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LEARNING STYLES OF GENERATION Z LATINOS: A MIXED-METHODS
EXPLORATORY STUDY OF TWO COHORTS
OF BUSINESS UNIVERSITY STUDENTS

by

ANGELA GUZMÁN PALACIOS, PHD

A DISSERTATION

Presented to the Faculty of the University of the Incarnate Word
in partial fulfillment of the requirements
for the degree of

DOCTOR OF PHILOSOPHY

THE UNIVERSITY OF THE INCARNATE WORD

May 2019

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“I am the vine, you are the branches. Whoever remains in me, with me in him, bears fruit in plenty; for cut off from me you can do nothing.” John 15:5. Gracias, Papá Dios!

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Latina students who let me interview them. I was honored to have been able to see a little bit of your journey. ¡Sigamos adelante!

Angela Guzmán Palacios

DEDICATION

A mi abuelo Francisco, a mi abuela Serafina, y a mi adorado papito Alfredo.

A mi razón de vivir: Francesca.

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Angela Guzmán Palacios, PhD

University of the Incarnate Word, 2019

The Latino population is projected to double by 2060 (U.S. Census Bureau, 2017), while current bachelor degree attainment for Hispanics continues to hover around a stubborn low 12% (NCES, 2017). Additionally, research on Generation Z Latino learning preferences is sparse. At the same time, studies have shown that knowing about learning styles and culture can have positive impacts on learners' academic performance and teachers' classroom management ability (Nieto, 2004; Reese, Jensen, & Ramirez, 2014). Therefore, studying learning styles and culture can help prepare educators better to fulfill this generation's needs by enabling them to integrate cultural accommodations into their teaching. The purpose of this mixed-methods study was to study the learning styles of two cohorts of Generation Z Latino students, one at a south Texas university and one at a Bolivian university, and explore the role of cultural factors on their learning styles.

This mixed methodology study combined Hofstede, Hofstede, and Minkov's Values Survey Module and Felder and Silverman's Learning Styles Inventory, in addition to demographic questions. The two cohorts studied were comprised of Latino university students who were majoring in business or related majors and were born on 1996 or later. Survey data from the 264 participants who completed the survey were analyzed in SPSS using descriptive analytics, t-tests, and a two by two factorial ANOVA test. Additionally, 25 interviews were

conducted with Latina female students. Similar to the survey participants, interview participants were also majoring in business or related majors and were born on 1996 or later. The 1.5-hour interview was conducted individually and included an arts-based activity. The recorded interviews were then transcribed. The study used grounded theory to analyze the qualitative data.

Regarding cultural dimensions, the south Texas and the Bolivian cohorts ranked on the low range in masculinity, low range in long-term orientation, and low range in individualism. Both groups ranked mid-range in indulgence versus restraint. However, the Bolivian cohort ranked extremely low in power distance. The U.S. cohort ranked mid-range on the power distance dimension. Furthermore, analysis of the data revealed both groups preferred the visual, sensing, sequential, and active learning styles. Additionally, t-tests revealed there was a significant difference in the sequential-global scales at the south Texas university ($M = 12.74, SD = 3.810$) and the Bolivian university ($M = 14.38, SD = 3.994$); $t(263) = 2.77, p = .0006$. An interaction between culture and gender was found to be significant, $F(1,261) = 7.377, p = .007$ on the sensing-intuitive dimension.

The qualitative analysis revealed family cohesiveness nature as a way to interact with the world, food and celebration as a way to strengthen community, and values as foundational cultural themes. Regarding generational factors, the following matter to Generation Z participants: price, quality, comfort, looks, and friendliness. Generation Z's relationship with technology was found to be intimate. However, participants recognized the excessive use of mobile devices principally could be problematic since it could interfere with maintaining relationships with others. Participants' beliefs about learning were categorized on the following categories: beliefs about their life journey, beliefs about self, beliefs about individuals in the classroom, and beliefs about learning preferences. Learning beliefs were found to link back to

cultural and generational themes and reflected the cultural dimension, learning styles scores, and generational preferences. The theory generated proposed that culture and generation served to form the basis of a foundational paradigm. Family, nature, food, and values generated a certain set of core beliefs that the participants held. The participants' beliefs about learning could all be connected back their core beliefs. Learners' learning beliefs were critical because they constituted a set of expectations, motivations, and ultimately behaviors. As a result of understanding learners' preferences and beliefs, recruiters, instructional designers, educators, and researchers could make potential modifications and cultural accommodations for Latino learners. One of the limitations of this study was the sample size.

Additionally, the study was limited to two universities and one field of study. Also, participants were successful students and were from the first wave of Generation Z students. Future research may expand on this topic by focusing on specific sets of beliefs, focusing on male Generation Z students, conducting similar studies in other Latino countries, and including a cohort of Anglo students.

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Chapter 1: Overview

The population of the United States is said to be undergoing a demographic reshaping (Taylor, 2015). The millennial generation was touted as the largest cohort, larger even than the baby boomer generation (Geiger, 2016). However, according to 2017 estimates based on U.S. Census Bureau data, Generation Z is now comprised of approximately 80 million members. This would make Generation Z larger than the millennial generation. Additionally, Generation Z would represent 25% of the general population.

While each generation is deemed to be very different from the previous generation, statistics show that this is particularly true today partially due to the rapid changes in technology that have had a role in people's lives and lifestyles (Taylor, 2015). Marketers, who are ready to tap into their \$44 billion buying power, have deemed it critical to understand how members of Generation Z think, how they learn, and their motivations and assumptions (CBS News, 2018). Similarly, in order better to serve Generation Z's needs, educators and administrators are already trying to understand their preferences (Rickes, 2016; Zorn, 2017).

Generation Z is also the most diverse of all living generations, with Anglo individuals accounting for just 55% of the total (Bernstein, 2015). Moreover, based on U.S. Census data as of 2017, 37% of Generation Z members are estimated to be Latino. Because of the growing cultural diversity in America, it behooves educators to move beyond the broad strokes that are normally applied to the entire generation persona. Delving into generational nuances, which may apply to certain subcultures or ethnicities in America, could enable educators better to serve the needs of a diverse student body. To that end, this research focused on the learning styles of Latino Generation Z university students. Latino would be individuals whose families or themselves originated from a Spanish-speaking country. For this research, participants were

deemed Latino if they responded affirmatively to a question in the survey that asked if they considered themselves Latino.

Generation Z can be better understood by taking a brief look at the preceding generation. Millennials were said to be very different from prior generations because of the impact that technology had on them. In fact, the term “digital natives” was coined by Prensky to describe millennials’ relationship to digital technology (2001). If millennials were digital natives, members of Generation Z have been referred to as millennials on steroids to connote their full immersion in technology (Kane, 2017). Millennials were said to be shaped by watershed moments in history that helped form their generation persona (Smith, 2015). Millennials have been described as sheltered, entitled, over-confident, goal-oriented, ambitious, multi-tasking, not comfortable asking questions, have a preference for experiential learning, and needy for nurturing feedback (Barnds, 2009; DiLullo, McGee, & Kriebel, 2011).

Based on the millennial generation’s characteristics and learning preferences, changes were recommended and made in instruction to accommodate them. Recommendations included, for example, an increase in using rewards (Monaco & Martin, 2007), the use of games, simulations, videos, smartboards, and apps (Bush & Walsh, 2011; Jones, 2012; Oblinger, 2003). Additionally, changes to physical structures were made to cater to millennials including building more comfortable living spaces in colleges, amenities geared toward their entertainment, and even changes in furniture (Selingo, 2013). Similarly, Generation Z traits and preferences will need to be identified in order for administrators and educators to be able to determine the type of accommodations or changes necessary for the incoming generation. Just as it was done for the millennial generation, accommodations may need to be made in several areas: physical

infrastructure, digital networks, services available, communication, curriculum, and teaching practices (Rickes, 2016).

For instance, taking into consideration millennials' comfort with technology, the use of software and technology in the classroom was encouraged and adopted (Forkum, 2008; Prensky, 2001). On the same subject, virtual environments, study aids, and assessment tools were embraced (DiLulio et al., 2011). Also, based on the millennials being sheltered and overly rewarded, educators were encouraged to build up praise and use rewards (Barnds, 2009; Suleman & Nelson, 2011). Additionally, millennials were said to prefer experiential learning (Bowen et al., 2011) versus lectures, step-by-step instruction, or traditional testing (Black, 2010). Lastly, millennials were said to prefer simulated environments and texts that were not linear (Tapscott, 1999).

Such broad recommendations and changes seemed to disregard the potential differences in learning styles of ethnic groups. While learning styles are "a biologically and developmentally imposed set of personal characteristics that make the same teaching method effective" (Dunn, Beaudry, & Klavas, 1989, p. 50), groups of people could have distinct learning styles. For instance, research on learning styles by field of study, age, nationality, gifted, teachers, and ethnicity found that subgroups may indeed have learning styles that are different from each other (Dunn, Dunn, & Price, 1989; Felder & Silverman, 1988). Furthermore, according to various researchers, different cultures may differ in their learning styles and preferences (Asimeng-Boahene & Klein, 2004; Dunn, 1990; Guild, 1994; Nieto, 2004). For instance, African American children may have higher skills in storytelling compared to children from other ethnicities, which could be related to the rich oral tradition of the African American culture (Gardner-Neblett, Pungello, & Iruka, 2012; Grace, Smith, & Hinchman, 2004, Guild, 1994). Obralic and Abkarov

(2012) found differences in learning styles of Bosnian and Turkish students. Turkish students preferred individual learning, while Bosnian students preferred group learning. Additionally, Allinson and Hayes (2000) found Western participants, British and German, to score higher in the intuitive learning style than Nepalese, Jordanian, and Hong Kong. That was contrary to their expectation that Western participants would be analytic and Eastern participants would be intuitors. Also, a comparative study of Chinese and American students' perceptions of teacher behaviors revealed how different both cultures ranked their professors' behaviors. That study highlighted the different cultural lenses that students use to assess and interpret teachers' behaviors (Stork & Hartley, 2011). For example, not helping a student with an assignment that was not clear was ranked number two in importance for American students versus a ranking of 11 for Chinese students. Moreover, some studies have proposed that in some Eastern cultures, a tendency for the learner to be silent in the classroom might be explained by cultural factors (Ha & Li, 2014; Hang, Mene, & Bell, 2015; Ruth, 2013).

All in all, comparative studies suggest that knowing about cultural differences and learning styles is critical, because students bring with them a set of expectations about the classroom, which might not be met. Also, with insufficient cultural understanding, a teacher may mistakenly attribute intentions to students' behaviors. For instance, a teacher might assume a silent student chooses not to participate because of lack of interest or disengagement from the classroom. However, in some Eastern cultures such as Samoan, not answering back could be a sign of respect for elders (Hang et al., 2015). Or, a teacher may mistake a learner lowering his or her eyes when spoken to for lack of respect or assume the student is purposefully trying to ignore the teacher. However, in the Latino culture, this may be a sign of respect for authority (Nieto,

2004). Therefore, recognizing and understanding cultural differences would be important for teachers to avoid potential biases arising from cultural stereotypes (McGrady & Reynolds, 2013).

Exploring how culture impacts learning styles is even more important today, given the large Latino segment of Generation Z. Studying learning styles and culture can help prepare educators better to fulfill this generation's needs by enabling them to integrate cultural accommodations into their teaching. This, in turn, may have positive consequences to teachers' classroom management ability and possibly to learners' academic performance (Nieto, 2004; Reese, Jensen, & Ramirez, 2014).

Statement of the Problem

Millennials' learning preferences have been widely studied, and their characteristics and learning preferences have been identified (Barnds, 2009; Black, 2010; Prensky, 2012). However, literature on Generation Z, the newest generation, is still emerging (Seemiller & Grace, 2016). On the other hand, a large body of literature has evolved on learning styles. That amounts to nearly 2,570 articles related to cognitive styles according to a search on ERIC EBSCO as of March 2019. Likewise, culture has been broadly studied and resulted in hallmark studies such as Hall (1976), Hofstede (2001), and Minkov (2013). However, the interplay between Generation Z learning styles and culture has not been studied extensively. According to the *Handbook of Intellectual Styles: Preferences in Cognition, Learning, and Thinking*, "few existing studies have made direct comparisons of intellectual styles among people from different cultural settings" (Zhang, Sternberg, & Rayner, 2012).

This seems to continue to apply to Latino ethnicities as evidenced by a search on ERIC EBSCO most recently performed in March of 2019 on the terms learning styles and Latino/Hispanics, which resulted in 29 peer reviewed articles from 1997 to the present. The

existing literature on the topic points to the link between learning styles and culture or ethnicity (Ried & Byers, 2009; Shirvani, 2016). Studying culturally appropriate ways to teach Latinos and incorporating their life setting, while also addressing this generations' learning preferences, is still a need (Ekiaza Nzai & Reyna, 2014; Maldonado-Torres, 2011). Furthermore, Ekiaza Nzai and Reyna (2014) found that leveraging learning styles in the classroom can have a positive impact. In their study, they used culturally responsive approaches and accommodated children's multiple intelligences in the classroom (Gardner, 1985). They found an improvement in children's academic performance.

Researchers stress the importance of addressing cultural backgrounds and incorporating relevant examples in the content to achieve effective learning (Kumi-Yeboah & Yuan, 2017; Nieto, 2004). Other researchers believe it is also critical to consider factors related to this generation's adoption of technology. Consequently, they recommend incorporating the use of technology in the classroom (Guislandi & Facci, 2013). Additionally, studies suggest matching instruction to learning styles seems positively to impact children's academic performance (Dunn, Dunn, & Price, 1989). School achievement improvements were also observed in successful examples of teaching that was responsive to aspects of the students' culture. For example, at the Kamehameha Early Education Program, teachers working with native Hawaiian children started using *talk story* when discussing texts that the class read. Talk story is a Hawaiian community event where participants collaborate on narration. Sessions where talk story was used were much more successful in terms of student engagement and participation in the discussion (Au, 1997). Another successful example was a multicultural literacy program, where content, activities, and learning styles were differentiated factoring in the culture of African American learners. It proved to be a successful modification that raised learners' performance (Gay, 2000).

Additionally, exploring the topic of culture and learning styles among Generation Z students is important given the rapid Latino population growth and education statistics about the Latino population in the United States. Looking into the future, a projection by the Census Department forecasts that Latino voters will almost triple, making up 31% of the total electorate in the year 2060 (Colby & Ortman, 2015). From the Latino population, a segment worth looking at due to its rapid growth is the Latino youth. The Hispanic population has the youngest median age, 29, when compared to other racial or ethnic populations (Krogstad & Lopez, 2015). Furthermore, approximately 800,000 Latinos reach adulthood every year (NALEO Education Fund, 2016). Currently, in the United States, 25% of children under age 5 are Hispanic; by 2050, that percentage will be almost 40% (Kotkin, 2010). As of 2015, the high school dropout rate of Hispanics reached 12%, still lagging behind the dropout rates for the rest of the population. Whereas 41% of the White population obtains a bachelor's degree or higher (Krogstad, 2016), only 12% of Hispanics do so (U.S. Census, 2017). Factors that might be difficult to impact such as poverty, parents' education, and language spoken at home, are involved. Having said that, California's 2007 STAR results found that Hispanic and African American students who were living above the poverty level still achieved lower scores than White students who were living at the poverty level (Darling Hammond, 2004). This suggests the educational gap may not necessarily be attributed to financial circumstances (Walker Tillerson, 2009). According to Gandara, factors for high school dropout rates are related to a lack of a sense of belonging (2010). The situation might be exacerbated by the discontinuity of cultures between the students' culture at home and the school they encountered at school, which could negatively impact the students' academic performance (Au, 1997; Nieto, 2004; Parsons, Travis, & Simpson, 2005). It follows then that understanding how to improve these "cultural discontinuities" in content and

learning styles may better enable educators to understand how learners from specific cultures learn. Knowing how learners from other cultures receive information, process it, and respond to it may have a positive impact on results. In a study where learning styles were matched to African American children, their state achievement test scores steadily increased from the 30th percentile to the 90th percentile in 4 years (Dunn, Griggs, & Price, 1993). As a case in point, a study of African American students, where culturally congruent values such as communalism and movement were incorporated into the instruction, showed that academic performance increased when compared to classes where cultural congruence was lacking (Parsons et al., 2005). Another study utilized the Index of Learning Styles (ILS) developed by Felderman and Silverman (1988) in an online class to match support for learners according to their learning style. Those students who had online course support, which matched their learning style, performed better (El-Bishouty et al., 2019).

The qualitative part of this study gathered data from Latina participants. By the year 2060, 1 of every 3 women will be Hispanic (Gandara, 2015). Although there have been some gains in educational attainment, as of 2013, only 75.8% of Hispanic women graduated from high school compared to an average of 90% for all other ethnic groups [National Center for Education Statistics (NCES), 2014]. Latinas surpass Latino males in bachelor's degree attainment with 18.86% versus 13.1% (NCES, 2014). However, they are still the least likely to earn a bachelor's degree when compared to any other ethnic groups. White female's bachelor's degree attainment stands at 43.8%, while 23.2% of African American women attain a bachelor's degree (NCES, 2014). Women's income increases with every additional year they stay enrolled in school (Pfeffer, 2014). Additionally, investing in women has benefits beyond the recipients, as females tend to reinvest their salaries in their families and communities (USAID, 2015). Therefore,

increasing bachelor's degree attainment by Latinas could have positive rippling effects to Latino communities.

Furthermore, this study added to the body of knowledge on Latinas' learning styles. Studies have found Latinas prefer to learn with peers and require more mobility than Mexican American boys and Anglo boys (Dunn, 1990; Dunn, Griggs, & Price, 1993). Additionally, Latinas scored higher on their internal locus of control compared to Latino males (Griggs & Dunn, 1995).

Latinas favor a visual learning style, with their least preferred sensorial intake being auditory (Shirvani, 2016). When comparing to Latino males, Harris (2014) found Latinas scored high on the connected learning style. More specifically, Latinas preferred to withhold judgement, looked for common ground in a debate, viewed the argument from various perspectives, and sought complete understanding (Harris, 2014). This study added to the understanding of Latina learning styles by conducting an exploration that considered both cultural dimensions and generational factors. Increased knowledge and implications of this study could potentially help administrators, recruiters, and instructional designers better to serve Generation Z Latinas' instructional needs.

In sum, given the current state of Latinas' educational attainment, the possible impact that education can have on their future earning potential, and consequently the potential positive impact on their families and communities, it is critical to continue striving to understand how Latinas learn. To conclude, on one hand, although Generation Z continues to be studied and their learning preferences identified, those preferences may differ among cultural and ethnic groups (Ekiaza Nzai & Reyna, 2014; Gay, 2000; Maldonado-Torres, 2011). At the same time, the Latino population is growing rapidly, but the achievement gap in education comparing Latinos and

Whites remains wide (Krogstad & Lopez, 2015). The literature on learning styles of Latinos of Generation Z is somewhat sparse (Ford, Grantham, & Whiting, 2008; Madonado-Torres, 2011; Maldonado-Torres, 2016; Próspero, Russell, & Vohra-Gupta, 2012). Additionally, there seems to be a need for more research on learning styles in business-related fields such as acknowledged by Sikkema and Sauerwein: “In spite of a significant literature thread in accounting education on student learning, relatively, little emphasis has been placed on culture-specific learning differences” (2015, p. 78). There are questions that remain unresolved and with contradictory answers (Budeva, Kehaiova, & Petkus, 2015; Liu, 2012; Maldonado-Torres, 2011; Sandman, 2014; Wierstra, Kansellar, Var Der Linden, Lodewijks, & Vermunt, 2003; Xiao, 2006), such as the following: Does culture have an impact on learning styles? Are learning styles of multicultural cohorts in the business field similar? And, does gender play a role in learning styles? This study adds to the body of knowledge regarding the impact of culture on learning styles, specifically focusing on Latino learners of Generation Z who are business students at a south Texas university.

Theoretical Framework

This study will lean on Hofstede’s (2001) work on culture and Felder and Silverman’s (1988) ILS, both of which will be briefly discussed here. Culture is defined by Hofstede as “the collective programming of the mind that distinguishes the members of one group or category of people from others” (Hofstede, Hofstede, & Minkov, 2010, p. 6). Culture can manifest itself in the following layers: symbols, heroes, rituals (outer), and values (core layer). Practices cut across layers and are visible. Hofstede’s study surveyed a large corporation’s employees in 70 countries in the years of 1963 to 1970. Later, Hofstede extended his study to 107 countries. In the 1980s, Hofstede’s study expanded a second time in cooperation with Minkov. From that comprehensive

study, several dimensions of culture emerged: power distance index (PDI), individualism versus collectivism (IDV), masculinity versus femininity (MAS), uncertainty avoidance index (UAI), long-term orientation versus short-term orientation, and indulgence versus restraint. As Hofstede described each dimension, he also explained how the dimension would manifest in philosophy, family, business, and education. A table summarizing the cultural dimensions is available in Appendix A.

Felder and Silverman (1988) developed the ILS as a result of their study to better understand why engineering students, at the university where Dr. Felder was teaching at the time, would disengage from classroom activities or would lose interest sometimes. Their study resulted in a survey instrument that assessed how students preferred to process information: active and reflective, sensing and intuitive, visual and auditory, and the dimension sequential and global. Years later, Felder decided visual and auditory would be better defined as visual and verbal that would encompass not just the spoken word, but also the written word. Felder's study has been validated (Felder & Spurlin, 2005; Litzinger, Lee, Wise, & Felder, 2007; Zywno, 2003). Felder emphasized that the dimensions were continua and evidenced behavioral tendencies. Additionally, learning styles preferences could be impacted by learners' educational experience. In other words, learning styles are not unchangeable states, but are changeable (Felder & Spurlin, 2005).

- The sensing and intuitive continuum would have, on the sensing end, preferences for concrete, practical, facts, and procedures. And, on the other end, the continuum would have abstract, theoretical, seeking meaning, and innovation.
- Visual and verbal referred to a preference for anything visual, spoken, or written.

- Active and reflective would oppose a preference for learning by doing versus learning by thinking, and a preference for working in groups versus working alone.
- Sequential and global, as the name implies, referred to learners who preferred to learn in a sequence versus holistically.

In this study, Hofstede's and Felder and Silverman's instruments were combined into one survey and administered to participants to measure their learning styles and to find where they landed as cohorts in the cultural dimensions. Both theories were also used during the qualitative analysis to shed light on both topics: culture and learning styles.

Purpose of the Study

The purpose of this mixed methods research was to investigate the learning styles of Generation Z Latinos in two university students' cohorts—one in Bolivia and one in South Texas—and explored how cultural factors may influence them. The Latino cohort in the United States might have been acculturated or influenced by the American culture to an unknown extent. Therefore, juxtaposing the Latino U.S. cohort against the Latino cohort in Bolivia—a typical Latino culture away from U.S. cultural influence due to the geographic distance—allowed discernment of specific aspects of the Latino culture that might have been similar or different between the two groups. Thus, this study had an explanatory objective that sought to identify and examine patterns between the two groups' learning styles and culture dimensions. This investigation's final product identified the plausible relationship between culture and learning styles.

Research Questions

The main research question guiding this study was: What are the learning styles of both cohorts of Generation Z students—at a Bolivian university and a south Texas university—and how does culture influence their learning preferences?

1. What are the learning styles of participants at a Bolivian university and a south Texas university?
 - a) What are the learning styles of a Bolivian university's cohort participants?
 - b) What are the learning styles of a south Texas university's cohort participants?
 - c) How do learning styles differ between the Bolivian university and south Texas university cohorts?
2. What are the cultural dimensions of the Bolivian university and south Texas university cohorts?
 - a) What are the cultural dimensions of a Bolivian university's cohort participants?
 - b) What are the cultural dimensions of a south Texas university's cohort participants?
 - c) How do cultural dimensions differ between the Bolivian university and south Texas university cohorts?
 - d) How do the Bolivian university and south Texas university cohorts' cultural dimension scores compare to the United States country scores?
3. Does gender have an impact on the learning styles at a Bolivian university and a south Texas university?
4. In their own perspectives, how do Latina participants describe their culture, generational traits, and learning preferences at a Bolivian university and a south Texas university?
 - a) How do Generation Z Latina university students describe their culture?

- b) How do Generation Z Latina university students describe what is important to them as members of Generation Z?
- c) How do Generation Z Latina university students describe their learning preferences?

Definition of Terms

These terms were used throughout the study, with the following definitions:

- Generation Z/Gen Z/Zers/Centennials. These terms are used in the literature to refer to this generational cohort of individuals born on or after 1996. In this study, the term Generation Z will be used. However, where the literature refers to them using one of the other terms, the term used in the literature will be used.
- Millennial/Generation Y/Gen Y/Gen Next. This generation includes individuals born between 1981 and 1996. The study will use the term millennial, unless a different term was used in the literature.
- Digital natives. This term encompasses individuals who grew up immersed in digital technology. These individuals would have grown up always knowing and surrounded by computers, video games, and the Internet (Prensky, 2001)
- White or Anglo. According to the United States Census Bureau, White is a person having origins in any of the original peoples of Europe, the Middle East, or North Africa (Cambridge Dictionary, n.d.; U.S. Census Bureau, 2019). In this research, the term Anglo will be used.
- Hispanic. According to the United States Census Bureau, Hispanic is a person of Cuban, Mexican, Puerto Rican, South or Central American, or other Spanish culture or origin

regardless of race (U.S. Census Bureau, 2019). The word Hispanic is mainly limited to use in the United States. The U.S. Census Bureau started to use the term

- Hispanic in the 1970s in an effort to create a separate pan-ethnic category (Mora, 2014). In this research, the term Hispanic will be used only when the literature uses it.
- Latino. This term refers to individuals whose origin is a Latin American country.

According to Alcoff (2005), Anglo-Saxon domination over South and Central America started when Spain definitively exited its colonies in the hemisphere in 1898. Alcoff argued that the United States positioned itself as the benign overseer of Latin America; thus, the term's origin marks a departure from the relationship between Spain and its former colonies and the initiation of the relationship with the United States (2005). Given that part of the research took place at a university in South America, this study will use the term Latino when referring to individuals of Cuban, Mexican, Puerto Rican, South or Central American, or other Spanish culture or origin regardless of race.

Significance of the Study

As members of Generation Z start entering their college years, it is important to understand better their learning styles to serve their educational needs. Additionally, considering Latinos are a large segment of Generation Z, it is vital to discern how the Latino culture's styles and preferences may differ. With a deeper understanding of culture and learning style of Latinos, educators would be better able to serve the current generations' learning needs and become more culturally sensitive to Latinos. This understanding could enable teachers to provide cultural and learning style congruency of instruction to learners. This, in turn, could result in badly needed higher academic performance of Latinos (El-Bishouty et al., 2019).

The current state of Latino education is not in optimal health. As a case in point, an examination of Texas' performance rates of graduation reveals the racial and ethnic achievement

gap has not narrowed much in the last three decades [Intercultural Development Research Association (IDRA), 2016]. According to the IDRA, Hispanics are twice as likely not to graduate compared to White students (2016). Although some factors that influence this achievement gap are out of educators' control, there are other factors that schools might be able to affect. Teachers could strive, for instance, to conduct culturally responsive instruction since "when instructional processes are consistent with the cultural orientations, experiences, and learning styles of marginalized African, Latino, Native, and Asian American students, their school achievement improves significantly" (Gay, 2000, p. 181). Also, necessary will be to ensure teachers are aware of how to reduce cultural discontinuities, for example, expecting students to freely disagree with instructor, individual versus group competitions, and giving feedback in front of other students. Additionally, teachers should be able to understand how culture impacts learning so they can better identify best practices, possibly accommodate modalities for cultural needs, and select appropriate teaching materials for classrooms with diverse populations (Nieto, 2004). Finally, Walker Tillerson (2009) believed teacher attrition rates could be reduced, because teachers would be able to succeed in teaching learners from other ethnic/cultural groups outside of the dominant group. Knowledge of learning styles of Latinos of Generation Z could also aid recruiters, who could modify their communication with this ethnicity.

This study also has significance for administrators and educators of higher education in Bolivia. Based on data from the National Institute of Statistics, in the years from 2000 to 2016, Generation Z comprised nearly 26% of the total population [Instituto Nacional de Estadística (INE) (National Institute of Statistics, Bolivia), n.d.]. Data prior to 2000 were not available.

According to Census data of 2012, 49.9% of the Bolivian population was women (INE, 2017). That meant Bolivian Generation Z females made up nearly 16% of the population. Bachelor's degree attainment in Bolivia has seen an improvement since the year 2000 when it was 20%. As of 2017, the percentage of individuals 19 or older who completed college was 29%. Men's attainment was 29% and women's 27% (INE, 2017). Although the improvement in the last 16 years has been steady, the challenge for Bolivian higher education is the dropout rate. Based on data from INE (2017), there were over half a million students enrolled in public or private universities in 2017. One of the major issues impacting higher education in Latin America is the student dropout rate even though spending per student has increased and is now no longer behind public spending when compared to Europe or the United States (Feinberg, 2018).

According to a study of dropout rates from higher education institutions in Latin American and the Caribbean, there were reasons outside of higher education, like socio-economic factors. However, reasons related to higher education were identified as well: excessive theory-heavy teaching with no connection to the real world, students' lack of sufficient knowledge about their major prior to selection, insufficient preparation of teachers to support the heterogenous body of students, students' aspirations and motivations, and dissonance of students' expectations (Barrero Rivera, 2015; González Fiegehen, 2008). In Bolivia, the university students' dropout rate is a challenge for higher education and was estimated between 50% to 60% as of 2005 (Rivera Rearte et al., 2005). That same study found no other prior studies at the national level on the student dropout topic, and it considered not having more studies on that topic a challenge to the resolution of the dropout rate.

Based on data from INE (2017), 27,000 students obtained a diploma, which marked the successful attainment of their degree. The ratio of students who graduated to students who

enrolled averaged 5% from 2002 to 2016 (INE, 2017). The graduation rate was found to be between 19% and 27% depending on the field of study, and the dropout rate was estimated between 50% to 60%. Among other reasons, difficulty with studies was cited as a reason for dropping out (Rivera Rearte et al., 2005). This study could have implications for higher education administrators and educators, because the findings could be used to make modifications that could ultimately help business students who might be having difficulty due to their learning style not being compatible with how they are being taught.

Limitations and Delimitations

The following limitations applied to this study:

- Due to the small number of subjects, this study cannot be generalized.
- Any findings from the surveys apply to a specific segment of the population and therefore should not be generalized to a culture or ethnicity. A stereotype should not be formed from the findings.
- All conclusions were based on data that was self-disclosed by the subjects. As with any self-reported survey, it is possible subjects may have filtered out information or self-censored.
- Subjects may not have disclosed information that they assumed was tacit to the culture.
- Only two cohorts were included. Including more cohorts might have illuminated the central phenomenon to a higher degree.
- Subjects were limited to individuals from selected sites and only to classes where professors were interested in the study.
- The following delimitations will apply: For the cohort of Latino business students in the United States, this study included all individuals who considered themselves Latino

regardless of their family's national origins. The main qualification was that they viewed themselves as Latino, because this study was pursuing the Latino learning styles, not specific countries' styles.

- The second cohort to be studied resided in the country of Bolivia. The reason for this choice was to study a Latino cohort that had limited influence from American culture. Geographic distance from the United States might have somewhat limited American influence.
- Cohorts from other countries were not included due to time and financial constraints.

Methodology

This study used mixed methods methodology. According to Creswell, this design is appropriate when both types of data, quantitative and qualitative, are collected and when it helps to understand the research problem (2005). More specifically, this study leaned on a triangulation mixed methods design, since it collected both sets of data, as well as merged and analyzed the results at the same time. The data obtained originated from a survey on cultural dimensions and learning styles, as well as a semi-structured interview.

The participants were considered two independent groups. One cohort was comprised of Generation Z business students at a university in the south of Bolivia. This cohort will be referred to, throughout this dissertation, as a Bolivian university. The second cohort was composed of Generation Z Latino business students in a university in the south Texas. This cohort will be referred to as a south Texas university. For the quantitative part of this study, 264 participants—males and females of both cohorts—completed a survey to determine their cultural

dimensions and learning styles. For the qualitative part of the study, a total of 25 females from the cohorts—14 from the Bolivian university and 11 from the south Texas university—completed semi-structured interviews.

This study used descriptive statistics for the survey data and sought to understand correlations of cultural dimensions and learning styles between groups. For the qualitative data, which was obtained from semi-structured interviews and an arts-based question, the study used a constructivist research methodology, namely grounded theory (Schram, 2006). According to Creswell (2005), grounded theory (GT) is appropriate to use when studying a process, or to explain people's actions or interactions. Since this study sought to study how culture impacted the process of learning, which may explain learners' actions, grounded theory was selected. According to Creswell (2005), the researcher can select to give a greater or equal weight to the sets of data. This study approximated equal weight to the qualitative and quantitative sections of the investigation. A more thorough description of the methodology can be found in Chapter 3.

Organization of the Study

This study is divided into five chapters. Chapter 2 will give an overview of the pertinent literature. Chapter 3 will describe the methodology to be used and will give more information on the site selection, methodology chosen, data collection procedures, protection of subjects, and role of the researcher. Chapter 4 will include the findings, namely answers to the quantitative questions, as well as themes identified from the analysis of data from the interviews. Finally, Chapter 5 will contain the interpretation of findings, implications of the study, limitations, and suggestions for future research.

Chapter 2: Literature Review

This research aim was to examine the learning styles of Generation Z Latino students. Secondly, this study's objective was to explore how culture might influence learning styles. To that end, two cohorts were studied. The first cohort was at a Bolivian university, and the second cohort was at a south Texas university. Both cohorts filled out a survey to determine their learning styles and cultural dimensions. Following the survey, this study conducted semi-structured interviews with Generation Z Latinas from both cohorts.

This study utilized Hofstede et al.'s (2010) cultural dimensions and Felder and Silverman's (1988) ILS to determine the participants' learning styles and cultural dimensions. Statistical analysis was conducted to look for associations between culture and learning styles. Additionally, qualitative data was studied using grounded theory to look for relevant themes. As a result of the findings of this study, implications were drawn and recommendations were made on communication strategies for recruiters and administrators, potential curriculum considerations for instructional designers, and teaching strategies for educators.

This chapter includes a review of relevant literature on learning styles theory. Additionally, because learning styles may be influenced by generational and cultural factors, a brief review of relevant literature on culture theory was needed to delineate the cultural dimensions used on this study. Next, Latino challenges in higher education were reviewed, with particular emphasis on Latinas.

Learning Styles

Learning styles are the ways in which individuals take in and process information in the process of learning (Griggs & Dunn, 1995). Learners may have distinct preferences in how they approach learning, such as reading, drawing mind maps, listening, and step-by-step (Felder &

Silverman, 1988). Learning styles may be used to refer to cognitive styles (Allinson & Hayes, 2000; Kolb, 1984; Sadler-Smith & Riding, 1999). Others may use the term to discuss instructional preferences or preferences regarding the learning environment (Bedford, 2006; Curry, 2003; Griggs & Dunn, 1995). Finally, other researchers may use the term to convey a mix of those concepts. For example, Felder and Silverman discussed cognitive aspects of learning—whether a learner preferred a global learning style—but also instructional preferences—visual or verbal (1988).

Learning styles theory attempts to measure learning styles and states matching styles to individual preferences would have an impact on learning (Allinson & Hayes, 2000; Bedford, 2006; Felder & Silverman, 1988). The field has not been without controversy, as there are some who believe the authenticity of learning styles should be challenged based on what they really represent, potentially personality traits or learning preferences that may change with time and circumstance, as well as on the validity of the instruments that have been developed (Rayner, 2007; Stellwagen, 2001).

Curry (1983) developed the first typology of learning styles in an attempt to take a wholistic view of learning theory. Curry reviewed 21 learning style models for the meaningfulness of the data, validity, and test, re-test reliability (1983). Based on her review, which included psychometric data and dialog with the individuals who developed the instruments, Curry selected nine models and categorized them into three layers of an “onion.” The core of the onion, or cognitive personality, would represent characteristics more related to one’s personality and less likely to change over time. For example, Myers-Briggs Type Indicator would be an example of an instrument that measures that layer (Briggs Myers, 1962). The middle layer would include models of learning style, such as Kolb’s (1984) that dealt with how

the learner took in and processed information. The outer layer would include the learner preferences most susceptible to change since they would deal with learning environment, such as the Grasha and Riechmann model (1974).

As the field continued to expand, Hawk and Shah (2007) undertook a review of the five most prominent instrument models. Among them were Kolb's Learning Style Indicator (1984), Felder and Silverman's ILS (1988), and the Dunn and Dunn's learning styles model (Dunn, Dunn, & Price, 1989). Hawk and Shah (2007) proposed using more than one instrument to cover all of the learning style dimensions, though the length of a survey would be a drawback, they conceded. For this research, the Felder and Silverman's model (1988) was selected given that instrument covered attributes in two layers of Curry's onion (1983).

In 1988, Felder and Silverman developed an Index of Learning Styles (ILS) instrument that was originally intended for engineering students. The reason they developed it was they had observed mismatches between professors' teaching styles and learning styles of engineering students. The learning style inventory ranked learning styles on five scales: sensing and intuitive, visual and verbal, active and reflective, sequential and global, and inductive and deductive. As the instrument evolved, four dimensions remained.

Those were used in this research.

- Sensing and intuitive. This is based on whether the students prefer information from external sources—through the senses—or internal intuition. Sensors can be thought of as realists who prefer factual information. They like data and tend to be detail-oriented. They are interested in learning procedures so they can resolve problems by applying them. They are practical and seek for the connection of what they are learning to the real world. On the other hand, intuitors like to deal with abstractions. They are more innovative and might work faster than sensors. Also, they might not be too keen on detail.

- Visual and verbal. Originally, this scale was called visual and auditory, but was later changed to encompass the written word. This scale has to do with what sensorial channels the students prefer to receive information. Visual learners learn better when presented with diagrams, pictures, flowcharts, or any material graphically displayed that they can see. Verbal learners prefer to deal with words whether spoken or written, so verbal explanations, content outlines, hearing from classmates would work better for them.
- Active and reflective. This scale determines whether the students process information in a dynamic approach. Active learners would prefer to participate in discussions or actually work on projects. We can think of active learners as doers and reflective learners as thinkers. When posed with a problem, the active learners may jump right into it and start trying out solutions. The reflective learners may prefer first to think about the problem and carefully plan how to approach it. Active learners in the classroom would enjoy activities and mobility versus reflective learners may enjoy sitting down and taking notes.
- Sequential and global. This scale ranks learners according to whether they prefer to process information in a logical, sequential, step-by-step manner. Global learners would typically take in the information and think they might not be understanding. However, they would take in bits and pieces, paying attention to context and relevance. Eventually, everything would click. Sequential learners would prefer step-by-step explanations. Global thinkers may solve a problem without paying attention to the step-by-step instructions.

Felder and Silverman (1988) also described teaching styles that would match the learning styles. If a teacher presented content using a style that was not congruent with the learners' styles, a mismatch would occur that could cause the learners to believe they were not capable. Or, they might get bored and distracted. They could fail exams and ultimately give up (Felder &

Henriques, 1995). Felder did not promote the idea of teachers customizing their style for every person, however. Instead, striving to strike a balance of styles—presenting the content in different ways—would allow all learners to have a chance to learn in their preferred style at some point during the class (Felder & Henriques, 1995).

