# What Makes You Happy? Predicting Wellbeing in Nicaraguan High School and College Students Using Socioeconomic Status, Depression, Anxiety, and Resilience

Daniel A. Rodriguez[1], Kelly B.T. Chang[2], Winston Seegobin[3], Kathleen Gathercoal[4]

[1]Graduate School of Clinical Psychology, George Fox University.
[2]Department of Psychology, George Fox University.
[3]Graduate School of Clinical Psychology.
[4]Graduate School of Clinical Psychology.
Corresponding Author: Daniel A. Rodriguez
e-mail: drodriguez@georgefox.edu

## Abstract

The present study sought to identify significant predictors of wellbeing within a sample of 2,764 high school and university students in Nicaragua, a country where significant stressful events and suicide are common. Ages ranged from 11-22 years ($M = 16.63$, $SD = 2.85$), and 60.3% identified as female. Measures used include the Personal Wellbeing Index, the Child and Youth Resilience Measure, the Patient Health Questionnaire-4, and demographic questions. Parent occupations were coded using the International Standard Classification of Occupations (ISCO-08). A multiple regression was conducted to identify five core variables that combined to predict approximately 30% of the variance of wellbeing, $R^2 = .30$, $R^2_{adj} = .297$, $F(11, 2727) = 106.188$, $p < .001$. Resilience is positively related to wellbeing, while age, depression, anxiety, and mother's education are inversely related to wellbeing. These findings could inform mental health workers in Latin America and contribute to increased wellbeing for the youth they work with, especially in Nicaragua, as the population has experienced increasing civil unrest. Implications and suggestions for future research are discussed.

**Keywords:** wellbeing, socioeconomic status, depression, anxiety, resilience

## Introduction

With the increase in research in positive psychology, wellbeing has become an area of particular focus in the literature. However, there is currently a lack of research for non-Western populations. There has been some research tying different variables to wellbeing, but this study examined the predictive abilities of a total of 11 different variables. There were particular variables of interest within the study including depression, anxiety, resilience, and socioeconomic status (SES).

## Socioeconomic Status in Nicaragua

Socioeconomic status (SES) has implications for many aspects of people's lives. Financial resources can buy food, shelter, proper clothing, and a good education, among numerous other assets. Central America is already a region of the world that faces high levels of poverty, and, according to the World Health Organization (WHO), Nicaragua is the second poorest nation in the Americas, with a poverty rate of over 29 percent (WHO, 2014). However, Nicaragua has been experiencing a period of significant economic growth in the past decade, and has become a nation that is poised to experience even

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more financial growth in the future (The World Bank, 2016). Despite this growth, a large percentage of Nicaragua's population still live in poverty, which brings with it a myriad of different problems.

Other challenges facing Nicaraguan youth is lack of basic needs in low socioeconomic status municipalities. One example is lack of basic hygiene and sanitary water in schools. In a sample of 526 schools in 12 low socioeconomic status areas, it was found that rural schools were severely lacking in standards of water, sanitation, and hygiene (ILO, 2015). According to the study, 81% of schools lacked any handwashing stations, and 71% of schools lacked soap. Additionally, the results found that only 8% of schools had money to fund toilet-cleaning supplies. The study found several other results that indicated the remarkably poor sanitary conditions within these low SES communities (ILO, 2015).

**SES and Wellbeing**

The relationship between SES and wellbeing for adolescents has been established in studies in different countries. For example, according to Gjerustad and von Soest (2012), SES was strongly negatively correlated with depression and anxiety in a sample of Norwegian adolescents. Some early research reflects that even among developing nations, including Nicaragua, individual economic status was correlated to subjective wellbeing in an adult population, with the effect being stronger among low-income developing nations (Howell & Howell, 2008).

In a study consisting of 443 Nicaraguan households, it became evident that only 25% of households could report food security, which is defined as certainty about consistently having access to food (Schmeer et al., 2013). In the same study, results showed that household income, more specifically mothers' income, had a significant effect on whether or not the household had food security. This study was conducted among families with younger children (ages 3-11), but it can be speculated that food insecurity during childhood would have lasting effects on an individual's wellbeing.

Unfortunately, not much research has been conducted on the possible relationships between parent SES and adolescent wellbeing in developing countries. However, a research review found that among developing nations, "…asset ownership improves children's health conditions, advances schooling outcomes, and decreases incidence of child labor" (Chowa, Ansong, & Masa, 2010, p. 1508). Current research also suggests that SES may have quite significant effects on life outcomes. A study by Vázquez, Panadero, and Rincon (2010) suggested that economic privilege is positively correlated with future success in Nicaragua.

**Depression among Nicaraguan Youth**

Depression, resilience, and wellbeing are all characteristics that have garnered a significant amount of attention in recent literature. Depression, in particular, is a common issue that affects individuals all over the world. Worldwide, depression is considered the fourth most prevalent disability (Kessler & Bromet, 2013). Nicaragua is experiencing significant problems with depression rates among adolescents. The Pan American Health Organization (PAHO, 2014) reports that Nicaraguan youth, ages 10-19, commit suicide at a rate of 25 percent, and youth ages 20-24 commit suicide at a rate of 24.6 percent.

Depression is a widespread problem, and there are a number of risk factors involved, but stressful life events can be highly indicative of possible depression. One study among children in the USA indicated that low SES, family disruption, and residential instability all increased future risk of depression (Gilman, Kawachi, Fitzmaurice, & Buka, 2003).

Unfortunately, Nicaragua's tumultuous history has produced no shortage of stressful life events like the ones listed above for its inhabitants, particularly adolescents. This history includes political unrest and corruption, civil war, and devastating natural disasters. While some of the earlier issues may not have directly influenced the current youth of the nation, there may be a number of indirect, unforeseen negative effects. Research suggests that young adults in Nicaragua experience alarming rates of stressful life experiences; one study in particular found that in a sample of 208 Nicaraguan university students, 11.2 percent had attempted suicide, 19.3 percent

reported having experienced sexual abuse prior to age 18, and 71.5 percent reported having, "significant economic problems," among several other issues (Vázquez, Panadero, & Rincón, 2010). Interestingly, among the four nations surveyed, which also included El Salvador, Chile, and Spain, Nicaragua had the highest percentages of stressful life events in the majority of categories.

## Resilience Among Nicaraguans of Low SES

Resilience is an important construct to understand in relation to this research. Ungar and Liebenberg (2011) describe it as a socio-ecological construct that can be improved with increased resources and support from professionals, family, and peers. They utilized this understanding when developing the Child and Youth Resilience Measure. The also defined resilience as an individual's potential and ability to find and utilize helpful resources within their environment to maintain wellbeing, the social and physical environment that can potentiate finding resources, and the potential and ability of the individual as well his/her peers and community to share the resources (Ungar & Liebenberg, 2011). This definition of resilience will be used for this study.

Despite the challenges that come with living in a developing nation, many impoverished Nicaraguan individuals deny feeling dissatisfied with their lives. According to a study by Cox (2011) among Nicaraguan sex workers, dump dwellers, urban poor, rural poor, and university students, the middle three categories actually reported being relatively neutral regarding their overall life satisfaction, and they reported having above-average satisfaction on 10 out of 12 items on the scale provided. The group with highest life satisfaction was the group of university students, as one might expect, and the group with the lowest was the sample of sex workers (Cox, 2011). However, the results suggested that in many ways, a significant portion of these individuals were more or less content with their situation. This shows a remarkable amount of resilience despite their difficult life situations.

This information appears counterintuitive to what one might assume about life satisfaction in such conditions. However, this research is corroborated

by another study that sought to measure levels of happiness among Nicaraguan garbage pickers. The sample consisted of 99 individuals whose ages ranged from 14 to above 40 and were 27.3 percent female and 72.7 percent male. All of these individuals identified garbage picking as their main source of income. This consists of rummaging through piles of garbage to find what can be sold or recycled or to find items fit for personal consumption or use. The participants were interviewed using a 7-point scale to identify their levels of happiness, which ranged from "very unhappy" to "very happy." Amazingly the condition with the highest percentage of participants was the "very happy" condition, with 28.3 percent of the sample, and the overwhelming majority (70.7%) of participants believed that their situations would improve in the future (Vázquez, 2013).

## Why Nicaragua?

Besides the facts listed above concerning Nicaragua's status as a developing nation and the struggles it has had, this research has very important implications for Nicaraguan youth. As mentioned, there is not much research concerning this topic in a Central American sample, let alone a Nicaraguan sample. In addition, this research has significant personal meaning for the researchers as it may have a positive impact on the targeted population.

## Purpose of Research/Clinical Implications

As of 2014, there were 55 million people of Latin-American origin in the U.S., making up 17 percent of the national population (United States Census Bureau, 2014), and this number is only expected to increase in the future. This research can help mental health practitioners better understand their young Central American clients, especially if these clients are not highly acculturated to the dominant US culture, perhaps because of immigrating at an older age. According to an article by the L.A. Times, more than 100,000 children have immigrated to the United States from Central America over the past five years, most of whom arrived as unaccompanied minors (Carcamo, 2016). The article focused on a particular student in a specific high school in Los Angeles. In this high school alone, approximately

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25 percent of students are immigrants from Central America, many of whom were also unaccompanied minors. These students often have to work several jobs to pay for housing, food, and other necessities while also attempting to keep up with their studies and become accustomed to an entirely new culture (Carcamo, 2016). It is not unreasonable to imagine these stressors would add to the likelihood of becoming clinically depressed.

This research could be especially helpful for Nicaraguan mental health practitioners working with adolescents. This research can lead to further studies and understanding of wellbeing, resilience and their value as protective factors in Nicaraguan youth. The intent is that others can use this research to better understand Central American clients and the effect their socioeconomic status has on other aspects of their health. As has been established, young adults in Nicaragua face many significant stressors. Indeed, these stressors can contribute to higher levels of depressive symptoms, including suicidality. One study conducted among a sample of Nicaraguan youth between the ages of 15-24 found that 46 percent of them expressed some kind of suicidal expression—defined as any sort of verbal, written, or other communicated suicidal ideation or intent. However, an interesting finding was that they did not find any association between suicidal expression and factors such as poverty or education level (Rodriguez, Caldera, Kullgren, & Renberg, 2006). Although there was no relationship between poverty and suicidal expression, it does not mean there is no possible relationship between poverty and depression in young adults. With this in mind, the authors suggest a significant level of need for psychotherapy and treatment for this population.

## Current Study

This study focuses on identifying variables that are good predictors of wellbeing within this population. and could be a starting point for understanding how to improve overall quality of life for Nicaraguan youth. One of the points of importance of this study is that there is a dearth of literature concerning Nicaraguan youth and these different factors that have been described. This study will add to the published research on this population that experiences significant hardship daily.

## Methods

### Participants

The data for this study was collected in spring of 2015 by one of the authors with local translators. The research team presented the questionnaires—which had already been translated and validated in Spanish—to different classes in 4 universities and 7 high schools. Data was collected with institutional permission.

The original sample consisted of Nicaraguan high school ($n > 1700$) and university ($n > 1400$) students, ranging in age from 12-24. The 11 institutions in which data were collected are mostly based in the cities of León, Managua, Chinandega, and Granada, Nicaragua and contain students from diverse economic backgrounds and diverse regions of the country. The students from these four cities cumulatively made up 94.5% of the sample.

### Materials

*Personal Wellbeing Index* (PWI-A, International Wellbeing Group, 2006; Lau, Cummins, & McPherson, 2005). This scale consists of seven 10-point scale items, ranging from 0 = No satisfaction at all, to 10 = completely satisfied. The items are meant to measure satisfaction in the following seven domains: personal relationships, personal safety, future security, health, life achievement, standard of living, and community-connectedness. The PWI-A version in Spanish has been validated in a Chilean population of teenagers between the ages of 14-16 (Cronbach's $\alpha = .796$, r = .224-.496) (Alfaro et al., 2013). Since an added item of satisfaction with spirituality contributed to psychometric performance, it has been added to the CYRM total for this sample. The original seven items plus spirituality loaded onto one factor, with a Cronbach's alpha of .832 (Chang et al., 2016).

*Child and Youth Resilience Measure-28 items* (CYRM-28; Ungar & Liebenberg, 2011). For the

CYRM-28, resilience is defined as one's ability to overcome obstacles or adversity throughout the course of life and function healthily. The scale consists of 28 items, each on a five-point scale (1 = not at all…5 = a lot), which measures how much a number of important factors are present in one's life. This measure was developed through an 11-country pilot study among over 1,400 adolescents and demonstrated good reliability (Cronbach's α = .88) (Ungar & Liebenberg, 2011). Confirmatory Factor Analysis supported the survey's theoretical structure among Canadian adolescents. This survey consists of three subscales: Individual characteristics, including Personal Skills, Peer Support, and Social Skills; Caregiver characteristics, including Physical Caregiving and Psychological Caregiving; and Context characteristics, including Spiritual, Educational, and Cultural. The total resilience score was used for this study.

*Patient Health Questionnaire 4* (PHQ-4). This is a four-item measure for depression and anxiety (Kroenke, Spitzer, Williams, & Löwe, 2009). This measure asks participants how often they experience certain symptoms related to the two conditions, depression and anxiety. The PHQ-4 is an established and validated measure that has been adapted from the larger Patient Health Questionnaire (PHQ) and the General Anxiety Disorder-7 (GAD-7). The PHQ-4's validity and reliability have been affirmed among various types of populations including a sample of the German general population (Löwe et al, 2010), a sample of US patients in a primary care (Kroenke, Spitzer, Williams, & Löwe, 2009), and a sample of US college students (Khubchandani, Brey, Kotecki, Kleinfelder, Anderson, 2016).

*Socioeconomic Status (SES).* Questionnaires included items on the demographic page of the survey to identify SES among participants, including questions about their parents' occupation and education level as well as if participants were aware of their family income being above or below 3,000 Córdobas per month. According to local experts, this was the understood poverty line that most students would likely know. Conger and Donnellan (2007) say that SES is typically calculated by combining the

factors of family income, parent education, and occupation. For this study, SES was considered using these three factors separately. Because the monthly income used to determine poverty is an understood value by the local community, it is not a standardized statistic. Instead of an objective income amount, which participant were not likely to know, it measures perceived poverty. The International Labor Organization, a branch of the U.N., developed and adopted the 2008 International Standard Classification of Occupations (ISCO-08), which is the most recent version of the document. It provides a comprehensive list and classification for possible jobs by dividing them into ten main groups, numbered 0-10, with numerous jobs within these "Major Groups." These ten groups include the following: Managers (Group 1), Professionals (Group 2), Technicians and Associate Professionals (Group 3), Clerical Support (Group 4), Services and Sales Workers (Group 5), Skilled Agricultural, Forestry and Fishery Workers (Group 6), Craft and Related Trade Workers (Group 7), Plant and Machine Operators and Assemblers (Group 8), Elementary Occupations (Group 9), Armed Forces Occupations (Group 0) (ILO, 2008). A given job can have up to three numbers following the initial first number, which indicates within which major group the job is included. An example of a job classification is 5112, which is the code for "Transport Conductors." This job is categorized under Group 5 as indicated by the first number of the code. For this study, all responses of parents' occupations were coded according to the ISCO-08. Responses that corresponded with Group 1 were considered the highest SES. Responses corresponding with Group 2 were the second level and so on. This method of coding and classification was modeled in another study, performed by individuals from the University of Amsterdam, that sought to classify wages in Nicaragua. This approach proved successful (Besamusca, Tijdens, Palma, & Arenas, 2012). This process was followed after occupations had been coded using the Spanish and English versions of the ISCO-08. Two additional bilingual consultants were recruited with final agreement statistics of 93% and 90%.

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Table 1. *ISCO-08 Major Group Titles and Numbers*

| Title | Number |
| --- | --- |
| Managers | 1 |
| Professionals | 2 |
| Technicians and Associate Professionals | 3 |
| Clerical Support Workers | 4 |
| Services and Sales Workers | 5 |
| Skilled Agricultural, Forestry and Fishery Workers | 6 |
| Craft and Related Trades Workers | 7 |
| Plant and Machine Operators and Assemblers | 8 |
| Elementary Occupations | 9 |
| Armed Forces Occupations | 0 |

*Note.* Group 1 includes occupations that oversee or coordinate organizations, corporations, or governmental agencies. This group includes the occupations requiring the highest skill levels. Group 2 includes occupations that involve the increasing or application of knowledge as well as the increasing or application of artistic pursuits. Group 3 involves similar occupations to Group 2 but refers to more specific or technical duties that are considered as requiring less skill than occupations in Group 2. Group 4 includes occupations regarding organizing, storing, or computing data along with other clerical support duties within organizations. Group 5 involve a large array of occupations including vendors, personal services such as housekeeping, and security or law enforcement occupations, among others. Group 6 describes occupations that grow crops, raise livestock or other wildlife, or include conservation efforts. Group 7 include specific technical occupations needed for construction of structures, machinery, machinery repair, production of food or other goods, and other technical duties. Group 8's occupations operate machinery necessary in agriculture, production plants, or assembly of products in a related environment. Group 9 involves occupations requiring predominantly physical labor for duties that are relatively simple. This group's occupations are considered to fall in the lowest skill level (ILO, 2008).

## Procedure

The participants who were involved in this study were all Nicaraguan high school or college students. With the help of colleagues in Nicaragua, surveys were distributed among a number of different classes across institutions. The participants were given the surveys as an in-class assignment or were assigned the survey as homework and returned them when finished.

One group of students from an elite private university completed the survey online.

Random sampling was not used to collect this data, though attempts were made to include a variety of regions, public and private institutions, and majors (for college students). Translators presented the questionnaires to different classes. For large high schools, classes were randomly chosen by grade. For small high schools, all classes were visited.

## Results

The plan for the analysis was to conduct a multiple regression to determine how participants' wellbeing was predicted by the independent variables (*age*; *depression*; *anxiety*; *resilience*; mother's occupation [*mom job*], father's occupation [*dad job*]; mother's level of education [*mom ed*]; father's level of education [*dad ed*]; above or below understood poverty line [*poverty line*]; *gender*; and identification as religious [*religion*].

Data were collected from 3,123 participants and screening led to the elimination of 359 cases due to careless responding. