males and 18 child or adolescent females. According to parent reports, 15 children were identified as Mexican American and 20 were identified as Mexican. Parent reports identified 17 children as first generation, 15 second generation, and 3 reported as third generation in the United States. Parent reported 31 children were bilingual (Spanish and English), 2 monolingual English speakers, and 2 monolingual Mexican dialect speakers. Education level of the children varied from 1st grade to 12th grade. Parent reported their children have a strong connection to the current Mexican community and were biological children to the parents reporting information. The education levels of parents varied in the sample, mothers reported achieving elementary to some college education (Med = 10th grade); and fathers reported higher education from elementary to completing college (Med = 10th grade).

Materials

Demographic Questionnaire

A questionnaire was developed for this research completed by parents of the children to gather biopsychosocial information. The questionnaire consisted of questions about family, culture identification, language, education of parents and children, developmental milestones, occupation, and pregnancy health (See Appendix A).

The Fetal Alcohol Syndrome Behavioral Survey of Traits

The FAS BeST (deVries et al., 2001) was translated into a Mexican Spanish dialect. The translated tool consisted of the 52 items rated on a scale of 0 to 3 (from *never occurs* to *frequently occurs*). The English language tool was constructed by caregivers and professionals who worked with and were raising children and adolescents with confirmed prenatally exposed to alcohol (DeVries et al., 2001). The current English FAS BeST has been demonstrated to be reliable and valid with a cutoff point of 67 and a sensitivity of .83; providing an accurate classification of controls at a 92% (Colunga et al., 2017). The translation process consisted of translating the tool to a Mexican dialect by a Mexican American, Spanish first-language doctoral student. Two other Spanish speaking doctoral level students reviewed the document for any adjustments of the items. The students also back translated the document to assure accurate translation of the items. The rating scale from the English FAS BeST was retained for the Spanish FAS BeST (See Appendix B).

The Child Behavior Checklist Spanish Version (Achenbach & Edelbrock, 2001)

The Spanish CBCL was designed to assess behaviors in children 6 to 18 years of age (Achenbach, T. M., 2001). The tool consists of 113 rated questions based on a 0 to 2 rating scale. In addition, there are four questions that require descriptive answers regarding social life. The

Spanish CBCL was used for the Mexican population to help establish reliability of the Spanish FAS BeST. Assessment coefficients of the Spanish CBCL are reported to be .90 or higher (Achenbach, T. M., 2014).

Informed Consent Forms

Both Spanish and English informed consents were used in order to ensure that potential participants fully understood the study and what is involved if they chose to participate (See Appendix C).

Permission to Recruit Forms

Forms explaining the study and its purpose were distributed to the potential gatekeepers or authorities of the proposed population groups. These people included a priest, other religious leaders, cultural center directors, community center directors, and other community leaders. The form was intended to inform the leaders of the project and gain permission to recruit from those who may be under their care.

Procedures

Following the approval from the George Fox University IRB, participants were recruited through community organizations including the Roman Catholic churches. Recruitment occurred through established trust and relationships with a Mexican Catholic Church community. The primary researcher met with the church community elders. Permissions were obtained from key people in the Roman Catholic Churches that are predominantly Spanish language churches. The gatekeepers of the organization were asked to read and sign the Permission to Recruit in order to recruit within their organization. Presentations were made to various groups of potential volunteers explaining the purpose of the study and asking for people to volunteer. A packet that included letter of explanation, informed consent, Spanish CBCL, and the Spanish FAS BeST was

given in person to volunteers at the Catholic churches in the Northwest. Participants were given information regarding the study and given the option to participate. Parents and guardians were asked to sign consent forms and complete the forms about their children. Packets were collected by the investigator at the setting. The primary investigator met with parents in order to share with them the debriefing information.

Chapter 3

Results

Full Spanish FAS BeST

An independent sample *t*-test was used to analyze possible gender differences using the total scores from the full Spanish FAS BeST, see Table 1. Results indicated no difference in total Spanish FAS BeST scores between boys and girls t (33) = 1.074, p =.29. The range of the total scores was 20 to 43.

Table 1

Descriptive Statistics for Full Sample

Spanish FAS Best	*N*	Mean	*SD*
total score	35	38.40	3.85
Girls	18	37.7	3.56
Boys	17	39	4.12

Using the results from the English FAS BeST as a guide for analysis, the data analysis for the Spanish FAS BeST was started using the full survey for all participants. The Factor Analysis was attempted with the full Spanish FAS BeST but could not be computed because of the number of questions loadings as zeros from the data set. A Varimax rotation and an unrotated factor solution were the method of extraction. The principle components were based on an Eigenvalue greater than 1.

Culturally Corrected FAS BeST

The Spanish FAS BeST was initially 52 items but was reduced to 45 by eliminating any variables that loaded from .00 to .006, thus creating the Culturally Corrected FAS BeST (CCFAS BeST) The items eliminated are included in Table 2.

Table 2

Eliminated Questions from Original 52 Questions

Questions between .00-.006 on Spanish Factor Analysis
No puede distinguir el concepto de amigo o enemigo.
Parece desesperado/a por emocinoarse/agitarse
Demuestra comportamiento antisocial.
Tiene problemas de aprendizaje o el uso de conceptos de tiempo.
Roba a los miembros de la familia.
Violento hacia las personas.
Depredador-- plan para dañar a otros.

In Table 3, you will find the CCFAS BeST items that were found to be culturally relevant based upon the correlation values.

The CCFAS BeST total scores (range 23 to 41) were analyzed using an independent *t*-test with gender as the independent variable and resulted in no difference between boys (M = 33.8, SD = 4.0) and girls (M = 32, SD = 3.35; t (33) = 1.22, p = .230). Data analysis continued with gender combined.

Table 3

CCFAS BEST Factor Analysis Descriptive Table

Variables	M	SD
Necesita constante supervisión o cuidado	.69	.530
Es altamente manipulador	.11	.323
Se nota cansado debido al sueño interrumpido	.46	.505
De mal humor causado por el sueño interrumpido	.14	.355
No puede conectar la causa y resultado	.37	.490
Es más difícil de controlar en público que en casa	.11	.323
Es impulsivo	.29	.458
Impredecible	.23	.426
Participa en comportamientos peligrosos	.03	.169
Es vulnerable a la presión de los amigos	.31	.471
Necesita más estructura y supervisión que sus compañeros	.14	.355
Tiene dificultad manejando dinero	.34	.482
Reacciona con exageración a los cambios	.34	.482
No se ocupa de las necesidades de higiene	2.06	.684
No puede hacerse responsabilidad por sus acciones	1.60	.651
No puede seguir el plan de acción de manera consistente	1.26	.561
No sigue las reglas de la sociedad	2.29	.710
Vulnerable a la depresión	.03	.169
Vulnerable al estrés y las sobrecargas	.60	.604
Mentiras confabuladas	.17	.382
Parece ser más capaz	2.43	.655
Emocionalmente volátil tiene explosiones	.14	.355
Violento hacia los objetos	.03	.169
Vacío del nivel normal de empatía hacia los demás	1.43	.558
Cambios de humor inexplicables	.17	.382
El comportamiento no mejora, resultando en constantes consecuencias	2.29	.572
Parece inocente cuando es culpable	.11	.323
Egocéntrico actúa primero sobre sus propias necesidades	.20	.406
Incapaz de mantenerse enfocado en la tarea	.17	.382
Actitud independiente	2.11	.471
hacia sus propios comportamiento y consecuencias		
Toma el camino de menor resistencia	2.23	.426
Vive en el momento	1.94	.416
Elige gratificación inmediata	1.49	.507
No muestra remordimiento	2.00	.767
Parece indisciplinado independientemente de disciplina constante	.29	.458
Carismático	1.97	.664

Intencionalmente dañar a otros	.00	.000
Diagnosticado con otro trastorno de salud mental	.00	.000
Se enoja cuando lo/la enfrenta con hacer mal	.03	.169
Piensa que es la excepción a cada regla	.37	.490
Tiene problemas recordando las reglas de un dia a otro	.60	.497
No obtiene la imagen completa	1.09	.284
No entiende lo que le espera	.97	.169
No guarda rancor	2.6857	.47101

Factor Analysis

A factor analysis was completed with the CC FAS BeST. Components listed in Table 3 were used with inclusion criteria of 0.412. Three factors were selected using items loading 0.412 and higher and the factors named, Factor 1: Executive Functioning/Impulse Control; Factor 2: Lack of Insight; and Factor 3: Attention/ Focus. Results yielded a very modest accounting of the variance for the three factors (total variance = 33.76 %). Factor 1 accounted for 14.6% of the variance, Factor 2 accounted for 10.1%, and Factor 3 accounted for 8.95%. See Table 4.

Demographics of the Three Factors

Factor 1 (EF/Impulse Control) ranged from 0-10 with a skewness of 2.4 (See Figure 1). Factor 2 (Lack of Insight) ranged from 5 to 14 with a skewness of 1.36 (See Figure 2). Factor 3 (Attention/Focus) ranged from 3 to 11 with a skewness of -.378 (See Figure 3) exhibiting a better distribution of behaviors rating loadings.

Understanding the Factors

Using the demographic question “At what age was the mother when she gave birth to this child” to create groups, two groups were formed; children born to mothers who were “ages 15-19” (n = 21) and children born to mothers who were “ages 20-27” (n = 14). Independent t-tests were calculated for Factors 1, 2, and 3 total scores as dependent variables A significant

difference was found for Factor 1 (EF/impulse control), see Figure 4, ratings of children born to young or older mother; (t (33) = 2.14, p = .019).

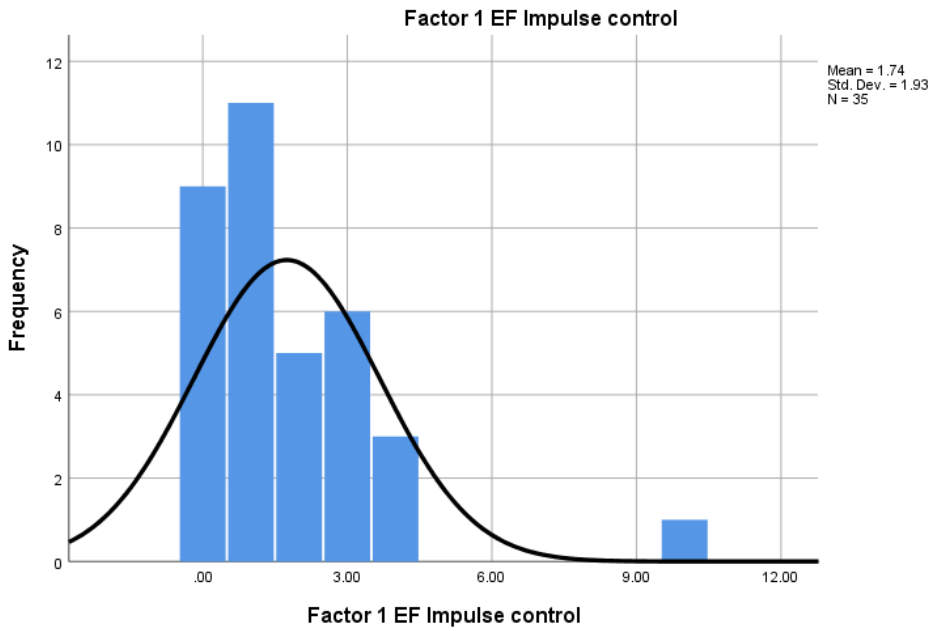
Table 4

Three Factors from CCFAS BeST Component Matrix

	Factor Loading		
	1	2	3
Factor 1: EF Impulse Control			
1. Es violento hacia los objetos	.887		
2. Emocionalmente volátiles tiene explosiones	.579		
3. Mentiras confabuladas	.451		
4. Es vulnerable excusablemente a la presión de los amigos	.436		
5. Es más difícil de dirigir en público que en casa	.510		
6. De mal humor causado por el sueño interrumpido	.498		
7. Necesita constante supervisión o cuidado	.460		
8. Es altamente manipulador	.553		
Factor 2: Lack of Insight			
9. De mal humor causado por el sueño interrumpido		.444	
10. Impredecible		.572	
11. No se ocupa de las necesidades de higiene		.505	
12. No puede tomar responsabilidad por sus acciones		.627	
13. Vulnerable a la depresión		.689	
14. Toma el comino de menor resistencia		.493	
15. Elige gratificación inmediata		.525	
Factor 3: Attention/Focus			
1. No puede seguir el plan de acción de manera consistente			.573
2. Vulnerable al estrés y las sobrecarga			.475
3. Cambios de humor inexplicables			.553
4. El comportamiento no mejora con constante consecuencias			.628
5. Toma el comino de menor resistencia			.599
6. Parece indisciplinado independiente mente disciplina constante			.412

Figure 1

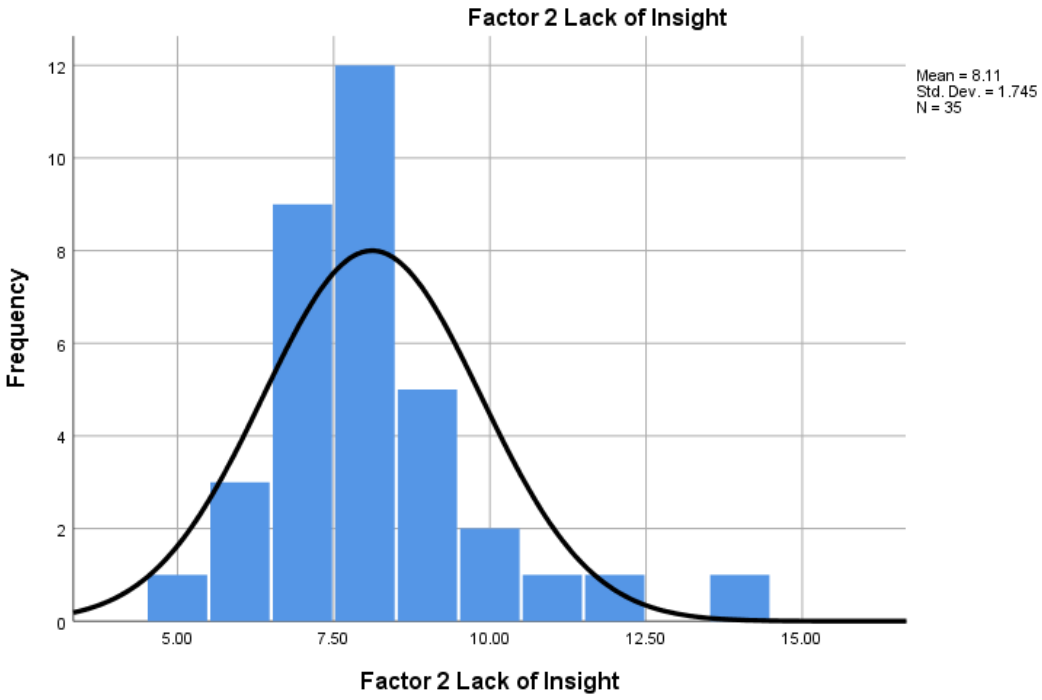
Impulse Control



Note: Factor 1 displays higher score reports of impulse control From the CCFAS BeST

Figure 2

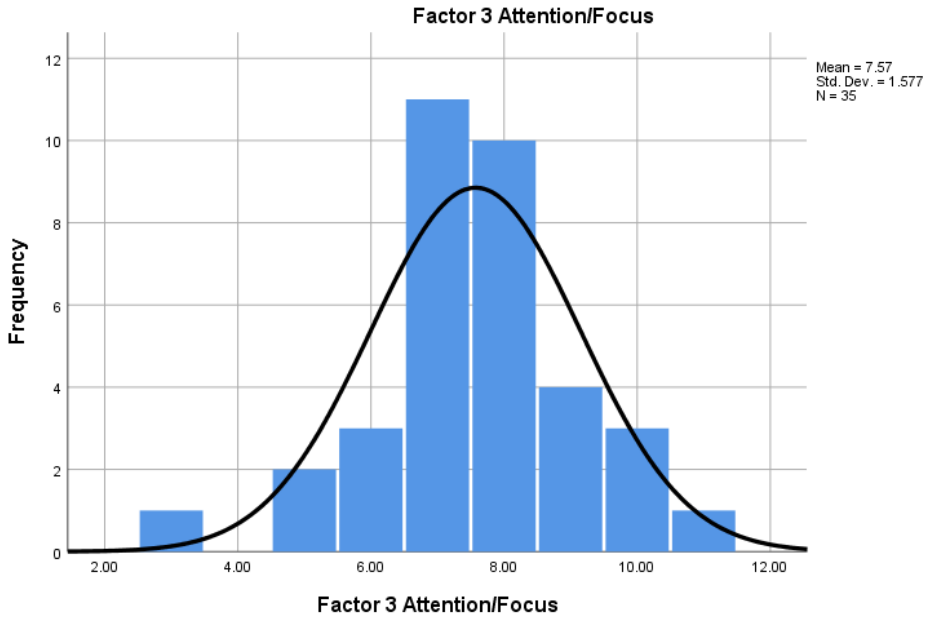
Lack of Insight Distribution



Note: Factor 2 score distribution based on the CCFAS BeST

Figure 3

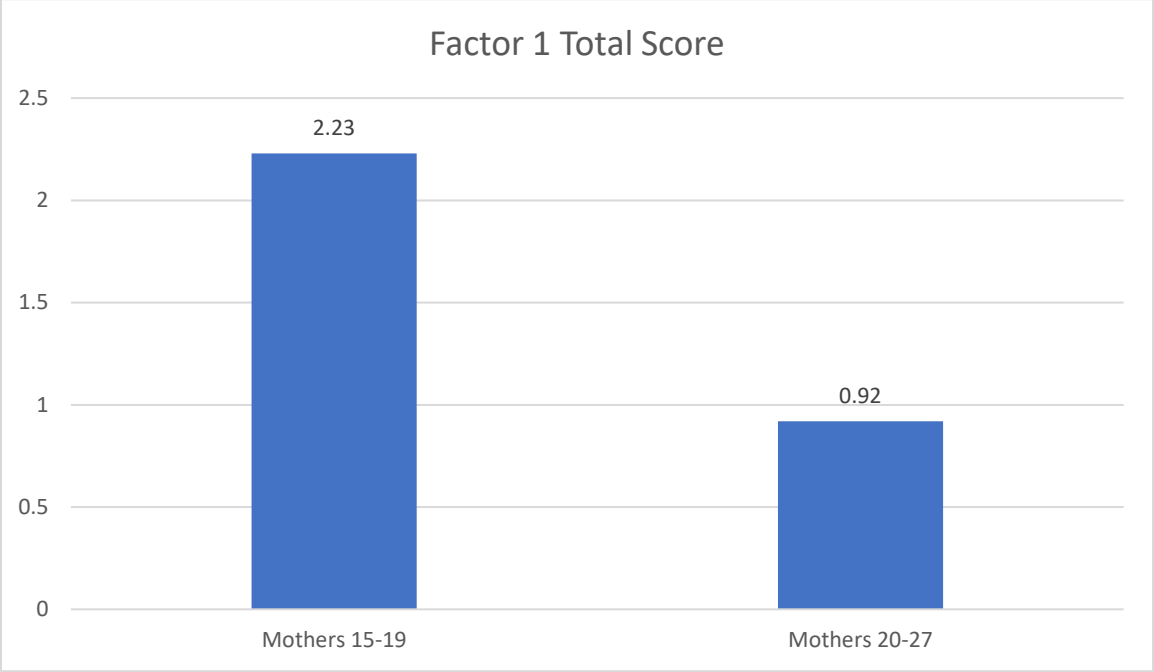
Attention/ Focus Distribution



Note: Factor 3 displays an even distribution of parent reported attention and focus behaviors in their children.

Figure 4

Impulse Control Distribution Based on Age of Mother at time of Child's Birth

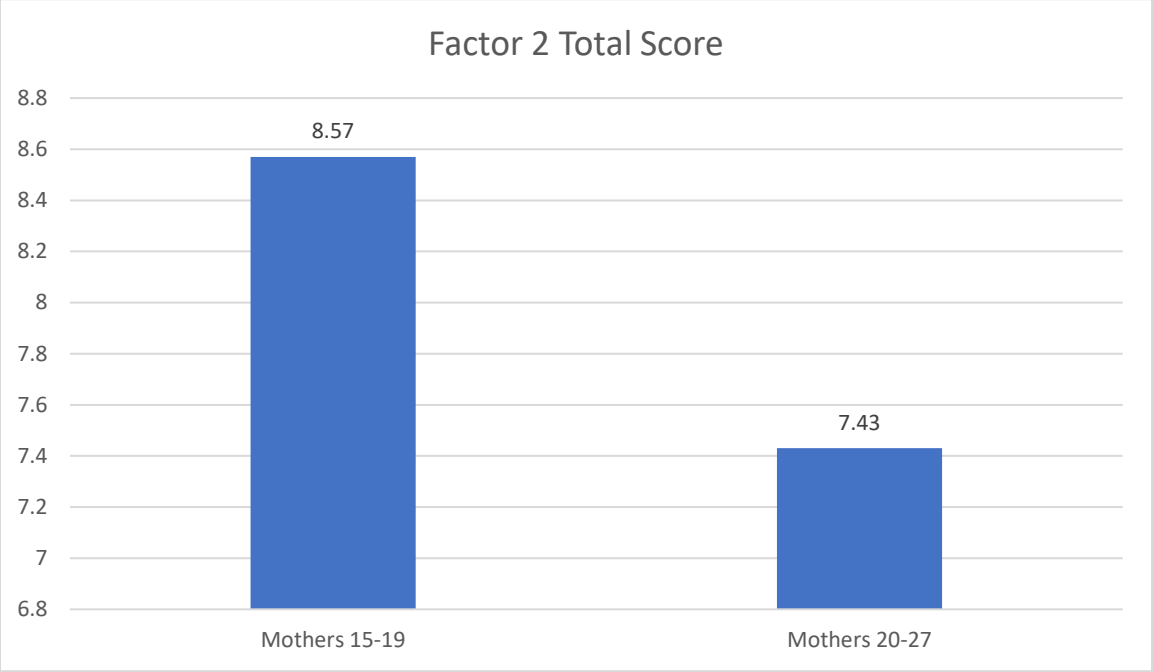


Note: Younger Mothers (ages 15-19) had children with higher total Factor 1 scores (SD= 2.23) than children born to Older Mothers (ages 20-27; SD= .92).

The independent t for Factor 2: Lack of Insight indicated a significance difference between mothers who gave birth at a younger age and those who gave birth at a later age; (t (33) = 1.98, p = .056. See Figure 5.

Figure 5

Lack of Insight Scores Based on Age of Mother at time of Child's Birth



Note: Children born to ounger mothers e have higher scores for Lack of Insight(SD= 1.91) than those born to mothers at a later ages (*SD* = 1.22).

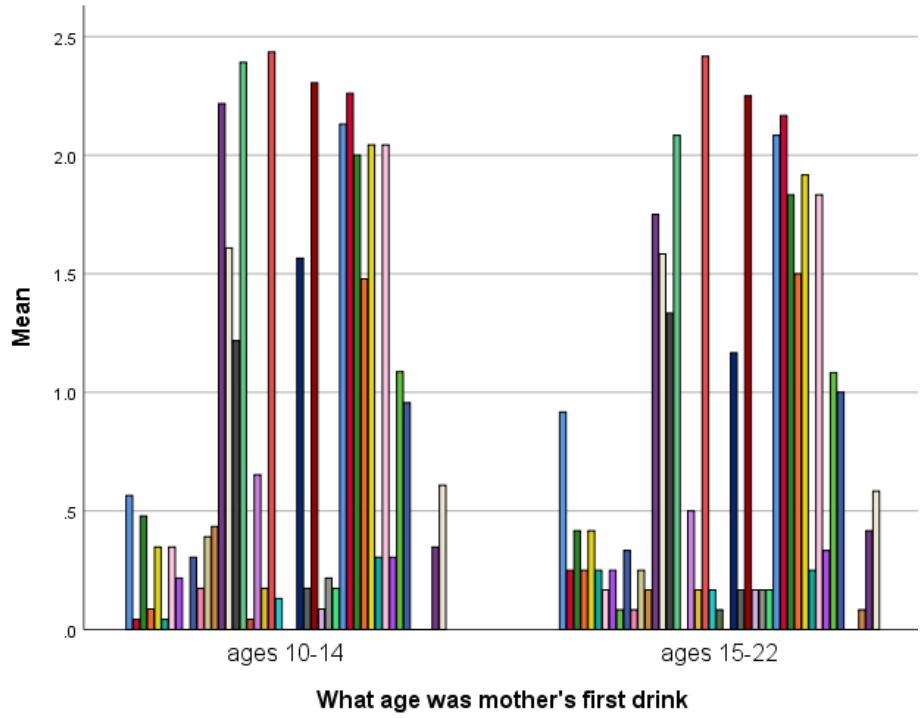
Factor 3: Attention/Focus results indicated no significant difference between (*t* (33) = 1.33, *p* = .194) younger mothers (*M* = 7.85, *SD* = 1.49) and older mothers (*M* = 7.14, *SD* = 1.66).

A second grouping was created from the question "At what age did the mother start drinking" resulting in two groups: children whose mother began drinking alcohol between ages 10 and 14 (Younger; *n* = 23) and children whose mother began drinking alcohol between ages 15 through 22 (Older, *n* = 12). An independent sample *t*-test was used to evaluate total scores from each Factor 1, 2, and 3. No difference in behavior ratings were found for children based upon the age at which the mother started drinking. Factor 1(EF/Impulse Control) showed no significant difference between; (*t* (33) = -1.72, *p* = .094.) mothers who reported first drinking at ages 10-14

(*M* = 1.35, *SD* = 1.23) and mothers who first reported drinking at ages 15-22 (*M* = 2.5, *SD* = 2.75). Factor 2 (Lack of insight) results showed no significant between (*t* (33) = .889, *p* = .380) the children of mothers who reported first drinking at ages 10-14 (*M* = 8.3, *SD* = 1.87) and children of women who reported first drinking at ages 15-22 (*M* = 7.75, *SD* = 1.48). Factor 3 (Attention/ Focus) showed no significance between; (*t* (33) = 1.100, *p* = .279) children of mothers who reported first drinking at ages 10-14 (*M* = 7.78, *SD* = 1.34) and children of mothers who reported first drinking in ages 15-22 (*M* = 7.16, *SD* = 1.95).

Figure 6

Distribution of CCFAS BeST Scores Based on Mothers First Drink Age



Note: The figure shows the varying distribution of reported responses by parents about their child's behaviors. The questions are based on the following questions: 1) Needs constant supervision and care. 2) Very manipulative. 3) Appears tired due to interrupted sleep. 4) They are in a bad mood due to interrupted sleep. 5) Can't connect cause and outcomes. 6) They are more difficult to direct in public. 7) Impulsive. 8) Unpredictable.

9) Participates in risky behavior. 10) They are vulnerable to peer pressure. 11) Needs more supervision and structure than their peers. 12) Has difficulty with handling money. 13) Reacts with exaggeration to changes. 14) Forgets about hygiene. 15) Unable to take responsibility for their actions. 16) Can follow the plan or instructions. 17) Does not abide by the social norms.

Reliability

Split half reliability (internal consistency) was used to establish reliability for the CC FAS BeST. Using Split-half reliability, the correlation between the forms (Part 1 and Part 2) was .35. Guttman Split-Half Coefficient = .499 which is lower than the desired value of .8 indicating that there is not internal consistency for the CCFAS BeST for this sample. Upon closer investigation of the response patterns, parents tended to use ratings of 1 (*sometimes*) and 3 (*always*) with the most consistency. Parents were less likely to use rating of 0s (*never*) and 2s (*frequently*) in a consistent manner.

Validity

Spanish CBCL

Demographics of the Spanish CBCL Subtest scores can be seen in Table 5. The Spanish CBLC was used to establish the concurrent validity of the CCFAS BeST total scores using a Pearson Product Moment correlation. No significant correlation was found between the CBCL subscales and the CCFAS BeST. See Table 6. Results indicate aggressive behavior has the highest mean for the sample and falls within the borderline range. Validity was not able to be established for the CCFAS BeST.

Table 5

Demographic Data for Spanish CBCL for the Sample

CBLC Subscale	M	MD	Mode	SD
Anxious Depression	4.05	4.00	3.00	1.34
Withdrawn/Depression	2.88	3.00	3.00	.718
Somatic Complaints	2.40	2.00	2.00	1.16
Social Problems	3.82	4.00	3.00	1.72
Thought Problems	2.14	2.00	2.00	1.03
Attention Problems	4.28	4.00	5.00	1.44
Rule Breaking behavior	3.62	3.00	3.00	2.26
Aggressive Behavior	5.62	5.00	4.00	2.14
Other Problems	3.42	3.00	3.00	1.35

Note: All scores, except aggression, fall within the normal range for the sample.

Table 6

Correlation with CCFAS BeST Total Scores

CBLC Subscale	R	p
Anxious Depression	.205	.119
Withdrawn/Depression	-.057	.372
Somatic Complaints	.061	.363
Social Problems	.192	.134
Thought Problems	.089	.306
Attention Problems	.253	.071
Rule Breaking behavior	.061	.363
Aggressive Behavior	.129	.230
Other Problems	-.062	.362

Chapter 4

Discussion

Cultures and the individuals within cultures differ. This is why it is important for all psychological tests, neuropsychological tests, and screeners to be normed on the culture within which an individual was raised. The fields of psychology and education began to understand this when it was discovered that there were significantly more children of color in special education class due to their low IQ scores (Dunn, 1968). Dunn found that the tests being used to obtain an IQ score was not appropriate for children from minority cultures or lower SES. Attempting to establish a reliable and valid screener for a specific behavior profile established with predominantly English-speaking parents that would be effective with Spanish first-language, Mexican and Mexican-American children was an important goal and a struggle.

The Sample

Gaining access to a sample of people who have been marginalized and oppressed proved to be a challenge even for a member of their community. Part of the difficulty had to do with the topic: prenatal exposure to alcohol. Suspicions ran high. Why did I want this information? What was I going to do with it? To complicate matters, the data were gathered during a politically tumultuous time. Many doors were closed as I attempted to gain permission to recruit. As a result, the sample secured consisted of a homogeneous group. All participants belong to the same Mexican Roman Catholic church community. Similar values, perspectives, and understanding among the participants were observed when collecting data. Nevertheless, the group was an

initial step toward norming and developing the CCFAS BeST. It allowed great insight to where the future of this research needs to go and also some difficulties regarding how to identify both cognitive and behavioral dysregulations in Mexican Children.

Moving from Spanish FAS BeST to CCFAS BeST

To create a culturally sensitive version of the FAS BeST, items that did not show correlations for the pattern of responding were eliminated (.00 to .006). Only items that displayed higher correlations were retained. Once items from the original translated FAS BeST that had some correlation in the pattern of responding were found and the factor analysis was able to be calculated, it was thought that this shorter screener must be culturally consistent, at least to a greater extent than the full Spanish FAS BeST. The factor analysis was completed

Three Factors

Research has identified that the cognitive limitations and behavioral dysregulations are invisible effects of FAS (Seiders et al., 2017). An example is the difficulties in the ability to process, understand, and apply information, and behavior difficulties that results from executive functioning and impulse control dysregulation are observed (Sullivan, 2014). The three factors found in this study appear to be possible subtests of the CCFAS BeST that may screen for cognitive and behavioral characteristics of FAS. The three factors were created of items that were reported at a higher rate by parents.

Factor 1: Executive Functioning: Impulse Control

Factor 1 behaviors included executive functioning and impulse control abilities. Characteristics such as being vulnerable to peer pressure, difficult to direct in public than at home, needing constant supervision, changes in mood due to interrupted sleep, emotionally volatile, confabulated lies, and highly manipulative comprise this first factor. These are all

behaviors that stem from deficits in a child's executive functioning. More in-depth analysis of this factor indicated that when mothers were younger when they had the child, they reported higher scores for this area. The age at which the mothers' began drinking did not appear to effect the behavior of the children.

Factor 2: Lack of Insight

Factor 2 behaviors consisted of reported "lack of insight" behaviors. Characteristics such as unpredictable, does not keep up with hygiene, cannot take responsibility for their actions, vulnerable to depression, takes the road of less resistance, and immediate gratification comprise this factor. These behaviors are ones that cause a child or adolescent to experience difficulty with social relationships. Behaviors that result from these difficulties will lead to being left out of social groups, teased, and bullied. Results identified higher scores when mothers reported "first alcoholic drink" at an earlier age and when giving birth at an early age. Again the age at which the mother began drinking did not affect scores on this factor.

Factor 3: Attention/Focus

Factor 3 was developed from questions that were oriented towards attention and focus. Behaviors such as cannot follow the plan, easily overwhelmed, unexplained mood changes, behavior does not change with constant consequences, takes the path with less resistance, and seems undisciplined were included in this factor grouping. These are behaviors that will often result in difficulties at school, challenges in completing homework, keeping up academically, and being successful. These behaviors are also those that are most likely to have a child or adolescent incorrectly diagnosed as having ADHD. Outcomes in this component indicated that mothers who started drinking at a younger age reported varied behaviors about their child.

The development of the FAS BeST tool has specifically been constructed by parent and caregiver reports of higher levels of supervision for the child, difficulty connecting cause and effect, a lack of impulse control, organization, and understanding daily information (Colunga et al., 2017). In the current CCFAS BeST, all three factors are constructed of behaviors that are a profile for children with prenatal exposure to alcohol.

Young Mothers and Young Drinking Ages

The study's second hypothesis, The Spanish Language FAS BeST (CCFAS BeST) will differentiate children with prenatal exposure to alcohol (suspected or confirmed) from those children without PEA. In the sample there were no identified children who were suspected or confirmed with PEA. In the demographic questionnaire, I attempted to screen for possible reports from both mothers who drank while pregnant and fathers who drank excessively. The questions used ranged from reported age of mother and father's first drink, any consumption of alcohol during pregnancy, when mother first learned of her pregnancy, to any other uses of substance or medications during pregnancy. Based on these questions I looked at mothers who drank early and fathers who used alcohol frequently. The application of the three factors to screen for FAS behaviors were used, and we were unable to determine if any of the children were prenatally exposed. I also asked if the mother consumed alcohol during pregnancy. The full sample denied the mother drank during pregnancy. The study also used mothers reported first drink to help screen for behavioral characteristics in the children. The patterns of responses are interesting but not significant differences in behavior based upon the CCFAS BeST were found based on when the mother started drinking alcohol.

Furthermore, when assessing young and older mothers reported age when giving birth, differences in reported behaviors in their children were seen. Children born to younger mothers

exhibit different behavior than those children born when the mother was older. It is interesting that of the sample the birth age of the mothers was 14-22 which is below the mean age of 26 for the majority culture in the United States. These findings differ from current literature based on mothers and FAS report results that older mothers had higher rates of children with FAS (Cannon et al., 2012). The research indicates mothers who are older were identified with higher frequency of substance use such as alcohol, tobacco, or marijuana have a higher likelihood of giving birth to a child with FAS (Cannon et al., 2012).

Lack of Reliability

Challenge to Find Consistent Response Patterns

The third hypothesis of the study, The Spanish language FAS BeST, now the CCFAS BeST, will differentiate children with PEA with a behavior profile from children with other behavioral diagnoses and those with no diagnosis. I attempted to determine if any children in the sample were suspected to have been prenatally exposed to alcohol. I was unable to confidently determine this from the questions asked.

At this moment we are not able to confirm reliability for the CCFAS BeST due to the inconsistency of behaviors rated by parents. In this study, it would have been helpful to have the parents rate their children twice, but this was not possible given the traveling distance. Therefore, a split-half reliability was used, and no reliability was found. I was unable to establish reliability with this small homogeneous sample.

CBCL Results

Previous research with the English version of the CBCL found higher scores in aggressive behavior, rule breaking, and attention in children with diagnoses of FAS and pFAS (Porter & Andrews, 2004). The results in this study did not show this pattern in this sample.

According to parent reports, their children displayed only borderline aggressive behavior. In the sample there was one child who was rated in the clinical range for anxious behaviors. Results detected three children who struggled with social difficulties. One response indicated an issue with rule breaking. No Attention problems were reported for the children in this sample.

Validity

The studies' first hypothesis, the Spanish FAS BeST (CCFAS BeST) items will correlate with the Spanish language items on the Spanish Child Behavior Checklist (CBCL; Achenbach, 2014) to establish validity of the CCFAS BeST. In the analysis of both the CCFAS BeST and Spanish CBCL did not show correlations for establishing validity for the CCFAS BeST. It was observed that Mexican parents struggled to understand and adequately report answers to the CBCL questionnaire. It is possible that behaviors in the Mexican and Mexican-American communities are not appropriately normed with the Spanish CBCL.

More than Translation is Needed

Juckett (2013) identified cultural and language deficits as contributing to the challenges for caring for the needs of the Mexican population in the U.S. It has been a misconception within Western education and research that "Spanish" is a general language that can be used within all Latino communities. This train of thought has been harmful when creating and norming assessments for Latino populations in the United States. It is essential that for this study that we dive into the cultural behaviors, norms, Mexican dialect, and perspective of children/parenthood when norming the FAS BeST. Mexican dialect has unique nuances and differences from other "Spanish" speaking ethnic groups. As researchers we have to learn these nuances and differences through the culture and norms of the Mexican population. Parenthood and childhood are different dynamics that are culturally driven within the Mexican community and tradition. It is

essential to look more carefully at these dynamics to improve the tool to detect and extract FAS behavioral characteristics.

Lastly, the perspective and worldview of a Mexican parent and child will always form their answers when reporting symptoms and behavioral characteristics of their child. Western perspective in this case will never be applicable or capture the Mexican concept of parenthood, childhood, and family dynamics. As researchers we have to learn to change our minds and deconstruct our own Western ideology to better help develop assessments as the FAS BeST for populations that have the least amount of research and resources for treatment in this area.

Limitation of this Study

Homogeneous Sample

Limitations were identified in the area of sample collection. The current sample was collected from a Roman Catholic Church where all the participants attended and lived in the same community in a small town in the Pacific Northwest. All participants seemed to have the same values, religious views, cultural views, and traditions due to their strong community connectivity to one another.

Another limitation was the inability to have a sample where participants that have been with FAS were within the sample. It would have been better to have a broad sample with participants with no to varied levels of exposure to alcohol to better test the CCFAS BeST for detecting behavioral characteristics. If this would have been the case, the outcomes of the results would have changed in regard to understanding how to better adjust and modify the tool.

Confirming exposure to alcohol in the Mexican population would have also allowed us to better understand characteristics in Mexican children to guide us in our research. This knowledge

would have given us the ability to more effectively establish reliability and validity by understanding the norm characteristics and Mexican perspective of the behaviors.

Future Directions for Research

Qualitative Study

It would be of benefit that future researchers begin with a group of Mexican Spanish speaking parents to process and talk through the screeners with them; before beginning to collect data. This initial group will help modify the cultural questionnaire, the Mexican dialect of the questions, and the meaning that the parents find from the question. It also would be of benefit to seek out and talk to parents with kids who have a confirmed diagnosis of FAS. In turn this will better the tool in order to help establish reliability and validity to then begin applying it to data collection.

Through the process of data collection and observing the inconsistency of report patterns it would be highly suggested to orient future research towards qualitative research. By making the research more qualitative you are modifying the study to be more culturally sensitive as the Mexican population seems to be more process oriented. The research should consist sitting with parents and processing the questions with them. This process will allow for the screener to better understand the cultural nuances, how to better form the questions to the Mexican population and understand the perspective of parenthood and child relationship in regard to behaviors.

It is of great importance to continue translating the CCFAS BeST tool to the Mexican Spanish dialect. As this research is just in the beginning stages of becoming normed, it still has much work to be done in order to successfully be normed into the Mexican culture. It is highly suggested that future research continues to revise the language and modify it to continue increasing the probability of establishing reliability and validity.

Expanding the tool to other Central, Southern Latin American, and Caribbean cultures is imperative. The Latino population is growing and will soon be more than half of the population in the United States (de Bustamante & Reyes-Escudero, 2018). Latino cultures are comprised of more than just Mexican's, but Puerto Ricans, Venezuelans, Nicaraguans, Cubans, Dominicans, Haitians, and so on. As we initiate this research, we also take into consideration all the other Latino populations that are in need of this tool. Future researchers should take into consideration the task norming the tool into other Latino and Caribbean cultures. This research will provide the needed resources for the hidden population going undiagnosed in our Latino populations.

Conclusion

The study has been able to look at a well-established English FAS BeST screener profile that is currently being redesigned to be culturally competent. At this time I was unable to establish validity for the CCFAS BeST compared to the CBCL or determine reliability of the tool. In order to proceed we need to better understand what the behaviors for those who have had prenatal exposure to alcohol. It is vital to understand how to pose questions to parents to ensure accuracy in screening. Therefore, we must expand this research into other Mexican communities to better gather pertinent information. It is also very important to find a Mexican population consisting of children-diagnosed with FAS in order to better guide analysis and research in finding validity and reliability for the tool.

It is crucially important to continue research in the Latino population as they have been identified as a population most often within a lower socioeconomic status, with limited support, and statistically classified as lower class or in poverty by the U.S. census. (de Bustamante & Reyes-Escudero, 2018). Taking this into consideration, we have to think about the families and communities' abilities to care for children who have FAS.

Lastly, culturally sensitive assessment tools are in great need in the United States. To adequately assess and provide treatment for the Mexican population we must begin developing tools like the CCFAS BeST to resources the population. We must learn and understand the diversity that is found outside of the Western culture to understand the Mexican population. It will take full emersion and cultural humility to continue the process of norming assessments. This process will also fulfill such a great need and provide assistance to the Mexican populations.

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Appendix A

Demographic Information

Participant Code:

Demographic Survey

Please respond to each item below as accurately as possible.

General:

1. I am completing this survey about my

   biological child
   adopted child
   foster child
   grandchild
   other _____

2. What is your child's age?

3. Does your child currently live with you? YES NO

4. Which of the following is true for your child?
   a. Only speaks English? YES NO
   b. Only speaks Spanish? YES NO
   c. Is bilingual (Spanish and English) YES NO

5. What gender is your child? _____

6. What is the age of your child? _____

7. What is the ethnicity of your child? _____

8. Which of the following is true for your child?
   a. first generation in the U.S.
   b. second generation in the U.S.
   c. third generation in the U.S.
   d. other_____
9. Do you live within a Mexican-American community? YES NO

10. Is your child adopted? YES NO

a. If yes, at what age was your child adopted? _____

Education level:

11. What is the current grade level of your child? _____
    a. Does your child receive special education services? YES NO
    b. If yes, at what age did the services begin? _____

Biological Parents:

12. What was the highest education level was completed by the child's biological mother?
    a. Middle school
    b. Some high school
    c. High school
    d. Come college
    e. Trade school
    f. College
    g. Graduate school

13. What was the highest education level was completed by the child's biological father?
    a. Middle school
    b. Some high school
    c. High school
    d. Come college
    e. Trade school
    f. College
    g. Graduate school

14. Did your child's biological mother receive prenatal care? YES NO

15. What was the health of your child's biological mother during pregnancy?
    a. good health with no problems
    b. good health with minor difficulties
    c. poor health (e.g. sick often)
    d. struggled with medications
    e. struggled with substance use.

16. When did the birth mother learn she was pregnant?
    a. First month
    b. Second month
    c. Third month
    d. Fourth month
    e. Other _____

17. What the pregnancy full term? YES NO

18. What was the age of the biological mother at the birth of this child? _____
    a. Were there any complications at birth? YES NO
       if yes, please explain _____

19. What is the birth order of your child?
    a. First child
    b. Second child
    c. Third child
    d. Other _____

20. At what age did the birth mother first drink alcohol? _____
    a. How many alcoholic drinks did she consume per week before she learned she was pregnant? _____
    b. What is her alcoholic beverage of choice? _____

21. At what age did the birth father first drink alcohol? _____
    a. Did the birth father struggle with alcohol dependence? YES NO

22. Did the birth mother use prescription medication during pregnancy? YES NO

23. Did the birth mother smoke cigarettes during the pregnancy? YES NO

24. Did the birth father smoke cigarettes? YES NO

25. Did the birth mother use non-prescription drugs during pregnancy? YES NO

    a. If yes, what were the drugs? _____

Social and Family:

26. What is your child's favorite holiday or special celebration? _____
27. Does your child enjoy
    a. Sports? YES NO
    b. Music? YES NO
    c. School? YES NO
    d. Playing with siblings? YES NO
    e. Playing with friends? YES NO

Thank you for your time and sharing information with us about your child.

Código de participante:

Encuesta Demográfica

Por favor responda a cada artículo a continuación con la mayor precisión posible.

General:

1.Estoy completando esta encuesta sobre mi
niño biológico
niño adoptado
hijo adoptivo
nieto
otro _____

28. ¿Cuál es la edad de su hijo/a?

2. ¿Su hijo actualmente vive con usted? SI NO

3. ¿Cuál de los siguientes es verdadero para su hijo?

a. ¿Solo habla inglés? SI NO

b. ¿Solo habla español? SI NO

c. ¿Soy bilingüe (español e inglés)? SÍ NO

4. ¿Qué género es su hijo? _____

5. ¿Cuál es la edad de su hijo? _____

6. ¿Cuál es la etnia de su hijo? _____

7. ¿Cuál de los siguientes es verdadero para su hijo/a?

a. primera generación en los EE. UU.
b. segundo. segunda generación en los EE. UU.
c. tercera generación en los EE. UU.
d. otro_____

8. ¿Vives dentro de una comunidad mexicoamericana? SI NO

9. ¿Su hijo está adoptado? SI NO

a. En caso afirmativo, ¿a qué edad fue adoptado su hijo? _____

Nivel de Educación:

10. ¿Cuál es el nivel de grado actual de su hijo? _____

a. ¿Recibe su hijo servicios de educación especial? SI NO

e. En caso afirmativo, ¿a qué edad comenzaron los servicios?_____

Padres biológicos:

2. ¿Cuál fue el nivel de educación más alto que completó la madre biológica del niño?

a. Escuela intermedia

b. Algo de Secundaria

c. Escuela secundaria

d. la universidad

c. Escuela de comercio

F. Universidad

g. Escuela de posgrado

3. ¿Cuál fue el nivel educativo más alto que completó el padre biológico del niño?

a. Escuela intermedia

b. Algo de Secundaria

c. Escuela secundaria

d. la universidad

c. Escuela de comercio

f. Universidad

g. Escuela de posgrado

4. ¿La madre biológica de su hijo recibió atención prenatal? SI NO

5. ¿Cuál fue la salud de la madre biológica de su hijo durante el embarazo?

a. buena salud sin problemas

b. buena salud con dificultades menores

d. mala salud (por ejemplo, enfermo a menudo)

e. luchó con medicamentos

f. luchó con el uso de sustancias.

6. ¿Cuándo supo la madre biológica que estaba embarazada?

a. Primer mes

b. Segundo mes

c. Tercer mes

d. Cuarto mes

e. Otro _____

7. ¿Cuál es el embarazo a término? SI NO

8. ¿Cuál era la edad de la madre biológica en el nacimiento de este niño? _____

a. ¿Hubo complicaciones al nacer? SI NO

En caso afirmativo, explíquelo por favor _____

9. ¿Cuál es la orden de nacimiento de su hijo?

a. Primer hijo

b. Segundo hijo

c. Tercer niño

d. Otro _____

10. ¿A qué edad la madre biológica bebió alcohol por primera vez? _____

a. ¿Cuántas bebidas alcohólicas consumió por semana antes de saber que estaba embarazada? _____

segundo. ¿Cuál es su bebida alcohólica de elección? _____

11. ¿A qué edad el padre biológico bebió alcohol por primera vez? _____

a. ¿Luchaba el padre biológico con la dependencia del alcohol? SI NO

12. ¿La madre biológica usó medicamentos recetados durante el embarazo? SI NO

13. ¿Fumaba la madre de nacimiento cigarrillos durante el embarazo? SI NO

14. ¿El padre biológico fumaba cigarrillos? SI NO

15. ¿La madre biológica usó medicamentos sin receta durante el embarazo? SI NO

a. Si es así, ¿cuáles fueron las drogas? _____

Social y familia

16. ¿Cuál es la fiesta favorita o celebración especial de su hijo? _____

17. ¿Su hijo disfruta

a. ¿Deportes? SI NO

b. ¿Música? SI NO

c. ¿Colegio? SI NO

d. Jugando con hermanos? SI NO

e. ¿Jugando con amigos? SI NO

Gracias por su tiempo y compartir información con nosotros sobre su hijo.

Appendix B

FAS BeST Tool Spanish

Marque con un círculo el número que identifique más de cerca la frecuencia con la que el niño o adulto con anormalidades del cuerpo calloso muestra el comportamiento enumerado.

Frecuencia	Nunca	Aveces	Frecuentemente	Siempre
1. Necesita contante supervisión o cuidado	0	1	2	3
2. Es altamente manipulador	0	1	2	3
3. Se nota cansado de sueño interrumpido	0	1	2	3
4. De mal humor causado por el sueno interrumpido	0	1	2	3
5. No puedo conectar la causa y resultado	0	1	2	3
6. Es mas difícil de dirigir en publico que en casa	0	1	2	3
7. No puede distinguir el concepto de amigo o enemigo	0	1	2	3
8. Es impulsivo	0	1	2	3

9. Impredecible 0 1 2 3

10. Participa en comportamientos peligrosos

0 1 2 3

11. Aparece desesperado para excitación

0 1 2 3

Frequencia Nunca Aveces Frequentemente Siempre

11.Es vulnerable excesiblemente a la presión de los amigos.

0 1 2 3

13. Ensena comportamiento antisocial.

0 1 2 3

14. necesita más estructura y supervisión que sus compañeros

0 1 2 3

15. Tiene problemas de aprendizaje o usando conceptos de tiempo

0 1 2 3

16. Tiene dificultad manejando dinero

0 1 2 3

17. reacciona con exageración a los cambios

0 1 2 3

18. es vulnerable a las promociones de ventas

0 1 2 3

19. No se ocupa de las necesidades de higiene

0 1 2 3

20. No puede tomar responsabilidad por sus acciones

0 1 2 3

21. No puede seguir el plan de acción de manera consistente

0 1 2 3

22. No sigue las reglas de la sociedad

0 1 2 3

23. Vulnerable a la depresión

0 1 2 3

24. Vulnerable al estrés y la sobrecarga

0 1 2 3

25. Mentiras / confabulados

0 1 2 3

Frequencia_____Nunca_____Aveces_____Frequentemente_____Siempre

26. Roba a los miembros de la familia

0 1 2 3

27. Parece ser más capaz

0 1 2 3

28. Emocionalmente volátil; tiene explosiones

0 1 2 3

29. Violento hacia los objetos

0 1 2 3

30. Violento hacia las personas

0 1 2 3

31. Vacío del nivel normal de empatía por los demás

0 1 2 3

32. Cambios de humor inexplicables

0 1 2 3

33. El comportamiento no mejora con constante consecuencias

0 1 2 3

34. Parece inocente cuando se lo confirma culpable

0 1 2 3

35. Continúa negando la culpa cuando se enfrenta con evidencia indiscutible

0 1 2 3

36. Egocéntrico: actúa sobre necesidades propias primero

0 1 2 3

37. Incapaz de mantenerse enfocado en la tarea

0 1 2 3

38. Actitud independiente hacia su propio comportamiento y sus consecuencias

0 1 2 3

39. Toma el camino de menor resistencia

0 1 2 3

40. vive en el momento

0 1 2 3

41. Elige gratificación inmediata

(No puedo esperar para obtener un mayor beneficio)

0 1 2 3

42. No muestra remordimiento (no disculpa por hacer algo mal)

0 1 2 3

43. reconocido por otros como deshabilitado

0 1 2 3

44. Parece indisciplinado independientemente de disciplina consistente / consecuencias

0 1 2 3

45. Carismático 0 1 2 3

46. No guarda rencor 0 1 2 3

47. No obtiene la imagen completa

0 1 2 3

48. No entiende lo que se espera

0 1 2 3

49. depredador-- plan para dañar a otros

0 1 2 3

50. Diagnosticado con otro trastorno de salud mental

0 1 2 3

51. Se enoja cuando se enfrenta con hacer mal

0 1 2 3

52. Piensa que él / ella es la excepción a cada regla

0 1 2 3

Frequencia Nunca Aveces Frequentemente Siempre

53. Tiene problemas para recordar las reglas de un día a otro

0 1 2 3

54. Tiene dificultad para entender no verbal comunicación (por ejemplo, mirada a los ojos, expresión facial, lenguaje corporal)

0 1 2 3

55. Tiene dificultad para usar la comunicación no verbal (por ejemplo, la mirada a los ojos, la expresión facial, el lenguaje corporal)

0 1 2 3

56. Tiene dificultad para desarrollar relaciones entre pares

0 1 2 3

57. Busca compartir el disfrute o los intereses con otros (por ejemplo, al compartir objetos de interés)

0 1 2 3

58. Muestra toma y daca social y emocional

0 1 2 3

59. Es capaz de comunicar adecuadamente los deseos

0 1 2 3

60. Es capaz de iniciar y mantener una conversación

0 1 2 3

61. Se involucra en un lenguaje repetitivo

0 1 2 3

62. Se involucra en juegos imaginarios o imitativos

0 1 2 3

63. Excesivamente preocupado con un específico interesar

0 1 2 3

Frequencia	Nunca	Aveces	Frequentemente	Siempre
64. Se involucra en rutinas o rituales no funcionales	0	1	2	3
65. Se involucra en movimientos motores repetitivos (por ejemplo, aleteo de manos, girar)	0	1	2	3
66. Tiene preocupación con partes de objetos	0	1	2	3
67. Muestra un nivel inapropiado de amabilidad o familiaridad con extraños	0	1	2	3
68. Interrumpe a otros o cambia inesperadamente el tema durante las conversaciones	0	1	2	3
69. Es más activo físicamente que otros de la misma edad	0	1	2	3
70. Deja las tareas sin terminar	0	1	2	3
71. Busca / disfruta del contacto físico	0	1	2	3
72. Se introduce en el espacio personal de otras personas	0	1	2	3
73. Tiene pensamientos obsesivos	0	1	2	3
74. Fácilmente molesto con los cambios en la rutina	0	1	2	3

75. Hace una mala interpretación de las señales sociales en forma de reacciones demasiado agresivas hacia los compañeros

0 1 2 3

76. Tiene una reacción retardada a las lesiones

0 1 2 3

Frequencia	Nunca	Aveces	Frequentemente	Siempre

77. Parece ser torpe

0 1 2 3

78. Ha retrasado la respuesta a las instrucciones

0 1 2 3

79. Tiene dificultad para tomar la perspectiva de otra persona (p. Ej., Reacción exagerada cuando alguien la golpea, suponiendo que sea a propósito)

0 1 2 3

80. Evita el contacto visual

0 1 2 3

¿Hay alguna otra característica importante que piense que debería agregarse a esta lista? Si es así, enumere a continuación.

Appendix C

Informed Consent Forms

Informed Consent Form

Experiment: *FASD: Mexican and Mexican-American Population in the Northwest*

Principal Investigator: Ana Colunga-Marin and Glena L. Andrews, Ph.D.

DESCRIPTION OF STUDY AND INSTRUCTIONS TO PARTICIPANT

This study is an investigation of the behavioral traits that are found with children and adolescents diagnosed with Fetal Alcohol Syndrome or Fetal Alcohol Effects in Mexican and Mexican-American population. The frequency, severity and quantity of behavior traits will be studied in relation to early environmental influences. The data will be used to norm the Spanish FAS BeST tool to Mexican and Mexican-American population.

One demographic survey and two behavioral trait surveys will be completed. All three can be completed in approximately 30 minutes. The demographic survey provides information about the child and her or his birth mother. The first behavioral survey is the *Spanish Child Behavior Checklist* which is a standardized inventory used for children and adults with a variety of cognitive and behavioral difficulties. The second behavioral survey is one designed to study the behavioral traits often found in children diagnosed with FAS/E.

This study involves no known risk. All information will be kept confidential. Data will be studied and reported in groups not individually. Ethical guidelines as detailed by APA are being heeded.

Participation in this study is for the purpose of furthering scientific knowledge. You may withdraw from the study at any time. The experimenters are willing to answer questions you may have at any point in the study.

STATEMENT OF AGREEMENT TO PARTICIPATE

In signing this form, I agree to serve as a participant and complete the surveys described above. I have read/been read the description and have been informed as to the nature of this study and procedures involved. I understand the study involves no known risks and I may withdraw at any time without prejudice.

_____ _____

Signature of Participant Date

_____ _____

Signature of Experimenter Date

Consentimiento

El Estudio: *FASD: Población Mexicana y Mexicano-Americana En El Noroeste*

Investigador: Ana Colunga-Marin and Glena L. Andrews, Ph.D.

DESCRIPCIÓN DEL ESTUDIO E INSTRUCCIONES PARA EL PARTICIPANTE

Este estudio es una investigación de los rasgos de comportamiento que se encuentran con niños y adultos diagnosticados con el Síndrome de Alcohol Fetal o Efectos del Alcohol Fetal en la comunidad de Mexicanos y Mexicanos-Americanos. La frecuencia, gravedad y cantidad de rasgos de comportamiento se estudiarán en relación con las influencias ambientales tempranas. Estos datos se usarán para establecer una norma estadística par la herramienta de Alcohol Fetal o Efectos del Alcohol Fetal.

Se completará una encuesta demográfica y dos encuestas de rasgos de conducta. Los tres pueden completarse en aproximadamente 30 minutos. La encuesta demográfica proporciona información sobre el niño y su madre biológica. La primera encuesta de comportamiento es la Lista de verificación de comportamiento infantil, que es un inventario estandarizado utilizado para niños y adultos con una variedad de dificultades cognitivas y de comportamiento. La segunda encuesta de comportamiento es una diseñada para estudiar los rasgos de comportamiento que a menudo se encuentran en los niños diagnosticados con FAS / E.

Este estudio no implica ningún riesgo conocido. Toda la información se mantendrá confidencial. Los datos serán estudiados e informados en grupos, no individualmente. Las pautas éticas detalladas por APA están siendo atendidas.

La participación en este estudio es con el propósito de promover el conocimiento científico. Puede retirarse del estudio en cualquier momento. Los experimentadores están dispuestos a responder preguntas que pueda tener en cualquier momento del estudio.

DECLARACIÓN DE ACUERDO PARA PARTICIPAR

Al firmar este formulario, acepto servir como participante y completar las encuestas descritas anteriormente. He leído / leído la descripción y he sido informado sobre la naturaleza de este estudio y los procedimientos involucrados. Entiendo que el estudio no implica riesgos conocidos y que puedo retirarme en cualquier momento sin perjuicio.

_____ _____

Firma De participante Fecha

_____ _____

Firma De Investigador Fecha

Appendix D

Curriculum Vitae

Ana Colunga-Marin

EDUCATION

George Fox University
Newberg, Oregon
Doctoral Candidate in Clinical Psychology August 2016- Anticipated May 2021
Dissertation: *Norming the Fetal Alcohol Syndrome Disorder Screener to Latinx populations*
Committee Chair: Glena Andrews, PhD, MSCP, ABPP

George Fox University
Newberg, Oregon
Master's Degree in Clinical Psychology May 2018

Northwest Nazarene University
Nampa, Idaho
Bachelor of Arts in Psychology August 2011- December 2015
Senior Research Project*: An Investigation of Fetal Alcohol Syndrome Disorders*
Faculty Advisor: Glena Andrews, PhD, MSCP, ABPP

LANGUAGE SKILLS

Spanish
Fluent and able to write in Spanish and English. Experience in conducting psychotherapy and comprehensive cognitive assessments in Spanish

CLINICAL EXPERIENCE

Jackson Health System Clinical Health Psychology Program at the University of Miami Miller School of Medicine July 2020- July 2021

Title: Jackson Adult Outpatient Center for Behavioral Medicine, Intern Chief
Population: Adults ages 20 to 75 years old, with disabilities and acquired disabilities, African American, Afro-Latinx, Latinx, Caucasian, and Caribbean. Wide array of medical conditions (e.i. cancer, HIV, heart condition, transplant patients, chronic kidney failure, stoke victims). In addition, inpatient and outpatient services are provided to patients experiencing severe chronic

psychosis, suicide ideation, substance abuse, and complex trauma. Serve the outpatient and inpatient patients.
Role: Providing 55minute long individual psychotherapy, and group therapy in Spanish or English to a diverse and underserved population in the outpatient clinic. Additionally, clinical consults are provided to inpatient hospitalization to provide diagnostic clarification, suicide risk assessments, and coping skills. Psychological evaluations assessments are also provided to patients needing diagnostic clarification, assessment of global cognitive functioning, ADHD evaluations, and severe psychosis.
Supervisor: Dr. Clara Lora Ospina, Psy.D and Dr. Keith Lit, PhD

Latinx Community Mental Health Services January 2019- June 2020
Portland Mercado/ United Methodist Church, Beaverton, Oregon
Title: Behavioral Health Specialist
Population: Latinx; recent immigrants and undocumented citizens
Role: We are providing mental health services to the Latino/a population; more specifically the undocumented population. All services, including therapy are provided in Spanish. Group therapy with parents have are provided. Children and adults have been seen at this site.
Supervisor: Glena Andrews, PhD, MSCP, ABPP

Oregon Health & Science University (OHSU)- Richmond Clinic May 2019 – June 2020
Portland, Oregon
Title: Neuropsychology Psychometrist
Population: Neurodevelopmental and Neurocognitive differences across the lifespan
Role: Intake reports and neuropsychological evaluations for the clinic population. Many complex medical presentations, in addition neurocognitive disorders, Traumatic brain injuries, Alzheimer's and Dementia, and learning disorders are commonly seen.
Supplemental: Conduct full comprehensive evaluations in English and in Spanish
Supervisor: Joan Fleishman, Psy.D., & Glena Andrews, PhD, MSCP, ABPP

Oregon Health & Science University (OHSU)- Richmond Clinic July 2018-May 2019
Portland, Oregon
Title: Practicum Behavioral Health Consultant (BHC)
Population: Community Primary Care; low income and indigent, Lifespan population
Role: Provide 20 to 30 minute behavioral health interventions for patients to the clinic that are experiencing mental health that is causing distress on the physical health. The site also provided opportunity for long term patients and 1-hour interventions with patients. BHC was also provided the opportunity to work within a health system, and a team of medical and behavioral health providers. The population serviced at this location is low socioeconomic. Commonly seen patients within this population are from ethnic diversity, wide range trauma, mental health disorders, and health implications.
Supervisor: Joan Fleishman, Psy.D.

Behavioral Health Crisis Consultation Team January 2018- May 2020
Yamhill County, Oregon
Title: Behavioral Health Consultant, QMHP
Population: Individuals in crisis and at risk of harm to self and others

Role: Conduct risk assessments and crisis management in the Emergency Department, ICU, and Medical/Surgery for individuals at risk of harm to self or others, inability to care for self, or active psychosis .
Supervisors: Mary Peterson, Ph.D, Joel Gregor, PsyD, Luann Foster, PsyD, and William Buhrow, PsyD

Rural School Behavioral Health Consortium September 2017-June 2018
St.Paul, Oregon

Titile: Practicum Therapist
Population:
Role: Provided individual therapy for 20 to 30 minutes with clients. I ran 4 groups; 2 of the groups I developed, the other 2 are for a hospital-affiliated Grant to promote health lifestyle choices. I also provided comprehensive cognitive, psychosocial, and achievement assessments for referred students in the districts.
Supervisors: Elizabeth Hamilton, PhD.

Pre-Practicum January 2017 -April 2017
George Fox University Doctorate in Clinical Psychology Program
Newberg, Oregon

Titile: Pre-Practicum Therapist
Population: Undergraduate students at George Fox University
Role: Provided simulated therapy to two undergraduates students using person-centered therapy. All sessions were video recorded and reviewed by the clinical supervisor and 4th student supervisor.
Supervisors: Glena Andrews, PhD, MSCP, ABPP and Zeke Sanders, M.A.

Gem State Developmental Center December 2012- March 2015
Nampa, Idaho

Title:
Population: Intellectually and Developmentally Disabled youth. Children and adolescents were mainly serviced at this center. Majority of the patients were European Americans from low to middle class households.
Role: Rehabilitative intervention, assisting kids in meeting their goals.
Supervisor: Anna Crane, LCSW.

CONSULTATION EXPERIENCE

Oregon Health & Sciences University (OHSU) January 2019- May 2019
Portland, Oregon

Title: Organizational Consultant
Population: Medical providers and outpatient primary care system
Role: Created and administered a qualitative and quantitative questionnaire to help understand BHC support to medical staff (communication, medical staff and BHC satisfaction, BHC need) to provide feedback and recommendations to OHSU selected locations.

Supervisors: Marie Goodworth, PhD & Joan Flieshman PsyD

Undergraduate Latinx Minority Consultation Group 2016-2017
Newberg, Oregon

Title: Consultation, Psychotherapy Group Facilitator
Population: Latinx undergraduate students
Role: Provided consultation to the university administration to develop better support to minority students and to increase their psychological wellbeing.
Supervisor: Glena Andrews, PhD, MSCP, ABPP

RESEARCH and PRESENTATIONS

October 2020

Colunga-Marin. A., (2020). *Case Conceptualization through a Person Centered Theoretical Orientation*. Presented at Jackson Behavioral Health Clinic, Miami FL.

July 2019

Colunga-Marin. A., Rich-Wimmer, N., Miller, L. , Mendoza, M., Coleman, K., & Andrews, G. (2019). *Neurophysiological responses to interpersonal conflict and the limited understanding of effects on the Latin American Population*.
Accepted for Poster Presentation at the 2019 International Neuropsychological Society(INS), Rio De Janeiro, Brazil.

Rich-Wimmer, N., Napier, L., **Colunga-Marin., A**., Shuttock, M., Gibson, E., Andrews, G., & Spromberg, C. (2019). *Responses to shame: Exploring physiological response of men of color*. Accepted for presentation at the International Neuropsychological Society Meeting and SBNp Congress, Rio de Janeiro, Brazil.

November 2018

Colunga-Marin, A., & Andrews, G. (Nov, 2018*). Fetal alcohol spectrum disorders: Awareness in Caribbean Culture*. Accepted for presentation at the Caribbean Region Conference of Psychology, Jamaica.

October 2017

Colunga-Marin. A., Shim. P., Nyung. A., & Wade. L.(2017). *Minority Experiences in Graduate School*. Accepted for Panel Presentation at the 2017 Asian American Psychological Association Conference, Las Vegas, Nevada.

October 2017

Colunga, A., Seiders, J., Mara, T, & Andrews, G. (2017) *Updated FAS BeST: Accurately Screens Children with Fetal Alcohol Syndrome*. Presented at the National Academy for Neuropsychology Annual Conference, Washington, DC.

Mara, T., **Colunga, A**., Seiders, J, & Andrews, G., (2017). *Behavioral differences between diagnoses: Fetal Alcohol Syndrome and Agenesis of the Corpus Callosum*.

Presented at the National Academy for Neuropsychology Annual Conference, Washington, DC.

Seiders, J., Mara, T., **Colunga, A**. & Andrews, G. (2017). *Updating the Reliability and Validyt of the FAS BeST: A Measure to Assist in the Treatment and Diagnosis of Fetal Alcohol Syndrome*. Presented at the National Academy for Neuropsychology Annual Conference, Washington, DC.

May 2015

Colunga, A. & Andrews, G., (2015). *An Investigation of Fetal Alcohol Syndrome*. Presented at Rocky Mountain Psychological Association Convention, Boise, ID.

August 2013- May 2014

Research Assistant
Supervisor: Glena Andrews, PhD, MSCP, ABPP
Northwest Nazarene University
The research project involved the examination of children afflicted with Fetal Alcohol Syndrome (FAS). This was performed to attempt to pinpoint onset occurrence of specific symptomology. Duties included statistical analysis of data and programming.

DISSERTATION

Norming the Fetal Alcohol Syndrome Disorder Screener to Latinx populations

Summary: Translating the tool into Spanish and culturally appropriate norms for Mexican and Mexican American population. The tool was developed to detect behavioral characteristics and neurocognitive characteristics of FAS, reported from parents, in children from ages 6 to 18 years of age for early intervention.
Committee Chair: Glena Andrews, PhD, MSCP, ABPP
Current Status: Editing Final Document.
Defense Date: May 18, 2020

TEACHING EXPERIENCE

Graduate Assistant August 2016- Present

George Fox University, Graduate Department of Clinical Psychology

Supervisor: Glena Andrews, PhD
Role: Assist Dr. Andrews with course-load (neuropsychological assessment, cognitive assessment, research, etc.) grade papers, help with planned events, organize paper work, create tests for classes, run errands, contact students.

Neuropsychological Assessment Teaching Assistant

George Fox University, Graduate Department of Clinical Psychology

Supervisor: Glena Andrews, PhD

Role: Grading assignments, holding office hours, updating course online grades, teaching and demoing neuropsychological assessments, and meeting with students to help them meet competency on performing and scoring assessments.

Introduction to Psychology Teaching Assistant March 2019
George Fox University, Undergraduate Psychology
Supervisor: Kris Kays, PsyD
Role: Teaching one class on the basics of counseling, facilitate discussion within the class, and provided space for basic skill building.

Introduction to Psychology Teaching Assistant January –May 2014-2015
Northwest Nazarene University, Undergraduate Psychology
Supervisor: Elizabeth List, PsyD
Role: Grading assignments, holding office hours, updating course online grades, teaching sections of the course.

CLINICAL TRAININGS and PROFESSIONAL WORKSHOPS

2020-2021

Jackson Health System Clinical Health Psychology Program at the University of Miami Miller School of Medicine
Clinical Seminars & Grand Rounds: Health Psychology (Chronic Pain. Psycho-oncology, Bioethics and Health Policy), Mental Health Systems, Suicide Assessments, Psycho-diagnostics, Case Conferences, Diversity trainings.

2019-2020

April 13, 2019 **Working with Immigrants and Mixed-Status People in the US: Practicing Sociocultural Attunement.**
Maria Bermúdez, PhD, LMFT

September 25, 2019 **Promoting Forgiveness**
Everett Worthington Jr., PhD

2018-2019

March 20, 2019 **Foundations of Relationships Therapy-The Gottman Model**
Douglas Marlow, PhD

February 13, 2019 **Opportunities in Forensic Psychology**
Diomaris Safi, PsyD and Alex Millkey, PsyD

October 10, 2018 **Old Pain in New Brains**
Scott Pengelly, PhD

September 26, 2018 **Spiritual Formation and the Life of a Psychologist: Looking Closer at Soul-Care**
Lisa Graham McMinn, PhD and Mark McMinn, PhD

2017-2018

March 14, 2018 **Integration and Ekklesia**
Mike Vogel, PsyD

February 14, 2018 **History and Application of Interpersonal Psychotherapy**
Carlos Taloyo

November 8, 2017 **Telehealth**
Jeff Sordal, PsyD

October 11, 2017 **Using Community Based Participatory Research (CBPR) to Promote Mental Health in American Indian/Alaska Native (AI/AN) Children, Youth and Families**
Eleanor Gil Kashiwabara, PsyD

2016-2017

March 1, 2017 **Domestic Violence: A Coordinated Community Response**
Patricia Warford, PsyD and Sgt. Todd Baltzell

February 8, 2017 **Native Self Actualization: It's assessment and application in therapy**
Sydney Brown, PsyD

November 9, 2016 **When Divorce Hits the Family: Helping Parents and Children Navigate**
Wendy Bourg, PhD

October 12, 2016 **Sacredness, Naming and Healing: Lanterns Along the Way**
Brooke Kuhnhausen, PhD

PROFESSIONAL AFFILIATIONS

2013- Present	American Psychological Association, Student Member
2016- Present	Society for the Psychological Study of Culture, Ethnicity and Race (Div. 45 of APA)
2016- Present	National Latina/o Psychological Association
2016- Present	Association of Black Psychologists
2016- Present	Asian American Psychological Association
2016- Present	Society of Indian Psychologists
2016- Present	Psi Chi, George Fox University GDCP Chapter

2017- Present	National Academy of Neuropsychology
2017-Present	Hispanic Neuropsychological Society
2018-Present	International Neuropsychological Society
2019-Present	Sociedad Latino-Americana de Neuropsicologia

LEADERSHIP and PROFESSIONAL SERVICE

Jackson's Behavioral Health Hospital Psychology Department
Miami, Florida

Chief Intern for the 2020-2021 internship year. The role is a leadership position where you work closely with interns, faculty, medical providers to meet the continuous changing needs of the patient population and the medical system. It also requires communication and advocating skills for the needs of the interns to the faculty. The role also provides the opportunity to learn how to navigate systems.

Medical Translation at St. Luke's and St. Alphonsus Hospital
Boise, Idaho

Provided Spanish translation in community and medical settings for families and youth to mitigate the impacts of language brothering for youth

Education Mentoring at Northwest Nazarene University
Nampa, Idaho

Mentoring Latinx youth about higher education and how to navigate the process of application, admission, and FAFSA process.