To reiterate, Felder and Silverman’s instrument (1988) touches on two layers of Curry’s (1983) onion typology: learning preferences (visual and verbal, and sensing and intuitive), as well as cognitive learning styles (active and reflective, and sequential and global), which is why it was selected for this study. According to Curry (1983), the learning preferences in the outer layer are the most susceptible to change, followed by the middle layer, cognitive styles, which is how learners process information. Culture, defined by Hofstede as “the collective programming of the mind” (2001, p. 9), is believed to have an impact on our learning preferences and even our cognitive styles (Charlesworth, 2008; Dunn, 1990; Felder & Henriques, 1995; Maldonado-Torres, 2016; Nieto, 2004; Parsons et al., 2005; Zhang et al., 2012). Because of the link between learning styles and culture, researchers stress the importance of addressing cultural backgrounds and incorporating relevant examples in the content to achieve effective learning (Kumi-Yeboah & Yuan, 2017; Nieto, 2004). Additionally, studies suggest matching instruction to learning styles positively impacts children’s academic performance (Au, 1997; Dunn, Dunn, & Price, 1989; Gay, 2000). With that in mind, the next section gives a brief overview of culture.

Culture

Culturology is the study and analysis of cultures at the societal level (Minkov, 2013). Culture has been defined as “a set of basic assumptions and values, orientations to life, beliefs, policies, procedures and behavioral conventions that are shared by a group of people, and that influence (but do not determine) each member’s behavior and his/her interpretations of the

‘meaning’ of other people’s behavior” (Spencer-Oatey, 2008, p. 8). Others such as Hofstede have defined it as “the collective programming of the mind” (2001, p. 9).

Given the breadth and complexity of culture, social scientists have proposed different frameworks with differing cultural dimensions to attempt to understand national cultures’ similarities and differences (Hall, 1976; Hofstede, 2001; Inglehart, 1990; Minkov, 2013; Trompenaars & Hampden-Turner, 2002). Hall (1976) studied cultures in terms of context, time, and space. Hall classified cultures, for instance, as high context or low context societies (1976). In a high context culture, communication was more efficient, since “most of the information is either in the physical context or internalized in the person, while very little is in the coded, explicit, transmitted part of the message” (1976, p. 79). Low context cultures, on the other hand, had a very explicit and detailed communication. Time could be described as monochronic or polychronic. The need for space varied across cultures, which could range from high territorial to low territorial (Hall, 1976). Trompenaars’ model (2001) consisted of seven dimensions: universalism vs. particularism, individualism versus communitarianism, neutral versus emotional, specific versus diffuse, achievement versus ascription, sequential versus synchronous time, and internal versus external direction. Gannon (2004) took a metaphor approach to understanding and describing national cultures. Inglehart’s theory had its basis on the socioeconomic development of societies (1990).

Cultures could be described on the dimensions of survival versus self-expression, or traditional versus secular-rational (Inglehart, 1990). Schwartz (1992) determined six cultural dimensions: egalitarianism, harmony, hierarchy, mastery, affective autonomy, and embeddedness. Each culture distinctiveness can be observed in the society’s choice of heroes, commonly understood symbols, and how formal and informal rituals are practiced (Hofstede et

al, 2010). Additionally, at the core of all of these layers reside the society's commonly held values which indicate their particular preferences over other preferences. These values, together with identity and institutions throughout history, contribute to form a common mental programming (Hofstede et al., 2010). Hofstede (2001), in his original 1973 study of 30 different countries, proposed four dimensions: power distance (PDI), individualism vs. collectivism (IDV), uncertainty avoidance (UAI), and masculinity vs. femininity. In 1987, a study of national values was based on data from 22 countries using the Chinese Value Survey (Chinese Culture Connection, 1987). Several dimensions correlated to Hofstede's (Minkov, 2013). Later, the Confucian work dynamism (LTO) value was added to his new values survey (Hofstede & Bond, 1988). In 2004, Project GLOBE (House, Hanges, Javidan, Dorfman, & Gupta, 2004) was carried out collecting data from 61 countries and proposed nine dimensions, four of which are subcategorizations of Hofstede's (2001) dimensions. Minkov (2007) carried out an analysis of the World Values Survey and proposed three new dimensions: exclusionism versus universalism, indulgence versus restraint, and monumentalism versus flexhumility. Those were later added to Hofstede's current VSM 2013, which was the questionnaire this study used for calculating cultural dimensions. Since indulgence vs. restraint did not correlate with any of the other five dimensions, it was added as a sixth dimension (Hofstede et al., 2010) in the new version of the instrument, VSM 2013, which was the questionnaire this research used. A comprehensive review of 180 studies between 1980 and 2002 was conducted and concluded the validity of the dimensions; it also added that new cross-cultural theories added or confirmed Hofstede's dimensions (Kirkman, Lowe, & Gibson, 2006).

The six cultural dimensions included in the VSM 2013 (Hofstede et al., 2010), which this study leans on, are as follows:

- Power distance (PDI). This dimension looks at inequality in a society and how members are independent or counter-dependent of their superiors (bosses, teachers, and elders). The authors found that PDI was lower with higher education level, possibly because lower level unskilled employees might hold authoritarian values, which was why Hofstede believed that PDI arose from family values. At school, in a high PDI society, there would be more distance between teacher and students. Students would not feel free to ask questions or participate until called on, and they would not contradict the teacher. As time passed, in low PDI societies, members might lose dependence on teachers. However, in high PDI societies, teachers might be experts on whom students continued to rely even after they have left school.
- Individualism vs. collectivism (IDV). This dimension measures the degree to which members feel cohesive with one another. In collectivistic societies, members get protection in exchange for loyalty, they are an integral part of the group or the extended family, and the collective priorities take precedence over the individuals' priorities. In individualistic societies, individuals need to depend on their own strengths or on their immediate family only. In a collectivistic society, maintaining harmony is of paramount importance. Therefore, a very direct rejection of a request will seldom be heard. Rather, members will acknowledge the request and may express very politely why it's not likely the request will be fulfilled. Individualistic cultures are much more verbal versus collectivist cultures, which depend highly on context and tacit understandings. Another difference is that in individualistic societies, individuals will feel guilt if a transgression of a rule has been committed versus, in a collectivistic society, people will feel shame, which is shared by more than just the individual. This ties into another characteristic of collectivistic societies, which is the importance they place on maintaining an appearance of dignity, honor, or prestige. At school, members of

collectivistic societies will wait to talk until called on by the teacher, and subgroups are preferred so students can organize themselves into units that make sense to them. In a classroom in an individualistic society, students will not have a problem participating on an individual basis, may not perform as well in groups, and are open to new content.

- **Masculinity vs. femininity (MAS).** Masculinity is measured on the importance of earnings, advancement, recognition, and challenge. Femininity is measured on the following motivators: quality of relationship with superior, cooperation, employment security, and living in a desirable area. Also, in societies that are masculine, men are expected to be tough and driven versus women who are expected to be “modest, tender and concerned with the quality of life” (Hofstede et al., 2010, p. 141). In a feminine society, the genders’ emotions are not opposed but overlap. In education, in masculine countries, the best students might be proud and very aware of their competences. When finding themselves in a confrontational situation, a large percentage may resort to aggression. The best teachers may be those who are recognized by their achievements and their academic successes. In feminine countries, on the other hand, boastful students may be seen negatively, aggression may be avoided, and the best teachers would be evaluated on their approachability and supportive demeanor.
- **Uncertainty avoidance (UAI).** This measures how nervous or anxious, at the societal level, a culture may feel toward changing, uncertain, or unfamiliar situations. In education, in strong UAI countries, students will prefer very regulated activities with well-planned and severe timelines, with one right result. In low UAI countries, students will like the opposite, which is less structure and will prefer originality, thus being accepting of more than one right answer. Teachers are seen as experts in their field in

strong UAI societies. As such, teachers should make decisions for the class; versus in weaker UAI societies, teachers will be more consultative.

- Long-term orientation (LTO). This measures virtues such as persistence, thrift, sense of shame, and order in relationships by status. Additionally, it was found LTO predicted economic growth. On the other side of the spectrum would be a focus on the past and present with respect for tradition, the established order, keeping appearances, and being seen as steady or stable. In high LTO societies, children are taught delayed gratification, and mothers will seek long-term goals for their children such as education and prosperous financial situation. In high LTO societies, children would be taught the value of responsibility, hard work, and perseverance in pursuit of a goal in the far future. Children would also be instilled to be unselfish, respect other people, and being obedient. Lastly, children would learn the importance of not spending more than what is needed. Hofstede et al. (2010) did not discuss how that dimension might translate to educational settings.
- Indulgence versus restraint (IVR). This was a dimension that was added as a result of Minkov's analysis of World Values Survey Database (Minkov, 2013). IVR measures a tendency to allow oneself to have fun and enjoy life versus "a conviction that such gratification needs to be curbed and regulated by strict social norms (Hofstede et al., 2010). In an indulgent society, people report being happier, believing they have control over their lives, having friends is valued, and they are more optimistic, feel healthier, and may have less moral discipline. In restrained societies, people report being less happy, feeling helpless, believing leisure and friendships are less important, valuing thrift and moral discipline, and being more cynic and pessimistic. Hofstede et al. did not discuss how that dimension might be reflected in educational settings (2010).

Each dimension can help one understand how people in a society think, how they shop, how they behave in the workplace, how they relate to their family, or how they approach school (Hofstede et al., 2010). Additionally, dimensions are valuable to understand the “theories produced or adopted in these countries to explain or prescribe thoughts, feelings, and behavior” (Hofstede et al., 2010, p. 79). That is to say, assumptions about different subjects can result in different actions depending on what culture one belongs to (Gannon, 2004). In essence, the beliefs that one holds will make themselves evident in the classroom, as shown by Horwitz in a study of beliefs about language learners (1988). In Horwitz (1988) study, beliefs surfaced regarding the nature of learning, one’s aptitude, learning strategies, motivation and expectations. Learners’ beliefs also may help explain their learning approach, difficulties accepting new ways of learning, and impact of incongruities between learners and teachers’ beliefs (Barcelos, 2015). Therefore, culture as well as its underlying beliefs and assumptions can have a direct impact in the classroom (Horwitz, 1988; Zhou, 2018).

Among studies that explored culture and learning, Xiao found that Chinese students, who come from a collectivistic society, might form their perception of the teacher according to their cultural values (2006). Another study comparing marketing students from a collectivistic culture, Bulgaria, to an individualistic culture, the United States, found both cultures had distinct learning styles (Budeva et al., 2015). Specifically, the researchers found the majority of Bulgarian students were active learners and preferred practical applications, whereas the majority of American students tended to learn through theories and abstraction (Budeva et al., 2015). Likewise, a study comparing Japanese and Australian accounting students found Japanese students were feelers, observers, imaginative, creative, idea generators; the Australian students were thinkers, observers, analytical, theoretical, and synthesizers of data (Sugahara & Boland,

2010). Additionally, Sugahara and Boland (2010) found that the higher the Japanese learners scored in the uncertainty avoidance dimension, the more they tended to learn by watching. Another study found that British students ranked higher in analytical, global, and experiential learning style; and, the Japanese students ranked higher in the visual dimension, preferred to study individually, and were reluctant to ask questions in class (Takanashi, 1999). Additionally, a study compared Qatari students, from a Middle Eastern collectivistic culture, and Anglo faculty, from an individualistic culture (Lemke-Westcott & Johnson, 2013). Lemke-Westcott and Johnson (2013) found considerable differences in the learning styles of both cohorts: the majority of the Qatari students preferred concrete experience learning style, favoring action in resolving and influencing, versus the majority of the Canadian faculty who preferred abstract conceptualization and leaned toward abstraction, planning, and theories over practical application. Another study established that Middle Eastern students in the humanities ranked higher in the diverger and accommodator dimensions, imaginative, ideators, experimenters, versus engineering students who ranked higher in the converger and assimilator dimensions, pragmatic, interested in results and the scientific method, thus suggesting the field of study may play a role in learning styles as well (Negahi, Noura, & Khoram, 2015).

Contrary to the studies cited above, some studies have found little or no differences such as a study by Black (2008), which compared accountants from the United States, Hong Kong, and Shanghai on the individualism cultural dimension. They concluded there was no statistically significant difference on horizontal collectivism, where the individuals view themselves as part of the in-group and view everyone in the in-group to be at the same level or status, among the three locations. However, it did find accountants from Shanghai and Hong Kong, when compared to accountants in the United States, ranked slightly higher on the vertical collectivism

dimension; the learners viewed themselves as part of the in-group but viewed others as having different degrees of status (Black, 2008). Furthermore, a study surveyed Dutch students and students from other European countries, and it found agreement on the students' perception of their desired learning environment and, to some extent, how they approached studying (Wierstra et al., 2003). They also found students seemed to prefer a learning environment with a high level of student involvement and closeness between teacher and student, which would promote constructive learning rather than focusing on facts to promote reproductive learning. That occurred despite some students proceeding from universities where they were used to learning facts and leaning on reproductive learning, which insinuated that students in a globalized world might be leaning toward the same type of learning environment and approaches (Wierstra et al., 2003). Additionally, a study found students from Xiangxi prefecture in China ranked higher on being reflective, independent, hands on, and individual-oriented, with the latter dimension being counterintuitive to a collectivistic culture, but which might be explained due to their ethnic and rural culture (Liu, 2012).

Other studies, which focused on the influence of gender, found no statistically significant differences in the four Felder and Silverman (1988) dimensions in students from Malaysia (Shuib & Azizan, 2015). Likewise, a study by Obralic and Abkarov (2012) found no significant differences in learning styles between male and female, despite finding overall differences in learning styles of Bosnian versus Turkish cohorts. Similarly, Black (2008) had hypothesized that female accountants in each of the studied sites—Hong Kong, Shanghai, and the United States—would rank lower in the concrete and abstract learning style from Kolb's (1984) learning styles inventory, a hypothesis that he rejected. On the other hand, Negahi et al. (2015), in a study of the students of the Islamic Azad University of Behbahan, found that learning styles differed based

on gender, with females being divergers (feeling and observing, imaginative, ideators, creative) versus males, who were found to be convergers (feeling and doing, thinking and observing, doers, risk takers, experimenters).

Regarding Bolivian students, only one article was found that discussed their learning styles. The study of university medical students in five universities—Chile, Argentina, two in Spain, and one in Bolivia—determined that, regardless of geography, students leaned to the reflective and theoretical learning style, which meant they preferred thinking, observing, and analyzing information and theoretical models (Diaz-Veliz et al., 2009). That same study found preference did not vary on year of study or on whether the school promoted teaching strategies that favored reflection or an active approach. When looking at geography, students from Spain were deemed to be assimilators (reflective), while the students in first and third year in Chile and third-year students in Argentina were accommodators who were more social and preferred doing. Students in Bolivia were assimilators (reflective) and convergers who preferred thinking but also solving problems or applying their ideas to action (Diaz-Veliz et al., 2009).

As for Latino students, according to Dunn (1990), prior studies researched single elements of learning, such as whether children were field dependent or field independent instead, and very few studies focused on diverse learners. Dunn's study (1990) compared African American, Chinese American, Greek American, and Mexican American children and found that each cohort had different learning styles. The Mexican American children scored high in parental motivation, preferred to study in the afternoon, and preferred kinesthetic learning. Mexican American girls scored higher than all groups in persistence on task, motivation, and noise level. Also, the girls scored much higher on tactual learning than the Mexican American boys. A study of gifted African American, Mexican American, and Chinese American children by Ewing and

Yong (1992) was in alignment, revealing that Mexican American children scored high in responsibility, motivation, and were highly kinesthetic. They scored low on temperature and bright lights, preferred a less structured learning environment, and auditory was not their preferred modality. As a result, Ewing and Yong (1992) recommended an informal classroom and experiential learning for Mexican American students. A subsequent study by Griggs and Dunn (1995) found that Mexican American children preferred afternoon learning, a less warm environment, and a structured environment. It also found Mexican American children were not teacher motivated, scored low on responsibility, and preferred formal seating arrangements—the last two in contrast with previous findings—and found the Mexican American boys to have a tactual preference, with their least preferred perceptual style being auditory. Finally, a study found the Mexican American girls preferred to learn with peers, with a variety in learning approaches, and required more mobility than Mexican American boys and the Anglo cohort (Dunn et al., 1993). In a review of prior research, Griggs and Dunn (1995) concluded that Latin American students preferred a cooler environment, learning in the afternoon, learning alone and with peers, were more field dependent, and were authority oriented. The studies Grigg and Dunn (1995) reviewed did not agree on whether Latino students were conforming or not conforming. Grigg and Dunn's (1995) review concluded that Latinas preferred working with peers, needed to move more than the other cohorts, and scored higher in internal locus of control.

Contrary to prior research and based on a survey of teachers of multicultural schools in the Bronx, Fierro (1997) found that most teachers who participated in the survey believed there was no difference between learning styles of Asian, Black, and Hispanic learners, except for some characteristics such as Latino children enjoying group work and children from large households being comfortable with a noisy learning environment. Interestingly, a study

corroborated Fierro's findings and found no statistically significant differences of predominant learning styles by ethnicity or gender when comparing Latino and non-Latino students (Sizemore & Shultz, 2005). Furthermore, a comparative study of Latino versus non-Latino students in North Carolina found no significant differences between the learning styles of both groups (Tripp, 2011).

Yet, a study on college retention of Latino students surveyed faculty and administrators and found that the Latino learners had distinct characteristics (Cejda & Hoover, 2011). For example, Latino learners were social and preferred sitting in groups, going on field trips with peers, and turning to each other for support. They were open to feedback that was constructive and preferably given not in front of the class. Latino learners were sequential learners who preferred assignments they could connect to their lives and/or to the real world. Faculty stated that Latinos thrived with active classroom strategies where they could show what they had learned, although they disliked competition (Cejda & Hoover, 2011).

A further case study overwhelmingly found gender-based differences in Latino learners (Harris, 2014). Harris (2014) found that 100% of the male Latino participants preferred the thinking personality type versus 90% of women, who preferred the feeling personality type. In addition, men were found to align with the separate learning style (objective, critical thinkers, debaters) and females with the connected learning style (preferred to withhold judgement, looked for common ground in a debate, and sought complete understanding) (Harris, 2014). Shirvani's (2016) findings supported that Latinos' learning styles were distinct between males and females, and the preference for visual learning style was significantly higher in females (67%) versus males (44%) and auditory lower in females (17%) versus males (38%) (Shirvani, 2016).

Furthermore, a study examined whether acculturation of Latinos influenced their learning

styles but found no links (Gonyea, 2010). Gonyea believed that food, entertainment, and friends might have been impacted by acculturation, but deeper beliefs and values might continue to be those of the culture of origin. On the other hand, Saucedo-Castillo (2001) had found that although acculturation played no role on learning styles, culture did. Additionally, Harvey (2011) maintained that bicultural students would experience varying degrees of success depending on their ability to execute cultural frame switching, meaning their skill in flexing from one culture to the other.

Maldonado-Torres (2011) found significant differences between Puerto Rican and Dominican students' learning styles. Dominican students scored higher on the elements of motivation and several ways of learning versus Puerto Rican students, suggesting that they would enjoy learning individually or with peers. Both cohorts also differed on their perceptual preference, with Dominicans preferring the tactile modality and Puerto Ricans being more auditory and visual. In a subsequent study, Maldonado-Torres (2016) compared three Latino cohorts by the language spoken at home (Spanish, English, or both) and concluded all three groups leaned toward a reflective observation learning style. That meant learners entered the learning cycle from a perspective of observing from different perspectives first and thinking about meanings. Maldonado-Torres (2016) found that Spanish speakers preferred a warmer environment and their peak thinking time was in the late morning versus English speakers who preferred the afternoon. Spanish speakers also preferred learning with peers, several ways of learning, and favored the tactile modality. Students who spoke both languages were kinesthetic and auditory. All groups scored low on having authority figures in the class; they preferred structure and were peer oriented (Maldonado-Torres (2016). In conclusion, a review of literature reveals that while some studies found distinct differences of learning styles by culture,

nationality, language, acculturation, and gender, other studies found that those factors did not play a role on learning styles. The sum of those studies signaled that an understanding of how culture impacted learning was still being pursued, which was the aim of the present study.

Therefore, the review of the literature supported the need for a study that explored the impact of culture and gender on Latino Generation Z university students. Researching the impact of culture and gender on learning styles of Latinos would aid educators and administrators to better support that growing segment of the population's education needs. Next, Generation Z's traits will be discussed.

Generation Z

Each generation gets attributed different characteristics, because as different forces of historical events and social, economic, and political changes shape it, distinct features are evident in how they work, interact, learn, and communicate (Strauss & Howe, 1991; Taylor, 2015). Millennials, considered the largest generation after the baby boomer generation (Taylor, 2015), are individuals born between 1981 and 1996 (Fry, Igielnik, & Patten, 2018). After the millennials comes Generation Z or Gen Z (Desjardins, 2019; Williams, 2015). Generation Z is said to have a distinct persona, different from the millennial generation (Beall, 2017; Cytron, n.d.; Seemiller & Grace, 2016). However, members of Generation Z have been referred to as millennials on steroids (Greer, 2018; Kane, 2017; Knowledge @ Wharton, 2015) because of their attachment to technology, which also characterized the millennials (Strauss & Howe, 1991; Oblinger, 2003; Prensky, 2001).

Period events that shaped Generation Z. Generation Z grew up in a time of economic instability and experienced the economic slow-down of 2001 (Grunewald, 2002; Mostaghimi, 2004; Oberg, 2011), and a deep economic recession in 2007 (Ferri-Reed, 2013; Oberg, 2011;

Taylor, 2014). Additionally, members of Generation Z would have been children when the terrorist events of 2001 took place in New York City (Blanchard, Rowell, Kuhn, Rogers, & Wittrock, 2005; Caraley, 2002; Minter, 2011). Also, as children, they would have learned about the hunt for and capture of Bin Laden (Alkana, 2011; Gorini, 2012; Kellner, 2003; Paletta, 2015). In conclusion, Generation Z grew up in a world that seemed unsafe due to violence from terrorism and school shootings (Boxer, Sloan, & Herrenkohl, 2013; Oberg, 2011).

Technology use. In regard to technology, whereas millennials saw the adoption of the Internet (Heimes, 1998; Jonscher, 1999; Peters, 2012), the MP3 (Frankel, Greely, & Sawyer, 1999; Hacker, 2000), and a wider adoption of cell phones and media (Cummo, 2007; Poe, 2011; Thacker & Wilson, 2015), members of Generation Z fully embraced the emergence of social media sites (Seo, Houston, Kennedy, & English, 2014; Shih, 2009). Generation Z also experienced the explosion of media streaming via mobile devices, which made it possible always to have access to streaming media entertainment services, as well as streaming of digital live content (He, Hurwitz, & Kivetz, 2017; Hu, Zhang, & Wang, 2017).

Generation Z members are hyper active in social media for communication over in-person interactions (Kick, Contacos-Sawyer, & Thomas, 2015), and their mobile devices have always been in their lives (Mims, 2019; Williams, 2015). They use them to look for information, and search engines such as Google and how-to videos on YouTube are their go-to sources (Zorn, 2017). They have a preference for multimedia, particularly video streaming (Desjardins, 2019; Dreier, 2017). Generation Z has always been around mobile devices and owns, not just a phone like the millennials, but a smartphone (Beall, 2017; Van Dulken, 2010). In fact, 98% of Generation Zers own a smartphone (Desjardins, 2019). Generation Z is said to be hyperconnected, because smartphones are their key to access information, their contacts, social

media apps, calendar, photos, and documents (Kasasa, 2018; Loveland, 2017). The fact their devices allow Generation Z individuals to multitask and move from app to app, five screens at a time is said to have impacted their concentration span, which is down to 8 seconds (Patel, 2017a; Williams, 2015). Because they grew up with easy, quick, and on-demand access to information, Generation Z has also been referred to as the instant generation (Loveland, 2017; Osit, 2008). For some Generation Z members, self-admittedly by 40% (Desjardins, 2019), the attachment to their smartphones has gotten to the point of becoming an addiction (Cocoradă, Maican, Cazan, & Maican, 2018; Oberst, Wegmann, Stodt, Brand, & Chamarro, 2017). Additionally, excessive use of technology may be contributing to and even may predict obesity and illness in teenagers, associated to correlation of technology with risk factors for obesity such as sugar consumption and lack of sufficient sleep (Kenney & Gortmaker, 2017; Rosen et al., 2014). Consequently, the same devices that may have contributed to issues such as obesity and lack of physical activity are being studied as a solution with the creation of apps that promote movement and physical exercise (Silverstone & Teatum, 2011; Yang et al., 2017).

Generation Z individuals spend a lot of time connected to their devices; 50% are online 10 hours a day (Desjardins, 2019). Additionally, a study found that 92% of Generation Z adults have a presence on social media (Hill, 2018). Due to this constant connection and exposure to all of their friends, Generation Z is said to have the fear of missing out, which contributes to them feeling they “have to” be available to their friends 24 x 7 (Patel, 2017b; Stillman & Stillman, 2017). Generation Z individuals, 62%, feel happy to see good news about their friends who might be doing well, but 68% say that social media has contributed to them feeling depressed or anxious (Hill, 2018). Consequently, over 50% have said they are taking a break from a social media app, and 34% has cancelled their account on a social media platform (Hill, 2018). Lastly,

47% of Generation Z individuals say they put their phones away at least once a day (Sweeney, 2016).

Characteristics of the generation persona. Encouraged by their Gen X parents, Zers adopted an entrepreneurial spirit and prudent financial approach given they experienced the 2008 economic depression growing up (Beall, 2017; Schawbel, 2014; Seemiller & Grace, 2016). However, Generation Z is also said to be more socially conscious, want to give back to the community, and make a difference (Seemiller & Grace, 2016). Additionally, a study by MNI Targeted Media found more than 50% prefer socially conscious brands (Sweeney, 2018). Knowing that reality can be tweaked by apps, Generation Z is said to prefer authenticity when advertising is targeting them (Patel, 2017a). This may explain why Generation Z may prefer YouTube influencers and relate to them more than famous celebrities (O'Neil-Hart & Blumenstein, 2016). Generation Z's preferences on shopping are based on comfort, image, and bargains (Beall, 2017; Claveria, 2019; Johnson, 2017).

Generation Z's large reliance on digital communication through their teenage years is said to have resulted in a decline in interpersonal skills, evidenced by a preference to communicate via text, social media, and messaging, and a weakening of writing skills (Diercksen, DiPlacido, Harvey, & Bosco, 2013). A study found, based on a survey of HR managers, that decline in interpersonal skills could result in miscommunication and act as a barrier to transfer of information from the older generations. However, that same study found Generation Z individuals were showing interest in in-person meetings (Kick et al., 2016). That was confirmed by a study that found 72% of Generation Z preferred to have face-to-face communication at work (Desjardins, 2019).

Parenting. According to Seemiller and Grace (2016), the parents of Zers could be defined as trusted mentors, who emphasized the values of responsibility, hard work, and independence (Claveria, 2019; Seemiller & Grace, 2016). Generation Z has been described as driven (Stillman & Stillman, 2019). They are also motivated to win; 70% say that success comes from working hard (Owen, 2017). Over 73% of Generation Zers describe themselves as loyal and compassionate (Seemiller & Grace, 2016). They also describe themselves as very accepting of others, as well as embracing diversity (Beall, 2017; Seemiller & Grace, 2016). In fact, equality is seen as the most vital issue by 72% (Desjardins, 2019). Additionally, Generation Z see themselves as independent (Patel, 2017a). Lastly, they want to protect their privacy and are less interested in permanently sharing their lives on social media, which explains the use of Snapchat, where posts can self-delete after a time (So, 2017). Generation Z is more concerned about privacy when communicating online than the previous generation (Team CGK, 2018). Interestingly, Generation Z is less concerned with privacy when utilizing paying apps like Venmo (Rowen, 2007; Team CGK, 2018). Finally, Generation Zers see themselves as optimistic and having high expectations (Beall, 2017; Claveria 2019; So, 2017).

How they learn. Generation Z is used constantly to being connected online to their friends, school, and work (Patel, 2017b; Stillman & Stillman, 2017). Not surprisingly, it is predictable that Generation Z would have the same expectation from the universities they attend, that online services always be on (Barnes and Noble College, 2018). The same study found Generation Zers preferred interpersonal learning (80% prefer to study with friends), and 67% said that it made learning more fun. Generation Z also favor active learning, as 51% say they prefer to learn by doing versus 12% by listening to a lecture (Barnes & Noble College, 2018).

Due to smaller attention spans, Generation Z will need activities that keep them engaged and on topic (Barnes & Noble College, 2018). Gamification and virtualization of content would be recommended, as well as online support, elimination of paper handouts, adding more activities during the classroom, and adding more cross-discipline projects (Rothman, n.d.; Vikhrova, 2017). Additionally, Vikhrova (2017) recommended bringing in experts from industry to visit the classroom. Wiedmer (2015) recommended clear objectives, plenty of feedback, as well as challenging assignments and rewards. Furthermore, Generation Z preferred approaches that were logic based to allow them to organize and understand information effectively and that were experiential to apply them (Seemiller & Grace, 2016). Collaborative in-class activities would need to be very well directed, with clear goals, expectations, structure, and ways to keep students accountable (Igel & Urguhart, 2012).

Recommended teaching strategies. A study surveyed pre-service teachers and found they were already using social media to some extent with the most commonly used platforms being Facebook, YouTube, and Instagram to converse with students and other teachers as an effective teaching method (Boholano, 2017). Mobile applications were also advocated as supplemental to lectures given their huge and increasing popularity. Mobile applications also allowed students mobility and provided a variety of ways to engage them: videos, diagrams, touch-based interaction, readings, practice, and the ability to explore on their own (Keeley, Potteiger, & Brown, 2015). On a hybrid-learning study that had lectures plus an online cloud-based system for students and lecturers, the users recommended adding video recorded lectures, and using the software for consideration for recognition and rewards (Bamlang Hariadi, Dewiyani, & Sudarmaningtyas, 2016).

A survey of faculty regarding Generation Z revealed teachers believed the biggest problem in engineering education was the difficulty linking theory and practice. Teachers recommended using more practice and using technology. Sadly, when asked about what they used to teach, blackboard, projector, and exercises were most commonly used (Correia Barreiro & Bozutti, 2017). Some qualify the use of technology as merely a tool to accelerate the learning, to practice repetitious tasks, and to free up time for teachers to use in a constructive approach, which was what motivated Generation Z students (Holubova, 2015).

Holubova found that Generation Z students preferred a teaching approach that involved activities and were motivated by their own “doing” such as concept maps (2015). It was found that 69% made a decision to participate in a learning community only after a face-to-face conversation with a person, so the recommendation was to use social media as a tool to drive the individuals to a face-to-face interaction (Spears, Zobac, Sillane, & Thomas, 2015). Also, it has been recommended to educate Generation Z on the proper way to use technology to solve problems instead of being absorbed by it (Zsako & Horvath, 2017). Rose, Gosman, and Shoemaker (2014) recommended the use of technology activities in the classroom, such as Mobile Geo Caching where students go on a learning scavenger hunt using the GPS feature of their devices and find caches, and to provoke curiosity, advance learning, and move them on to the next step. While Hunter-Jones (2012) agreed that experiential learning and leveraging technology was the way to go for the most recent generations, she found that there was a continuum of disengaged students in the classroom. To overcome that type of classroom activity disengagement, Hunter-Jones proposed not to just give the activity to the learners, but actually to make them part of the setup process so they had a say on how the activity would be carried out (Hunter-Jones, 2012).

In sum, on the one hand, we have a characterization of a generation's persona, which prompted the recommendation of the use of technology-led teaching strategies leveraging the use of Digital Media, apps, and videos. On the other hand, other researchers do not agree that technology is the end-all be-all for members of Generation Z. Additionally, researchers recommend constructivist and experiential learning, with teachers as facilitators who should additionally educate Zers on using technology responsibly. However, researchers are heavily focused on generational studies and view the generation as a whole, thus not sufficiently or at all delving into cultural differences among groups, ethnicities, or nationalities when recommending teaching strategies for the new generation. Knowing that such differences may be evident in learning styles or preferences (Nieto, 2004), it behooves us to learn more about the Latino segment of the Generation Z, particularly considering its rapid growth. First, a brief overview of Generation Z and challenges in higher education in Bolivia will be discussed.

Generation Z Bolivian Latinos

In addition to the south Texas university site used in this study, a cohort at a Bolivian university was involved. An overview of education and Generation Z Latinos will be discussed here. In Bolivia, Generation Z makes up nearly 26% of the total population based on data from INE, the Bolivian National Institute of Education (2017). Additionally, Bolivian Generation Z females make up nearly 16% of the general population. Regarding educational attainment, as of 2017, individuals 19 or older who completed college comprised 29%, an improvement from the year 2000 when it was 20% (INE, 2017). Men's attainment was 29% and women's 27% for bachelor's degrees (INE, 2017). Based on data from INE (2017), there were over half a million students enrolled in public or private universities in 2017. Finally, the graduation rate was found

to be between 19% and 27% depending on the field of study, and the dropout rate was estimated between 50% to 60% (Rivera Rearte et al., 2005).

Bolivia is not alone on this issue, as the student dropout rate has been one of the major issues impacting universities in Latin America, despite an increase of investment in education (Feinberg, 2018). As of 2014, Bolivia spent 7% of its gross domestic product on education, compared to 5% in the United States (The World Bank, 2018). Reasons for the dropout rate were found to be socio-economic factors, excessive theory-heavy teaching with no connection to the real world, students' lack of sufficient knowledge about their major prior to selection, insufficient preparation of teachers to support the heterogeneous body of students, students' aspirations and motivations, and dissonance of students' expectations (Barrero Rivera, 2015; González Fiegehen, 2008).

In the year 2010, an educational reform took place in Bolivia described in the education law 070 Avelino Sinani-Elizardo Perez (*Estado Plurinacional de Bolivia, Ministerio de Educación* [Plurinational State of Bolivia, Ministry of Education], 2010). That law made education free for all in public schools up to an undergraduate degree, constituting it as a people's right. That law set as one of education's objectives "to strengthen the development of intra-cultures, inter-culture, and plurality of languages" and also "to strengthen the cultural identity of the indigenous native rural nations, intercultural and afro-Bolivian communities" (*Estado Plurinacional de Bolivia, Ministerio de Educación* [Plurinational State of Bolivia, Ministry of Education], 2010, p. 7). The *Ley de la Educación* [Law of Education] from the Ministry of Education also proposed to form programs to support needy students to enable them to continue their studies. That objective reflected the promise of reform that the first indigenous president of Bolivia, Evo Morales, made upon his inauguration (McDonnell, 2006). *The Ley de*

la Educación [Law of Education] intended to distance itself from the 1990's neoliberal/free market approach to education, which had ultimately resulted in a decrease in education spending, as well as in education becoming a merchandized consumer product rather than a right to education, along with a rapid increase in private universities (Estado Plurinacional de Bolivia, Ministerio de Educación, 2010; Rodriguez Ostría, 2009). The new law of education unapologetically established that education should be de-colonizing and anti-imperialist in an attempt for education to become a tool to help reverse social and economic exclusion (Rodriguez Ostría, 2009).

The objective of becoming intercultural is no easy task considering there are 36 indigenous nations within Bolivia (Hurtado, 2007), 43 living languages (Ethnologue, n.d.), and 62.2% of the population as of 2012 considered themselves native (Centro Latinoamericano y Caribeño de Demografía [Latin-American and Caribbean center of demographics], 2019). Hurtado (2007) stated progress toward a multicultural education could start with discussing a cultural integration of the actors of learning-teaching and an effort to include the “other.” Galindo (2010) argued that one of the major obstacles toward a true multicultural education in higher education was the existence of a colonial paradigm, where the indigenous were still not accepted as equal, although they might be symbolically included.

Precisely on that topic, a study (Saavedra Berbetty, Mayorga Lazcano, & Campanini Gonzales, 2005) explored the experience of male students from rural communities who attended a large university in an urban area. Saavedra et al. (2005) verified discrimination and exclusion from some teachers, but not from other students. Additionally, the discrimination experienced might have reinforced their ethnicities, as the students reported feeling proud of their identity and vowed to not forget their communities. Saavedra et al.'s (2005) study also highlighted the

insufficient preparation the students had received in high school, which did not fully ready them for university studies. Finally, the same study (Saavedra et al., 2005) listed as an issue that public university being free did not guarantee the students' permanence, as they had to solve economic issues relating to living expenses. In sum, as seen from the few studies available, students' challenges in higher education were socio-economic factors, cultural integration within the university space, academic difficulties, and intercultural issues.

Research on Bolivian women revealed they consider the biggest current struggles nowadays violence against women and unequal pay for women (Fundación Acción Cultural Loyola, 2019). Also, they described themselves as “hardworking (85%), go getter (75%), loving (30%), joyful (25%), friendly (20%) and overprotective (17%)” (Fundación Acción Cultural Loyola, 2019). However, women, especially indigenous women, should not be essentialized, warned Osuna (2013). Bolivian women today are negotiating issues of intercultural nature. As an example, Osuna (2013) described an Aymara woman who worked from 3 a.m. to take her products to the market, all so her daughter could attend the community school. Sometimes she couldn't fulfill her chores at the community school, which were a part of a reduced tuition program, so she was fined.

Eventually, she enrolled her daughter in a public school. In other words, the same community school that was supposed to help her family integrate into the community ended up pushing her to a regular school (Osuna, 2013). Osuna (2013) also described an indigenous teen who enjoyed hip hop. Given those two very distinct indigenous individuals, she advised not to essentialize ethnic identities. Another study (Capdevila Sola, Vendrell Mañós, Ciller Valverde, & Bilbao La Vieja, 2014) researched gender equity in primary schools, comparing a school in Bolivia and one in Spain. It found that stereotypes and gender discrimination were higher in

Bolivia, but in both sites, children continued to display behaviors that would lead to gender discrimination (Capdevila Sola, et al., 2014). Finally, Lopez Cardozo, Sawyer, and Talavera Simoni (2015) found, from a study of Bolivian teachers of various grade levels, that teachers, possibly unconsciously, reinforced gender roles. An example would be in a school where girls were 76% of the student body, there were still more boys than girls as class presidents, possibly illustrating how gender roles at home came to repeat themselves at school, with women as the back-stage helpers (Lopez Cardozo et al., 2015). In sum, there were no studies found on gender issues in higher education. However, the two studies found on primary and secondary education (Capdevila Sola et al., 2014; Lopez Cardozo et al., 2015), as well as the Acción Cultural Loyola (2019) survey, indicated, in general, women in Bolivia faced issues of gender equity, as well as intercultural issues (Osuna, 2013).

Generation Z Latinos in America

According to 2017 estimates based on U.S. Census Bureau data (2017), Generation Z is now comprised of approximately 80 million members. Generation Z represents 25% of the general population (U.S. Census Bureau, 2017). Latinos make up 37% of the Generation Z cohort. In the state of Texas, where the U.S. university was located, 40% of the population is Latino (Texas Demographic Center, 2016). In fact, of the state of Texas population growth, more than half has been in large part due to an increase in Latino population (Ura, 2017). It is believed the rapid increase in Hispanic population is linked to high levels of immigration and fertility rate (Harris & Tienda, 2012). Based on U.S. Census Bureau (2017) data, there are approximately 8 million individuals who are members of Generation Z. Of those 8 million, 49% are Latino males and females. Latinas are 24% of the Generation Z population.

Regarding bachelor's degree attainment in Texas, 14% of Latinas and 13% of Latino males attain a bachelor's degree or higher, lagging far behind Anglos, whose bachelor's degree attainment is at 36% for White females and nearly 38% for White males (Statistical Atlas, 2018). Including associate's and bachelor's, 18% of Latinos attained a degree, still lagging behind the 35% of all adults who obtained an associate or bachelor's degree (Excelencia en la educación [Excellence in Education], 2016). Furthermore, in the state of Texas, 28% of Latinos graduated, compared to 46% of Whites in the year 2011 (Texas Higher Education Coordinating Board, 2018).

A study by Murdock et al. (2002) for the Center for Demographic and Socioeconomic Research and Education sought to identify what would be the main challenges for the state of Texas in the 21st century. The aging of the population, increased diversity, and changes in household size were found to be determinant in predicting a state population that would put a strain on public services, including education. Should the educational attainment gaps not close, the effect would be a less educated and more economically challenged population (Murdock et al., 2002).

The issues behind the low graduation rates include several factors. First, the equity gap may start at admission, according to Harris and Tienda (2012), because the top 10% admissions rule in Texas, which automatically admits to a public university students at the top 10% of their class, has had the effect of lowering admissions of Latinos. Additionally, even universities serving Latinos face challenges such as poor student preparedness for college and affordability (De los Santos & Cuamea, 2010). Such universities have become less affordable in Texas with academic charges and tuition increasing by 82% and 89% respectively from 2004 to 2017 (Texas Higher Education Coordinating Board, 2018). The increased tuition would be yet another barrier

for Latinos wanting to pursue a university education, considering Latinos are much more likely (24%) than Anglos (10%) to live under poverty level (Pew Research Center, 2016). Indeed, two studies found poverty to be a key predictor of dropout rate (Galvan, 1993; Loftstrom, 2007). A study found tuition costs to prevent Hispanic students from entering and staying in college (Cantu, 2004). Additionally, language minority status was another factor that impacted dropout rate, and neighborhood characteristics was a key predictor of dropout rates (Anaya, 1999; Loftstrom, 2007). Regarding students not being adequately prepared for university-level courses, a study found that one of the top predictors for dropping out of the university was student grades (Anaya, 1999; Aulck & West, 2017). Lastly, other factors mentioned were neighborhood characteristics (Loftstrom, 2007) and teacher motivation of students (Anaya, 1999). Freshmen socializing at the college setting and developing long-lasting relationships were also found positively to impact retention of Hispanic students in higher education (Maceli, 2008).

On the issue of student dropout rate and incorporating school structure, culture, and student agency, a study recommended relationships and caring, forging a culture of dialogue, creating forums for students' voices, and allowing students to engage in participatory action research (Rodriguez, 2013). Another study examined the experiences of immigrant students and found they enacted collectivistic ways to support each other. However, the individualistic culture of the school did not support the students' attempts to support each other in their learning process (Quintela, 2013). In that case, clearly "teaching the dominant culture did not directly address the problem of cultural adjustment" (Spring, 2010, p. 48). Furthermore, in Quintela's (2013) study, the students' cultural knowledge and process did not seem to be acknowledged or validated. According to Moll, Amanti, Neff, and Gonzalez, "Funds of knowledge represents a positive view of households as containing ample cultural and cognitive resources with great, potential utility

for classroom instruction” (1992, p. 134). Funds of knowledge involve the teacher reaching out to students and their families to get to know them. From there, those funds of knowledge on social, economic, and productive activities can be integrated into teaching (Moll et al., 1992). Because of close-knit networks within the Latino culture, Latino children may have the opportunity to learn from several households. For example, if a student has learned about construction, the teacher may integrate the topic into the classroom. Even the parents may get involved. Therefore, culture and the knowledge it carries matters and can be positively utilized. (Gonzalez, Moll, & Amanti, 2005). In their recommendations for improving Latino achievement, Montero-Sieburth and Cabrera Perez (2014) warned against thinking of culture as a commodity. Instead, “there’s a need to understand culture in a more grounded fashion with explanations that incorporate other psychological factors, engagement in school issues, teacher expectations and institutional and structural issues” (Montero-Sieburth & Cabrera Perez, 2014, p. 107). With that, we move on briefly to discuss salient factors in the Latino culture.

Who are they? The influence of familismo, educación, and respeto. One of the aspects of the Latino culture may be *familismo*, which refers to the family needs supersede the individual needs, family is closely interconnected, family helps each other, and familial honor (Calzada, Huang, Linares-Torres, Singh, & Brotman, 2014). From an early age, children are expected to contribute to the household in the form of chores. Additionally, it includes being affectionate and willing to share (Durand, 2010; Fischer, Harvey, & Driscoll, 2009). *Respeto* means respect to authority figures and can be shown by speaking in a respectful manner, not challenging older individuals’ opinions, being obedient, being properly courteous to people, showing deference to elders, and being well mannered particularly in public (Calzada et al., 2010; Castellon-Fuentes, 2010). Additionally, the concept of *educación* is highly valued by the Latino culture. Educación

encompasses a broader definition than academics, for it covers being polite, having good social skills, and good morals (Durand, 2010; Halgunseth, Ispa, & Rudy, 2006). Strom, Strom, and Beckert (2008) reported that Hispanic mothers ranked themselves higher on teaching, that is teaching their children about healthy habits, coping with stress, money management, and teaching right from wrong. Durand (2010) found that Latina mothers believed that children were not miniature adults, and the mothers might be more willing to understand and be patient with children because each was unique, had his/her own traits, and was in the process of maturing. Latin mothers strived to give children a balance of responsibilities and freedom for their own activities. This is congruent with Strom et al. (2008), who found Latin mothers ranked themselves high on communication, that was being available for their children, listening to them, disciplining in a fair way, and talking with their children on a variety of subjects. Latina mothers viewed themselves as protectors of their children and believed that their children needed them more than they needed anyone else, but they also believed they were the disciplinarians (Strom et al., 2008). They were authority figures who were strict and monitored their children more frequently than Anglo parents, and were willing to set limits (Fischer et al., 2009). Fischer et al. (2009) found that the three highest values Latino mothers ranked were being loving, patient, and honest, with the two lowest as having economic resources and being religious or spiritual. Additionally, they found no difference of values depending on the amount of time living in the United States. Strom et al. (2008) did find Latino mothers to be more patient and tolerant.

Strom et al. (2008) found that Latino adolescents ranked their mothers lower when compared to Black and White adolescents on the Use of Time scale, specifically attending school activities, providing them time to be alone, and allowing them time to make decisions. That was supported by the findings of Domenech Rodriguez, Donovanick, and Crowley (2009), who

observed and ranked Latino parents medium to low on autonomy granted. The same authors also found that 61% of the parents in the sample fit on the protective parenting style and 31% on the authoritative parenting style. Finally, they found that parents ranked higher on demandingness and lower on autonomy granting with their daughters. Latino fathers could be perceived as indulgent with smaller children, but might become more rigid after the child turned approximately 6 years old (Halgunseth et al., 2006). Finally, parents in Latino families might implement more rules, which had a positive correlation with adolescents deciding not to smoke or start negative behaviors (Blair, Blair, & Madamba, 1999).

In sum, based on the literature, the home environment of Generation Z Latinos is one where family and its priorities come first, where respect to authority figures is important, children are given responsibilities but also have considerable freedom, and where the parents tend to be authoritative.

Political environment. Research shows that Generation Z Latinos grew up with protective, warm, and authoritative parents (Domenech Rodriguez et al., 2008; Fischer et al., 2009). Protective parents wanted to ensure their children's safety. As a result, they increased their monitoring of children with higher frequency than parents from other ethnicities (Halgunseth et al., 2006). Generation Zers grew up in an ideologically polarized political environment (Bump, 2016). They also saw the rise of important Latino politicians (Stahl, 2015). On the other hand, though Generation Z Latinos grew up in a post-civil rights time, a new form of racism replaced the former blatant racism and took the shape of micro-aggressions (Ford, Scott, Moore, & Amos, 2013), which had the effect of otherizing and alienating Latinos (Flores-Gonzalez 2017). The changing demographics and the Latino population's rapid growth had a side effect of hostility toward Hispanics (Markert, 2010). Flores-Gonzalez (2017) argued that the

socially constructed racialization of Latinos had resulted in them becoming permanent foreigners, despite the centuries of presence in the United States and despite their legal status. The national anti-immigrant rhetoric had painted undocumented immigrants—and, Flores Gonzalez argued, by extension all Latinos—as dangerous, undeserving, and a threat to the American way of life (2017). In her analysis of 97 interviews with Latino millennials, she found three central themes. The first was Latinos as an ethno-race, many of whom, despite being legally White, considered themselves ethnically as Latino. Second, Latino millennials felt they occupied a middle place in the race ladder and viewed their position as that of between Whites and Blacks, but closer to Blacks than to Whites. Lastly, despite being citizens, calling themselves straight Americans was a struggle due to the exclusion they had faced, as well as their awareness that their phenotype and cultural traits were different from what they saw as real Americans and, which they were aware caused people to see them as different, as Mexicans (Flores-Gonzalez, 2017). Additionally, in a longitudinal study of Latino college students, it was found that those who experienced discrimination had a higher risk of experiencing post-traumatic stress disorder along with alcohol consumption (Cheng & Mallinckrodt, 2015).

The generation in the classroom. A description of schools with large minority populations by Darling-Hammond painted a dire picture of lack of adequate resources, poor quality curriculum, and noncertified/temporary teachers, and she maintained that educational outcomes suffered as a result (2004.) Darling-Hammond's recommendations, aside from increasing resources and opportunities in minority schools, were to recruit and provide qualified teachers “with a stronger understanding of how children learn and develop, how a variety of curricular and instructional strategies can address their needs, and how changes in school and classroom practices can support their growth and achievement” (Darling-Hammond, 2004, p.

240). Furthermore, despite the increase of minority student presence in schools, the teaching force had not been able to catch up with that growth, did not reflect it, and had recognized there was an opportunity adequately to train teachers to teach learners from other cultures (Brown-Jeffy & Cooper, 2011), which was why some researchers had taken a broader approach to ameliorating the school situation and not only focused on resources, but proposed the need for a culturally relevant pedagogy to address the current cultural discontinuities (Brown-Jeffy & Cooper, 2011; Nieto, 2004).

Ladson-Billings (2001) proposed that culturally relevant teaching, a term coined by her, would help all students achieve success. Her framework was structured on three pillars. “Student teachers should focus on students’ academic achievement. Student teachers should focus on developing students cultural competence, and student teachers should foster students’ sense of socio-political consciousness” (Ladson-Billings, 2001, p. 144).

Additionally, Brown-Jeffy and Cooper (2011) developed a conceptual framework for culturally relevant pedagogy that included five principles. Equity and excellence dealt with providing the resources needed versus a perspective of equality. Student/teacher relationships stated the need for caring teacher-student relationships that might extend beyond the classroom. Teaching the whole child discussed the need for skill development in a cultural context, a network of support constituted by home, school, and community to improve outcomes. Identity and achievement dealt with affirming, validating, seeing, and hearing learners and teaching identities, which were culturally grounded. Identity and achievement confirmed the need of being open to diversity and acceptance and embracing of the learners’ home and community culture. Last but not least, developmental appropriateness recognized the variation on morale, motivation, engagement, and collaboration depending on culture. It also addressed learning

styles and teaching styles, as it acknowledged that learners from different cultures might have variations in how they processed and learned. It was in those two last principles of a culturally relevant pedagogy framework on which this study leaned to explore how culture might influence Latino students' learning styles.

Wlodkowski and Ginsberg (1995) proposed a four-tiered model that leaned on intrinsic motivation. First, establish a learning environment that promoted respect and connection between teachers and students. Second, utilize relevance and options to create a positive attitude toward learning. Next, include students' opinions and values to enrich meaning. Finally, believe students would learn if learning was related to what they valued.

Edwards and Edick (2013) proposed that the culturally responsive framework should be based on interaction, accommodation, ownership, and opportunity. Interaction, according to Edwards and Edick (2013), involved establishing an individual relationship and interpreting behaviors of the individual to determine an appropriate way to respond. Accommodation involved understanding/accepting individual differences, seeing diversity as an asset, and giving the students choices (for example, giving students the choice to work in groups or individually). Ownership dealt with students first being ready to learn. From there, teachers could propitiate activities where the students could learn from each other. Additionally, teachers could incorporate family/community knowledge. Finally, on the fourth level, opportunity meant teachers needed to be able to develop a community the students could trust so they could feel comfortable to share their opinions. As part of opportunity, the teachers must teach students to reflect so they could better understand their own culture.

While the awareness of cultural diversity has awakened, as can be seen from the various frameworks described above, there is more work to do that will ultimately lead to changes in

instruction (Gay, 2000). To that end, this research intended to add to the body of knowledge on learning styles of Latinos. However, half of the study was focused on Latinas. Next, cultural factors about Latinas will be briefly discussed.

Latinas of Generation Z. Generation Z Latinas make up 16% of the total Bolivian population. In Texas, one of every four Generation Zers is a Latina. Still, bachelor degree attainment for women in Bolivia is at 28%, with an even bigger challenge being bachelor attainment for rural females, which is currently at 7%. In the state of Texas, bachelor attainment for Latinas sits at 14.2% lagging behind Anglo females, whose bachelor degree attainment is 35.6% (Statistical Atlas, 2018). Considering those striking educational attainment statistics, one must ask what challenges might Latinas encounter when pursuing higher education, as well as the factors that positively might influence their persistence.

Family network of support, perceiving oneself as capable, and being motivated by their children were factors linked to academic performance of Latinas (Graff, McCain, & Gomez-Vilchis, 2013). A comprehensive review of 27 articles confirmed there is a significant link between self-efficacy and academic performance in Latina university students (Manzano-Sanchez et al., 2018). Another study agreed on familial involvement being a positive factor to persistence, and, it also added, establishing relationships with peers and university personnel were contributing factors to resilience of first-generation Latina college students (Gloria & Castellanos, 2012). More specifically, parents' continued encouragement and students perceiving themselves as models for younger siblings contributed to persistence of Latinas in the STEM field (Peralta, Caspary, & Boothe, 2013). Another study found that daily religious experiences and mother's educational attainment were associated to hope of reaching specific goals (Cavazos Vela et al., 2014). On the topic of intragroup collectivity, a study found that undocumented

Latino students utilized a self-built haphazard patchwork of resources to achieve their educational goals. To the students, their support networks of friends, family, and other individuals who supported them were a family (Enriquez, 2011). On the topic of intergroup relations, building social capital that supported students of color was an important factor (Baker, 2013). For example, a study found that students of color reported mentors of color cared about them holistically and asked them about their life in general, not just academic performance (Luedke, 2017). Furthermore, Steffian (2003) found that Anglo acculturation, more masculine traits, perceiving equality of genders, and mother's encouragement were present in Latina college students but not so in noncollege students.

Regarding the influence of Latina mothers, a study found that Latina immigrant mothers and other supporters encouraged their daughters to persist in higher education using *consejos* [advice], *testimonios* [testimonies], y *cuentos* [stories] (Teniente Valderas, 2015).

The critical role of the Latina mothers was confirmed by a study of 146 Latinas, which validated that mothers' expectations about educational attainment and encouragement to postpone child-bearing did have an impact on Latinas' pursuing educational paths (Mireles-Rios, Romo, & Eccles, 2014). A study by Perez (2018) found that Latina mothers' unconditional support did have an influence on persistence. Additionally, Latina daughters sought other resources for academic support, as they were aware their mothers would not be able to help them with their school work. That association between parenting of Latinas and their academic success was in line with the finding that protective and authoritarian parenting predicted better academic achievement in primary school children (Kim et al., 2018). More specifically, a study looked into what the protective/authoritarian mothering looked like and found it involved strict monitoring, engagement in activities, building strong communication, developing education in children, and

being aware of how the child was feeling (Ceballo, Kennedy, Bregman, & Epstein-Ngo, 2012). Finally, being grateful for parents' sacrifices, wanting to honor parents, and having the *ganas* [desire] to succeed were also found to be factors in persistence (Easley, Bianco, & Leech, 2012).

In addition to barriers already discussed such as socio-economic issues, a study revealed that Latinas in college experienced minority status stress, which in turn was linked to depression and negatively impacted intentions to persist at University (Arbona, Fan, & Olvera, 2018). Another study highlighted the importance of the time of transition from high school to college. Minority status and perceived discrimination led to a decrease in perceived societal value of their minority group.

In a study of 7 Latinas at a university (DeMirjyn, M., 2011), themes surfaced regarding ethnicity and equity. For instance, the narratives revealed intergroup distance, generally related to interactions with non-Hispanic individuals. In that same study, another theme was intragroup collectivity, or how they became role models and established bonds with other Latinas. Racial intolerance, experienced racism, racial tension, and cultural discontinuity were subthemes that surfaced as well. Additionally, regarding racial tension, a study of Latinas found that most of them had gone through instances where their ethnicity, their gender, or their socio-economic status caused them to be discriminated (Plasencia-Romero, 2018).

Additionally, other issues for Latinas in higher education include academic preparedness, lack of social support, cultural discontinuities, and financial issues (Nunez, Hoover, Pickett, & Stuart Carruthers, 2013). Recommendations by Nunez et al. (2013) included an outreach to parents even prior to starting school, establishing a network of supportive parents, and hosting orientations for Latino families. Additionally, they recommended for professors to be open to funds of knowledge and to give, as an example, the multiple languages Latino students might

speak. Finally, Nunez et al. (2013) discussed working on the campus climate so there would be a diversity of students, curricular diversity, other activities aside from the ones of the dominant culture, and the opportunity to establish relationships with students from varied backgrounds. Additionally, Clonan-Roy, Jacobs, and Nakkula (2016) proposed to work on the students' critical consciousness supported by the five C's (connection/caring, competence, confidence, character, and contribution), plus resistance (critical consciousness to speak up and act) and resilience (overcoming adversity and persist).

No literature was found regarding female university students' experiences in higher education in Bolivia. However, a study was found regarding technology use by students in five Latin American countries (Vázquez Cano, & Sevillano-García, 2018). The findings were that tablets were used inside the university's facilities. Smartphones, on the other hand, were used also outside the university. Smartphones were used for educational purposes and for transferring content among students.

To summarize, the purpose of this study was to explore the learning styles of Generation Z and to examine how culture might impact learning preferences for two cohorts of Generation Z business students: one in Bolivia and one in Texas. To that end, a literature review was conducted to cover the theories underpinning the current research: learning styles and culture. Additionally, studies about learning styles and culture have been included. Lastly, Generation Z persona, Bolivian Generation Z, and Latino Generation Z in America were reviewed. This study could have implications for higher education administrators and educators, because the findings could be used to make modifications that could ultimately help business students who might be having difficulty due to their learning style not being compatible with how they are being taught. Next, Chapter 3 will review the methodology for the current research.

Chapter 3: Methodology

The purpose of this study was to understand the learning styles of Generation Z and to explore how cultural factors may play a role in shaping learning preferences. For this study, two groups of Generation Z Latino students—one cohort in Bolivia and one in the United States—were purposefully selected to participate, based on specific criteria. This chapter describes the research methodology utilized for this study including participant selection, site selection, instruments, data collection procedures, interview protocol, and ethical considerations. This chapter also discusses the role of the researcher and the measures that were taken to ensure trustworthiness and reliability.

The following overarching research question guided this study: What are the learning styles of both cohorts of Generation Z students—at a Bolivian university and a south Texas university—and how does culture influence their learning preferences?

- 1) What are the learning styles of participants at a Bolivian university and a south Texas university?
 - a) What are the learning styles of a Bolivian university's cohort participants?
 - b) What are the learning styles of a south Texas university's cohort participants?
 - c) How do learning styles differ between the Bolivian university and south Texas university cohorts?
- 2) What are the cultural dimensions of the Bolivian university and south Texas university cohorts?
 - a) What are the cultural dimensions of a Bolivian university's cohort participants?
 - b) What are the cultural dimensions of a south Texas university's cohort participants?

- c) How do cultural dimensions differ between the Bolivian university and south Texas university cohorts?
 - d) How do the Bolivian university and south Texas university cohorts' cultural dimension scores compare to the United States country scores?
- 3) Does gender have an impact on the learning styles at a Bolivian university and a south Texas university?
- 4) In their own perspectives, how do Latina participants describe their culture, generational traits, and learning preferences at a Bolivian university and a south Texas university?
- a) How do Generation Z Latina university students describe their culture?
 - b) How do Generation Z Latina university students describe what is important to them as members of Generation Z?
 - c) How do Generation Z Latina university students describe their learning preferences?

Once the aim of the inquiry was determined, as well as the questions, what research design would be most compatible to answer said questions was determined.

Research Design

Creswell (2005) stated that research design referred to the specific procedures to be used during data collection, data analysis, and reporting. Furthermore, Creswell explained that quantitative research was used to answer research problems requiring either a description or understanding of how variables were associated. Qualitative research, on the other hand, served to study issues that a researcher wanted to explore or when a researcher was seeking a deeper,

more detailed, understanding of a complex phenomenon (Creswell, 2005), or understanding the meaning, context, process, or causal explanations (Maxwell, 1996).

The method must match the particular research problem and its purpose (Richards & Morse, 2013). When looking at the main research question, the purpose of this study appeared to be exploratory in nature, and therefore one would have assumed that qualitative methods would be better suited, as this type of approach would be compatible with interpretive or theoretical aims (Schram, 2006). However, drilling down to the research questions, it became clear that answering using mixed methodology would be required since the questions sought answers to trends, identification, and descriptions—quantitative—but also sought to understand a complex phenomenon—qualitative (Creswell, 2005).

Survey designs are a form of quantitative research suitable for seeking trends when administered to a sample (Creswell, 2005), which is what Hofstede (2001) and Felder and Silverman (1988) did with the instruments they used in their research. This study used the instruments that Hofstede (2001) and Felder and Silverman (1988) developed and leaned on correlation statistics to find out if an association existed between culture and learning styles. Another strength of qualitative research is to understand the processes that lead to outcomes (Maxwell, 1996). This study sought to understand and explain the interaction between culture and learning styles. Thus, descriptive statistics and grounded theory to develop a macro analysis of that phenomenon were utilized. According to Creswell, grounded theory is appropriate to use when trying to “generate a theory that explains, at a broad conceptual level, a process, an action, or interaction about a substantive topic” (2005, p. 396). That design was a better fit than a theory that one might borrow from another field because it was grounded on the data itself.

Constructing theory begins with the data, utilizes iterative and comparative methods, and accepts the researcher is actively involved throughout the analysis and making decisions, which of course, should be grounded on the data (Charmaz, 2014).

This study gathered data separately from both cohorts involved. After completing collection of the survey data the cultural dimensions and the learning styles of Groups A and B were determined. For the second part, female, Latina, Generation Z volunteers were interviewed. Upon completing the qualitative data gathering, the data were analyzed using grounded theory.

Site and Participant Selection

Site selection. Participants for this research were students at two universities: one in Bolivia, and one in the state of Texas in the United States. Both sites were selected on the following criteria:

- The university had to have a business school and related majors
- The university had to have Latino students
- The university must represent a “typical” Latino population

The United States’ cohort was formed by students in a university in south Texas where Latino students were immersed in the American culture but would still identify themselves as Latino. The criteria listed above are important for conducting cross-cultural analysis (Minkov,2013). The reason conducting the research at two universities with business schools and Latino students was that the study needed two groups that were similar in many respects: belonging to Generation Z, studying business or related majors, and Latino. The reason for choosing to find samples similar in the criteria named above was that when conducting cross-cultural comparisons, “there are dimensions of national culture that seem stable across different matched samples” (Minkov, 2013, p. 94).

Participants. The target population were Generation Z university students studying business or related majors. The reason for selecting students who were pursuing careers in similar fields was to diminish the possibility of results being affected by differences in variables such as age and profession (Minkov, 2013). Participants who were included were all born on or after 1996 so they could be deemed as members of Generation Z. Students who participated but did not fit the criteria stipulated were not included in the study.

For the survey, both male and female students were asked to participate in the study. For the quantitative part of the research, purposeful sampling was used at both universities. An e-mail invitation was sent to business professors or professors in related fields. Time was set with professors who responded positively for me to visit their class and make brief in-person presentations to invite students to participate. To recruit students, students' clubs in the business schools were contacted, as well as Prospanica, an organization of Latino professionals that has a student membership. The main response obtained was from visiting classes. There was no response from Prospanica or the business clubs, except for the Accounting Club at the Texas university. Creswell offered a rough estimate of sample size for educational research to be 30 participants when conducting a correlational study. Also, based on Lipsey's sample size table, for a significance level set at $p = .05$, power criterion of .80, and effect size of .5 (Creswell, 2005), the sample size was confirmed to be 30. Therefore, the goal was to obtain survey responses from 60 participants in each group as a minimum (30 females and 30 males). Given the survey's duration, which exceeded 70 questions, there was a drawing for two \$31 gift cards to a local general merchandise store in Bolivia and two \$50 Amazon Gift Cards in the United States as incentives for participation. Each survey counted as an entry to the drawing. No duplicate entries were permitted.

For the qualitative part of this research, only female students were asked to take part in the interviews. Participants were selected via purposeful sampling. More specifically, typical Latinas who were studying business or related majors and were members of Generation Z were desired. Additionally, I sought to interview female students (Latinas), with the intent to explore the views of this subgroup. Hispanic females currently account for 20% of all females and, by the year 2060, 1 of every 3 women will be Hispanic (Gandara, 2015). Although, there have been some gains in educational attainment, as of 2013, only 75.8% of Hispanic women graduated from high school compared to an average of 90% for all other ethnic groups (NCES, 2014).

While Hispanic females surpass Hispanic males in bachelor's degree attainment at 18.6% versus 13.1%, Hispanic women are still the least likely to earn a bachelor's degree when compared to any other ethnic groups: white females: 43.8%; black females: 23.2% (NCES, 2014). According to USAID, investing in women has benefits beyond the recipients as females reinvest their salaries in their families and communities (USAID, 2015). Also, women's income increases with every additional year they stay enrolled in school (Pfeffer, 2014).

Furthermore, research studies on Latinas' learning styles are limited. Some studies found Latinas preferred to learn with peers with a variety of learning approaches and required more mobility than Mexican-American boys and Anglo boys (Dunn, 1990; Dunn, Griggs, & Price., 1993). They needed to move more than the other cohorts and scored higher in internal locus of control (Griggs & Dunn, 1995). They scored high on visual learning style with their least preferred being auditory (Shirvani, 2016). When comparing to Latino males, Harris found Latina females scored high on the connected learning style: preferred to withhold judgment, looked for common ground in a debate, and sought complete understanding to view the topics from different perspectives (Harris, 2014).

Since research on Latinas' learning styles is sparse, a study looking at cultural dimensions and their impact on learning styles of Latinas would be a more comprehensive approach and would add to the body of knowledge on how Latinas learn. Increased knowledge would potentially benefit educators, administrators, and college recruiters to better serve the needs of Latinas and to improve their chances of staying in school. In sum, given the current state of Latinas' educational attainment, its potential impact on Latinas' chances to enter the labor market, and, consequently, the potential positive impact on their families and communities, it is important to continue striving to understand how Latinas learn.

According to Creswell (2005), studies using grounded theory conduct, as a rule of thumb, require at least 20 interviews, but this number may be smaller if there are additional sources of data. Charmaz (2014) stated that some believe 12 to be the number of interviews that would work for most researchers. Since the current study also gathered quantitative data, as well as an arts-based question to be created during the hour-long interview, the study goal was to interview 14 (7 in each group). The sample size was increased to a total of 25 completed interviews of individuals who fit the criteria. That was done to have plenty of rich interview material to reach each category's saturation (Charmaz, 2014), knowing that I would not be able easily to return to Bolivia to conduct more interviews if that became necessary. In compensation for their time, interview participants were given a \$10 voucher in Bolivia and a \$15 voucher in the United States.

Data Collection Procedures

Recruiting volunteers and administering the survey. In Bolivia, a brief presentation in classroom sessions was conducted, with permission from the University's vice chancellor, to invite students to take the survey. Time to visit class was coordinated with professors who were

interested. During the class visit, the survey was introduced, and it was administered at the beginning or toward the end of the class period, per the professors' preference. The survey was completed in pen and paper due to technology concerns.

Similarly, at the south Texas university, an invitation to participate in the survey was sent via e-mail to business school professors asking to allow me to visit their classes. I took up to 5 minutes at the beginning or toward the end of class to speak about the research and to invite students to fill out the survey. Participants were given a choice of filling out the survey using pen and paper or via electronic format using Survey Gizmo from their mobile devices or laptops. Most participants filled out the survey using pen and paper. Additionally, business clubs at the south Texas university were contacted to invite students to participate, with the only response coming from the Accounting club. Lastly, a request was sent to the Prospanica San Antonio president asking for help by e-mailing the survey link to university students who fit the criteria. However, there was no response from Prospanica student members.

Once the survey collection was completed, data from the surveys were entered into an Excel file. Any surveys that had been filled electronically were exported from the survey app. Next, data were integrated into the same Excel file where the pen and paper survey data had been compiled. Once the Excel file was completed and formatted properly, the data were imported into SPSS.

Conducting the interviews. The interviews were conducted at an office space in Bolivia and in a library conference room in Texas to achieve better quality audio. The interviews were recorded using a cellular device. As a backup, the interviews were audio taped with a digital audio recorder. The audio digital files from the interview were then transferred to my laptop for

transcription. After the interviews were transcribed, transcriptions were reviewed against the audio file and corrections were made as needed.

The instruments. Given this study used mixed methodology, there were two types of instruments used. A survey for the quantitative section was intended to be filled out by males and female participants. Semi-structured interviews for the qualitative section included only Latinas from both cohorts.

Quantitative instrument. The quantitative data collection instrument consisted of two instruments combined into one survey. The first part of the survey consisted of 10 demographic questions. Information obtained from the participants did not make it possible individually to identify the subjects. However, demographic questions were useful to answer the research questions related to gender and added value to the descriptive statistics. The second section contained 24 questions from Hofstede et al.'s (2010) Values Survey Module (VSM) 2013, which was used to gather data that resulted in index scores for six cultural dimensions: power distance, individualism, collectivism, masculinity vs. femininity, uncertainty avoidance, long- vs. short-term orientation, and indulgence vs. restraint. The VSM 2013 is Hofstede et al.'s most updated survey (2010) and was obtained from Geert Hofstede's website, which grants permission for its use by researchers wishing to use it for their research (Hofstede, n.d.). The 24 questions in the survey can be answered in 1–5-point interval scales. Hofstede's four original dimensions (PDI, IDV, MAS, and UAI) have shown, based on his database that contains data from 40 countries, to have test reliability with a Chronbach alpha of over .715 to .842 (Hofstede et al., 2010). Long-term orientation and indulgence versus restraint were added after consideration of their similarity in studies with 23 and 81 countries respectively (Minkov, 2013).

The third part of the survey administered to participants in this study contained 44 nominal scale questions from the Felder-Silverman ILS (1988). Participants were asked to choose from two options in each question, the results of which provided 4 scales: sensing vs. intuitive, visual vs. verbal, active vs. reflective, and sequential vs. global. That instrument is considered reliable and valid according to studies by Zywno (2003), Felder and Spurlin (2005), and Cook (2005). According to Cortina, above 0.7 would be an acceptable range (1993). For the ILS, test re-test correlation coefficients for learning dimensions were found to range between .061 and 0.81 (Cook, 2005). Construct validity was also supported by 354 students in a study by Litzinger et al., (2007), who evaluated the results of the survey and decided if the instrument described their learning styles as *well* or *very well*.

The combined survey of demographic, VSM, and ILS questions was administered in Spanish to the Bolivian participants and in English to the American students. The VSM 2013 was available from Hofstede's site in both Spanish and English (Hofstede, n.d.). Since the Spanish version is from El Salvador, adjustments were made to the questions to localize the translation. The ILS questions are available in English only. Consequently, Felder and Silverman's ILS questions were translated into Spanish (1988). To ensure accuracy, the translated combined instrument, along with the English versions, were sent to a translation agency for validation.

Qualitative instrument. Semi-structured interviews were completed with a total of 25 female students who fit the criteria of the sample. A list of questions was developed to ask participants. There were 5 potential questions that addressed learning style and 5 potential questions that addressed culture. Probing questions were added as needed.

Additionally, there was an art-based activity, which asked participants to create a visual representation of their culture and then to explain what it meant. Art supplies were available for participants to utilize.

Interview Protocol

The Latina interviews took place at an office space or at a library conference room where participants were interviewed one-on-one for up to 1.5 hours at a time agreed upon with participants. The interview began with an introduction where the objective of the project and topics to be covered were explained, and participants were assured of confidentiality. Also, participants were informed there were no right or wrong answers. Participants were informed they could freely share their own individual experiences and views. The consent form was reviewed, and participants were asked if they had any questions, which were answered accordingly, prior to participants signing the consent form.

The semi-structured interview started by turning on the audio recording devices, as explained in the data collection section of this document. Upon completion of the interview, participants were thanked for their participation. Participants in Bolivia were given a voucher for a meal at a local fast food restaurant worth \$10. Participants in Texas were given a \$15 gift card to a fast food restaurant. I debriefed and captured my observations and notes the day of the interviews.

Protection of Human Subjects and Ethical Considerations

This study conformed to the ethical considerations of respect for persons, balancing risk and benefits, and fair recruitment. For instance, an effort to ensure participants were aware of their rights to exercise their autonomy was made by providing an informed consent form, which emphasized their participation was completely voluntary and allowed them to choose to participate or to withdraw at any point. Said consent form was placed as the first page of the

survey. And, for interview participants, the consent form was given to them prior to commencing the interview. A copy of the signed consent form was made available to interview participants.

For interview recruitment, in consideration for their time invested, a voucher with a value of \$10 in Bolivia to a fast food restaurant was given to participants. A voucher for \$15 at a fast food meal at a local restaurant was provided to interview participants in the United States. The reason for the difference was that the disparity in purchasing power is 61% lower when comparing Bolivia to the United States according to Numbeo (2018), a site that offers cross-country comparisons. In addition, in order to achieve participant recruiting success in completing the survey, and considering the survey's length of over 70 questions, in Bolivia, a drawing was held for two \$31 gift cards to a local general merchandise store. There was a drawing for two \$50 Amazon Gift Cards in the United States. Participants needed to complete the survey in order to be entered into the drawing.

The participants were asked for demographic information, but minimal identifying information was collected. For the winner of the drawing to be notified, participants were asked for a cell number. Participants were informed they could skip that optional question if they so chose. The phone number information for participants who chose to participate in the drawing was kept under a locked file and was not entered into the Excel file. The data imported into SPSS did not contain the phone number. Participants were assured of confidentiality and were informed that as the data were tabulated, their information would be coded with a number not related to their phone number. Also, for the qualitative data, any time participants' quotes were noted, aliases were used. The aliases were followed by B.U. or S.T.U. as a convenience for the reader so the participants could be identified as coming from Bolivia or the United States.

Role of the Researcher

This study used a mixed methodology research approach. As part of the qualitative section of this dissertation, qualitative interviews were reviewed to collect, theme, code, analyze, and derive conclusions. Since in that process I interacted with the data, it was necessary to examine my subjectivity to be aware of it and to monitor it to reduce potential bias, misconception, shaping, or omission, which might come as a result of my subjectivity. That subjectivity can be shaped by several factors that are specific to each person such as the individual's class, values, and beliefs (Peshkin, 1988).

I was born in Bolivia and lived there for close to 2 decades. At the time of this study, I had been living in the United States for over 25 years and had maintained relationships with Bolivian, as well as American, people. I was aware that Bolivian subjects' responses might be sensitive to the fact I was now an American. On the other hand, subjects might respond positively when knowing I was born and reared in Bolivia. That could have had positive effects and encouraged the subjects to be more open and interested in the research process or negative depending on political persuasion. In the United States, because I am Latina, the subjects might have been more open and considered me as one of their own.

I had worked in corporate America for nearly 20 years. For the last 10 years, I had worked in various functions in a learning and development department and, as such, was intimately familiar with training design, delivery, and evaluation. As part of a training role, I had an opportunity to conduct Train-The-Trainer workshops for groups of American trainers, as well as groups of Spanish-speaking trainers. That was originally where I considered that culture might impact how one learned and processed information. Additionally, in my latest role, my team of trainers had to teach a course where changes had been made to accommodate preferences by

today's learners. I observed that instructional designers might have been working under assumptions that were widely generalized, such as "today's learners like self-directed activities." And, as a result, instructional designers potentially overused do-it-yourself activities, which trainers have later realized do not work for all topics. I was aware of my "pedagogical meliorist" subjectivity (Peshkin, 1988). To monitor that subjectivity, I identified a list of triggers while conducting research, so as to be keenly aware of possible judgments.

I had relatives who were members of Generation Z and frequently interacted with them. My former team of trainers frequently instructed learners from Generation Z. Because of training materials flowing from instructional design that were created for the millennial generation, and because of the sparse literature on Generation Z, I remained open to any insights in regard to Generation Z learning preferences.

Data Analysis

Once the surveys were entered into Excel, the VSM manual was followed to determine where the cohorts ranked in cultural dimensions. Likewise, the Felder and Silverman's ILS manual instructions were followed to determine the cohorts' preferred learning styles (1988). According to the VSM manual, cultural dimensions should only be considered in the aggregate for the cohort and not on an individual basis. The ILS, on the other hand, allowed individual scoring. The data were imported into SPSS for further analysis, minus cultural dimensions data. Cultural dimensions data remained at the aggregate level and were not imported into SPSS.

In order to answer the first research question regarding learning styles of both cohorts, the ILS instructions were followed in the Excel file. Once data for both cohorts were ready, further analysis was conducted in SPSS to examine the percent of learners who preferred each of the scales. Also, the data were segmented into mild, moderate, and strong tendencies to the learning

styles. This was done to determine the percentage of students who fell in the moderate and strong categories. Those would be the students who would have a harder time in a class if instruction did not match their learning styles. Next, both cohorts' preferences were compared.

To answer the second research question regarding cultural dimensions, the VSM manual instructions were followed in the Excel file. Then both groups' ranks were compared. Additionally, they were compared to the United States cohort's scores found on Hofstede's website (Hofstede, n.d.). To determine a potential association between culture and learning styles, *t*-tests were run. In order to answer the third question of how culture might be associated to learning styles by gender, a two-by-two ANOVA was run comparing both groups—Latinos in Bolivia and Latinos in the United States—on gender.

For the final question on qualitative analysis, transcriptions were formatted and imported into an Excel file. Codes were used for column headings and, when a code applied, it was marked with a *1*. If the code did not apply, it was left blank. This was done with the intention of being able to group and sort material depending on the theme. The following phases were completed: (1) initial coding and (2) focused coding. During initial coding, categories were formed and, in the process, studied for what the data suggested and from whose point of view (Charmaz, 2014). During initial coding, a codebook was developed to determine the type of information that would be encompassed in each code. The codebook was a living document, which was modified as the central phenomenon became clearer. An iterative approach to analyze the data was taken. That resulted in the need to clarify and revise codes and definitions, as well as to add and merge codes (DeCuir-Gunby, Marshall, & McCulloch, 2011). Line-by-line coding using gerunds was used, a device used by Charmaz to dig deeper into data that might help a researcher to conduct comparisons, explore, and bring to light potential areas to study within the

process (2014). Additionally, memo notes were made. If the data included similar incidents, comparisons between interviews were done by sorting the data. During focused coding, emphasis was placed on the most frequently recurring codes and studied for what did those codes uncover, what did comparisons indicate, and what gaps still existed (Charmaz, 2014). During all phases of coding, in vivo codes were sought, which helped decide on categories to compare (Strauss, 1987). Throughout the data collection and analysis process, a journal was kept about potential connections to themes and possible probing questions. Finally, graphics and tables were drawn for comparison, illustration or integration (Strauss, 1987).

Trustworthiness and Validation

Researchers must validate the accuracy of their findings in order to establish trustworthiness (Creswell, 2005). To that end, the study

- used triangulation among the survey data, the semi-structured interviews responses, and art-based activity; each source was examined to see if it supported the findings and had congruence;
- conducted member checking during the interviews by paraphrasing, summarizing, and asking the participants to confirm whether my interpretations were correct.

Summary

The oldest members of Generation Z are now of college age. As this new wave of learners enters college, understanding this generation's learning styles is important in order to better serve their educational needs. Consequently, the central phenomenon of this research was pursued by selecting Latino cohorts in Bolivia and at a south Texas university. The Bolivian cohort was selected as a typical Latino culture, which did not have a major American influence due in part to geographic distance. The objective of this study was first to determine the learning

style of both cohorts. Then, the study sought to understand how cultural dimensions impacted said learning styles. Considering compatibility to the questions asked, a research approach was selected. To answer the research questions, it was determined that mixed-methods would be the most appropriate approach.

This chapter presented the reasoning behind choosing a mixed method approach to answer the research questions. This chapter also included a description of the instruments, data gathering procedures, interview protocol, and subject protection. Data for this research came from surveys, semi-structured interviews, and an arts-based activity. The survey data were analyzed in SPSS, and the interview data were coded and analyzed via initial coding and a second phase of focused coding. After themes emerged from the data, a comparative analysis was conducted to validate the themes were grounded in the data. Lastly, the triangulation of data served to minimize limitations described in Chapter 4. Next, Chapter 4 will present the findings of this research.

Chapter 4: Results

The purpose of this study was to explore learning styles of Generation Z Latino university students and to understand how culture might impact their learning preferences. Toward that aim, two cohorts of Generation Z Latino students—one from a Bolivian university and one from a south Texas university—filled out a survey to help determine the cohorts' cultural dimensions and their learning styles. The overarching research question that guided this study was: What are the learning styles of both cohorts of Generation Z students—at a Bolivian university and a south Texas university—and how does culture influence their learning preferences? More specifically, aside from differences and similarities between groups, this study pursued the question of how cultural forces might shape one's learning preferences. Additionally, the qualitative part of this research focused on Generation Z Latina students' approach to learning, cultural factors, and learning preferences.

The quantitative part of this mixed methodology study leaned on a survey that combined two existing questionnaires, which were filled out by male and female students in both cohorts. The qualitative section of this research utilized semi-structured interviews of female students. In this chapter, quantitative findings are shared first as they answer the first three research questions, which are listed below. Lastly, qualitative findings are provided.

1. What are the learning styles of participants at a Bolivian university and a south Texas university?
2. What are the cultural dimensions of the Bolivian university and south Texas university cohorts?
3. Does gender have an impact on the learning styles at a Bolivian university and a south Texas university?

4. In their own perspectives, how do Latina participants describe their culture, generational traits, and learning preferences at a Bolivian university and south Texas university?

Regarding the quantitative data, the first section of the survey used in this research was Hofstede's (2001) 24-question VSM that resulted in six scores—calculated based on four questions each—representing dimensions of national culture: power distance Index (PDI), individualism index (IDV), masculinity index (MAS), uncertainty avoidance index (UAI), long-term orientation index (LTO), and indulgence versus restraint index (IVR). Since there are no absolute criteria for any of these dimensions, cultures must be measured relative to each other. Hofstede's (2001) index for each dimension ranged from 0 to 100. For instance, a small power distance country would be closer to 0, and a large power distance country would be closer to 100. For a brief description of each dimension and how it may manifest at school, in business, in philosophy, and in family, refer to Appendix A.

The second part of the survey used in this research consisted of the 44-question questionnaire from Felder and Silverman's (1988) ILS. Based on four sets of 11 questions, the individual would be scored between 1 to 11 on each set. Additionally, a letter—a or b—would indicate on which side of the continuum the learner's preference fell. Scores from 1 to 3 were considered a mild leaning, 5 to 7 moderate, and 9 to 11 would show a strong preference for one dimension. For example, on the active to reflective (ACT/REF) scale, a score of 11a would indicate the learner strongly preferred the active learning style. A score of 5b would indicate the learner moderately preferred the reflective learning style. When describing tendencies—mild, moderate, and strong—the original scale depicted in Figure 1 was used.

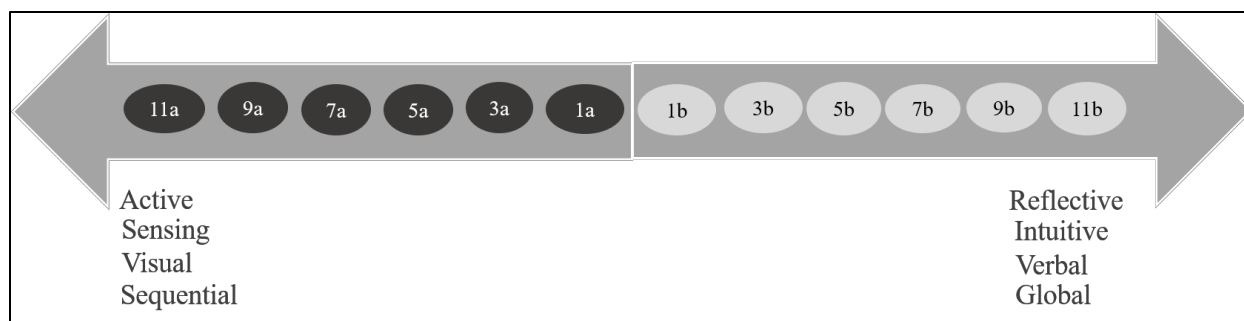


Figure 1. Learning styles spectrum with original values (Felder & Silverman, 1988).

However, in order to increase the ease of analysis and only while performing statistical tests, a constant of 11 points was added to each result, thus, sliding the scores to be above 0 and eliminating the use of a or b. Scores from 0 to 11 would be considered active, and scores from 12 to 22 would be reflective. Again, this constant only served to conduct the statistical test in a straightforward manner. For any description of strength of tendency for either side of the spectrum, the original Figure 1 was used.

Following the ILS questionnaire, there were nine questions to gather demographic data. Two required questions were year of birth and ethnicity. Based on the responses to those questions, records were filtered out. That is, any individuals who were born prior to 1996 and who did not consider themselves Latino were not included in the data set. Additionally, records with missing or duplicate values in the culture or learning styles questions were not included in the data set. However, records with missing values in the demographic questions, aside from the two required questions, were included, since they did not affect the calculation of cultural or learning styles dimensions. The last question of the survey asked for female volunteers who would be willing to participate in an interview. Subjects who volunteered were contacted via text, and an appointment was set for the interview to gather qualitative data.

Data was collected in two sites, as mentioned in Chapter 3—a Bolivian university and a south Texas university. At both sites, I was allowed to give a 3- to 5-minute presentation to

request for volunteers to participate in the research and to fill out a survey. At the Bolivian university, 353 surveys were collected, which decreased to 208 after filtering out surveys that were incomplete, had missing/duplicate values, or the individuals fell outside the age criteria (born before 1996). Similarly, at the south Texas university, 145 surveys were collected, which dropped to 57 once individuals outside the criteria were removed from the data set. In sum, at both sites, surveys that had some missing values in the demographic questions were still included if they had a complete set of questions in the other two sections, provided they had filled out the questions on age and ethnicity.

Demographics

The two sites will be referred to as a Bolivian university and a south Texas university. To clarify, those were universities located with one in the country of Bolivia and one in the state of Texas in the United States. The university in Bolivia was selected due to the country being located at a significant geographical distance from the United States. That was important to consider the Bolivian culture as representative of a typical Latino culture—not extremely influenced by the American culture given the geographic distance as a closer country such as Mexico might be. Additionally, it fulfilled other criteria such as having a business school and related academic majors. The university in south Texas was selected due to its large Latino population of 57%. That cohort was considered a typical Latino Generation Z sample. A matched sample was utilized, which included male and female Generation Z Latino students from business or related fields. The study's goal was to obtain a sample of 60 students. Recruitment at the Bolivian university yielded more participants, a total of 207 valid surveys, given the classes were larger and all students who volunteered were Latino. Recruitment at the south Texas university resulted in a total of 57 valid surveys, since not all volunteers fitted the criteria. As

seen on Table 1, at the Bolivian university, 32% of the subjects included were male and 68% were female. At the south Texas university, 47% of the subjects were male and 53% were female. At the Bolivian university, 77% of students were raised in a rural setting and 23% in an urban setting. At the south Texas university, the percentages were in the same vicinity; most subjects, 84%, were raised in a rural setting, 15% were raised in an urban setting, and 1% was raised in both settings.

Table 1

General Demographics at Both Universities

	Bolivian university	South Texas university
Total valid surveys	208	57
Male	67	27
Female	141	30
Raised in rural setting	157	48
Raised in urban setting	46	8
Raised in both rural/urban	0	1

A question in the demographic section of the survey asked the subjects to select their type of work, whether current or past. If participants did not have a paid job or had never held a paid job, they could select *student*. As shown in Table 2, at the Bolivian university, 58.2% of participants were full-time students, compared to 19.6% at the south Texas university. That indicated that 80% of south Texas university subjects currently held a job or had held a paid job in the past. At the Bolivian university, 26.4% of participants worked as unskilled workers versus 41.1% at the south Texas university. As could be expected from an undergraduate sample, only 2% of participants at each university had worked as a manager of employees. Lastly, only 2% of students at the south Texas university had been managers of managers.

Table 2

Work Status by University

type		Job							Total	
		Student	Worker	Office worker	Artisan	Professional	Manager (Mgr.) of Employees	Mgr. of mgrs		
Bolivian university	Count	121	55	13	13	2		4	0	208
	% within University	58.2	26.4	6.3	6.3	1.0		1.9	0.0	100.0
South Texas university	Count	11	23	12	3	5		1	1	56
	% within University	19.6	41.1	21.4	5.4	8.9		1.8	1.8	100.0
Total	Count	132	78	25	16	7		5	1	264
	% within University	50.0	29.5	9.5	6.1	2.7		1.9	0.4	100.0

The surveys were collected from students taking classes in the business school or related majors. These majors included economics, finance, accounting, international business, marketing, management information systems (MIS), foreign commerce, commercial engineering, and others. A breakdown of majors is shown in Table 3. The surveys were collected from freshman, sophomore, junior, and senior classes.

Table 3

Subjects at Bolivian University and South Texas University by Field of Study

		Major			Total
		Business, Management, Marketing	Finance, Accounting, Commerce, MIS	Other	
Bolivian university	Count	32	164	12	208
	% within univ	15.4	78.8	5.8	100.0
South Texas university	Count	26	28	3	57
	% within univ	45.6	49.1	5.3	100.0
Total	Count	58	192	15	265
	% within univ	21.9	72.5	5.7	100

Overall, counting both universities, 41% from juniors, 30% of surveys from freshmen, 17% from seniors, and 12% from sophomores. The breakdown for each university is illustrated in Figure 2.

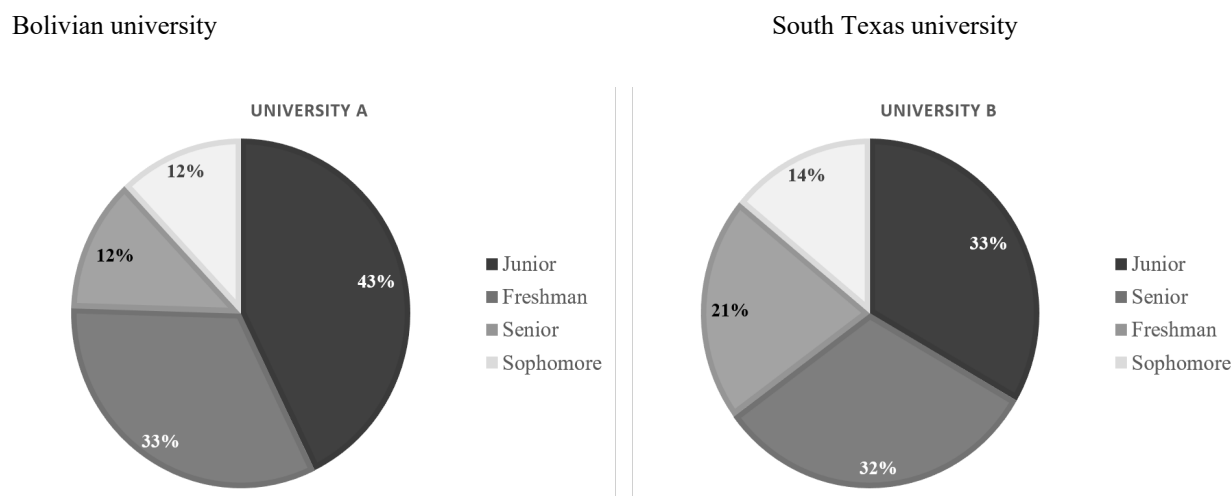


Figure 2. Bolivian university and south Texas university cohorts by percentage of class year.

At the Bolivian university, there were a higher number of junior and freshman students who participated in the study. A total of 43% participants were juniors, followed by 33% who were freshman. The remaining 24% were sophomores and seniors. At the south Texas university, 65% of students were upper classmen and 35% were freshmen and sophomores.

Research Question 1

Research Question 1: What are the learning styles of participants at a Bolivian university and at a south Texas university?

The first research question sought to determine the learning styles of both cohorts in order to see how similar or different they might be. For quick reference, below is a summary of learning styles from the Felder and Silverman's (1988) ILS:

- Sensory and intuitive. This is based on whether the students prefer information from external sources—through the senses. Intuitors, on the other hand, would prefer to

process information through insights, or internal intuition. Sensors prefer to deal with facts, data, and are comfortable with detail. Intuitors are more comfortable with abstractions, might be less detail oriented, and like to think about different possibilities. Visual and verbal. This scale has to do with through what sensorial channels a student prefers to receive information. A visual learner might enjoy diagrams, pictures, and flowcharts, whereas a verbal learner might prefer verbal explanations, content outlines, and hearing from classmates.

- Active and reflective. This scale determines whether students process information in an active approach—discussion and participation—or via a more introspective approach. Reflective learners may like to first have time to think about the problem and put together a well-thought-out plan on how to approach it.
- Sequential and global. This scale measures how a learner prefers to process the information. A sequential learner would prefer to take in information in a logical, linear, step-by-step manner. On the other hand, a global learner might seek to understand the big picture first, the relevance of the topic, and how is it connected to other topics. A global learner may want to devise his/her own novel solutions rather than be given a step-by-step process.

To determine learning styles for each cohort, 44 questions from Felder and Silverman's ILS were asked. The learning styles were computed according to the formulas provided in the manual from Felder and Silverman. Having completed this brief review on learning styles, the first subquestion will be answered next.

Subquestion 1a. Subquestion 1a asked: What are the learning styles of a Bolivian university's cohort participants? The following data reflects results from all participants, males

and females, at the Bolivian cohort. Active/reflective is a scale where learners can place themselves according to their preferences. If students rank on the active side of continuum, they learn better by actively trying, discussing, explaining, and interacting with the information. On the reflective end, students learn better by observing and reflecting on the information. At the Bolivian university, 52.4% of learners preferred the active learner style, and 47.6% preferred the reflective style. In any of the styles, the learners' tendency may be mild, moderate, or strong, depending where along the continuum they land. Learners with mild tendencies are considered to be balanced learners. That is, they may be able to flex their learning styles somewhat easily. Learners with moderate or strong tendencies may experience difficulties learning in an environment that favors the opposing style (Felder & Silverman, 1988). As seen in Figure 3, at the Bolivian university, a total of 64.42% of learners were mildly reflective or mildly active. Combining moderately and strongly active learners, a total of 19.71% would have difficulty in a class geared toward the opposing style. Finally, 15.41% of learners were moderately or strongly reflective and might experience challenges in an active teaching approach.

Another learning style is sensing and intuitive. Sensing learners like to deal with facts, calculations, real world problems with tried and true steps to solve them, formulas that can be memorized, laboratory work with a well-defined methodology, and they don't mind repetition. Intuitive learners, on the other hand, may enjoy innovative methods, exploring new possibilities, and connections. They may work fast and dislike routine, memorization, and repetitive methodology. They may like abstractions and entering into new information realms. Participants at the Bolivian cohort were largely sensors at 74.5% compared to 25.5% of participants scoring as intuitors. Examining the cohort's learning preferences by strength of tendency (see Figure 4), a total of 36.50% of participants preferred the sensing learning style strongly or moderately. That

suggested over a third would find it difficult to learn in an intuitive teaching style. Nearly 4% were moderately or strongly intuitive.

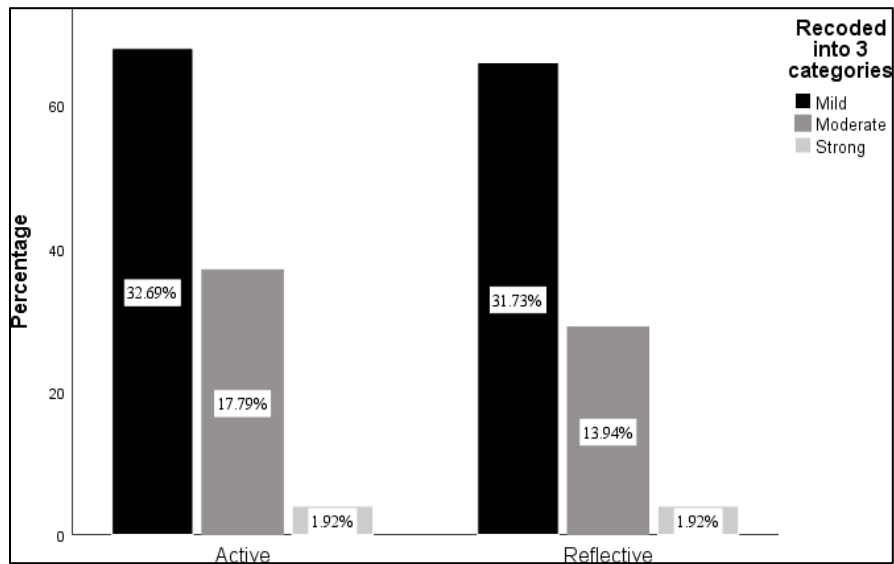


Figure 3. Active and reflective grand totals by strength of tendency at the Bolivian university.

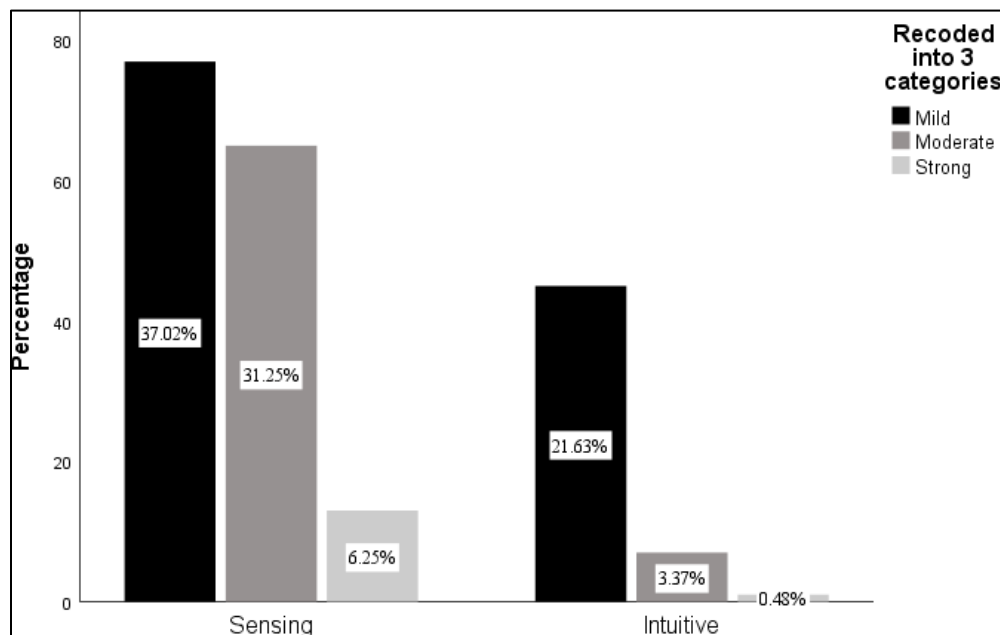


Figure 4. Sensing and intuitive grand totals by strength of tendency at the Bolivian university.

Students who favor the visual over the verbal style learn better by seeing. In other words, classes that include flip charts, graphs, diagrams, pictures, time lines, demonstrations, and videos work for them. On the other hand, verbal learners rely on words to learn better. For them,

explanations, whether they be written or verbal, function well. They would prefer to have material they can read, or explanations they can hear from their teachers or classmates. At the Bolivian university, 83.7% of learners were visual. Only 16.3% of students preferred the verbal style.

As displayed in Figure 5, a total of 58.18% of students had a moderate or strong preference for the visual style, and only 3.84% were moderately or strongly verbal. That suggested 58.18% of visual learners might find it very difficult to be in a class where material was presented mostly via written text or verbally.

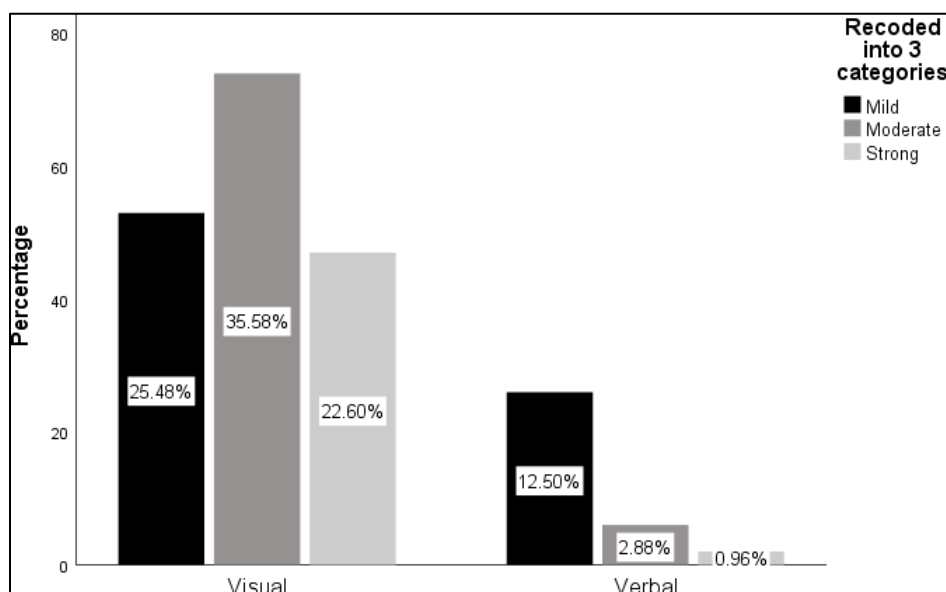


Figure 5. Visual and verbal grand totals by strength of tendency at the Bolivian university.

For visual learners, diagrams, pictures, flow charts, timelines, and visual representations are particularly important. Visual learners may find it very difficult to be in a class where material is presented mostly via written text or verbally.

Finally, on the sequential and global continuum, sequential learners learn better when material is presented linearly, orderly, and step-by-step. They enjoy learning bit by bit until a solution or a point is reached. They may even be able to follow the steps at first without fully

understanding the problem. Global learners, on the other hand, need to understand the big picture first, before they are able to take any steps to solving it. Once they get the big picture, they might be able to come up with solutions, and yet, they may not be able to delineate, step by step, how they got to the solution. Global learners may seem confused at first, learning by stops and starts, until they finally get a flash of understanding and “get it.”

Participants at the Bolivian university showed a clear preference for sequential learning, with 78.4% of students scoring on the sequential side of the continuum and 21.6% being global learners. An examination of strength of tendencies toward sequential or global learning styles showed 44.23% of learners at the Bolivian university had a score that indicated moderate or strong preference for the sequential style (see Figure 6). Only 3.37% of students showed a moderate preference for the global style. Lastly, no students showed a strong preference for the global learning style. Sequential learners would benefit from classes where the material is covered linearly, and in order, without jumping around to other topics.

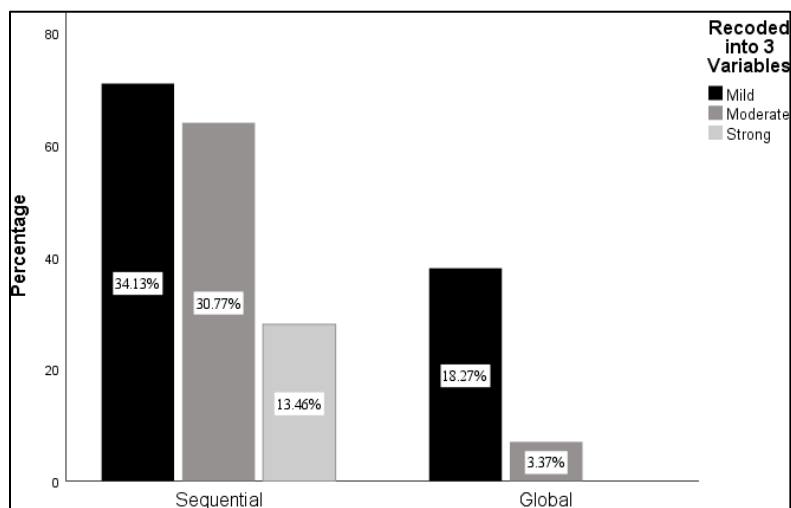


Figure 6. Sequential and global grand totals by strength of tendency at the Bolivian university.

Taken together, students at the Bolivian university showed a preference for active, sensing, visual, and sequential learning style. Of those, visual and sequential were the strongest

preference. For the active and reflective dimension, learners were split fairly evenly. Next, the findings for the south Texas university will be reviewed.

Subquestion 1b. Subquestion 1b was: What are the learning styles of a south Texas university's cohort participants? Scores were calculated for the south Texas university cohort by following Felder and Silverman's (1988) ILS manual. Both males and females were included in the calculations. For the active and reflective scale, 59.6% of students scored in the active category, and 40.4% of students preferred a reflective style. In regard to strength of tendency toward the learning styles, 33.33% of learners were moderately or strongly active at the south Texas university (see Figure 7). Lastly, 10.52% of students were moderately or strongly reflective learners. That is to say, 33% of U.S. Latino learners might find great difficulty in classes where the supported style was reflective.

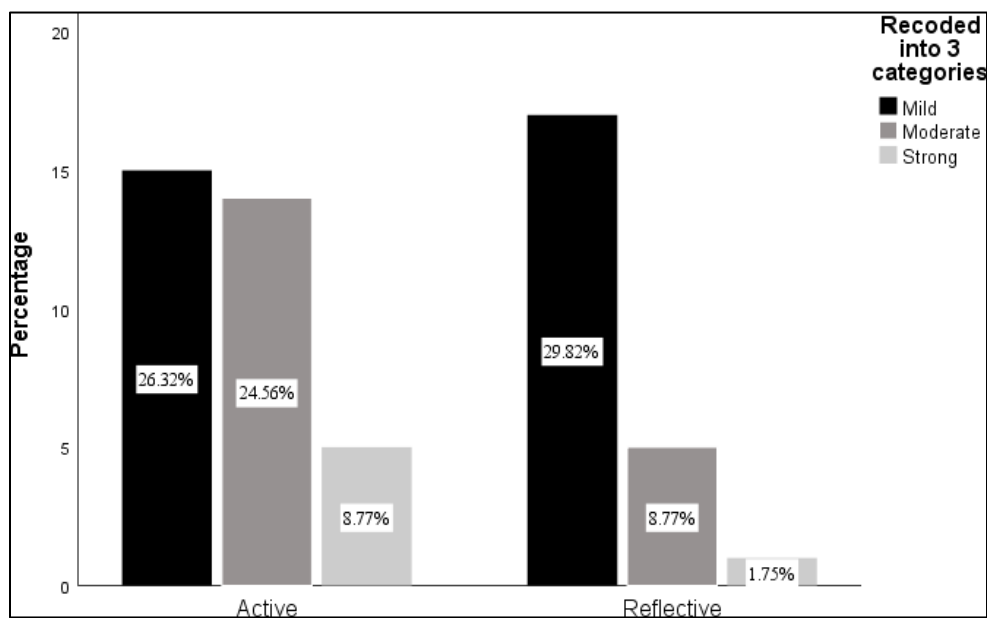


Figure 7. Active and reflective grand totals by strength of tendency at the south Texas university.

Regarding the sensing and intuitive scale, 60% of learners at the south Texas university were sensors, and 40.4% were intuitors (see Figure 8). At the south Texas university, 47.37% of participants showed a strong or moderate preference for the sensing style. Only 17.55% showed

a moderate or strong preference for the intuitive style. Consequently, 47.37% of learners might find a theoretical or abstract class more difficult than a class that was practical, with a connection to the world, and with details, specifics, and procedures.

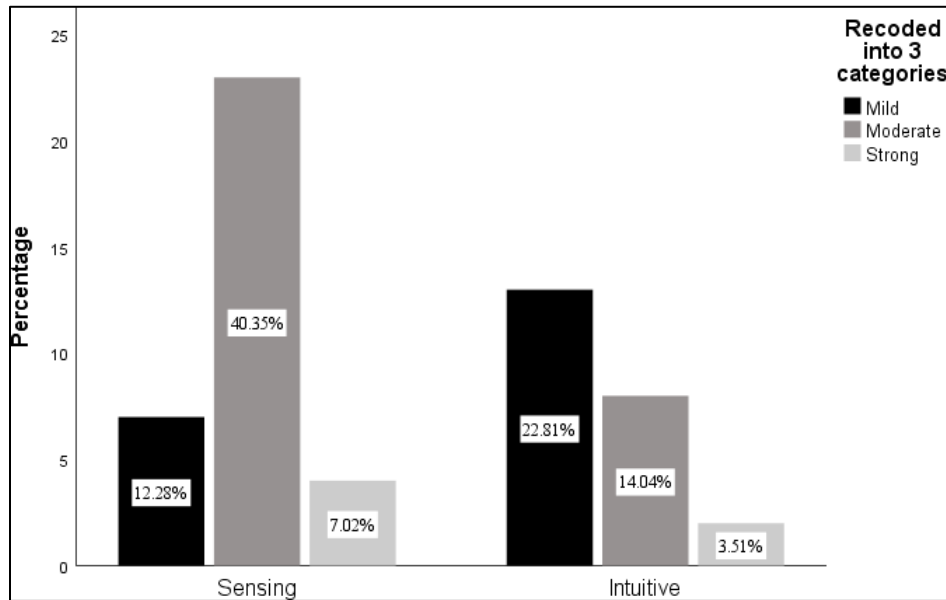


Figure 8. Sensing and intuitive by strength of tendency at the south Texas university.

Students who favor the visual over the verbal style learn better by seeing. At the south Texas university, 82.5% of participants preferred the visual learning style compared to 17.5% of participants who preferred the verbal learning style (see Figure 9). As displayed in Figure 9, a striking 59.65% of learners are moderately or strongly visual, and none, 0%, were strongly or moderately verbal. For visual learners, visual representations are particularly important. Visual learners may find it very difficult to be in a class where material is presented mostly via written text or verbally.

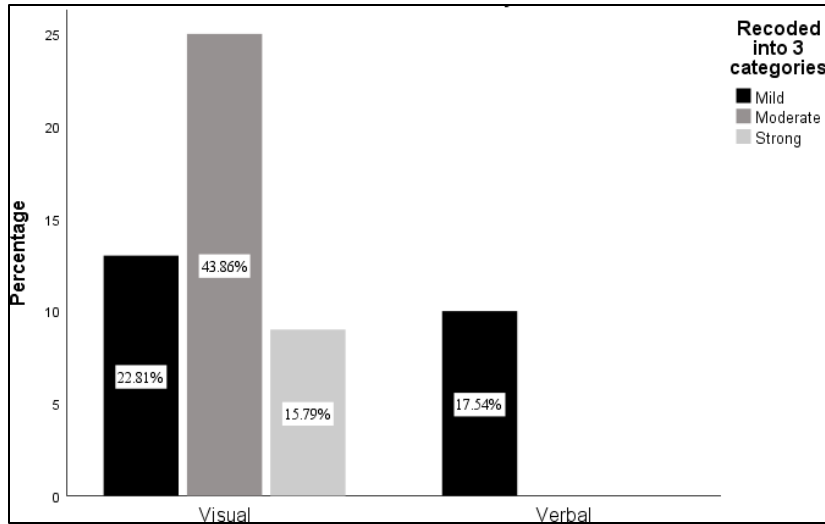


Figure 9. Visual and verbal grand totals by strength of tendency at the south Texas university.

Finally, on the sequential/global continuum, the majority of participants, 70.2%, were sequential learners, and 29.8% were global learners. At the south Texas university, 28.07% of students had a strong or moderate preference for the sequential style, and 7% had a strong or moderate preference for the global style. That suggested the south Texas university participants might prefer classes with outlines, clearly ordered. Sequential learners may have great difficulties to achieve success in classes where topics might be skipped, jumped, tangents ridden, and no outlines given.

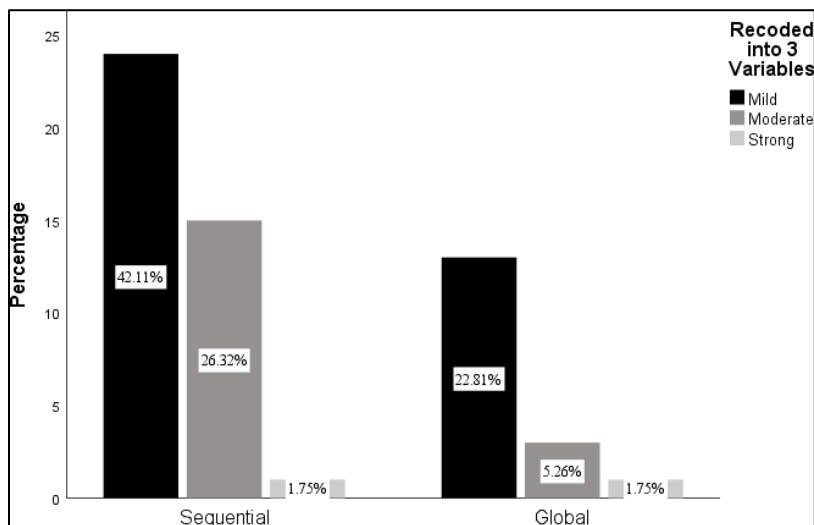


Figure 10. Sequential and global grand totals by strength of tendency at the south Texas university.

Subquestion 1c. Subquestion 1c asked: How do learning styles differ between the Bolivian university and south Texas university cohorts? Frequencies revealed that at both universities, the most preferred and the least preferred learning styles came in the same order, as can be seen in Table 4. Visual, sequential, sensing, and active were the most preferred learning styles. Reflective, intuitive, global, and verbal were the least preferred learning styles.

Table 4

Preferred Learning Styles by University

Bolivian university		South Texas university	
of students who preferred the learning style		of students who preferred the learning style	
Visual	84	Visual	83
Sequential	78	Sequential	70
Sensing	75	Sensing	60
Active	52	Active	52
Reflective	48	Reflective	48
Intuitive	26	Intuitive	40
Global	22	Global	30
Verbal	16	Verbal	18

To determine whether there were any statistically significant differences between learning style means of the two Latino cultures (Bolivian university and south Texas university), an independent samples *t*-test was performed to explore the effect of culture on active/reflective, sensing/intuitive, visual/verbal, and sequential/global learning styles. Learning styles statistics can be found on Table 5. Results of the independent samples *t*-test indicated the following:

- After checking the assumption of homogeneity of variances [Levene's $F(1,263) = 1.247$, $p = .265$], there was not a significant difference between the cultures in the scores for the

active/reflective dimension at the Bolivian University ($M = 11.28$, $SD = 4.17$) and scores at the south Texas university [$M = 12.35$, $SD = 4.63$; $t(263) = -1.68$, $p = 0.094$].

- After failing to meet the assumption of homogeneity of variance [Levene's $F(1,263) = 22.106$, $p = 0.000$], a Welch's test was conducted to evaluate the differences between the two universities. There was not a significant difference between the cultures in the scores for the sensing/intuitive dimension at the Bolivian university ($M = 13.49$, $SD = 3.73$) and scores at the south Texas university ($M = 12.91$, $SD = 5.44$; $t(263) = 0.76$, $p = 0.45$).
- After confirming the assumption of homogeneity of variance [Levene's $F(1,263) = 0.896$, $p = .345$], there was not a significant difference in the scores for the visual/verbal dimension at the Bolivian university ($M = 5.29$, $SD = 3.13$) and scores for the south Texas university ($M = 4.86$, $SD = 2.92$; $t(263) = 0.93$, $p = 0.35$).
- After confirming the assumption of homogeneity of variance [Levene's $F(1,263) = 0.698$, $p = .404$], there was a significant difference in the scores for the sequential/global dimension at the Bolivian university ($M = 14.38$, $SD = 3.994$) and sequential/global dimension at the south Texas university ($M = 12.74$, $SD = 3.810$); $t(263) = 2.77$, $p = .0006$. The Bolivian university cohort scored higher on that dimension than the south Texas university cohort.

Taken together, the findings suggested that both cultures shared three out of four learning styles. Those results suggested that even though U.S. Latinos at the south Texas university might have been immersed in an Anglo culture, their learning styles were not significantly different from Latino students at the Bolivian university in three dimensions: active/reflective, sensing/intuitive and visual/verbal. The exception where the cohorts' scores differed was in the sequential/global dimension, possibly suggesting a departure from the Latino culture. However,

those findings might have been different if the sample size at the south Texas university had been larger.

Table 5

Learning Styles Group Statistics

Learning style	University	<i>N</i>	Mean	Std. Deviation
Active/reflective	Bolivia	208	11.284	1.170
	South Texas	57	12.354	1.631
Sensing/intuitive	Bolivia	208	13.493	1.734
	South Texas	57	12.915	1.439
Verbal/visual	Bolivia	208	5.293	1.126
	South Texas	57	4.862	1.924
Sequential/global	Bolivia	208	14.383	1.994
	South Texas	57	12.743	1.810

Research Question 2

Research Question 2: What are the cultural dimensions of the Bolivian university and south Texas university cohorts? Prior to discussing the findings, a summary of cultural dimensions and learning styles will be presented here. The cultural dimensions are as follows: Power distance (PDI). This dimension describes the power structures of a culture. If a culture ranks high in PDI, their members are likely to live in a society where hierarchies play a big role. At school, this would manifest in respect for the teacher. The teacher would be expected to be wise and transfer his knowledge. Students would not freely speak up. Rather, they would participate when the teacher would call on them (Hofstede et al., 2010)

- Individualism vs. collectivism (IDV). This dimension explores how close their members feel to each other. In other words, it measures the strength of its members feeling they belong to a group and are supported by the group. Or, in the case of an individualist country, individuals would feel they need to depend on themselves alone. In collectivistic societies, members are cohesive and assist or protect members in need. In individualistic societies, individuals may need to be self-sufficient, or their network of support may be their immediate family only. In a collectivistic society, one might see the need for harmony, for achieving honor and prestige, and for feeling guilt for breaking the rules. Maintaining harmony is of paramount importance. Members of individualistic cultures may be more verbal and depend less on tacit information as they may not be concerned about maintaining harmony. In an individualistic society, students would speak for themselves. In a collectivistic society, students would speak if the group is in agreement (Hofstede et al., 2010).
- Masculinity vs. femininity (MAS). In societies that are masculine, men are expected to be tough and driven versus women who are expected to be “modest, tender and concerned with the quality of life” (Hofstede et al., 2010, p. 141). In a feminine society, one might see overlapping of gender emotions. In masculine countries, the best students may appear overly proud, secure, and, at times, aggressive. At school, in a masculine society, teachers would praise excellent students. Students would enjoy competition. In a feminine society, praise would be for weak students. Instead of competition, children would be taught to seek harmony. In a masculine society, teachers would be respected if they excelled in their subject. In a feminine society, students would appreciate friendly teachers (Hofstede et al., 2010).

- **Uncertainty avoidance (UAI).** This measures how nervous or anxious, at the societal level, a culture may feel toward changing, uncertain, or unfamiliar situations. This may be visible in how comfortable or uncomfortable its members feel when there exists a lack of well-defined rules. In strong uncertainty avoidance societies, people would try to exert control over ambiguity by adding rules and regulations. This could extend to school life where structure would be appreciated. Students would be praised for being accurate, being on time, and delivering the one right answer. In a weak uncertainty avoidance country, students might appreciate assignments that are a bit more unrestricted, perhaps with timelines that are flexible. Weak UAI societies would praise students for originality rather than timeliness. In strong UAI countries, teachers would be expected to be the guru. Teachers would bring in parents only to inform them. In weak UAI countries, teachers would try to engage parents so they could actively participate in their children's progress (Hofstede et al., 2010).
- **Long-term orientation (LTO).** This dimension encompasses virtues such as persistence, thrift, sense of shame, and order in relationships by status. High LTO societies may value the following virtues: "hard work, feeling of responsibility, imagination, tolerance and respect for other people, thrift, determination, religious faith, unselfishness and obedience" (Hofstede et al., 2010, p. 236). Cultures that rank low in this dimension may show a high regard for the past, history, and traditions. They may appreciate the present as a product of a proud past, the established order, keeping appearances, and being seen as steady or stable (Hofstede et al., 2010).
- **Indulgence versus restraint (IVR):** This measures the inclination to have fun and enjoy life versus "a conviction that such gratification needs to be curbed and regulated by strict

social norms” (Hofstede et al., 2010, p. 281). In an indulgent society, people report being happier and believing they have control over their lives. To members of an indulgent society, having friends is valued. They are more optimistic, feel healthier, and might have less moral discipline. In restrained societies, people report being less happy and feeling helpless. For members of restrained societies, leisure and friendships are less important. Thrift and moral discipline are highly valued. People may be more cynical and pessimistic (Hofstede et al., 2010).

To determine cultural dimensions ranking for both cohorts, 24 questions from Hofstede et al.’s VSM 2013 were asked. Based on participants’ answers, the six cultural dimensions outlined above were calculated based on the VSM manual’s index formulas. To determine cultural dimensions, four survey questions were included in each formula. For example, the index formula for PDI included the mean for questions 2, 7, 20, and 23. In cases where the final score was negative, a constant was added. That constant served the purpose to shift the values to between 0 and 100, per the manual’s directions. The PDI value for the Bolivian university was –6.32, which is why +6.32 was added to shift this value to 0. Consequently, 6.32 was added to the result of PDI for the south Texas university as well.

Subquestion 2a. Subquestion 2a: What are the cultural dimensions of the Bolivian university’s cohort participants? To answer this research question, scores in each dimension for each culture were calculated in Excel following the factor analysis instructions provided in the VSM manual by Hofstede et al. (2010). Both males and females of the cohort were included in the dataset. The formula for each dimension is based on simple mathematical calculations, multiplying by a fixed number and adding a different fixed number. The scores fall in an index where scores can range from 0 to 100.

For the Bolivian university, the scores were found to be as follows (see Figure 11). The PDI was extremely low at 0, which suggested members of the society may not “expect or accept that power is distributed unequally” (Hofstede, 2001, p. 98). The IDV score was in the low range at 5. That was indicative of a society with a strong collectivistic tendency. The masculinity score was in the low range at 26. However, there were more women who filled out the survey and, according to Hofstede (2001), this is the one dimension where it matters who fills out the survey. A low range IDV would suggest a society where gender roles overlap. UAI value was at 24, thus suggesting the society’s comfort with ambiguity. The LTO score was also in the low range at 15. A low LTO score would point to the society’s respect for tradition and reciprocating of favors. Also, it would suggest an appreciation for personal steadiness and saving face (Hofstede, 2001).

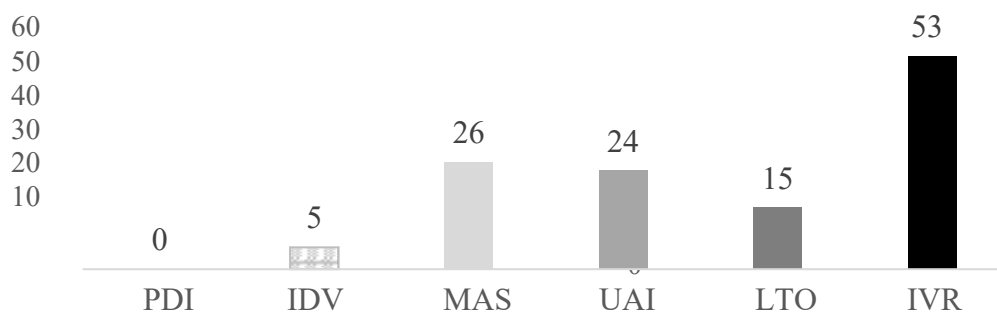


Figure 11. Cultural dimensions at the Bolivian university.

Subquestion 2b. Subquestion 2b: What are the cultural dimensions of a south Texas university’s cohort participants? The south Texas university cultural dimensions scores were calculated following the VSM (Hofstede et al., 2010). Both males and females were included in the data set. The results (see Figure 12) revealed a PDI score of 32, in the midrange. That indicated its members might fairly expect and accept unequal power structures. At a score of 23, that cohort would be indicative of a collectivistic society. A score of 3 for the masculinity index would suggest a society where gender roles overlap. The next two dimensions—uncertainty

avoidance and long- term orientation—revealed a score of 0 for each. Those scores would suggest a society extremely comfortable with ambiguity and very short-term oriented. Finally, IVR was at 53 right on midrange. That score would indicate the society was fairly balanced in its tendency to indulge.

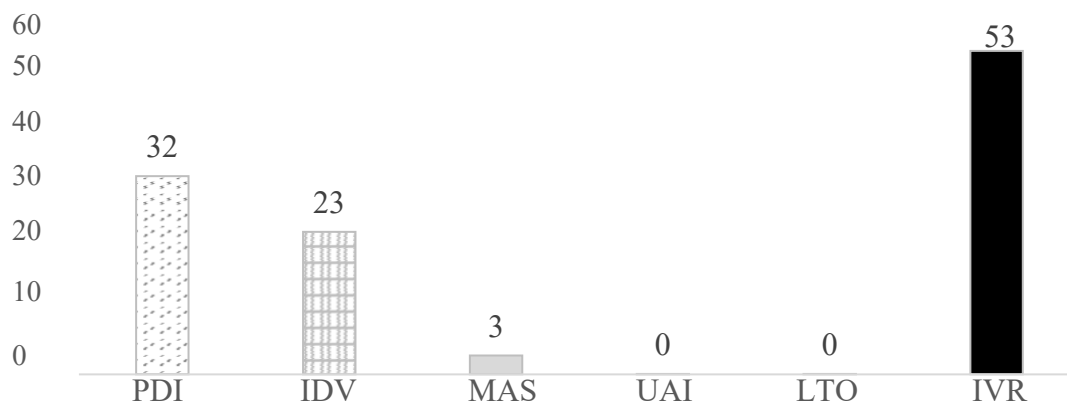


Figure 12. Cultural dimensions at the south Texas university.

Subquestion 2c.

Subquestion 2c: How do cultural dimensions differ between the Bolivian university and south Texas university cohorts? Having calculated the cultural dimensions scores for both cohorts, the relative distance between the Bolivian university scores and the south Texas university scores in the index could indicate how closely aligned those two cultures might be. First, there was an observable difference between both cohorts in the power distance dimension (PDI). The Bolivian University cohort's PDI score was at the lowest end of the scale, at 0. U.S. Latino participants at the south Texas university leaned toward the middle range of the spectrum on that dimension at a score of 32.

On the other hand, both cohorts' scores were on the low range of IDV, which suggested a strongly collectivistic society. Bolivia's score of 5 and the south Texas university's score 23.

Collectivism is commonly attributed to Latino cultures where individuals belong to groups that are closely knit extended families and can expect to be supported by the group should the need arise.

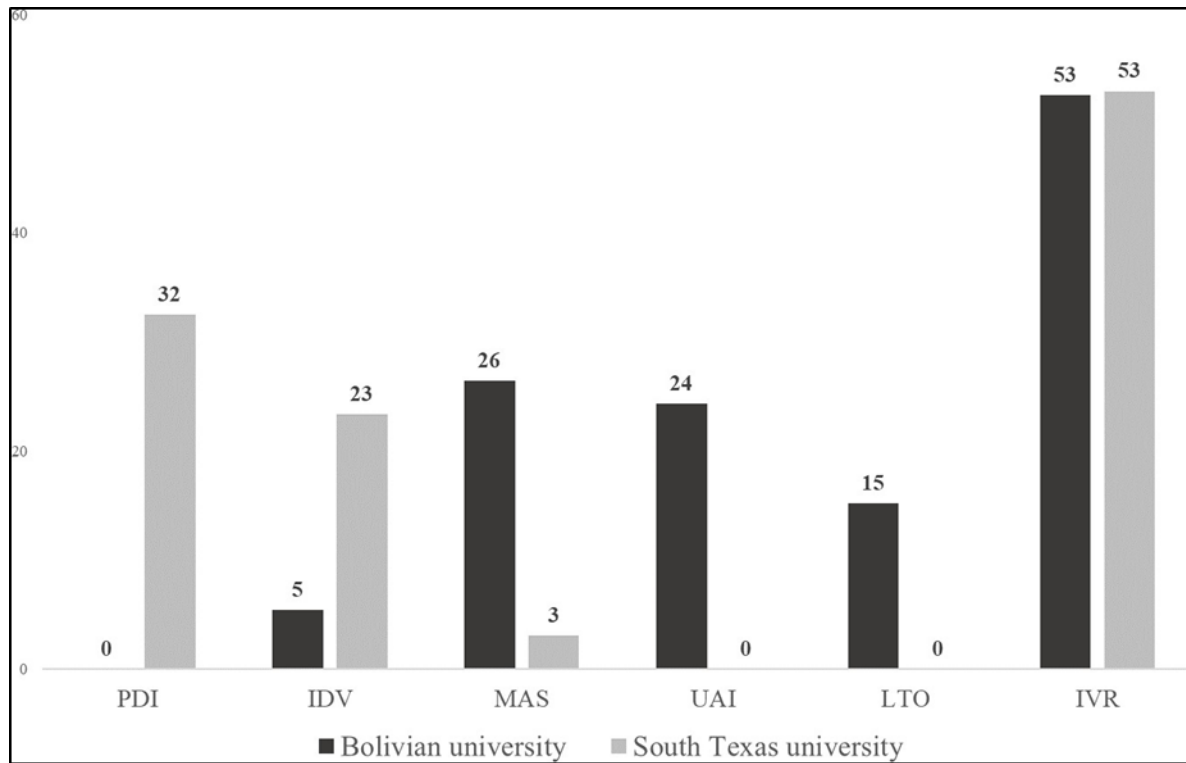


Figure 13. Comparison of cultural dimensions at the Bolivian university and south Texas universities.

Masculinity is another dimension where both cohorts shared a relative similarity with scores landing on the lower range. The Bolivian university cohort's score of 26 was on the low range. The south Texas university score was even lower at 3. Both of those reflected a strong femininity tendency. That implied gender roles were expected to overlap. Both mother and father could be nurturing and concerned about the well-being of the family in addition to being the bread-winners. And, both mother and father could be assertive, ambitious, and pursue material success. The Bolivian score of 26 was still higher than the score of 3 at the south Texas university. That would hint, for example, the mother and father would be expected to care and

nurture in addition to provide for the family. At school, students would appreciate friendly teachers. Students would try to get along and, when asked about themselves, they might tend to self-deprecate. Boasting would not be appreciated. Additionally, feminine societies tend to value the environment and helping others (Hofstede et al., 2010).

The Bolivian university cohort at 24 was higher than the south Texas university cohort's extremely low a score of 0 on the uncertainty avoidance (UAI) dimension. However, they were both still considered to be on the lower range. Scoring low on that dimension pointed to being accepting of ambiguity, change, unstructured situations, and people different than themselves. In other words, scores on the lower range pointed to members of the Bolivian and Texas cohorts being highly tolerant of surprises, new situations, changing circumstances, and innovation.

Another dimension where the scores for the Bolivian university cohort and the south Texas university fell on the low range was long-term orientation. The Bolivian university ranked 15 and the south Texas university cohort ranked 0 on that index. Ranking low in the long-term orientation dimension would indicate both cohorts were short-term oriented. That would indicate respect for traditions, reciprocating of favors, saving face, and appreciating personal steadiness.

Finally, both the Bolivian university and south Texas university cohorts ranked on the middle range of indulgence versus restraint (IVR), both scoring 53. A high IVR score indicates a tendency for members to value extroversion, a subjective sense of feeling healthier, happier, placing more importance on leisure than work, valuing sports, having less strict moral discipline, and a tendency to enjoy life. Low IVR cultures, on the other hand, seem to lean toward regulating their behavior as it concerns fulfilling one's desires, abiding by social norms, and pessimism. In the case of the Bolivian and south Texas universities, both fell right on the midrange, thus showing a good balance between restrained and indulgent societies.

Subquestion 2d. Subquestion 2d asked: How do the Bolivian university and south Texas university cohorts' cultural dimension scores compare to the United States country scores? Culture has been referred to as “the collective programming of the mind that distinguishes the members of one group or category of people from another” (Hofstede, 2001, p. 9). Symbols, rituals, heroes, and practices would help reproduce the culture, so continuity in culture is maintained (Hofstede et al., 2010). Furthermore, although citizens of a country may share the same culture, “there remains a tendency for ethnic, linguistic, and religious groups to fight for recognition of their own identity” (Hofstede et al., 2010, p. 21). Comparing cultural dimension scores of the cohorts studied to the scores for the general U.S. society would indicate how closely the Latino Generation Z cohort was aligned to the U.S. country scores. Not being aligned might suggest the south Texas university cohort might have maintained their ethnic culture despite having been exposed to the culture of the nation. The Bolivian university scores would be expected to be different from the U.S. country scores given that the symbols, rituals, heroes, and practices of each country were different.

The U.S. country scores reflected here originated in Hofstede et al.'s (2010) studies. Scores for both cohorts and the U.S. country scores were graphed in Figure 14 for reference. Regarding PDI, the Bolivian cohort score of 0 was a large distance, 40 points apart, from the U.S. country score, which stood at 40. The south Texas score of 32, only 8 points away, was relatively close to the U.S. country PDI score. That suggested that the south Texas university cohort of Latino Generation Z students were indeed associated to the nation's score in that dimension. The score of the Bolivian university cohort could indicate its members might not be accepting of a highly stratified and unequal power structure. Hofstede's country database does not have a country score

for Bolivia. Therefore, comparing the Bolivian cohort to Bolivia's country score was not currently possible.

On the individualism scale, the Bolivian university score of 5 and south Texas university score of 23 were both on the lower range. Those scores stood in stark opposition to a score of 91 for the United States, which reflected an extremely highly individualistic tendency where individuals were "on their own" as part of their immediate family and the ties between individuals were loose. Those tendencies can be reflected on how relationships are formed and maintained. In collectivistic societies, relationships, being part of the in group, being accepted by the tribe, and maintaining amicability are extremely important. Additionally, communication may be characterized as being tacit. Whereas in individualistic societies, focusing on tasks, being accepted for who one is, individual competition, confrontation, and explicit and detailed communication are important (Hofstede, 2001). On the individualism dimension, then, the south Texas university cohort of Latino Generation Z students was more closely aligned to the Bolivian cohort's score.

The Bolivian university score of 23 and south Texas score of 3 suggested societies where men and women's roles might overlap. The United States' score of 62 on the masculinity index reflected a tendency to a masculine society where gender roles were expected to be different. Men are expected to be strong, assertive, seek financial success, hide weakness, deal with facts, and fight should the need arise (Hofstede, 2001). On that dimension again, the south Texas university cohort of Latino Generation Z students were more closely aligned to the Bolivian cohort's score than to the U.S. country score.

The Bolivian university score of 24 and south Texas university score of 0 were on the low range of the UAI dimension. The United States, with a score of 46, ranked in the middle

range. That suggested its members were moderately accepting of uncertainty and might try to limit the possibility of uncertainty by implementing a fair number of rules and structure. An attitude of embracing uncertainty goes hand in hand with feeling less stressed or anxious, because members embrace unexpected changes and may view such changes as interesting. In ambiguity accepting cultures, members may be careful not to over-express emotions, may dislike rules and regulations, and may be early adopters of innovation (Hofstede et al., 2010).

Ranking low on LTO would indicate an emphasis on the past and the present, which would manifest in extreme valuing of national pride, tradition, saving face, reciprocating of favors, and keeping social obligations. A high score of LTO would suggest a future-oriented mindset where persistence, thrift, and adaptation would be highly valued. Both cohorts ranked on the low range on that dimension (Hofstede, 2001). The Bolivian university score of 15 and south Texas university score of 0 on LTO were relatively aligned with the U.S. country score of 26—all on the low range. All three cultures suggested a past/present-oriented way of thinking evidenced by the valuing of rights, independent thinking, importance of profits for the short term, abstract rationality, valuing of traditions, and appreciating quick results (Hofstede et al., 2010).

Indulgence is defined as “a tendency to allow relatively free gratification of basic and natural human desires related to enjoying life and having fun” (Hofstede et al., 2010, p. 281). Restraint, on the other hand, is defined as the belief that “gratification needs to be curbed and regulated by strict social norms (Hofstede et al., 2010, p. 281). The Bolivian and south Texas universities both scored 53. The U.S. country score on that dimension was 68 (Hofstede et al., 2010). Those scores would reflect, for the three cultures, a fair level of optimism, subjective health, and leisure.

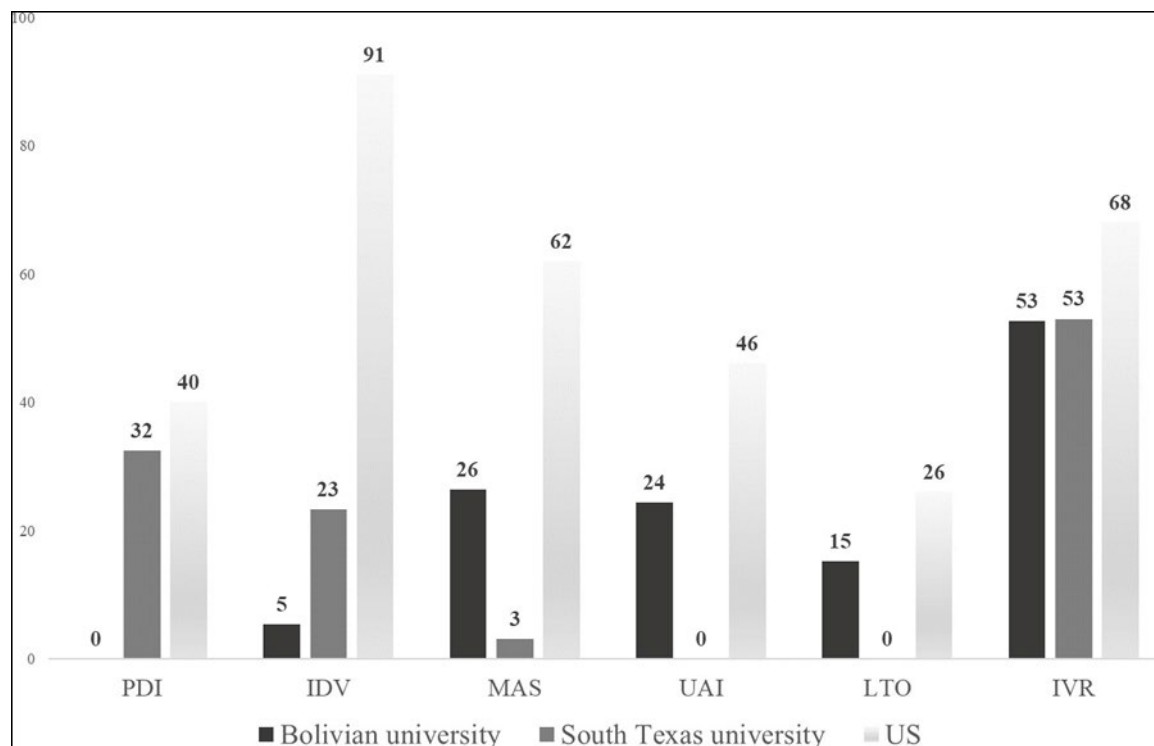


Figure 14. Comparison of cultural dimensions of the Bolivian and south Texas universities to the U.S. country scores.

In conclusion, both cohorts' scores were found to be in the same range in five out of the six dimensions. Bolivian university and south Texas university students placed on the low range of the IDV, UAI, MAS, and LTO scales, suggesting cultures that were highly collectivistic, were comfortable with ambiguity, might have overlapping gender roles, and were past/present/tradition-oriented. Both cultures were midrange and even got the same score (53) on the indulgence versus restraint scale, connoting the importance of leisure, friendships, and a perception of happiness and good health. Where both cultures seemed to depart from each other was on the dimension of power distance. The Bolivian cohort score of 0 indicated a blunt rejection of unequal hierarchies, and the Texas Latino cohort score of 32 placed them in the midrange of PDI pointing to a fair expectation and acceptance that the culture had unequal power structures. When compared to the U.S. country scores, the south Texas university's scores

aligned with U.S. country scores on two of the six dimensions. Power distance and indulgence versus restraint were the two dimensions where scores from the south Texas University and the U.S. country scores were aligned. However, scores on individualism, masculinity, uncertainty avoidance, and long-term orientation were distinct from the U.S. country scores.

Regarding learning styles, both cultures shared a preference for the visual, intuitive, active, and sequential learning styles. Those preferences would suggest members of both cultures would much prefer to learn with graphics, charts, color use, and imagery. Also, they might prefer learning facts but relating them with reality and with other subjects. Furthermore, they might prefer an active style where learning was dynamic, hands on, discussions, and problem-solving activities. Finally, they would favor classes where topics were taught in a step-by-step manner.

Research Question 3

Research question 3: Does gender have an impact on the learning styles at a Bolivian university and a south Texas university? Having explored culture and learning styles' similarities and differences in both cohorts, we now turn to the question of whether gender played a role in how participants ranked in the various learning styles dimensions. To answer that question, both males and females were included in the dataset. In order to answer research question 3, a two-way factorial ANOVA was conducted to study whether there were learning style statistically significant differences between men and women of both cultures. At the Bolivian university, there were 208 participants, of whom 141 were females and 67 were males (see Table 6). At the south Texas university, there were 30 females and 25 males, with a total of 57 participants. Combining participants at both universities, there were 94 males and 171 females altogether.

Table 6

Gender by University

		Gender		Total
		Male	Female	
Bolivian university	Count	67	141	208
	% within university	32.2	67.8	100.0
South Texas university	Count	27	30	57
	% within university	47.4	52.6	100.0
Total	Count	94	171	265
	% within university	35.5	64.5	100.0

A 2 x 2 factorial between-subjects ANOVA was conducted on the active and reflective learning style dimension, with culture (Bolivian university, South Texas university) and gender (male, female) as the independent variables. An interaction between culture and gender was not found to be statistically significant, with $F(1,261) = .967, p = .33$. The main effect of culture on active and reflective learning style was not significant, with $F(1,261) = 3.10, p = .080$. Gender did not have a statistically significant effect on the active and reflective learning style either, with $F(1,261) = .35, p = .56$. In the active and reflective dimension, the means indicated a preference for the active learning style at both universities for both gender categories (see Table 7 and Figure 15).

Table 7

Descriptive Statistics by Gender on Active and Reflective Learning Style Dimension

Dependent Variable; REF/ACT Plus constant			
University	Gender	MeanStd. Deviation	<i>N</i>
Bolivian	Male	11.104.583	67
	Female	11.363.974	141
	Total	11.284.170	208
South Texas	Male	12.894.089	27
	Female	11.875.090	30
	Total	12.354.631	57
Total	Male	11.624.499	94
	Female	11.454.179	171
	Total	11.514.287	265

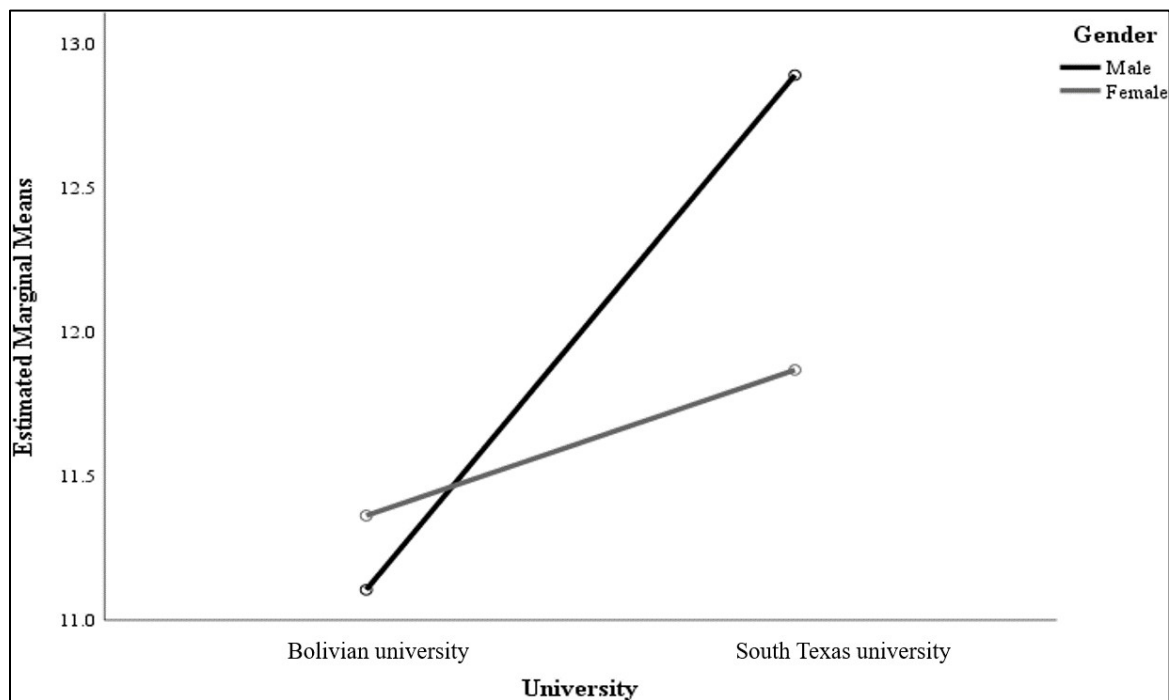


Figure 15. Estimated marginal means of reflective and active dimension by gender and university.

A 2 x 2 factorial between-subjects ANOVA was also conducted on the sensing and intuitive learning style, with culture (Bolivian university, South Texas university) and gender (male, female) as the independent variables. Since the Levene's test showed the assumption of homogeneity of variance had been violated at the significance level of $p = .05$, a more stringent significance level of $p = .01$ was used. The Culture x gender interaction was significant, $F(1,261) = 7.38, p = .007$.

Simple main effects, based on university, were then calculated to determine where the interaction was located. At the Bolivian university, females ($M = 13.87, SD = 3.579$) scored significantly higher than the males ($M = 12.69, SD = 3.947$; Levene's $F = 1.74, p = .19$; $t(206) = -2.16, p = 0.032$). At the south Texas university, a significant difference was not found in the scores for females ($M = 11.87, SD = 5.277$) and males ($M = 14.07, SD = 5.477$; Levene's $F = .017, p = .90$; $t(55) = 1.55, p = .13$). Those results suggested gender did have an effect on the sensing and intuitive learning style at the Bolivian university, with females having a stronger sensing style than males (see Table 9 and Figure 18). However, at the south Texas university, gender did not have an effect on the sensing and intuitive learning style.

Simple main effects, based on gender, were then calculated. As both sets of gender groups violated the assumption of homogeneity of variance, the adjusted t -tests were used. There was not a significant difference in the female scores for Bolivian university ($M = 13.87, SD = 3.579$) and south Texas university ($M = 11.87, SD = 5.277$; Levene's $F = 11.40, p = .001$; $t(34.89) = 1.99, p = 0.06$). For males, a significant difference was not found between the scores for the Bolivian university ($M = 12.69, SD = 3.947$) and the south Texas university ($M = 14.07, SD = 5.477$; Levene's $F = 4.84, p = .030$; $t(37.38) = -1.20, p = .24$). Those results suggested culture did not have an effect on the sensing/intuitive learning styles across genders. When

analyzing the simple main effects together, we can see that although there was a difference in the level of sensing and intuitive learning styles between the genders at the Bolivian university, the levels by gender between universities were not significantly different.

Table 8.

Descriptive Statistics by Gender on Sensing and Intuitive Learning Style Dimension

Dependent variable: INT/SEN plus constant				
University	Gender	Mean	Std. Deviation	<i>N</i>
Bolivian	Male	12.69	3.947	67
	Female	13.87	3.579	141
	Total	13.49	3.734	208
South Texas	Male	14.07	5.477	27
	Female	11.87	5.277	30
	Total	12.91	5.439	57
Total	Male	13.09	4.454	94
	Female	13.52	3.986	171
	Total	13.37	4.155	265

A 2 x 2 factorial between-subjects ANOVA was conducted on the visual and verbal learning style dimension, with culture (Bolivian university, South Texas university) and gender (male, female) as the independent variables. No interaction between culture and gender was found (refer to Figure 18), $F(1,261) = 1.27, p = .26$. The main effect of culture on the visual and verbal learning style was not significant, $F(1,261) = .002, p = .96$. Gender did not have a statistically significant effect on visual and verbal learning style either, $F(1,261) = 2.746, p = .099$. In the visual and verbal dimension, means (see Table 9 and Figure 17) pointed toward a preference for the visual learning style at both universities for both gender categories.

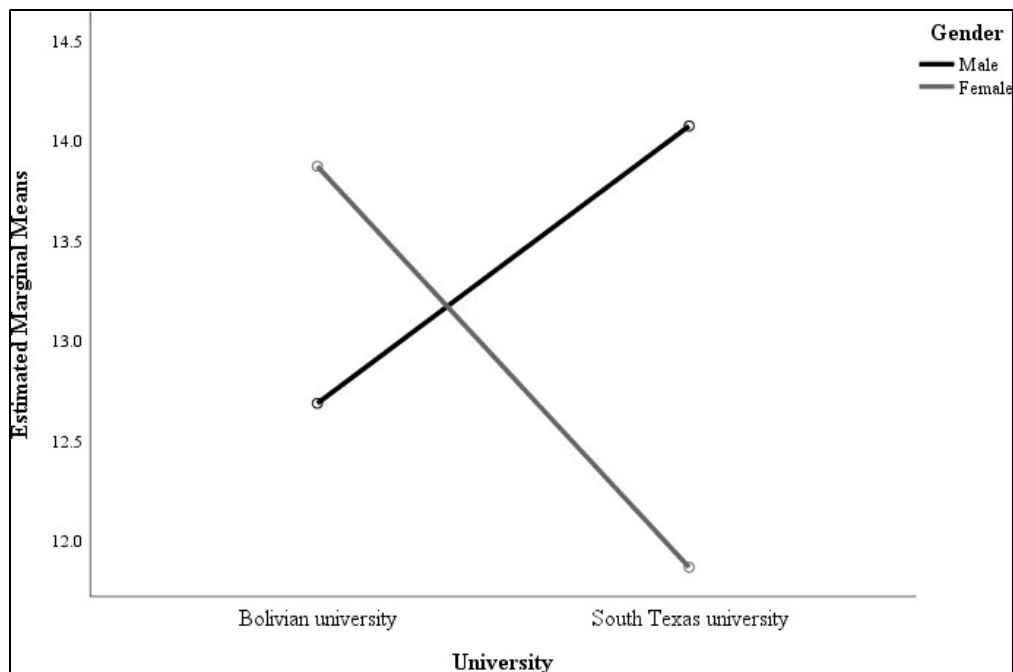


Figure 16. Estimated marginal means of intuitive and sensing dimension plus constant by gender and university.

Table 9

Descriptive Statistics by Gender on Visual and Verbal Learning Style Dimension

Dependent variable: VRB/VIS Plus constant				
University	Gender	Mean	Std. Deviation	<i>N</i>
Bolivian	Male	15.61	4.407	67
	Female	15.28	4.271	141
	Total	15.38	4.308	208
South Texas	Male	16.30	3.495	27
	Female	14.53	3.598	30
	Total	15.37	3.628	57
Total	Male	15.81	4.159	94
	Female	15.15	4.161	171
	Total	15.38	4.164	265

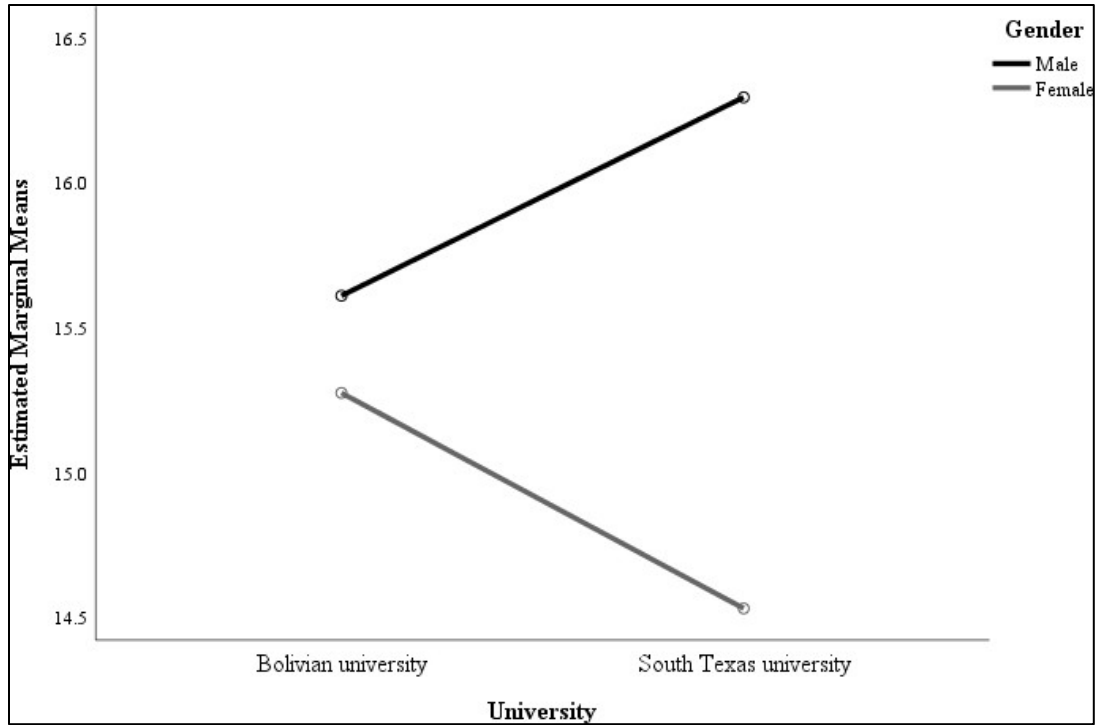


Figure 17. Estimated marginal means of verbal and visual plus constant dimension by gender and university.

A 2 x 2 factorial between-subjects ANOVA was conducted on the sequential and global learning style dimension, with culture (B.U., S.T.U.) and gender (male, female) as the independent variables. There was not a significant interaction between culture and gender, $F(1,261) = 2.37, p = .13$ (see Table 10 and Figure 18). The main effect of culture on sequential and global learning style was significant, $F(1,261) = .58, p = .017$. The Bolivian cohort ($M = 13.70, SD = 4.407$) scored higher than the south Texas university ($M = 13.19, SD = 3.606$). Gender did not have a statistically significant effect on sequential and global learning styles with $F(1,261) = 0.14, p = .91$.

Table 10

Descriptive Statistics by Gender on Global/Sequential Learning Style Dimension

Dependent variable: GLO/SEQ plus constant				
University	Gender	Mean	Std. Deviation	N
Bolivian	Male	13.70	4.407	67
	Female	14.70	3.757	141
	Total	14.38	3.994	208
South Texas	Male	13.19	3.606	27
	Female	12.33	4.003	30
	Total	12.74	3.810	57
Total	Male	13.55	4.180	94
	Female	14.28	3.895	171
	Total	14.02	4.006	265

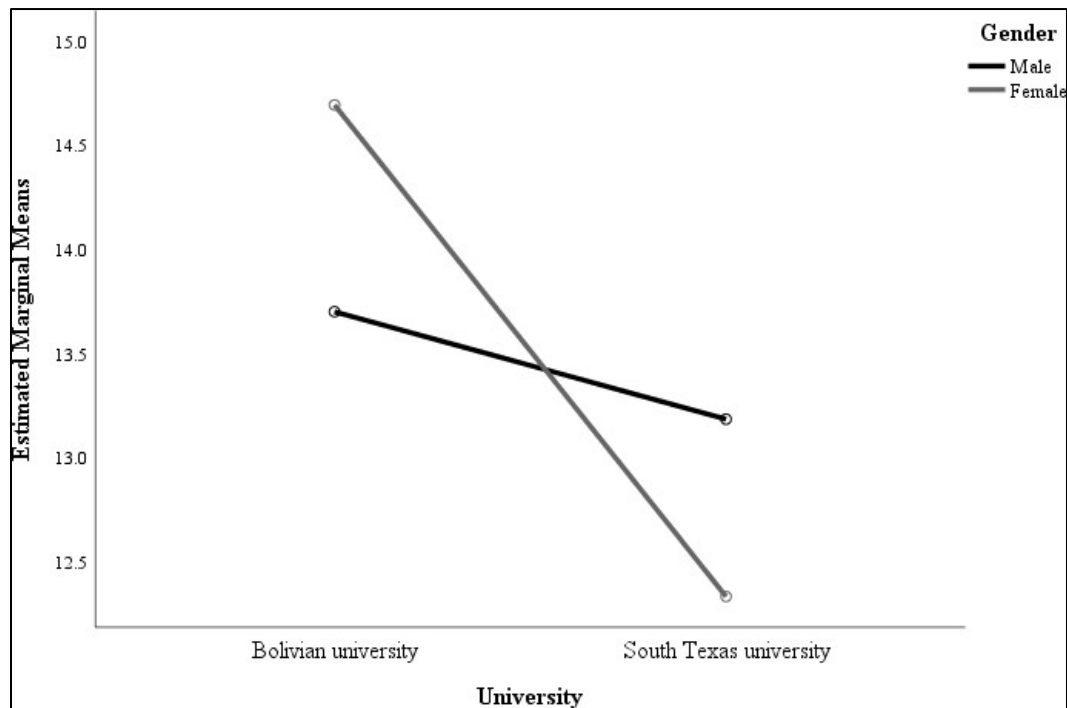


Figure 18. Estimated marginal means of sequential/global plus constant dimension by gender and university.

In summary, an interaction of gender and culture was not found on the visual and verbal and sequential and global dimensions. There was an interaction of gender and culture found on the active and reflective dimension, however, it was not statistically significant. On the sensing and intuitive dimension, a statistically significant interaction between gender and culture was found. Females at the Bolivian university had a higher score than males at the Bolivian university on that dimension. Females at the Bolivian university had a higher score than females at the south Texas university. For males, culture did not make a difference.

Research Question 4

Research question 4: In their own perspectives, how do Latina participants describe their culture, generational traits, and learning preferences at a Bolivian university and a south Texas university?

For the qualitative portion of this south Texas university study, semi-structured interviews were conducted and completed with 14 female volunteers from the Bolivian university cohort and 11 female volunteers from the south Texas university cohort. The criteria for participation in the survey were as follows: subjects needed to be female students at the Bolivian university or south Texas university in business schools or related majors, had to have been born on 1996 or later, and had to considered themselves Latinas. Volunteers who did not fit the criteria were not included in the study. The interview lasted approximately 1.5 hours and included questions as well as an art-based activity.

Participants were asked a series of questions on each topic (culture, learning, Generation Z). The overarching question was: In their own perspectives, how do Latina participants describe their culture, generational traits, and learning preferences at a Bolivian university and a south Texas university? Subquestions were as follows:

- a) How do Generation Z Latina university students describe their culture?
- b) How do Generation Z Latina university students describe what is important to them as members of Generation Z?
- c) How do Generation Z female Latina university students describe their learning preferences?

Interview Protocol

At the end of the survey, female subjects were asked if they might be interested in being interviewed. If so, they provided their phone number, after which they received a text inviting them to participate in the interview. A time and place for the interview was set with individuals who responded to texts. At the Bolivian university, the interviews were conducted at an office provided by the Academic and Planning director. At the south Texas university, the interviews took place in a conference room at the university's library. At the start of the interview, the participants received a consent form for participation in the research, as well as a consent form for the audio recording. The participants had the chance to ask any questions about the project and the consent forms. Upon signing the consent forms, the participants were asked the interview questions and, when appropriate, probing questions were asked as a follow-up. To encourage participation, questions were rephrased when participants' answers were monosyllabic or very short. Toward the end of the interview, participants were given a piece of cardboard, markers, a variety of stickers, colored paper, glue, and scissors for the art-based activity. The participants were then asked to represent their culture on a piece of cardboard. Directions given were left very generic to allow for the participants' interpretation of their culture to be illustrated without being influenced by my description of the activity. When completed, the participants had the

opportunity to describe what they included and why. In compensation for their time, the volunteers were given a small gift certificate to a fast food restaurant.

After the interviews were completed, they were transcribed. That was followed by transcription verification, where the recordings and the written transcriptions were compared to ensure the transcription was accurate and to correct errors if needed. Transcriptions were then entered in Excel. That was an iterative process, and it included adding codes as needed, as well as comparing cases, looking for trends and contrasts at the Bolivian university. A code book was developed, which included definitions for categories. Additionally, memos were written during analysis. Afterwards, a second cycle coding was conducted.

In this chapter, the themes identified during analysis were organized within the categories suggested by the subquestions: culture, generation, and learning. Participants were given an alias to protect their identities. Their name was followed by an abbreviation, which acted as an indicator of the cohort to which they belonged. *Bolivian university* denoted the participants were part of the Bolivian university cohort. *South Texas university* indicated the participants came from the south Texas university.

Culture

Although the art-based activity specifically targeted culture, any answers to culture-related interview questions were also coded and included in the analysis. Themes that were consistent topics in the interviews emerged from analyses of the interview transcripts and art-based activity. On further analyses, the themes were subsumed into four that were considered to be pillars of the learners' culture: family "together time" (in vivo code), values as behavior orientation posts, nature as a way of interacting with the world, and gastronomy/celebration as a way to strengthen community.

Family: “Together time.” When asked to illustrate the Latino culture, all of the participants, both from the Bolivian university and south Texas university, brought up family. Several elements were mentioned, such as the importance of physical closeness to family, spending time with family, mom or dad as supporters, being there for each other, and respecting elders. Additionally, a feeling of belonging was conveyed.

A notion that came up consistently was viewing family as an important and essential engine of motivation. Family was described as the critical force that launched the child into better and greater things. For example, Abigail (Bolivian university) described her family as very close knit. Her immediate family, along with uncles and their families, all lived in a large house. Although they maintained their independence for family decisions, all families shared meals together. That was the time they designated not just to eat together, but to keep up with what was going on with the family. Abigail clarified that, even though they remodeled the house and had a dining room large enough to fit everyone, they had gotten used, prior to remodeling the house, to eating in the house’s very large garage sitting on blue crates. To this study’s date, any time they had a chance, they would still eat in the garage as it felt more intimate, informal, and appropriate for sharing stories or what was going on in everyone’s lives. Likewise, Clara (Bolivian university) explained her family was her motivation. Clara’s family had a farm in the province. Her parents lived on the farm with her younger siblings, and she lived with her sister in the city as they both were enrolled at the university. When asked about her motivation, Clara answered,

My parents. They are paying for my university studies, and they are the main source for which, every day, say when I have exams coming up, I always think about them. They tell me: “You, as the oldest, have to be an example to your siblings.”

Clara also explained that the people she most admired were her parents, because they were there for her and her siblings unconditionally, regardless of whether the children made them upset.

They were there to give them advice and to push them to greater heights. That was echoed by Melissa (south Texas university), who proudly explained that her family supported her in all she did and wanted to give her everything. Melissa stated she could never imagine her life without them. Melissa lived with her parents and had a sibling. Melissa's mother was originally from Central America. When they went on vacations to her mom's country of origin, she loved being with the extended family. Melissa shared she trusted her parents absolutely and, in reciprocity, she told them everything about her life and never hid anything from them. She also shared her sister was her best friend. The notion of family first was also supported by Journey (Bolivian university). Journey lived her grandparents and her sister. When Journey and her sister were little girls, their mother found a significant other. At that point, when she married, Journey and her sister went to live with their grandparents. Journey had a fruit cart where she sold fruit on the weekends. Her grandparents and sister also sold at the market. Journey felt that although her uncles and grandparents motivated her, they made a big deal of how they provided for her. Journey's feelings got hurt when they said that. Journey still stated that faced with the choice between her family or something else, she would *always* choose family.

The participants spoke about a feeling of gratitude that pushed them to want to compensate their family for the sacrifices they saw them make for them. They also spoke about the time shared with their family and how important family was to them. Leticia (south Texas university) lived with her mom and dad, younger sister, and brother. She firmly believed in what her family taught her: Always put your family first, put God first, and be there for each other. That lesson was tested at one point in Leticia's life. Leticia's boyfriend at the time was not treating her well and, over time, Leticia had to choose, because her family had not been supportive of the relationship that they saw was negatively impacting her. Leticia chose family,

and she was very grateful that they were there to support her through the ordeal. Leticia conveyed a strong sense of ownership, of belonging to family, and having a role where she contributed. For example, her chores in her house included doing dishes and laundry for the whole family. Leticia did not see those activities as chores or as burdens. Rather, she felt they were the least she can do for her family. Additionally, she explained her amazing organizational skills were learned from her mom. At the time of this study, Leticia was teaching her younger sister, just like her mom did with her. As a result, her little sister, if she saw something needed to be done, for example, folding and putting away everyone's clothes, she would do it. Another example came from Mila (south Texas university). Mila lived with her mom and was very close to her grandfather. Mila expressed her gratitude, recalling that grandpa had been driving her to school every day ever since she started pre-K. She was also very grateful to her mom, who left college when Mila was little, to be able to take care of her. She admired her mom, because she went back later to finish school. Mila's feeling of gratitude for how she felt supported was better illustrated in her own words: "And so, like with them too, like doing all of that for me, I feel like I need to repay them by doing something for them." In other words, the support the participants felt was from outside in: Everyone around me in my family supports me. It was also, inside out: I'm inside this circle, and I help everyone around me.

"Together time" is something that was brought up frequently with the participants describing time spent with family, such as having dinner together, going shopping together, watching movies together, even going on campus tours together. Some also discussed family or friends coming over and eating, celebrating, and cooking together. One of the participants discussed her dislike of cousins who would prefer to spend time playing video games rather than spending time with family. The importance of family was also conveyed by their choice of the

person who they most admired. Most of the participants selected their mom, dad, grandmother, or grandfather. The theme of family “together time” was not limited to illustrating family time. Megan (Bolivian university) lived with her mom, dad, and four brothers. She said that they all had lunch together; around five o’clock, they had tea time; and, later in the evening, dinner. She helped her mom prepare food, washed dishes, and got her brothers ready for school. On the weekends, she had together time with her mom, as they both went to the market for groceries. Kate (south Texas university) was an only child, and she lived with her parents. She explained she was really close to her parents and spent a lot of time with them. On the weekends, they would continue to spend time together and go visit her aunts. Also, Kate used to spend a lot of time with her grandfather and her cousin. Kate’s cousin was not well and had to spend a lot of time at the hospital during summer. Kate would spend it with her.

The theme of family touched on togetherness as a way to maintain strong relationships within the family. Together time was like adding thread to the common fabric that the participants shared with their families. It also illuminated, on one hand, how family was really the launching pad that, in the participants’ case, catapulted them to a better future. On the other hand, it showed how Latinas felt they were an integral part of the family, and as such, they contributed to it. Lastly, Latinas interviewed were conscious that their parents were there supporting them, and several participants conveyed feelings of gratitude and reciprocity. Additionally, another theme that surfaced was the teaching of values.

Values: Behavior orientation posts. Family acted as a nest that substantiated the embodiment of Latino core values in its children. Values instilled by the family seemed to be rooted in religion, as they emphasized Christian teachings such as solidarity, humility, love, and respect. They also highlighted the collectivistic dimension of culture since the values that were

prized were team spirit, selflessness, having each other's back, hard work, persistence, and giving one's all. When asked what was important to her, Crystal (south Texas university) pointed out, aside from family, it was making sure she was there for them and not growing up to be selfish. Crystal lived with her mom, dad, and four siblings. She saw an example of giving in her mom who chose to stay home to home school her little brother who was autistic. Crystal understood that her mom's days could be very intense and admired her for her selflessness. Leticia (south Texas university), referring to her siblings, explained, "We're so strong with our family and even at that, like, I always tell them, like, are y'all okay? Okay. Whenever they were little, I would always, like, say, I got your back." Leticia was proud to see that her little brother frequently would tell the youngest sibling the same message of being there for her. Lilly (south Texas university) used to live with her mom, dad, and sister before she started at the university. Lilly's family was from Central America. Lilly considered the three most important concepts that represented the Latino culture were faith, love, and respect. She highlighted love and explained that she mentioned

love because I feel that more than anything, this [America] is like an individual culture, more than everything, with my family... it's like we're always going to be there for each other. I feel that's love. Faith because I feel so many incredible things have happened with my dad. All the people who have supported us, in the good things that have happened, which started because of his cancer. And, I put respect because it's always important, in all aspects, with friends, people you don't know and with family.

When Lilly's family lived through her dad's cancer, the support they received served to reinforce her values of love, faith, and respect. Lilly also mentioned that in the future she wanted to be successful but keep the humility. In Spanish *humildad* or humility has two meanings (Word Reference, n.d.): (1) Attitude of the person who does not boast of their achievements, recognizes their failures and weaknesses, acts without pride. (2) A condition of lower lineage, as it relates to nobility titles. Since both meanings are used in Spanish, I must clarify Lilly was using the first

meaning. She stated her parents taught her to have a sense of humility in her: That's what they instilled in me, truth, and I've always liked to help in a ton of things. It's like... because I know I live well, but, like, I know there are people that can't. So, why can't we give them a little of what we have.

Claudia (south Texas university) had an example of relatives who became successful and lost their humility and solidarity.

With my dad's side of the family, everybody's very selfish, to be honest. And they see it as okay, because they're finally having their own money. Whereas before they had to work so hard for just one week. So yeah, they've taken from the struggle, but they've turned it into something else, and they're not always willing to help.

The teaching that solidarity was key became more than just a saying, as highlighted by Kate (south Texas university) whose cousin was chronically ill. Kate spent entire summers with her at the hospital, because "the way they raised me not to be selfish, to always, like, get along with each other, not to point fingers, just to have, like, a good relationship with the person, um, to, and then they also said, like, to help one another and, like, going back to, like, when my grandpa was sick, and then my cousin, I would, like, always be there with them." Megan (Bolivian university) pointed out that the most important values for her were unity, love, solidarity, humility, and respect. Megan stated that love and unity were instilled by her parents, and she believed that we're all imperfect so we must love and accept each other as we are. Otherwise, unity could break and that could impact the children. Her following statement epitomized a collectivistic culture: "When a family is united, it is much better. That is to say, together we can overcome much adversity, as opposed to each being on their own." Likewise, Ximena (Bolivian university) agreed. Ximena was the youngest of three. Her dad was a doctor, and her mom was a nurse. Ximena stated that respect and empathy, being able to put oneself in someone else's shoes, was important rather than judging. She believed that living the values was

more important than practicing religion. She stated that God guided our way, and not religion. She believed in working hard, not being lazy, and striving for being the best. She cited her mom as an example, since her mom was the number one student when she graduated from nursing. She admired her mom for how hard she worked and how she seemed to resolve every situation with persistence. Solidarity, helping others, could also be shown in small ways that were spontaneous. Those values are exemplified by Isabel (Bolivian university) whose dad owned a bus, that she would clean it for him without anyone asking, because they were taught to help and she knew her dad had back pain because of an old injury, or Mila (south Texas university) who secretly bought her mom a cell phone because her screen was shattered.

As a way to validate the arising values, a probing question was added, which asked the participants how they would prioritize the following: money, work, time for entertainment, religion/God, family, and education. The top 3 selections were family, God, and education in that order. The bottom 3 selections were time for entertainment, work, and money, with money coming in last.

Nature as a way of interacting in and with the world. Nature was an element that emerged in the art-based activities. Some of the items that participants depicted were the sun, trees, flowers, animals, and water. Crystal (south Texas university), explained,

I added a sun because I think that we usually like going outside a lot and, [we] like sunshine and we don't like it being very dark inside. We're always wanting, like, the sun in, um, I feel like it relates to happiness.

In addition, Crystal drew people playing football outside. Claudia (south Texas university) drew a tree and explained it symbolized peace at home. Additionally, how green the university campus became a factor in her selection of university.

My dad loved that it was very green and for sure that was something that I loved because it just is very soothing and you get, even though, like, you're in your buildings and doing

your classes and as you're walking outside, you get a lot of the nature and kind of calm down from it. You wind down from whatever the hustle and bustle was with that class.

Sierra's (Bolivian university) depiction of culture included a drawing that connected the feeling of nature and tranquility. Sierra drew the flag of her state that had green and white stripes. She explained the green symbolized the rich vegetation and the white represented peace. Leticia (south Texas university) described get-togethers where people were outside barbecuing, playing basketball, and swimming. She explained that being outside they were "experiencing the world the way we should." Likewise, Luna (south Texas university) drew people meeting outside in the street, the sun, and stars. Luna explained that we Latinos liked to be outside. Jennifer (Bolivian university) highlighted the flora and fauna, the valleys, the birds, and the animals of the state where she lived. She also highlighted some tourist attractions that were located outside (as opposed to inside) buildings and described them as cultural and natural heritage. Patricia (Bolivian university) also included people harvesting a field of grapes, waterfalls, people swimming, and people dancing on the grass in her depiction of nature. Patricia lived out of state. Back home, she lived with her mom, dad, and siblings. Her dad owned vineyards, and going to the countryside was something they did often. Patricia drew waterfalls and remembered times with her family when they used to go swimming. She mentioned that at first, when she was a little girl, she didn't like going to the plantation because of the bugs and the heat. But her dad would take her and her siblings. They would help tie small branches together or prune the ends of branches. Patricia explained that what she learned from working on the plantation was that not every job would be easy, one had to make an effort, and one had to do things right. Otherwise, one had to do it again. She recalled her dad always told her, "If you do things the right way, you will obtain good results. If not, you'll have to do it again and that will cost you double." Patricia remembered if she didn't tie the branches right, she would have to start over. Next, Samantha

(Bolivian university) lived with her parents and her own two toddlers. For Samantha, nature had an important place in her culture and how nature grounded her in the present. She explained nature represented “the day we live, and every day is a learning day.” Finally, Clara (Bolivian university) also drew nature (fish, a river, palm trees, and birds) as nature was important to her. When asked why, she said,

Because, let’s say, we maintain more the forests, that is the trees, we breath better. So, for example, like in the country side, pure air. Instead if we keep contaminating nature, that forest that God has given us, I don’t know... perhaps there will be more diseases, I would say. That’s why I drew that [nature].

Gastronomy and festivities related to abundance, sharing, and community building.

A theme that emerged was food and gatherings and their connection to celebration, abundance, and a sense of belonging to a community. Crystal (south Texas university) drew a big table that represented food and spontaneous extended family together time. She mentioned if relatives would visit, Crystal’s family would bring out a lot of food to share and, all of a sudden, the meeting would become a party even if it was not. In essence, food was shared and then the gatherings might become a celebratory occasion as opposed to scheduling a celebratory occasion where food was just an element. Similarly, Mila (south Texas university) described how friends would frequently visit his grandfather’s shop and how it would turn into a get-together of her grandfather’s friends who had known each other since high school. What she learned from that was “to make connections and try to keep ’em up and to just develop my group of friends.” Again, a feeling of community permeated that topic, as conveyed by Claudia (south Texas university) whose boyfriend had a hot dog truck and how his friends volunteered to help out and some did not even want to accept payment. They helped because they wanted to lend him a hand. Emma (south Texas university) also drew a celebration, representing food, gatherings, and parties, signifying family together time, as well as presence or connection among family and

friends. Alicia (south Texas university) drew a party and cake, because she felt that hosting gatherings was part of the Latino culture: “We like parties and we like having friends” and also contributing to gatherings by “never arriving with empty hands.” That is, always taking food when visiting friends. She explained the negative side would be that they might get distracted with the parties, but on the positive side, that was how one formed relationships, and that was good because one then had someone on whom to rely should one need help. Luna (south Texas university) drew people eating together at a restaurant and explained that Latinos like to keep tabs, keep up with friends, and share. She also used the word *convivir*, which literally means live together or live with others, but in the Latino culture, the word has the connotation of sharing, being together, and closeness. Several of the participants from both universities brought up family traditions such as Christmas, Halloween, Easter, and Thanksgiving as a description of family celebrations. Students from the Bolivian university, however, also discussed traditional local festivities.

Bolivian university students also brought up the theme of getting together to eat with friends and family. When referring to going out with friends, Bolivian participants used the word *compartir*, which means to share with others. Additionally, Bolivian students brought up religious and traditional festivities customary to their towns, state, or country, where food and celebration were involved. For example, Megan (Bolivian university) explained that in the feast of Corpus Christi, a moveable Catholic celebration in honor of the presence of the body of Christ in the Eucharist, aside from attending a procession and a solemn mass, the custom in her city was to get together to share a dish typical of that day. Another example would be All Saints Day when it would be the custom to make the deceased’s favorite dish, as well as pastries that were customary for that day. Megan also explained about a tradition of individuals who come to pray

for the deceased and, in exchange, the family gave them pastries and other food. Some families might make large tables, called *k'anchakus*, and other objects that meant a lot to the deceased.

Abigail (Bolivian university) also explained that, at her house, their patron Saint was Santiago and referred to him as Tata Santiago, using the word for father in Quechua, Tata. They had a permanent altar for the saint at Abigail's home and, once a year, they celebrated a day in the saint's honor. For that day, they also built a *pukara*, which is a type of small altar supplied with abundant food, flowers, and greenery, done in honor of the deceased. Every year, a different member of the family led the festivity. Patricia (Bolivian university) discussed a Christmas tradition in her city where children would participate in a typical dance dedicated to baby Jesus. They would be given pastries and sweets. She also related a tradition for Saint Roque's day called *chunchos*. Those were 5 to 6 thousand dancers dressed in very sumptuous silk clothing adorned with pearls and tinsels. They wore a short poncho similar to what pilgrims in Spain used to wear, but also they wore a turban with large feathers, or dressed as tribes from the region. In essence, their dresses had merged indigenous and colonial influences. It was said, Patricia explained, that they used to be lepers for whom food was left outside. Their tambourines were drummed to let people know they were approaching. Currently, the dancers promised to dance while they made a petition for a miracle or a wish. That dance had to do with faith. Patricia also explained about a 12-hour pilgrimage by foot to the Sanctuary of Chaguaya in honor of the assumption of the Virgin Mary. Past the procession and mass, people celebrated with typical food such as tamales, *chirriadas* (a type of corn tortillas), and oven-roasted pork. Patricia went to the sanctuary twice. The first year, she was not able to endure the walk. The second year, she made it all the way to the sanctuary. She attributed the fact that she was able to arrive, on her second attempt, to her strong faith the second time around.

Other participants highlighted music as part of traditional celebrations. For example, Antonella (Bolivian university) was a student who lived with her mom, dad, and three siblings. Her family had lived in another Latin American country for a few years, but went back to Bolivia when Antonella was in 2nd grade, because they believed that going back to their hometown would give their daughters a chance to live in a more conservative environment. Antonella talked about a traditional dance called *pujllay* that only took place in a city near her hometown. Pujllay is a harvest festival that people in Tarabuco celebrate, but was attended by people from other cities as well. There is a vertical, very tall structure, akin to a slim shelf, but called *pukara* that is then filled with fruits and vegetables. It represents abundance or an offering to Pachamama, the goddess earth.

Two of the participants, Abigail (Bolivian university) and Ximena (Bolivian university), even participated as dancers in traditional folkloric dances of Bolivia. Abigail recalled she danced *pujllay*, as well as other typical dances such as *danza chapaca*, a folkloric dance typical of a southern state in Bolivia. Patricia explained that she was a member of a dance troupe. They practiced 4 hours a week and concentrated on folkloric Bolivian dances.

Among the festivities that were discussed, there was one festivity that had mixed reviews: carnival. Carnival is a celebration similar to Mardi Gras where people dance in the streets in troupes. There is a lot of food, drinks, and music to the point of excess. Antonella explained that her family did not celebrate carnival due to religious reasons, given that it honors mother earth and people might drink in excess. It was entertaining, she said, when done for fun rather than devotion that might lead young people to drink and that might end up in incidents such as accidents or other unfortunate events to which women in particular might be exposed. Carnival ends on Fat Tuesday, or *Ch'alla* Tuesday as it is known in Bolivia. Journey (Bolivian university)

and Karen (Bolivian university) explained that Ch'alla is a tradition where people spill traditional corn-based beer on the earth, or on large items such as vehicles, as a way to give thanks to Pachamama (mother earth) to honor her and ask for luck and better things for the coming year. Abigail and Megan explained about *Carnival de antaño*, an initiative that brings back the way carnival used to be celebrated in the colonial era with dance troupes dressed in epoch clothing dancing on a pre-set route.

In sum, it was clear that the university students in Bolivia had a lot of respect and enjoyed traditional Bolivian celebrations, music, dance, and food. They held dear the opportunity to join in and participate. Some of the festivities where traditional dance was involved were Catholic. For example, there was an *entrada a la Virgen*, where troupes of dancers would perform, with the day ending in a solemn mass. Those festivities propitiated community gathering. For example, on the *entrada a la Virgen* day, not only the dancers joined in. A lot of people from the city attended as spectators, as well. Some celebrations mixed Catholic religion festivities with ancestral practices. For example, in all saints, there was a mass and procession. For that same day, the K'anchakus or altars for the deceased were put together.

Other than enjoying food in regular gatherings, or food typical to specific festivities, some participants took an even more involved role in cooking. For example, Lilly (south Texas university) took culinary classes and made cakes to order, generally for her friends or friends of the family for special occasions, like Valentine's or Christmas, so they could give them as gifts. She explained that her mom and grandma were great cooks, and they initially taught her. Later she attended a culinary school in the evenings from 6 to 9 every day to learn formally. Her specialty were pastries and desserts. She hoped one day to open her own restaurant. Leticia (south Texas university) had very fond memories of her grandmother, who would take care of

her when she was a child. She remembered that she would watch her grandma cook and passed her the spices. Eventually, her grandma taught her how to cook. Although Leticia did not now have time to cook, she really enjoyed it when she was able to do so. Similarly, Karen (Bolivian university) studied culinary arts for 2 years. After she graduates from business school, she planned to open a restaurant, or get some experience and then open a restaurant. Finally, Patricia (Bolivian university) studied gastronomy for 2 years and, after graduating from business school, would like to gain some experience and then open a restaurant or a food-related business.

Generation Z

The questions related to Generation Z touched predominantly on technology, as Generation Zers were said to be defined by technology even more than millennials, that, in fact, they were millennials on steroids (Kane, 2017). On that category, the questions asked were on the vein of the following: How do you use technology? How much time do you spend on technology? At the same time, I sought to delve into what was important for Latino female Generation Zers and how they spent their time.

As a brief summary of the technological context in which the first Generation Zers (born on or after 1996) grew up, members of Generation Z fully embraced the emergence of social media sites (Seo et al., 2014; Shih, 2009) and video streaming of entertainment, as well as of digital live content (He et al., 2017; Hu et al., 2017). Two themes emerged from the interviews on that category: mobility, the engine for 24x7, and mixed feelings, “just can’t put it down.”

Mobility, the engine for 24 x 7. All participants relied on mobile technology, and this is really the aspect of technology that is shaping much of this generations’ way of life. Not surprisingly, social media was a topic of discussion with all of the participants utilizing their mobile devices first for engaging with technology. Mobile devices came first over any other

technology such as laptops. For participants at the south Texas university, Instagram was the preferred medium. At the Bolivian university, Facebook was the preferred platform. Both groups mentioned that they liked the platforms as a way to keep up with friends and also as a mode of entertainment. Other apps mentioned were Twitter, Snapchat, and Pinterest at the south Texas university; WhatsApp was the most popular platform at the Bolivian university. On Pinterest, participants looked for topics in which they were interested such as mood boards or collages.

All participants from the Bolivian university communicated with their friends primarily via WhatsApp. At the south Texas university, the preferred medium to communicate was text, except for a couple of participants who used actual calls to talk to friends or relatives like aunts or parents who did not use texting. Crystal (south Texas university) mentioned that she had a group of friends to whom she liked to talk. However, she clarified that she texted the rest of her friends, because she knew they preferred texting and they were not comfortable with talking on the phone. Participants explained they would call if it was urgent. Bolivian participants explained that purchasing data packages for their cell phones was cheaper than purchasing air time for voice calls. Though the limitation of cell phone rates or prepaid plans did not apply to U.S. participants, they still preferred texting over talking.

Most of the participants who used YouTube did so to follow “how to” videos, but it did not seem to take an inordinate amount of time. For example, some followed YouTubers or famous influencers on different topics. Make-up instructional videos or useful life hacks such as how to get stains from clothing were discussed. Additionally, participants liked music videos and streamed shows on platforms like YouTube, Hulu, or Netflix. They liked to watch videos to learn new things or interesting things they didn’t know before. Google searches and Google apps such as Google Keep and Google Academic were also mentioned. Bolivian participants explained

they used their cell phone to search for information for school, to access free PDF books, to watch Ted Talks, and to keep up with what's going on, to keep current on world or news events. A response from U.S. participants, not found from Bolivian participants, was the use of mobile phones for shopping.

Concerning the amount of time spent using their cell phones, the response from Megan (Bolivian university) exemplified a typical response, "not much because of classes," in other cases it was "because of work" or other activities. However, when probing, the answers were clarified that cell phones were used between classes, after classes, when at home, and after dinner. As a case in point, Journey (Bolivian university) said,

In the morning, I don't really (connect), sometimes just to check the time. Sometimes I don't connect all morning. Mid-day, when I'm going home by bus, yes. Then I get home and I disconnect. I do what I have to do in the afternoon, and around 4, I connect when watching TV, doing homework. I connect to chat with my classmates. At 6, I go downstairs to cook and, at 8, I connect again.

For Megan, the total time she estimated was 15 hours per day. For other participants, it was as low as 4 hours. Some participants at the south Texas university admitted also to connecting on their mobile devices while in classes to look up information. Some participants at the Bolivian university used their mobile devices to record the professors, because they were afraid they would miss something that the professor said. The recording was a backup plan. They would also listen to the recording back at home to ensure their notes were complete. Mila (south Texas university) was the exception on cell use, as she was not on social media, which might have been influenced by her mom not allowing her to be on social media in high school.

Mixed feelings: "Just can't put it down." The fact that cell phones are just a commonplace, natural part of being a Generation Zer does not necessarily mean that they are 100% positively viewed. In fact, most participants seemed to feel a pull toward and a push away

from mobile devices. The pull of technology comes from entertainment and from knowing that mobile devices can fulfill answers to any questions. Social media apps can keep people connected and serve the purpose of keeping up with what friends are doing or saying. Also, social media apps give them a chance to respond either with a spontaneous or curated response, as stated by Alicia (south Texas university).

Many people are setting eyes on social media and on what people are uploading. And, many times I feel it's bad, because you can feel bad that you see someone who has more than you. But in reality, I feel that we only show the good parts; and obviously you're never going to show when you're feeling bad or when you're sad, with a pic of you crying. You always upload a pic where you look so happy. So, then, if you're going through a rough spot and you see pics of other people that are so happy, you can feel worse.

Alicia (south Texas university) had also seen friends airing their conflicts on Twitter, and she stated she felt mortified for them. So mobile devices, as a gateway to social media platforms, can be a source of self-criticism when comparing oneself to other individuals. Additionally, social media platforms have become spaces where conflicts might get documented and witnessed by more individuals than the ones directly involved.

Aside from connection, social media was used for entertainment, as expressed by Leticia (south Texas university) who checked social media when bored. However, some students had also felt an absolute necessity to keep checking, almost a compulsion, as Leticia admitted. She might check her phone even between tasks at work. Next, she would text back and only then move on. On the feeling of "having" to be on 24x7, Leticia said "I need a reply to this text and then I'll start my next order. But it's weird. I dunno why I have that feeling that I have to do this. It's, I dunno, I can't just not do it." Kate (south Texas university) agreed when she said, "I see a lot of just phones, a lot of technology that they just can't put down." Additionally, as Mila (south Texas university) explained that any questions that one had, whether for homework or not, one

could type it and the answer was there. Kate added that some people seemed to need their cell phones to accomplish things and that “most of the people are so addicted to their phone. They, like, once, like, uh, like your phone but, still want to check who it is or like what, like what happened.” On the other hand, Luna (south Texas university) had seen classmates shopping, watching a game, or scrolling in class, but thought it was a personal decision if one wanted to be distracted or concentrated.

Some participants realized that cell phones were impacting the quality of the time spent with friends or family, or the time spent studying. Melissa (south Texas university) explained that some students might not have completed homework because, by their own admission, they were too busy playing video games. Or, when she extended an invitation to one of her musical performances, they answered they would go unless prevented by video games. Crystal (south Texas university) admitted that classmates scrolling on their phones during class might not bother her, but people actually laughing out loud at what they are watching or reading did. Leticia (south Texas university) gave the example of her cousins who preferred to be gaming rather than spending time with family while at a family function. Kate (south Texas university) related that when out with friends for dinner, they might all be sitting together but each on his/her device:

So me and my friend were eating lunch and then, like, when we're waiting or when we're at the table too, they would just be on their phone and I was, like, just put down your phone for a little bit and so they can, like, eat and because I had to leave early. So just to have that conversation with them, to have them put their phone down and just talk. They reacted were like, oh, I guess I'll put it down. Or like they'll still have it on one hand and eat with the other and be talking. Sorry.

With participants in Bolivia, the feeling of technology interfering with friendships seemed to be less prevalent, although it was stated that it could take up too much time and be used to seek information on irrelevant topics that might be time wasters. Clara (Bolivian

university) stated that, when she was a freshman, she had an old-school device that only allowed her texting. So, she had to purchase texting packages and thus was limited to the number of texts she could send. When she switched to a smartphone, she admitted she started spending too much time on it. Clara also resented herself when she got a bad grade, and she knew that she chose to spend time on her cell rather than studying. She felt that happened to her especially when she felt she didn't know much about the topic and felt overwhelmed by the amount of material to study. When that happened, she would try to get answers to brief questions from her friends. That's how she spent her time, instead of studying. She admitted she needed to cut back on using her cell phone.

At both locations, there were participants who recognized they needed to cut back on technology. Ximena (Bolivian university) realized after a time that Facebook was taking too much of her time, and it got boring because nothing really changed. She cut back. Kate (south Texas university) realized after her cousin's passing that life was fleeting and that technology was interfering with real communication with family, which was much more important than technology. When asked how she cut back, she described setting timelines for herself, designating times when she would allow herself to be connected and times she would not.

In sum, mobile devices are entertaining, great for connecting, and great for finding information. However, participants did realize they relied excessively on them, spent too much time on them, and were aware of the negative impact it could or was having on relationships with friends.

Commercial campaign for your generation? In addition to participants' relationship with technology, there were interview questions that sought to understand what Generation Zers considered important. There was, for example, a hypothetical question where participants would

be in charge of a commercial campaign for the product of their choice, which would be targeted to their generation. The intention was to determine what elements they would consider vital to include in a commercial campaign. Most participants selected clothing or a food establishment. The most common elements participants brought up were price, quality, looks, and comfort. Regarding cost, the participants mentioned discounts and an affordable price given that at that stage of their lives, their disposable income might be limited. As for quality, the participants spoke about how the product was made, the materials used, and details added. It was important that superior materials were used. Also, it was important that accessories or other adornments reflected that care was put into the making of the product. For example, details included the excellence of the ingredients used in a dish and, when discussing about clothing, the fabric used or what accessories were added, and how they were sewn into the garment.

Participants also discussed “looks.” The appearance of the target customer was discussed and how clothing businesses should target, according to Megan (Bolivian university), “today’s woman and not the fantasy woman.” Lilly (south Texas university) mentioned employing influencers to publicize the campaign and liked how she felt a certain influencer she followed was a real person, a mom who was able to realize her dream. Other participants brought up the appearance of the product, specifically how well it looked, and how well the models represented the product. If the product was a pastry, the commercial should convey, visually, how well it looked, felt, and tasted. If the product was clothing, it should make the person wearing it look good so that the viewer would want to look as good as the model. The reason given by Alicia (south Texas university) was people of this generation were *fijados*. *Fijar* comes from the Spanish word for to fix or to set. In this case, it was used as “to set eyes on,” with the connotation that people of this generation were “seeing” or “looking at each other” with judging

eyes. Elizabeth (Bolivian university) felt that, in a food establishment, there should be options for customers, especially girls, who wanted to eat healthy products. Elizabeth felt the campaign should be made to look exciting, fast-moving, not boring, and with excellent music. Lastly, some participants from the Bolivian university felt it was important to employ attractive models of both sexes to represent the product.

Comfort and friendliness were viewed as necessary to support a product. Even in the case of a participant who discussed an adventure-based company, such as hiking or climbing, comfort of where one was staying was important, whether it was the comfort of beds or hotels. Alicia (south Texas university) added that, in addition to outward appearance, the models should represent people who are nice and could get along with people. Jennifer (Bolivian university) thought that cordiality of people toward customers should be a must.

In sum, for Generation Zers, technology is a given that has been around them for as long as they can remember. They do not know a time when it was not around, so it is as natural to them as clothing. They find mobile devices very useful. At the same time, they are aware that it is a time-draining device and have mixed feelings due to the negative impact technology may have on their connection to their peers and family. Aside from technology, based on the commercial campaign question, Generation Z members point to the importance of quality, price consciousness, comfort, friendliness, and the topic of looks. The next section addresses another set of questions that focused on learning.

On Learning

In addition to questions to better understand culture and generation, there were a series of questions asked on the category of learning. On this category, questions were included that related to how the participants studied, what time they preferred to study, their classroom

experience, who was their favorite teacher, their motivation for studying, how they would describe their ideal classmates, and factors that helped them or were obstacles along their learning journey. Findings regarding learning were summarized into four themes:

- Beliefs about the learners' journey. The learners might have held beliefs based on prior life/family experiences, present situation, and how they viewed their future self. That theme included views about their past or their family's past, their present context, and their intentions for their future.
- Beliefs about self. That category related to learners' views of themselves. Those were divided into (a) beliefs about themselves as learners, their perceived strengths or weaknesses, and (b) beliefs about their gender and/or ethnicity.
- Beliefs regarding individuals within the learning environment. This category included beliefs about teachers (actual, based on experience vs. ideal, based on desires). It also included beliefs about classmates (actual, based on experience, vs. ideal, based on desires).
- Beliefs concerning learning strategies. That included how learners studied, their habits and preferences, their behavior in class, their perspectives on group/individual activities, discussion, competition, and preferred ways to receive feedback.

A more detailed explanation of beliefs has been combined into Chapter 5, as they are an integral part of the grounded theory generated by this research.

To summarize, qualitative and quantitative research were conducted to explore the central phenomenon of learning styles of Latino students and how culture and generation might have played a role in shaping their learning preferences. Statistical analysis and tests were conducted to determine answers to the research questions: 1. What are the cohorts' learning styles? 2. What

are the cohorts' cultural dimensions? 3. Does gender play a role on learning styles? 4. How do Latinas describe their learning preferences, culture, and generation? On the sensing and intuitive dimension, a statistically significant interaction between gender and culture was found with Bolivian university females' preference being higher toward the sensing end of the spectrum than females at the south Texas university. In the sequential and global dimension, culture was found significantly to impact the preference for that learning style. That is, a higher percentage of participants at the south Texas university preferred the global learning style (30%) than participants at the Bolivian university (22%).

All in all, the findings revealed a tendency at both universities to prefer visual, sequential, sensing, and active learning styles. Those preferences would suggest members of both cultures would much prefer to learn with graphics, charts, color use, and imagery. Also, they might prefer learning in a sequential orderly fashion. Although 30% of learners at the south Texas university sample would like to learn about the whole first, and not necessarily in a sequential fashion. Participants at both universities would prefer to learn facts by making sure to relate them with reality and with other subjects. Also, they might be impatient with details and repetition. Furthermore, they might prefer an active style where learning was dynamic, was hands on, had discussions, and included problem-solving activities.

Concerning cultural dimensions, both cultures were found to be in the same range in four out of the six dimensions. The Bolivian university and south Texas university students placed on the low range of the individualism, uncertainty avoidance, masculinity, and long-term orientation scales, suggesting cultures that were highly collectivistic, comfortable with ambiguity, might overlap gender roles, and were past/present/tradition oriented. Both cultures were midrange (score of 53) on the indulgence versus restraint scale, connoting the importance of leisure,

friendships, and a perception of happiness and good health. Where both cultures seemed to depart slightly was on the dimension of power distance. The Bolivian cohort score of 0 indicated a blunt rejection of unequal hierarchies, and the U.S. Latino cohort score of 32 placed them in the midrange of power distance, pointing to a fair expectation and acceptance that the culture had unequal power structures. The south Texas university cohort scores were aligned with the United States country scores on power distance and indulgence versus restraint. On the other four dimensions, the south Texas university cohort's scores were more closely aligned with the Bolivian university cohort than with the United States country scores.

The qualitative segment of this chapter sought to delve into the perception of female participants regarding culture, generation, and learning preferences. Regarding culture, the themes that emerged were family as a cohesive unit to which students as members of the family unit felt an intimate and essential connection. Additionally, a connection to nature surfaced as a way of interacting with the world, symbolizing peace and anchoring one to the present. Christian values were highlighted as very important guideposts for their behavior. Additionally, gastronomy/celebration was a theme linked to sharing, abundance, and strengthening of community. Within the Generation Z inquiry, the participants had a paradoxical internal struggle where they felt extremely attached to their mobile devices, which they found essential and useful, but simultaneously realized the mobile devices interfered with a connection to friends and family, as well as with their own time management. As to what mattered to Generation Zers when it came to products preferences, the themes that arose were value, comfort, friendliness, and the topic of appearance. Next, Chapter 5 will discuss beliefs on learning first. Then, based on an analysis of interviews with the participants, Chapter 5 will present a theory of how culture and generation play a factor on learning styles.

Chapter 5: Discussion and Conclusions

The demographics of the United States are experiencing significant changes, one of them being the rapid growth of people of more than one race and the expected nearly doubling of the Hispanic population by the year 2060 (Vespa, Armstrong, & Medina, 2018). Second, the first Generation Zers are now of college age. Bachelor's degree attainment of Latinos, as of December 2017, continues to hold at a low 12% (U.S. Census Bureau, 2017). With the three considerations in mind, this mixed methods research purpose was to explore the interaction of culture and learning styles of Latino Generation Zers at the university level.

This chapter discusses the major findings along with an interpretation of the central phenomenon based on those findings. It also adds implications for educators, instructional designers, recruiters, and Latino students. This chapter includes a discussion of how the findings relate to past studies, limitations of the study, and potential areas of future research.

This study leaned on Hofstede et al.'s (2010) culture theory and on Felder and Silverman's (1988) ILS. This research's main questions were as follows: (1) What are the learning styles of participants at a Bolivian university and a south Texas university? (2) What are the cultural dimensions of the Bolivian university and south Texas university cohorts? (3) Does gender have an impact on the learning styles of at a Bolivian university and a south Texas university? 4) In their own perspectives, how do Latina participants describe their culture, generational traits, and learning preferences at a Bolivian university and a south Texas university?

Interpretation of the Findings

This mixed methodology research surveyed 208 students at a Bolivian university and 57 Latino students at a south Texas university. For the last research question, 14 female students at

the Bolivian university and 11 female students at and a south Texas university were interviewed. The findings indicated Latinos in Bolivia and Latinos in the United States had similar learning style preferences: active, sensing, visual, and sequential. That finding would align with studies that indicated that Generation Zers preferred to learn in an environment where they had the chance to actively experiment, be hands on, participate in activities, and be able to experiment on their own (Barnes & Noble College, 2018; Holubova, 2015; Keeley et al., 2015; Seemiller & Grace, 2010). Additionally, this study aligned with Cejda and Hoover's (2011) findings that Latino students preferred the sequential learning style. The finding that Bolivian students preferred an active and sensing learning style did not align with the findings from Diaz-Veliz et al. (2009) who found that Bolivian students were assimilators (reflective). Only one learning style, global learning, had a higher percentage of south Texas university students who preferred that style over the percentage of Bolivian students. That might be a topic of future research to explore why that would be.

An interaction was found between gender and culture on the sensing learning style, where females from the Bolivian university scored significantly higher on the sensing dimension than females at the south Texas university. However, the homogeneity of variances was violated due to sample size. It is possible that having homogenous sample sizes might have an impact on the results. Ultimately, the profile of both cohorts did show a preference for visual, sequential, sensing, and active learning styles. Concerning culture, the Bolivian university and south Texas university students' ranking on the various dimensions revealed a culture that was highly collectivistic, comfortable with ambiguity, might overlap gender roles, was short-term oriented, and fell in the medium range on indulgence versus restraint.

The one difference was Bolivian students ranked 0 on power distance, while south Texas students were in the midrange. South Texas university students were more closely aligned to the U.S. score of 40. When dimensions were broken out by gender, males scored 39 and aligned very closely to the United States. U.S. Latinas ranked 27 on power distance, bordering on the low range. Power distance and individualism are said to correlate negatively (Hofstede et al., 2010). The Bolivian scores for individualism and power distance were both low, which was very rare, so that would stand with Costa Rica as an exception. It is possible that the current government led by an indigenous president with an emphasis on equality had an impact on Bolivia's low score. Therefore, leaning on the government's promise of equality, Bolivian participants may not accept that power may be distributed unequally.

Findings from the qualitative section, revealed females from both cultures considered the following as representative of their culture: family as a cohesive unit, values as behavior guideposts, and gastronomy/celebration as a way to strengthen one's community. That was in agreement with previous literature, which highlighted the collectivistic tendency of Latino cultures, and the values of educación and respeto (Calzada et al., 2010; Castellon Fuentes, 2010; Durand, 2011; Halgunseth et al., 2006; Strom et al., 2008). A fourth theme that emerged was nature as a way of interacting with the world. That was not found in the literature, so it would be recommended as a future study.

On the topic of technology, Generation Zers were defined by their almost ubiquitous use of mobile devices, and their preference for social media and streaming media. That was in line with the literature as well (Diercksen et al., 2013; He et al., 2017; Hill, 2018; Hu et al. 2017; Seemiller & Grace, 2016; Stillman & Stillman, 2017). Also, it was found participants at both universities had mixed feelings about their smartphone. Some were not happy about the amount

of time they spent on it, the fact they could not put it down, and how social media could, at times, make them feel bad about themselves. This is aligned with past findings (Hill, 2018; Stillman & Stillman, 2017). Finally, on the topic of learning, the themes that surfaced were beliefs about the learner's journey, beliefs about self, beliefs about individuals in the classroom, and beliefs concerning learning strategies. These will be discussed later in this chapter.

The qualitative findings on culture, likewise, point to overwhelming similarities among both female cohorts, with the one difference being the emphasis on religious and traditional festivities discussed by Bolivian students. Those differences might be explained by context. That is, religious festivities in Bolivia are institutionalized and, in many cases, they are even nationally recognized holidays such as good Friday, Corpus Christi, Aymara New Year, and more (*Feriatos Bolivia* [Bolivia Holidays], 2019). Therefore, the festivities and traditions keep going year after year. Additionally, the newest constitution of Bolivia established that it intended to reclaim the native ancestral culture (*Constitución del Estado Plurinacional de Bolivia* [Constitution of the Plurinational State of Bolivia], 2009). Regarding power distance, the low Bolivian power distance score might also be explained by the fact an indigenous president occupies the executive seat, having initiated with his rise to power an equality movement in reaction to leftover power structures from the colonial era. In the United States, the power distance score of 32 could be related to Latinos being aware and impacted by the current socio-political situation and, therefore, expect unequal power structures versus in Bolivia. Or, since Latinos scores of power distance are 39 versus 27 for Latina, it would be a potential future research topic to find out why would males fall closer to the country score in power distance. Regarding the festivities, that this aspect of culture would not be present in U.S. Latinos was not surprising and made sense as the context to support those traditional celebrations does not exist.

For example, Corpus Christi is not a recognized holiday in the United States, or the United States supports a different festivity, Halloween rather than All Saints. Findings also showed that both cultures shared virtually the same learning preferences. Cohorts also were strikingly similar in their use of technology, which might point to a flattening or homogenizing of the world due to globalization and technology.

With those considerations in mind, I propose that cultural and generational factors interact to influence learning styles based on the beliefs generated from the pillars of culture and generational forces. First, the pillars generate beliefs about the world or about how one ought to live, as shown by Figure 19.

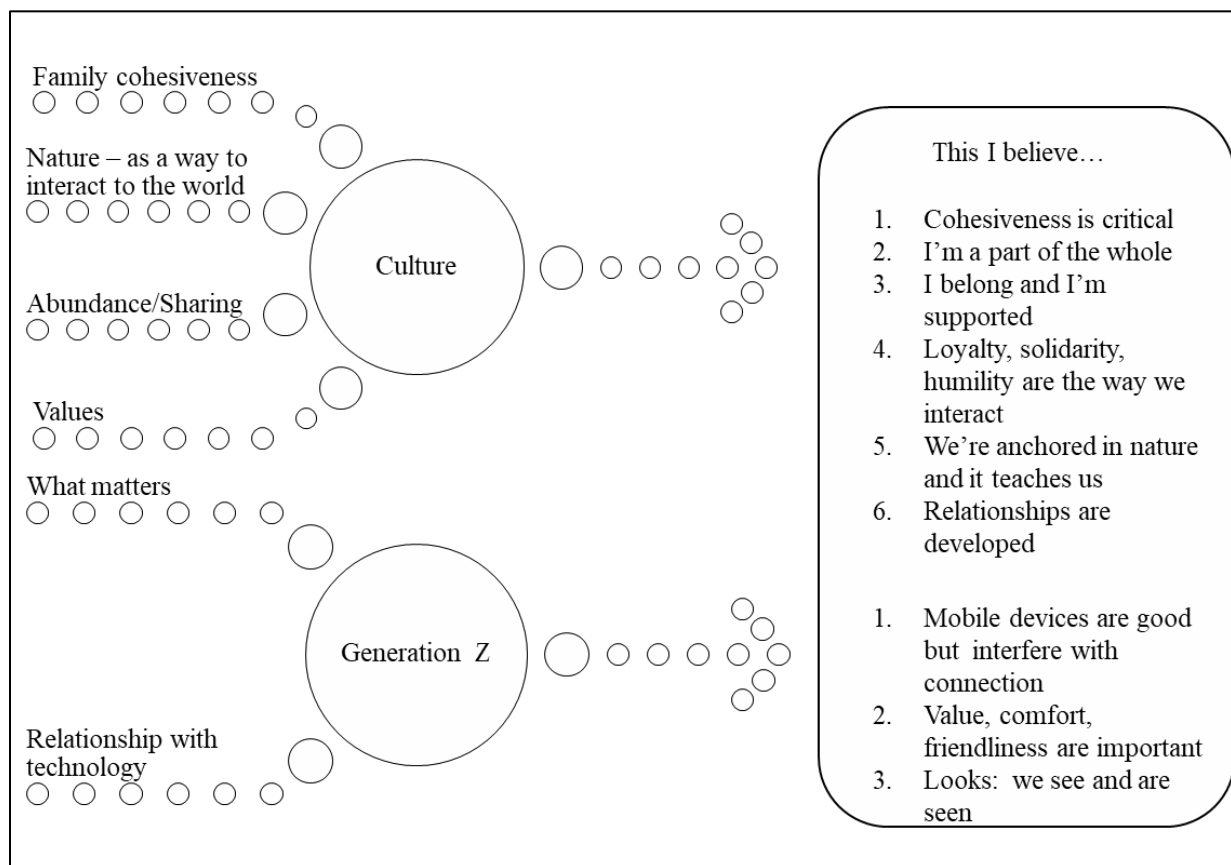


Figure 19. Cultural and generational factors as generators of beliefs.

The beliefs generated by cultural factors, as listed in Figure 19, came up throughout the analyses of the interviews. Beliefs 1 to 3 (cohesiveness of the family, I'm part of the whole, and I

belong and I'm supported) were apparent in the discussions of family, which came up the most often, along with the mention of faith. Statements to illustrate family cohesion referred to doing everything together, emphasizing closeness and the goodness of being close as in always having dinner together, telling one's mom everything about one's day, going grocery shopping together, and having barbecues and parties. The next belief would be about believing one was an integral part of the whole. That was revealed by how most participants viewed themselves as having responsibilities at home such as cooking or doing laundry for the family or teaching younger siblings. In other words, they had a role in the home, which evoked feelings of belonging, of being a critical part of the family. Feeling they were an important part of the family and that the family counted on them also generated the responsibility of getting good grades, motivated by paying back their parents. The third belief of, I belong and I'm supported, was conveyed by participants in statements that explained their parents or grandparents would do anything to support them, to give them the best opportunity possible, even if sacrifices were needed. Examples were also given about one's grandma or great-grandma sacrificing her career when she came to this country, and doing whatever it took to support the children, like selling baked goods or working in the fields. Those beliefs could all be explained by *familismo* or being part of a highly collectivistic society (Calzada et al., 2014).

Belief number 4 (loyalty, solidarity, and humility) arose from Christian values instilled at home, church, and, in some instances, at Catholic or Christian schools. Of the three, solidarity was the one mentioned often. To exemplify, the participants narrated about a grandfather who would help his friends even if he didn't have too much, a grandmother who would give the participant a monetary contribution every semester, a grandfather/mother/father who drove participants to school and picked them up (and had been doing that throughout all the school

years), and classmates who pitched in to purchase a cake and split it among the class even if each only got a sliver. All of these were examples of collectivism were related with pride and joy.

Belief number 5, we're anchored in nature, was apparent due to their inclusion of nature in the description of the participants' culture. The sun, the trees, water, and harvest were brought up. Participants mentioned feeling of peace, serenity, and joy when discussing nature. Hard work was discussed, as well when explaining harvesting. A participant at the south Texas university discussed about her grandparents being cotton pickers and the hard work involved. Two participants in Bolivia discussed helping out at the farm and how they were taught from an early age the value of not only hard work but work well done. In addition to learning from nature, in Bolivia some of the participants' relationship with nature had a dimension of religiosity as they considered the earth to be a giver, mother earth (Pachamama). Mother earth according to what the participants described should be made part of celebrations so she could continue giving. In that sense, nature was not an inert resource. Rather, nature was to be respected, cared for, enjoyed, but cannot be owned. However, a future study would need to delve into that belief.

Belief number 6, relationships are developed, was also a recurring topic. Having good friends was discussed as important, and examples were given of helping friends. For instance, one of the south Texas university participants described helping a close friend financially and morally even though the participant had a negative relationship with the friend's former boyfriend. A participant in Bolivia discussed establishing and developing friendships as an important part of her university years. She was part of a group of five friends who helped each other throughout the year, almost like family. At the end of the year, they would decide what cohort to sign up for in the following year, so they could remain together. Conversely, the participants at both universities stated they wished for more opportunities to make friends at the

university. They did not like that students would come in to class and leave right after, which left no opportunity to develop relationships.

Next, the belief regarding technology was that mobile devices and engaging with technology was good for entertainment, communicating with friends and family, shopping, keeping current, and even for school work. But there were mixed feelings that came up as a result of technology interfering with the first set of beliefs, principally technology being at odds with developing real relationships. Additionally, some participants admitted to feeling they spent too much time on the device and that it interfered with their studies in some cases. Finally, there were participants who brought up social media being a source of potential negative feelings about themselves or a space where they saw trolling or interpersonal conflicts.

The belief that comfort, value, and friendliness as important emerged from the question about a hypothetical ad campaign for the product of their choice. Most of the participants chose a restaurant or clothing for their hypothetical ad campaign. The participants made it clear they wanted comfort, quality, and value. They wanted discounts that could make the products affordable, but also good quality and stylish. They made special emphasis that the place where the products were sold should be staffed with friendly employees.

Finally, the belief that we see and are seen surfaced from discussions about the ad campaign, where they emphasize visual attractiveness of the product was important. They discussed how, in a TV commercial, the visuals should convey how delicious the food looked. In the case of clothing, how stylish they should look. Another topic was authenticity in the sense that if models were going to be used, they wanted the models to look like real people, not like fantasy women.

The beliefs, which emerged from the foundational cultural themes, will be called core beliefs. As part of their culture, participants would take those intrinsic beliefs with them to school, a classroom, or a learning event. They would then go on to create another layer of beliefs, that time a combination of beliefs they brought with them linked with experiences in the classroom or at school. That layer of beliefs particular to learning would be critical to understand as they might shape the students' behaviors, expectations, and reception/rejection of learning strategies, which might ultimately lead to higher or lower achievement. First, to delve into learning preferences, the following were beliefs that surfaced from analyzing the interviews (Figure 20).

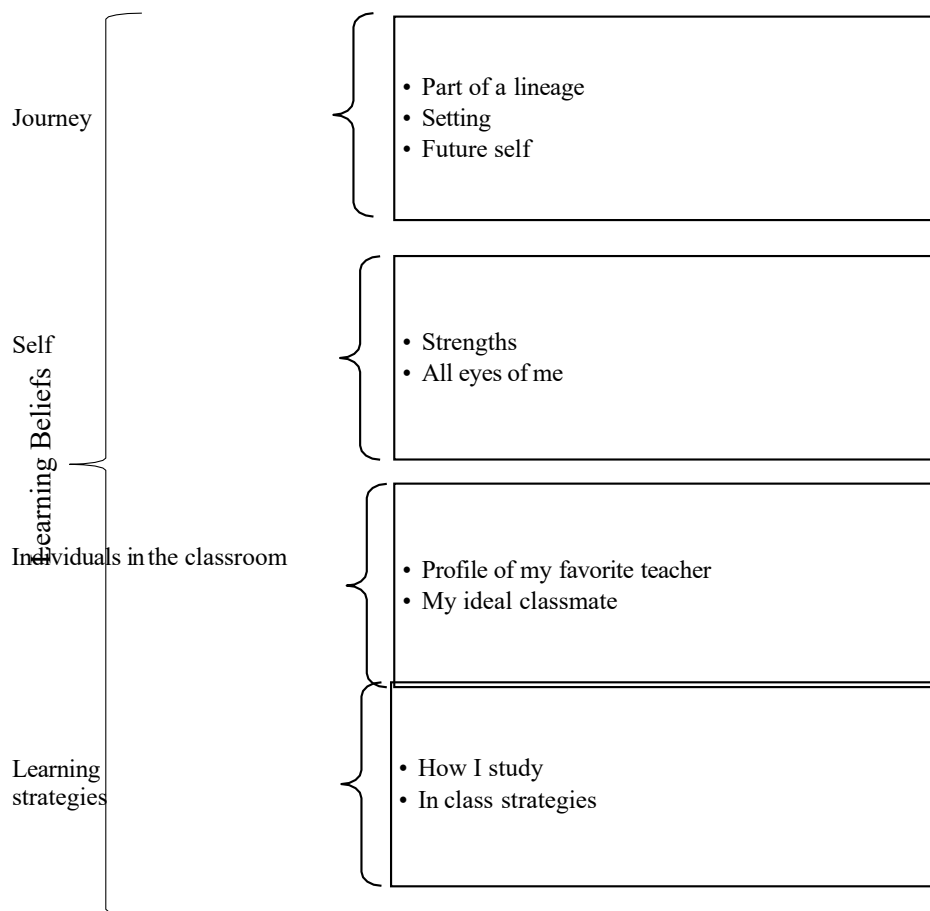


Figure 20. Learning beliefs.

Beliefs about one's journey. Understanding learners' views on one's journey might be helpful to educators as they could tap into what matters to students, what motivates them, and what might feed resiliency (Gloria & Castellanos, 2012). Those beliefs had to do with how participants perceived the self-discovery of their life path.

First, participants viewed themselves as being part of a lineage, which would be logical considering the collectivistic nature of the culture and in line with the low IDV (highly collectivistic) score on the VSM. Being part of a lineage here meant the participants saw from where they came, with their parents/grandparents as their roots. They also saw themselves as extending that line forward in time and rising above. For example, Megan (Bolivian university) said this about admiring her mom: "My mom, she's a warrior. She's been through some tough times and despite that, she's been able to overcome. In a way, I would like to be like her, or even better, rise above her." There was also Elizabeth, who came from a province. Her mom gave her up to her grandparents when she was small, but she remembered with fondness that time of her childhood she got to spend with her mom. From then on, she bounced from relative to relative. Once she started attending the university, she went to visit and live with her mom during the summers. Despite all of that, Elizabeth thought of her mom and her future family as her motivation: "We start talking about our future life, like having a family or something. I think that's important. But, I always, I always think first of my mom" and "What's important is my family. I do this thinking about my mom." Also, the proud feeling of being part of a group is apparent in Mila's (south Texas university) statement: "I know my family, like, they're always, like, yeah, the [last name] family. Like we got to hold the name, uh, proud and tall and all of this." Being a member of the larger group even surfaced in the process of choosing a school.

There were participants at the south Texas university that toured schools with their families, including grandparents, as it was a decision that would impact everyone. Claudia (south Texas university) explained:

So my family and I went including my grandparents, cause this was a huge deal. I was the first person in my family to actually go to college and now be graduating. Um, so my grandparents and I went with my parents, and we toured [name of college] and it was fun.

Other participants were following in the footsteps of mom, dad or siblings. Leticia (south Texas university) stated: “Um, I decided to come because my mom was actually a graduate... And so I’ve, I’ve always wanted to go to here as well.” That belief was also conveyed in the admiration they expressed, consistently, toward their mom, dad, grandma, or grandpa. Leticia said, “My mom, yes. It’s all from my mom. My mom is so good. She, she raised me well because I’m very organized.” Some related the journey of their parents and grandparents as they explained how the participants were working hard for a better future:

So my dad’s parents were, um, pickers like, um, cotton pickers.... But then just, like, to see, like, for my dad’s side, just the struggle on what they had to do. And then also, like, my mom, she had some struggles too. So just to see how both of them, they were struggling a lot. I want it to be like better than that. I wanted to, like, be successful, but also doing harder work to be able to get there.

Furthermore, when asked about their motivation to study, the answer was generally “for my family.” Participants referred to their parents as the engine that supported and propelled them into the future. Though family would catapult them into the future, participants also made the link that they were studying for their future family, once again supporting the theme of being part of a long chain.

The second point on this section is belief concerning the setting. When asked why they selected their universities, the responses from each cohort differed. The reasons for selecting the Bolivian university was due to the school’s reputation, the quality of education, the fact that the

university offered the program for which they were looking, and, for some of the participants, it was because of the proximity to home. Because the campus is spread out throughout the city, the participants did not go to an official campus tour. However, several mentioned attending an academic program fair. They attended the fair and had the opportunity to ask about the programs in which they were interested. They remembered the person to whom they talked who made them want to pursue the program. The choice of career and, for the participants, the choice of university, was a decision taken jointly with the parents, and with the input of friends and family. The excerpt from Abigail (Bolivian university) exemplified the process, which involved several family members:

My dad wanted me to study petroleum and gas engineering, and I had already decided I would go for it. Well, it caught my eye. But my mom contradicted my dad... 'How are you going to study that. That career is more akin to men. For a woman it will be harder. You'll need to go to the field and what about your family?' I was undecided. Then, other people, my friends, my brothers, told me: 'Study social media communication. You like to talk, you're not afraid, you're a go-getter,' they said. One day I went to the Professional Fair from the university. I had heard of this major but had not investigated in depth. So, I went to their table, to Financial Administration. Finally, I told my cousin, who's an accountant, what I had seen and that I liked it. He said I should go for accounting and not for business administration.... But then I said, accounting is boring, so I decided for financial administration. That's how I entered [into this major].

Also, Isabel (Bolivian university) gave an example of how the selection of university can be a family decision, to the point of overriding what the participant had initially selected. Isabel wanted to be a veterinarian. When her parents found out she would need to go to a province to study, however, they did not agree. Additionally, her parents perceived a veterinarian would more than likely have to work in a province and possibly care for farm animals. Doing so in the future, would have required Isabel to live in a province and to work possibly making veterinarian visits at farms. At the end, Isabel agreed to stay in the city and select another major that would be

more in agreement with what her parents wanted for her, which was to ultimately work at an office and not the field.

Being a veterinarian, that was my dream since I was little. But as time went by, and I told that to my parents, they found out that it was free entrance and in a province. And, they didn't want to send me. Perhaps because I'm the only girl, they are overprotective with me. They care for me. And, my dad always said, 'I want you to study in an office, in the city, so I decided for business administration because that was closely related to corporations and I would work in the city, in an office. That, and more or less I did it for my dad. But, I've been doing this major for 3 years and I like the program.

Also, Megan (Bolivian university) selected the major because her dad had a business, and she hoped to help manage it one day. Finally, Ximena (Bolivian university) went to the Professional Fair that the university was offering. Ximena talked to a professor and said, "You could tell she loved her profession. And, I said, that's how I want to be. I want to be happy and do something that I love. I hope to be like her." Ximena's parents wanted her to study accounting instead of business administration, but she registered for business administration. At the time of the study, Ximena was a junior in business administration and was double majoring in law. In sum, family seemed to be a principal part of the discussion on the selection of a major, and in some cases, family's perspective trumped the major the student would have wanted to undertake.

At the south Texas university, participants mentioned the smaller size of the school, pointing out that in smaller classes, they would be able to meet their professors. They also mentioned that when they visited the school it felt like home, as illustrated in Claudia's statement referring to when she toured the university: "The culture of it just automatically gave off, like, a homey feeling. It, it looked like a very small, tight-knit community because the campus is small," thus reinforcing the importance that family and home had for the Latino learner. It was important to the participants that the people to whom they spoke when applying to the school

were helpful and talked with them as if they were already part of the university, like they already knew them, as Melissa (south Texas university) related,

And, uh, the way that they greeted me when I first came here, it was like they had already accepted me, like I was already part of them. Um, I felt really comfortable here with, uh, with just how everyone was like the, like the culture of everything. And uh, it's something that I really enjoy just coming for, like, the prep days and the orientations. I always felt like, yeah, I belong here.

Another pillar of culture also came up: nature. Participants at the south Texas university mentioned that they liked the university campus. They compared it to campus from other schools that seemed colder and industrial for the lack of nature. Trees evoked the feelings of peace, serenity, and happiness, just as they did in their description of culture.

As for choosing a major, there were a few students who had switched majors. For example, Crystal (south Texas university) had started with communications but had to switch because there was a mandatory class she needed to take and her dad was driving her at the time. She couldn't make it work. She switched to general business, then to science, then to finance. A financial advisor visited a class and told them how bad being a financial advisor was. So, Crystal ended up switching to marketing, and she loved it. Also, Claudia, had started with science, but it was harder than she thought, and she was not enjoying it although she had decided she would persist. A school advisor had noticed Claudia seemed disengaged from school and unhappy. They had a good conversation. Claudia thought about it and switched to business. She also thrived in her new double major. In fact, she had already obtained an internship at a large corporation. She credited the advisor for prompting her life-changing conversation. In sum, at the south Texas university, it seemed that the major selection was individually taken. However, there were cases of switching majors.

The third and final point in this section addresses how participants viewed their future selves. All participants wanted to apply what they learned and to find a good job that would provide financial stability for them and their future family. At the Bolivian university, the motivation of leaving the fields behind pushed the students to persist, as Elizabeth expressed:

Agriculture has taught me that it's hard to work the land, which motivates me. When I go and get sun burnt, I start doing things that men generally do, and I get calluses in my hands and everything, and I feel like this is not to be, anger and everything, and I say, no way, I'd have to be caught dead to have to return and work the land. I have to study.

When asked about how she saw herself in the future, Elizabeth wanted to pursue a master's and a PhD. She wanted to travel and "share how I've risen. So they will know that if I made it, they can too. I want to feel like I'm helping them." Also, Journey saw herself pursuing graduate studies. After that, she would like to work in a large corporation. She wanted to no longer work selling fruit in the market. Additionally, Sierra (Bolivian university) wanted to go to a larger city to look for a job. Her parents have also told her and her siblings that if they, the kids, decided to move, they would move as well so the family could stay together.

The theme of wanting to improve the quality of life for the individual and the family continued at the south Texas university. That was stated by Claudia (south Texas university), "I want to give my children better than what I had," or Melissa (south Texas university),

I'm really looking forward to have my husband and my family, so what would be, like, my greatest gift to them? And that'll be able to support them like with money. Um, especially with money and going out to have fun shopping just like I do in my family. And um, that was part of my motivation to be here and I, it's something that I do every day.

However, the financial stability was a function of what they ultimately wanted, which was a good quality of life for their future families. That was supported by the prioritization activity where money came at the bottom three. Participants discussed the importance of having time to spend with their future children, as stated by Leticia (south Texas university): "I'd try to

keep that schedule open because I want to be in my kids' lives as well." Additionally, there were two participants, the minority, who considered life changed if children came, such as Luna (south Texas university):

I want to not have to depend on anyone and apply what I have learned at school, though I know that in 10 years, perhaps, if God willing, I'm married with children, I may possibly not work. But, even if I stop working, I want my parents to see all the while that I have the wherewithal like I do, of doing something with what I'm learning.

That view should not be taken as general, but it highlighted the range of opinions and perspectives on future lives. Whereas success in the mainstream culture might be defined by financial success, when the participants were asked to define success, responses varied from earning money, to equally valuing earning new insights of life, gaining experience, "being happy with where you're at" (Claudia), not giving up, having a job one enjoyed, "helping pass on what you've learned, and helping other people" (Mila), proving to yourself you can be successful, being independent, being a leader, and having a voice.

In sum, participants felt they were an integral part of a larger whole. Their motivation was past, current, and future family. Their decision of school was generally jointly undertaken with the family and, in the south Texas university, nature was a factor in their selection, as well in addition to feeling at home. Finally, financial stability was a motivator, but as a function of their family's well-being and an increase in quality of life. That information is important to keep in mind as potential factors in commitment and resiliency. Next, beliefs that emerged about self will be examined.

Beliefs about self. Beliefs about self might be able to impact agency, persistence, and behavior in general. The beliefs that emerged should not be confused with personality traits. Rather, those were beliefs that participants brought up as culture markers. The first set were designated as strengths. Those were related to perceiving oneself as hardworking, being aware

that one earns a place, persistency, and innovation. Having a work ethic and the concept of having to earn a place, reputation, or recognition were brought up as aspects of the Latino culture. In addition to giving examples of what parents, sisters, grandparents, and great-grandparents had to do to get to where they were now, the participants also discussed how hard work and earning a place had been internalized. That was expressed by Antonella (Bolivian university):

I was taught the value of responsibility. My parents [when they emigrated to another country], they worked so much more than here. I hardly saw them. They left at dawn and came back in the evening.... My sister would tell me “Our parents aren’t here. Think about that. If I can do it alone, you can too.” So, I’m an independent person. I don’t like people checking on me. I’ve never given my parents problems in that aspect at school.

Next is Ximena, explaining how much she admired her mom for her work ethic, said, “She’s worked all of her life. I don’t know where she gets the strength. So, always, always. Even I get tired and get lazy. But she doesn’t, no, she’s still there.” Journey (Bolivian university) affirmed the value of earning things on one’s own merits,

I like to work. I like to get things on my own. I don’t like to be given things because I think, in the future, they may claim ‘I’ve given you this.’ And, I don’t like that. I want to have things based on my own effort.

Also, Melissa (south Texas university) exemplified the concept: “So that’s how I go through my life. Like I need to work for things, I need to work towards things, uh, because I know they’re not going to just be given to me.” Mila (south Texas university) said, “We work hard so we get to where we are and that coincides with determination.” The awareness that one must earn was also stated by a participant who discussed how, at first, she did not expect a great salary, and she knew she needed to work up to it. Aside from hard work and earning, another virtue that was discussed was persistence and trying different approaches until one was able to achieve it.

Ximena said,

Um, and there's always another way, whereas it's, it's very flexible to, okay, this isn't working. How else are we going to do it? I'm never, I don't think there's ever been a time where I've seen a family gets stuck to: this happened. Okay, no, let's take from it and figure out another way.

Likewise, Ximena explained that sometimes she was frustrated and doubted her capacity. She would try to remember “what my parents tell me: What's easy is already done, what's difficult you can do, and what's impossible you try.”

The second theme on this category was eyes on me. That came up from two separate perspectives, with the first being the importance of being seen as in known, recognized, or acknowledged by professors or mentors. At the Bolivian university, that theme surfaced in a more subtle way. Because the classes were large, the students knew it might not be possible for the professors to get to know every student. What was clear was they appreciated professors who took the time to establish rapport and perhaps talk about things that might not be necessarily related to the topic. Journey (Bolivian university) stated she admired one of the professors. When asked why, she replied, “She's good because of the way she talks to us, what she tells us. She talks to us about life.” If the opportunity arose, participants appreciated professors who took an interest in their lives. Jennifer had requested to leave a few minutes before class ended, once a week. Jennifer appreciated that the professor asked her why she needed to leave and allowed her to do so when she knew it was for work. Abigail spoke of a professor whose class started at 7 a.m. Sometimes he would pitch in some money, and the students would pitch in whatever they could. With that money, they would get a cake or coffee for everyone. In that case, sharing bread built the sense of community, of being seen by each other and the professor.

If opportunities arose to participate in classroom discussion or to answer questions asked by the professor at the Bolivian University, the consensus was, they would participate if called on. However, several of the students, generally from the rural provinces, commented they would

not participate even if they knew the answer, because they were afraid to be wrong, or they were afraid their classmates would laugh at them. Abigail (Bolivian university) said she did participate, but many of her classmates didn't for fear of giving the wrong answer or being criticized or laughed at. Megan concurred and said, even though she had not seen a professor ever chastise a student, she was still afraid because her classmates might laugh. She also stated, that it was worse with boys, whose buddies would laugh at them even more so. Sierra (Bolivian university) also mentioned that if one volunteers to participate, people might look at one funny. She thought it was better if the professor would call on students based on a number. That concurred with Hofstede's et al. (2010) view that in collectivistic cultures, the group had to first allow the individual to speak.

At the south Texas university, being recognized and acknowledged by the professors might be associated with the selection of a smaller college. Also, being acknowledged played into earning a place and might generate feelings of belonging. Claudia (south Texas university) stated when referring to a professor: "But he'll talk so highly of me and I'm just, like, taken aback because this is a professor that knows me really, really well and actually knows and can pinpoint some of my successes." Leticia (south Texas university) added, "I mean it does remind me of high school, because it's like the small classrooms and the teachers know you by name but, but that's like a good feeling as well." Additionally, one must ask, how would participants want to be perceived by their classmates? A composite answer from participants would be as a person who's happy, friendly, responsible/trustworthy/reliable, and unpretentious. Wanting to be seen coupled with wanting to be perceived in a positive light might be a doubled-edged sword, as participants might want to be extra cautious when participating, anticipating how their contributions to discussions would be taken and what impressions they would cause.

Three of the south Texas university students discussed not participating much unless feeling comfortable with everyone in class. One of the participants recalled a class where the teacher pushed back on the students' opinions as "That's not a good reason," and she felt intimidated. Another student felt that some students participated to say something rather than say something that was relevant. In the United States, the current socio-political context was also discussed. One of the views was that Latino students might not be very vocal unless something that impacted them specifically would be brought up, such as the building of the wall. Two other students preferred not to contribute when related topics came up, because they felt that their classmates would perceive their opinions as obvious because of being Latino. A different participant described how she had seen friends trolled by strangers on unrelated topics as soon as they realized they were Latino:

Someone will just say something, point of view about pizza and they'll bring, they'll look at their profile picture, realized that they're Latino or anything else except for White. And they'll, they'll attack them for it and see terrible things and know what that's like. It has nothing to do with anything, but I don't see all the things like that. Okay. I see a lot of, a lot of it on, on social media and Internet. (Crystal, South Texas university)

Likewise, another participant stated that some of her close friends were having a discussion via text on a topic related to White privilege, where one of the friends thought it was not real. At that point, the participant decided to step in and join the discussion to share her life experience. Sadly, the participant related, the friend's opinion remained unchanged. On the other hand, Emma (south Texas university) had been inspired by new politicians like Ms. Ocasio Cortez:

Now that we see girls that look like me... I'm, like, wow, I could be doing something huge like that. And I think people want that. They want more. They want more women. They want more minorities 'cause it's just, it's what we need. They bring different backgrounds who bring different mindsets, and they inspire more types of people.

In sum, the participants at the Bolivian university felt that professors who established rapport with them as a group “see” them. At the south Texas university, students felt that being seen individually was positive. However, educators should be aware that reactions to the current political climate might range from students choosing to remain silent to wanting to be vocal and active in politics.

All eyes on me in the Bolivian cohort came up in the form of raised expectations for the participants to conform to their gender role. Several of the participants felt that machismo was more subtle, but they still felt the expectation that some house tasks belonged to them because of being females. Karen (Bolivian university) gave an example:

I’m doing my homework. And, that’s why I didn’t cook. And, my dad or my brother are asking, why didn’t we cook if that’s a woman’s thing [And, the man’s job?] Supposedly work, although my brother doesn’t do anything, ha, ha.

Antonella (Bolivian university) conformed to her gender assigned role. Antonella’s mom worked 6 days a week. Antonella’s older sister had gotten an internship and was barely home. Therefore, it fell on Antonella as the next woman in line, to take on responsibilities that would have normally been under her mom’s charge. She knew that she needed to take care of her little brother and the cleaning of the house.

My sister is doing her internship, so we can’t count her in. I make my little brother do his homework, because my mom is not at home. And, because I’m the second oldest sister, I am in charge also of cleaning the house.

Therefore, Antonella’s role at home was already decided because of her gender. Isabel agreed that at home, it was the woman’s role to cook and clean, and the men tended not to help. At the university, most participants they hadn’t seen overt sexism, but one participant recalled a discussion in class where some male classmates openly discussed how a certain position at a company should not belong to a female. Participants also spoke about had they had seen more

women in leadership positions, and they were glad. However, the participants believed that there was room for more female participation, especially for roles at the top of organizations. They spoke about needing to see more females in deanships at the university, as well as in public office and presidents of corporations. The participants believed that women could undertake positions previously reserved for men and do as good of a job or better. Finally, they were definitely glad to see that some women had risen to positions of power.

All eyes on me came up as a recurring topic among U.S. Latinas in a family context as well. There was a feeling that family expectations of females, particularly if they were the older sibling, were high and made them feel under significant pressure. Participants were of the view that the same high expectations did not apply to their male cousins or siblings and that their achievements (the participants') did not get the recognition they were expecting. For example, there was a participant who spent a semester as an intern at an S&P 500 company, but her extended family reacted as if she were just taking off a semester for entertainment. Another participant took of a year off a sport at which she was exceedingly good, to focus entirely on her freshman year, but her family did not react well. That type of pressure could weigh heavily on students, as these two examples illustrated:

I feel like they are like watching me and expecting me to be, like, this person and sometimes, like, I don't want to be that person too. So it was just, I just have to, like, go through it and face it that I won't be, like, to be that their expectation that they want me to be. (Kate, south Texas university)

Even if it hurts to get there, but then the eyes on me again cause, like, the expectations are always so high or it's, you know, like what are you doing in school? What's, who are you dating? It's a, how well are you doing? What do you want to do? (Emma, south Texas university)

The high expectations had an impact even in meeting potential romantic partners.

According to Emma, when she met people, she felt like she needed to analyze them from her

mom's perspective to see if they would be up to her standards. Additionally, she felt that her achievements should be recognized on her own, not on a partner's abilities. Interestingly, Emma also felt, as did some of the students in Bolivia, that gender roles surfaced at times. For example, at work, if there was something to be done, she did it. The male employees, in the meantime, might be standing around. As she put it,

And here's me with, like, delivering this plate and then I'm, like, busing tables and, like, aprons all dirty, and I feel like I, Hispanic women, are just like a stereotypical stereotypically seen as like the caretakers as you're the woman that are just going to fix everything. You call them when you're sick, when you want, when you're hungry, when you're tired, when you're throwing up. And we just kind of just assume this responsibility of, like, fixing everyone's messes. And I feel like that falls on me a lot at work and, like, I was just, like, women in general, you know, most of the women that do right there are Hispanic, but we are, you know, on our busiest days. Like it's like the women I see, like, picking up the messes, like, in the men are, like, talking behind it, the coffee bar and I'm just, like, why are you and what we, we just do it automatically because that's just, like, instilled in us, you know, just to, like, see problems and then we fix it.

In sum, the eyes on me topic was also a double-edged sword. On the one hand, students felt that it was good to be pushed. On the other hand, they felt sometimes it went too far and they needed "room to mess up too" (Emma, south Texas university). Educators should be aware, then, that the intersectionality of being female and Latino may bring with it feelings of being judged, expected to fail, not allowed mistakes, and overall a feeling of having to achieve family expectations that might not receive the recognition female participants would expect. From beliefs about self, next beliefs about individuals in the classroom will be discussed.

Beliefs about individuals in the classroom. This section will discuss participants' views of their ideal teacher and perfect classmate. The composite profile of the ideal teacher was based on their answers when asked about their favorite and least favorite teacher. Incidentally, participants from both universities had very similar views.

The profile of the participants' favorite professor would include several attributes starting with building trust. Participants believed the professors should work on establishing a relationship of trust first and foremost. Without trust established, the students did not feel like they could openly ask questions and freely participate. Jennifer (Bolivian university) explained:

First, professors must win the students' trust so they can open up with them and ask questions they have, with no issues. If that's not there [trust], then everyone remains silent. They [my classmates] say it's all good, but deep inside, no. mmm... [It's about] distrust.

Several of the participants described an approachable, friendly professor who would know them and care about them. For example, Isabel described the ideal professor:

The professor was explaining something we had not understood, and respectfully, the students are asking her questions. The professor is calm and gives examples, theories plus examples. She knew her subject, and we could understand her in detail. She would always ask us, "How's everything?" And, she was smiling. She was super nice and friendly.

That professor would be available outside of class and establish relationships where the professor would be able to ask about not just class topics, but other topics as well. The participants appreciated professors who saw them as more than just another student in their class. They valued professors who would let them know they were supporting the student and would offer to help if needed:

I was having a super hard time in that class, and he knew it. He was, but he like asked me to wait after class and then he offered if I need any help, do I understand everything? And like, he, he noticed that. (Melissa, south Texas university)

The ideal professor would be demanding, and have clear rules and expectations, but that would not impact the relationship with the students outside of class. In essence, once the relationship was established and the student felt the professor genuinely cared about them, that professor had leeway to be strict, sometimes to the point of being scary in class.

He is very strict as far as classes go, and he's scary in class. Sometimes he'll yell at you...Like whatever it might be. And outside of the classroom, nothing like that at all. Really talkative. Really, like, always smiling. He'll ask you, like, how your day is all the time. (Claudia, south Texas university)

When lecturing, the professor would explain in various ways to make sure students understood. The professor would use visuals and examples, and explain sequentially, going from the abstract to the application, and grounded in real life:

I'd like him to compare, say, give examples that come to mind right there and then, sometimes involving a classmate in the classroom, so we may understand better. That, and that he be spontaneous and perhaps make us laugh a little. (Patricia, Bolivian university)

The professor would need to establish immediate relevancy and transition to practical application,

His way of explaining had a way that he took examples from real life, from the theory, he would take it to the practice of daily life. For example, in microeconomics, he'd explain the concept, and he would compare the prices found in the actual grocery store, of an actual product. (Megan, Bolivian university)

Students discussed wanting to know the material and then being able to work on it. In other words, they wanted to be given the facts, the know-how, and then be challenged to *do* or *resolve*. That preference might reflect students' low power distance scores where they would view everyone on the same level. Therefore, they perceived themselves as having the capacity to resolve problems and complete projects once given the tools. Active projects were the ones that received great comments. Examples were making of an advertising commercial, making a tutorial video, going on a field trip, working with a company to survey customers, and analyzing a company's financial statements where the students were immersed in the company as consultants. The emphasis on relevancy and hands on might also be connected to being part of a collectivistic society in which knowing why something needs to be done, plus doing it, gives one the feeling of belonging and contributing. In the classroom, the professor would ensure that the

students knew each other. That would create a feeling of comfort where students would feel free to participate. The atmosphere described was of feeling at home, again evoking the family cohesiveness feeling that anchors a collectivistic society. Lastly, participants stated they were comfortable with feedback and wanted to know specifically what they did wrong so they could fix it. Feedback could be given in written form, but with specifics.

Just so in clear writing either. Um, if it's a paragraph, uh, pointing out what I did wrong and then telling me how I could correct it. Um, but if it's a lot of times it's scratchy and I can't understand it had to go. I mean have a meeting just to figure out what they were saying. So either just writing it straight on my papers are my projects, tell me what I did wrong, and if I have any questions I can go talk to them later. (Crystal, south Texas university).

Some students in both countries spoke about professors giving feedback verbally, but the situation was uncomfortable. Even though the feedback was given in private, the rest of the students waited to see the facial reactions of the student who just received the feedback, and that created an awkward situation. That students liked the feedback in writing or one-on-one, but definitely not in front of other students. Giving feedback in front of other students would have the potential of disturbing established in-group dynamics, as well as subject students to peers' looks. As Patricia explained,

Yes, I would like to receive the feedback, just me. I want to know if I made a mistake or not. I think it's better to know. Not in front of others... because... I don't know... I feel, people start talking. How come she doesn't know this? She should know... People start rumors, whispers.

When asked why the rumors would start, Patricia (Bolivian university) said,

It depends on how the person is. If the person is humble and calm, obvious, there's nothing they can say. But, instead, if you're a very extroverted girl, or lack respect for your classmates, then lots of things are said.

In sum, the group dynamics can be greatly disturbed with public feedback in a collectivistic society, as Patricia's comment illustrated. Lastly, receiving feedback in public from

other peers was the least preferred way. The feeling was that classmates were “way too honest” (Emma, south Texas university). In a high context culture, there is a lot left unsaid and communication, particularly something that could be perceived as negative, is carefully crafted in a very polite way so as to maintain harmony. Therefore, allowing peers who are way too honest to give feedback, particularly in an uncurated way, would not work well, as expressed by the students. Furthermore, preferably, prior to feedback, there would be a relationship or respect established with the students, and the why of giving feedback should ideally be to improve the students’ ability and, most importantly, because they care. One of the participants in the United States expressed she was pleased at having a chance to see Latino teachers in front of the class.

Yeah, I, I mean, I would always actually call my teacher mom (in elementary school)... Well, of just like the maternal familial women and usually, like, you know... she might be, like, Hispanic or half-Hispanic. So that’s always more comforting... Oh, like, I’m in a room full of, like, mostly Hispanic kids and my teacher’s, like, half-Hispanic, like, I’m home, you know? (Emma, south Texas university)

In Emma’s situation, school felt like home; she didn’t have to negotiate a racial identity because her classmates and her teacher were Hispanic. Additionally, being able to see a nurturing Hispanic teacher leading the class would add to the feeling of belonging and being supported. Lastly, receiving tough feedback from a teacher with whom the students could identify and respected allowed said teacher’s feedback to be received.

He gave us an option either to go up to him or, if you want to say out loud, but he was a rock, like a well-respected professor. So I was okay with it. And, like, same thing, like, he, like he grew up in this city. He was independent disciplinary strict, like his whole life. He went to a prestigious school and he came back and taught for us. (Mila, south Texas university).

In that situation, Mila perceived the teacher to be a rock, well respected because he came back for them. That is, he had the credentials, but most importantly he cared enough to go back, which was why Mila was okay with receiving feedback from him, even if it was out loud.

In summary, considering making changes on soft skills in the classroom environment should be viewed as an investment. Purposefully establishing a relationship with students and providing time to ensure students know each other would create a friendly, home-like atmosphere, which would encourage students to participate more actively. Most importantly, such considerations would go a long way to establish trust, credibility, and most importantly, cultural alignment. Should the class be large, trying to establish rapport with the class and perhaps investing in a few minutes to discuss topics related to the students, not necessarily the content, would go a long way to develop a harmonious environment.

The composite profile of their ideal classmates, similar to the ideal professor, was based on attributes aligned with creating a harmonious environment. The ideal classmates would be friendly, caring, unselfish, and supportive. The following quote exemplified the perfect classmates:

Would be, like, caring and they help each other because they have, um, if they need help with, like, anything and just, and it, yeah, just to help.... There'd be, like, conversations, like, good conversations. Like, everyone would, like, kind of relate to.... like Hispanic. So, like, they help, like, family members; they're all together. They just wanted to do everything together and not, like, judge anybody on how, like, what ethnicity they are, how they act. They just want to be friendly. (Kate, south Texas university)

They would be diligent, pay attention to the professor, and not act in ways that might distract the class. "They would have social skills, like, to work in a team, creative, full of energy, and with a positive attitude.... Communicative, participative, extroverted," said Jennifer (Bolivian university). According to Crystal (south Texas university), they should have

no outbursts when I'm trying to listen to the teacher. Um, so pretty much quiet unless they're called on or, um, not distracting. Never on your phone. Cause there's a lot of people who are always on their phones and it distracts me.

They would also be interactive, would want to learn, and would be helpful to each other. Finally, they would want to work in teams, and they would be willing to carry their weight in the

team. In sum, the ideal classmates would have attributes to establish and maintain bonds, to communicate respectfully with the teacher and with each other, collaborate toward shared goals and have team capabilities. Educators would need to keep this in mind to identify cultural dissonances that might arise from perceived lack of respect, lack of team spirit, and highly individualistic behaviors where collaboration was limited. Lastly, on the next section, beliefs about learning strategy will be outlined.

Beliefs about learning strategies. According to Bandura (2012), “Self-efficacy beliefs affect the quality of human functioning through cognitive, motivational, affective, and decisional processes” (p. 13). This category addresses the participants’ selection processes that consequently resulted in actions or behaviors. More specifically, this section will address participants’ beliefs on effective study habits, group work, and the use of technology.

Past research has been inconclusive on how Latinos like to study, their preferences for group projects, mobility in the classroom, and most productive time of the day (Cejda & Hoover, 2011; Dunn, 1990; Ewing & Yong, 1992; Griggs & Dunn, 1995). This research likewise did not find commonalities in the preferences just cited, except for project work. The reason for the lack of common themes might be that personal determinants generally overpowered any potential culturally imposed rubric.

Concerning how students liked to study for a test, for example, the answers varied and included, but were not limited to the following: I like to study alone, reading in silence; I like to make flashcards and read them out loud; I like to write summaries and conceptual maps; I like to study first by myself and then study with someone else; I read the PowerPoints and try to memorize, but also understand so I can explain in my own words; I like to study when there’s no one at home so I can concentrate; I like to study with music so I can concentrate. Additionally,

there were no shared preferences in the time of day when participants felt more productive. For some, it was morning, or early morning; for some it was afternoon or evening. For some, it was whenever I have time according to my work schedule. As for study groups, some participants preferred not to participate in study groups. Of the ones who did, they qualified their participation with I first have to study by myself so I can go to the study group. They felt that, doing otherwise, could be ineffective when there were differing opinions that they wouldn't know who to believe. It would be important for them to have at least a basic understanding of the topic. On occasions, people attended study groups precisely because they did not know the material or had missed the class when the material was presented, and/or they did not have notes from class. In those cases, the effectiveness of the study group was hit or miss, because it might be that others had the same idea and they also did not have class notes. Additionally, there were no shared opinions on mobility during class. Some participants believed it would be effective, while others thought that one wasted too much time during moving tables and chairs. Some enjoyed lectures and did not see the benefit of activities with a lot of movement. Some, however, believed more dynamic activities would be value added to the class.

While personal determinants play an important role in self beliefs and behaviors, based on the interviews, some commonalities did surface on how group projects were viewed that might speak to how culture or the environment could influence beliefs and choice processes. The majority of participants thought group projects would work if everyone shared the same willingness to produce quality work, if people carried their weight and were punctual, and if there was true team work. Participants explained group projects as a puzzle that was put together by individuals, rather than true group work. That was made possible due to the current technology that allowed to split the project, say four ways. A deadline would be given, and

everyone turned in his/her part, which was integrated into a paper or presentation. Prior to class, group members would divide the presentation, and they would present accordingly. In some cases, they did not have to meet in person, not even once. Some participants thought that if students knew each other, then they could select who would be on their team and that would be more productive. Even at that, there were occasions where self-selected groups had to decide what to do when one of its members became a free rider. The option was to let it go that time, and next time she/he would need to do most of the work, or to have the slacker exit the group. There were cases where true team projects were carried out, and those entailed more than just putting together a paper and presentation, as for example, putting together a training tutorial. Still on the topic of groups, group competition was mostly preferred over individual competition, provided that collegiality and collaboration were already established. Jennifer (Bolivian university) recalled about a class,

It was really interesting, because we covered half of the material and then we had in-class activities. We formed groups and competed. That was motivating for all students. I liked participating and competing. That motivates everyone to work faster, start analyzing the topic, and since we had limited time, then everyone focused directly on what they needed to do.

Crystal (south Texas university) recalled about an instance of individual competition of which she was not a fan.

It might've had to do with the fact that it was freshman year, and we didn't really know each other at the time. So it's, it's, like, if we're competing against each other, are we enemies down or are we friends? And then when you make those friends in the next couple of years, you get into groups, you're, like, oh, okay, well you're my friend, or are you are my enemy now we're working together. So it's a little different with that relationship wise.

That highlighted the nature of being part of a collectivistic culture, where relationships are paramount and establishing in-group or out-group boundaries is important to maintain harmony.

Next, beliefs about technology application are discussed.

Generation Z could be called Gen M for mobility. Participants are attached to their mobile devices and have had them for many years of their young lives. Participants use their mobile devices for entertainment, personal interests, social media, and learning. Delving into how students used their mobile devices for learning purposes, the common uses were searching for information, finding tutorials, articles, answers to questions, and communication/sharing. In essence, mobile devices, along with laptops, were instruments used by students for self-learning. Therefore, it is important to understand their beliefs in regard to those instruments, the processes they carry out, and their perceptions of the results they are able to obtain.

Regarding processes, aside from using their devices for multiple reasons, the students used their devices for learning in a multimodal approach. That was beneficial as they “utilize the affordances of different modes (audio, video, pictures, etc.) because it helps them better construct knowledge than when exclusively bounded to the mode of text” (Nouri, 2018, p. 13). Students did use text to communicate with friends via texting apps such as WhatsApp or Snapchat, reading articles on the web or on PDF, or possibly responding to blogs/Twitter or Instagram. However, increasingly, the use of media had become more popular. That seemed to reinforce the visual style dimension given students frequently post pictures on any of the social media apps or even video clips. When not posting, they might be consuming visual images primarily on Instagram, Pinterest (in the United States), and Facebook (in Bolivia). When searching for learning materials, they might be looking for supplementary resources for homework or projects, or they might be looking for replacement material in the case they missed a lecture or had not understood their professor. When performing searches and consuming materials, depending on their experience and on the quality of their search skills, they might be spending a short time to find what they need, or they might be spending more time during their

search than on the actual topic. “Rabbit holes” might occur also due to the nature of the algorithms that suggested material based on prior searches, and that might derail the search the students were trying to accomplish. Admittedly, students’ use Internet searches and other apps, more than university provided databases, journals, and other resources. That might possibly be due to the familiarity the students felt with other apps already. When finding tutorial videos, the students might also be tasked with deciding which videos would fulfill their needs. One of the students explained that she would watch tutorials until she found a professor who explained the material in a way that she could understand, but that was after getting confused by other videos. In other words, she would have to learn and unlearn material due to potential contradictions or unanswered questions from video to video. In Bolivia, their devices might also be used for audio recording of the professor, usually without his/her knowledge. The reason given was that, at times, the pace would be too quick to take good notes. In both countries, devices were also used to create media for school work, such as video clips. Additionally, mobile devices were used frequently to take pictures of the board. Having discussed the benefits or multimodal learning that devices afforded students, some complained about other students using their devices in class for nonrelated tasks, such as games or scrolling, which they found distracting.

Laptops were used mainly for taking notes, working on PowerPoint, writing papers, and doing more extensive research. Laptops in the classroom were considered necessary by some of the students. One gave an example of when a teacher did not allow the use of laptops, which created an issue for her:

He didn’t allow, um, phones or laptops and I understand the phone part of it ’cause it’s distraction. But for computers, a lot of people like taking notes on there, and if I don’t understand what he’s saying, I would like to look it up. But he didn’t allow it. So I would get lost and have remained lost until, uh, the lesson was done and then he would move on to another lesson that would just have to try to, like, figure out what he’s talking about now instead. So it was just, it was really hard for sure. (Crystal, south Texas university)

Laptops, like mobile devices, allowed students to extend and expand what they could do with pen and paper by adding media, although there were several students who liked to use pen and paper to study. Finally, aside from being able to select different modes of material for constructing knowledge, students highlighted the re-usability, shareability, and reconstructability that mobile devices and apps like YouTube afforded them. Aside from learning, other apps might be distracting, as well, especially during the process of learning such as the ease of exiting the learning app and jumping over to Netflix for 10 minutes that might become 2 hours.

In sum, beliefs about technology played a significant role in how students could search, analyze, and construct knowledge using mainly their mobile devices and laptops. Potential issues to efficient and effective use would need to be researched, as well as looking for ways to measure and evaluate self-regulation.

Summary of Interpretation of Findings

In sum, this section discussed four themes that surfaced on participants' learning: beliefs about the learner's journey, beliefs about self, beliefs about individuals in the classroom, and beliefs about learning strategies. Those beliefs echoed beliefs about the world that came from pillars of culture and generation, as depicted on Figure 19.

In essence, culture and generation were the environmental determinants that were imposed on learners. Those determinants were based on themes such as family cohesiveness, nature, abundance/sharing, Christian values, generational values, and the forces of technological mobility. Both generational factors and culture supported the development of shared beliefs. Additionally, the individuals' personal experiences would layer into the individuals' belief system. Consequently, the core set of beliefs might mediate and generate beliefs and expectations in and from the learning arena. Deconstructing the beliefs about learning by

working back to the core pillars of culture and generation was possible, since the learning beliefs clearly echoed the shared belief system. Here are examples:

- Feeling that one was part of a lineage reiterated the sense that one was part of a whole and spoke to the motivation that might cause or be tapped when needing to persevere.
- Selection of university might be based on a sense of feeling at home, which linked back to the belief that one was part of a whole and belonging was important. Additionally, the campus might be green and give a sense of serenity, which resonated with the belief that nature anchors us and we experience the world through nature.
- Beliefs in hard work, you need to earn your place, and eyes on me might echo the shared belief of belonging, Christian values, and the relationship of seeing and being seen, which would be part of the in-group/out-group dynamics of a collectivistic culture. That item was found to be in contradiction to the low LTO score that was found in the quantitative section. While a low LTO score indicates that culture values the present, the past, saving face, and traditions, a high LTO score would indicate valuing of the future, persistence, and hard work. That discrepancy might be due to the first item of the list: I am part of a lineage. That is to say, participants felt they were part of an unbroken chain that connected past, present and future. Hofstede et al.'s work (2010) had past and future as two opposing ends of a spectrum. However, the Latino view of the world stated that they were not opposed, rather they were because of (past and present) and for or toward (future) my family.
- Eyes on me might be derived from the beliefs of "Looks, we see and are seen." That belief might come from more cultural, as well as generational, forces. It would be influenced by the collectivistic nature of the Latino culture in which every person must

contribute, be part of the larger group, and work harmoniously with the rest of the members. Although both cultures scored low on masculinity, indicating a higher overlap of gender roles, the participants might nevertheless have been subject to older generations for whom gender roles were more distinct, and who would attempt to impose gender-related expectations, as was described by the students. Additionally, the theme of “looks” came from generational forces where social media made their persona constantly accessible to the cyber gaze of others. In other words, there might have been an over-exposure of the digital body, which might be edited, created, and published by Generation Zers themselves, when they posted images in Instagram, which gave them a higher pressure to live up to the expectations of the images they posted. Once in real life, or in the classroom, or anywhere they went, students continued to feel the pressure of the gaze, which was the epitome of panopticism. That is, they were in an inescapable “segmented space, observed at every point” (Foucault, 1977, p. 197) in which all of their movements are recorded, and observed, generating an inevitable self-policing.

- Likewise, the profile of the caring teacher, the need for establishing the relevancy of the topic being learned, the preferred way of receiving feedback, and the profile of the unselfish and supportive classmate could all be linked to the beliefs of relationships are developed, nature teaches us, and value, comfort, and friendliness were important. Developing relationships is paramount in a collectivistic culture, where the individual is supported by the members of the group. That would explain the expectations that participants had about the caring teacher and unselfish, supportive classmates. Establishing relevancy to the topic and knowing why one would do something highlighted the need for belonging. That is to say, the person would need to know if what

he/she was doing was contributing to the larger group. Additionally, nature teaches us that what we do has a result, and participants believed that we interacted with the world through nature. As a case in point, there was a student whose family owned vineyards. From the time when she was a young child, she and her sisters would go to the vineyard and tie small branches together. When she did that, she knew there was a practical reason, but more importantly, she was contributing to the family. Lastly, this generation participants believed that comfort and friendliness were important. Therefore, they would seek friendliness in people they meet, such as their classmates, with the goal of feeling comfortable around them.

- Lastly, regarding their beliefs about learning strategy, this research found the preferences where mostly individual. However, they did have mixed feelings about working in groups. That could be explained by their core beliefs about technology, combined with their prosocial way of being. Groups were great in theory, but because of technology, they allowed students to put the work together like a puzzle without having to work as a team.

To summarize, as depicted in Figure 21, this study found there were pillars of culture and generation. Based on those pillars, a set of beliefs was formed that related to the cultures' collectivistic nature, their relationship with nature, their conception of abundance and sharing, and generational forces such as mobile devices. The set of beliefs about how the world works would then generate a set of beliefs regarding learning. Those beliefs about learning resulted in the development of the individuals' learning styles. A more detailed Figure (22) shows how the learning beliefs connect back to the core beliefs. Additionally, this model should be understood as dynamic. Both culture and learnings can impact each other resulting in changes in either one.

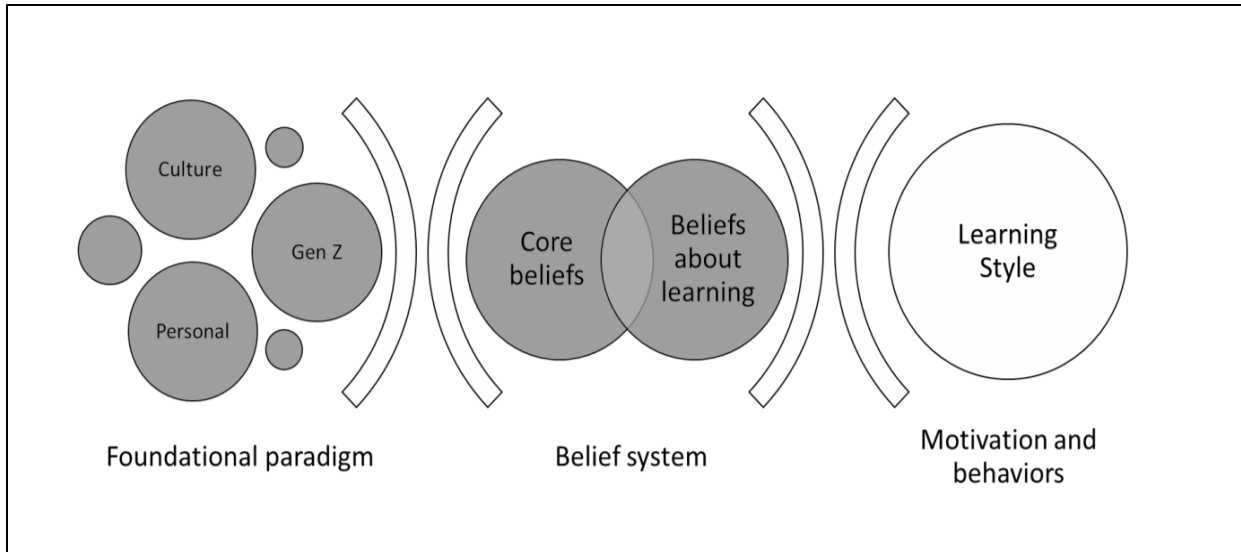


Figure 21. Beliefs’ centrality to learning styles.

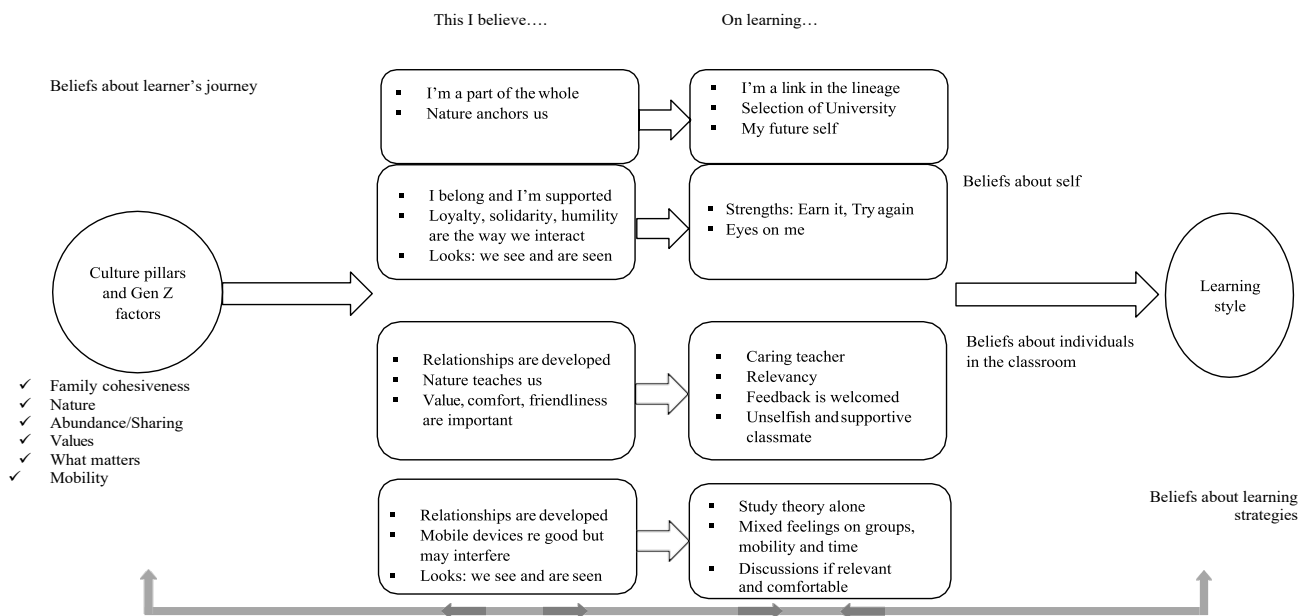


Figure 22. The impact of culture on learning styles.

To summarize, from the quantitative section, both cohorts preferred the active, sensing, visual, and sequential learning styles as discussed at the beginning of the chapter. From the qualitative section, based on the cultural pillars, core beliefs, and beliefs about learning, additional learning preferences can be summarized as follows: interpersonal, harmonious,

relevancy steered, structured yet not rigid, belonging driven, and originality ignited.

Interpersonal and harmonious arose from the collectivistic nature of the Latino culture, as we have seen from the students' descriptions of their favorite professor and ideal classmates. The participants also emphasized the need for knowing what the relevance was of the topic being learned and how it would or could be applied. It would be better yet if they could actually apply the knowledge on a project. An environment that was structured would help, but considering both cohorts ranked low on uncertainty avoidance, they would appreciate for the class not to be strictly rigid. Belonging driven came from the collectivistic dimension. That is, participants would more than likely try to figure out the in- and out-group dynamics, including the professor. If the professor was able to establish a team environment, and the participants felt they were a team, they would contribute as they would feel they were part of the whole and needed to play their role. Finally, originality ignited meant that participants were hungry for projects where they could be innovative and creative. Although sequential was their preferred learning style, that seemed to be the way they entered into the learning process. After they had understood the steps, they would want to be hands on and challenged to put their learning into practice. In fact, the cycle the participants described was akin to the situational leadership theory generally applied to management (Blanchard, Zigarmi & Zigarmi, 1985). This theory was based on the beliefs that while learning a new task or project, the participant would go through four stages. At the first stage, the employee felt enthusiastic but had practically no knowledge of the task. At the second stage, the employee felt discouraged and knew a little about the task. At the third stage, the employee had high to moderate competence in the task, but his commitment was variable. At the fourth stage, the employee had high competence and high commitment. According to the theory, the manager would need to support each stage differently. At the first stage, the manager would

need to be directive and provide detailed instructions. At the second stage, the manager would need to be still highly directive and also highly supportive. At the third stage, the manager would need to be highly supporting but low directive. At the final stage, the manager would need to be low supportive and low directive. All put together, the participants' descriptions of their ideal professor seemed to be describing the situational leadership model (Blanchard et al., 1985). That is, the students first wanted a sequential explanation along with the facts (first stage). They needed to know the relevancy and feel supported by the professor in their learning curve (second stage). The participants wanted to be able to apply what they learned but with some guidance (third stage). Fourth, participants wanted the chance, if possible, to be in charge of a project, real life, that they would be able to conduct. An example given by one of the participants (Antonella) was conducting market research at a wireless company. In sum, the participants wanted a professor that would establish a relationship with them. This relationship would be reciprocated by the students by them opening up, asking questions and being committed. Finally, after gaining some competence, students wanted to be given the freedom to apply their learning while still feeling the support of the professor.

Implications of the study

The findings from this research would be of use to recruiters, instructional designers, educators, and students. Learning about cultural pillars and, most importantly, beliefs and expectations from Latino students would be helpful to recruiters, who might consider emphasizing school, faculty, and administration attributes in correspondence sent to students and in how communication was carried out with the students. Additionally, knowing that students might like to tour with more than just one parent, campus tours could include potential accommodations for relatives such as grandparents or little children. That would accentuate that

families were welcome on campus. Also, rather than hosting meetings or calls with students, recruiters could open meetings/calls to parents, if students so desired. Finally, recruiters might benefit from finding out about the students' story and family and letting them know that they were "with" them along the way, like family.

Knowing that nature and food were important to the Latino culture and evoked feelings of peace and community respectively, recruiters could consider, weather permitting, hosting outside meals where touring groups could purchase hot dogs and share time outside in nature. Additionally, environment-gearred initiatives could be highlighted, such as recycling, alternative power, or any research from current students regarding protecting the environment.

Based on Latino Generation Z students' learning styles, instructional designers could provide a variety of teaching options and activities for teachers. For example, prosocial activities such as ice breakers that promoted camaraderie would be beneficial to include. Activities for the visual, active, sequential, and sensing learners would be preferable. That is to say, teaching that included graphics, charts, and media, as well as information presented in a systematic way, processes, proven ways of resolving problems, and lastly, practical application that lets the learner "try it." Finally, instructional designers might consider adding content to propitiate gender and ethnicity discussions to help students think critically about the topic.

Educators who had a diverse class that included Latino students might want to think about implementing changes based on this study's findings. For instance, professors might consider activities to increase collegiality among students; lean on group competitions only after students had the chance of establishing relationships in class; use teaching practices that catered to a variety of learning styles particularly visual, sequential, sensing, and active if there was a large percentage of Latino students; and discuss communication styles of different cultures.

Lastly, when giving feedback to students, educators should keep in mind that Latina female students might prefer feedback be given in private one-on-one or written with specifics as to what needed correcting. Educators would also want to avoid sessions of peer feedback.

Latina female students would do well to find out their individual learning styles, so they could use learning techniques that favored their unique learning styles. Additionally, they should consider what their beliefs were about the world and how those might impact their beliefs, motivation, and expectations from school. Being aware of one's own beliefs would be helpful when in situations in which they might have to negotiate their self as a Latina woman.

In sum, this research's findings could support recruiters, instructional designers, educators, and students. Knowing about cultural pillars, common set of beliefs, and beliefs about learning could be helpful not only to understand Latino Generation Zers but also to tap into what motivates them and make changes based on their way of learning to potentially rely on their strengths.

Identified Limitations

There were limitations identified that might restrict the generalizability of this research.

- Participants who completed the survey might have unwittingly misunderstood some questions. Due to the length of the survey, it was not possible for me to go over every question prior to the participants completing the survey.
- Participants who filled out the survey might have self-censored their responses. That limitation would apply to any self-reported survey.
- Participants who volunteered to be part of interviews might have suppressed their responses to divulge only certain information for various reasons.
- Participants who volunteered to be interviewed were participants who self-admittedly were successful. Those participants would be part of the 12% of Latinos who will attain a

bachelor's degree. Therefore, the findings in this research might not apply to individuals who were not successful college students

- Participants of this study were business majors or related fields. The findings of this study might not apply to students from other fields.
- Participants of this study were from two universities, one in Bolivia and one in the southern United States. Findings from this research might not be generalized to other universities, states, or countries, nor should they be simplified into stereotypes. More research would need to be conducted in order to broaden generalizability.
- The findings from the qualitative section of this dissertation were drawn based on interviews of Latinas. They might not apply to Latinos.

Recommendations for Future Research

This research's purpose was to explore the phenomenon of cultural and generational factors on learning styles. Based on limitations that applied to this research, there are several possibilities for future research. The quantitative section of this research could be expanded to include other universities in the same or in other Latino countries. A future study could delve into power distance in Latinos to find out what might be behind males scoring higher than females. Non-Hispanic White, Asian, and African American students could also be included to be able to compare learning styles by ethnicity. Additionally, students who were not admitted to the university or students who dropped out could be interviewed to explore potential cultural dissonance issues. Other research possibilities that would add to the body of knowledge would include focusing on professors to delve into their perceptions and beliefs of learning by various ethnicities. Longitudinal studies could also be pursued with a small number of Latina students to explore if there were belief changes. Finally, a similar qualitative study could be completed with

male participants to explore what differences or similarities one might find between Latino males and females.

Conclusions

The purpose of this mixed methodology research was to explore culture's impact on the learning style of Generation Z Latino students. In that pursuit, two cohorts of students, one at a university in Bolivia and one at a university in the south of the United States, filled out surveys to determine where they ranked in cultural dimensions and how they scored on learning styles. Additionally, individual interviews were completed with 14 female students at a Bolivian university and 11 female Generation Z students at a south Texas university. After conducting descriptive analyses of the data, as well as statistical tests, the findings indicated that both cultures (Latinos in in Bolivia and the United States) ranked similarly in five out of six cultural dimensions. A statistical test confirmed there was no significant difference in their primary learning styles (there was a difference in a secondary learning style of global). Both cultures had the same preferences and were primarily visual, sequential, active, and sensing. Regarding gender, on the sensing/intuitive dimension, a statistically significant interaction between gender and culture was found with females at the Bolivian university having a preference being higher toward the sensing end of the spectrum than females at the south Texas university. That indicated that Latinas in the U.S. cohort had a more balanced learning style overall as they were mildly sensing, meaning they could flex between sensing and intuitive. In the sequential/global dimension, culture was found significantly to impact the preference for that learning style. That is, a higher percentage of female participants at the south Texas university preferred the global learning style (30%) than participants at the Bolivian university (22%). That indicated a larger percent of females in the United States might learn in fits and starts, and might need to

understand the whole picture first, or solve problems in an innovative fashion without fully understanding details until all of a sudden, they “get it.” The qualitative data confirmed the findings and laid out a set of core beliefs, followed by beliefs about learning. Beliefs about learning could ultimately be connected back to the core cultural and generational themes this research identified: family cohesiveness, nature, values, abundance, and mobile technology. The findings of this research might be useful for educators, instructional designers, recruiters, and students.

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Appendices

Appendix A

Cultural Dimensions

	Power distance		Individualism		Masculinity	
	Large	Small	Individualist	Collectivist	Masculinity	Femininity
School	<ul style="list-style-type: none"> Teacher-student inequality Speak up when invited 	<ul style="list-style-type: none"> Independent from teachers Make uninvited interventions 	<ul style="list-style-type: none"> Learners expected to participate Want to learn how to learn 	<ul style="list-style-type: none"> Students speak when group allows Want to learn how to do 	<ul style="list-style-type: none"> Children's aggressiveness is okay, Students can overrate themselves Appreciate teachers who are excellent at their subject 	<ul style="list-style-type: none"> Children should not be aggressive Students underrate themselves Appreciate teachers who are friendly
Family	<ul style="list-style-type: none"> Children expected to obey Respect for elders Support elders. 	<ul style="list-style-type: none"> Children allowed to say "no" No deference to elders Independence of adults is valued 	<ul style="list-style-type: none"> Smaller families It's all about me Low-context communication is preferred 	<ul style="list-style-type: none"> Extended families Children learn about "we" High context communication 	<ul style="list-style-type: none"> Boys don't cry Males should be assertive and earn The father should be the breadwinner and the mother the nurturer 	<ul style="list-style-type: none"> Women are expected to care about the quality of life Boys and girls can cry Parents share roles at home
In business	<ul style="list-style-type: none"> Hierarchical, highly emotional, boss-subordinate relationship 	<ul style="list-style-type: none"> Boss and employees are equal Bosses are accessible 	<ul style="list-style-type: none"> Select own profession Prefer individual competition All customers are treated the same 	<ul style="list-style-type: none"> -Follow parent's profession -Prefer group objectives -Relatives and friends should be treated better 	<ul style="list-style-type: none"> Aggressiveness in managers is praised Value strength Appreciate hard work at the expense of life 	<ul style="list-style-type: none"> Managers build consensus Value negotiation Appreciate work/life balance
Philosophy	<ul style="list-style-type: none"> He who has power is right and has rights Change should come from revolution 	<ul style="list-style-type: none"> The moral right is pursued All should have rights Change should evolve 	<ul style="list-style-type: none"> Individual interests win People want to self-actualize 	<ul style="list-style-type: none"> Collective interests come first Harmony is king 	<ul style="list-style-type: none"> The poor should help themselves Tough religions 	<ul style="list-style-type: none"> Value the environment Help immigrants and the poor

	Uncertainty avoidance		Long term orientation		Indulgence Versus Restraint	
	Weak	Strong	Short-term	Long-term	Indulgent	Restrained
School	<ul style="list-style-type: none"> It's acceptable for teachers not to know Parents are involved in education 	<ul style="list-style-type: none"> Teachers should be the experts Teachers may reach out to parents to inform only 	<ul style="list-style-type: none"> Appreciate Personal steadiness Value analytic thinking Appreciate quick results 	<ul style="list-style-type: none"> Value synthetic thinking Believe in effort to get to success 	<ul style="list-style-type: none"> People more involved in sports 	<ul style="list-style-type: none"> Less involved in sports
Family	<ul style="list-style-type: none"> Ambiguity is accepted Relax with family What's unknown is curious 	<ul style="list-style-type: none"> Try to control uncertainty Stress and anxiety Spend more money on health care 	<ul style="list-style-type: none"> Save face Fulfill social obligations Value tradition 	<ul style="list-style-type: none"> Teach children to save and be thrifty Value adaptability 	<ul style="list-style-type: none"> Positive attitude More satisfied with family life Higher weight 	<ul style="list-style-type: none"> More pessimism Less satisfied with family life Less obesity
In business	<ul style="list-style-type: none"> More innovators Rules only if necessary Times are soft guidelines 	<ul style="list-style-type: none"> Good implementation More rules to control ambiguity Deadlines should be adhered to 	<ul style="list-style-type: none"> Short term outlook on business success Bottom line is key 	<ul style="list-style-type: none"> Long term outlook on business success Position in market is key 	<ul style="list-style-type: none"> Smile to customers 	<ul style="list-style-type: none"> Stern expression
Philosophy	<ul style="list-style-type: none"> Volunteering and participation Appreciate the young Value tolerance 	<ul style="list-style-type: none"> Low volunteerism The young may not be appreciated Extremism 	<ul style="list-style-type: none"> Pursue truth Focus on the parts Value one's country 	<ul style="list-style-type: none"> Pursue virtue Focus on the whole Other countries can teach us 	<ul style="list-style-type: none"> Saving is not important Less moral discipline 	<ul style="list-style-type: none"> Saving is important More moral discipline

Source: Hofstede et al., 2010.

Appendix B

IRB Approval



May 10 2018

To: Ms Angela Guzman Palacios

From: University of the Incarnate Word Institutional Review Board, FWA00009201

Angela:

Your request to conduct the study titled "Exploring the Impact of Culture on the Learning Styles of Latino, Gen Z, University Business Students" was approved by Exempt review on 05/10/2018. Your IRB approval number is 18-05-002. You have approval to conduct this study through 5/10/19 at which time you will need to submit either an **IRB Study Status Update**.

Please keep in mind the following responsibilities of the Principal Investigator:

1. Conducting the study only according to the protocol approved by the IRB.
2. Submitting any changes to the protocol and/or consent documents to the IRB for review and approval prior to the implementation of the changes. Use the **IRB Amendment Request** form.
3. Ensuring that only persons formally approved by the IRB enroll subjects.
4. Reporting immediately to the IRB any severe adverse reaction or serious problem, whether anticipated or unanticipated.
5. Reporting immediately to the IRB the death of a subject, regardless of the cause.
6. Reporting promptly to the IRB any significant findings that become known in the course of the research that might affect the willingness of the subjects to participate in the study or, once enrolled, to continue to take part.
7. Timely submission of an annual status report (for exempt studies) or a request for continuing review (for expedited and full Board studies). Use either the **IRB Study Status Update** or **IRB Continuing Review Request** form.
8. Completion and maintenance of an active (non-expired) CITI human subjects training certificate.
9. Timely notification of a project's completion. Use the **IRB Closure** form.

Approval may be suspended or terminated if there is evidence of a) noncompliance with federal regulations or university policy or b) any aberration from the current, approved protocol.

If you need any assistance, please contact the UIW IRB representative for your college/school or the Office of Research Development.

Sincerely,

Ana Hagendorf, PhD, CPRA

Ana Hagendorf, PhD, CPRA
Research Officer, Office of Research Development
University of the Incarnate Word
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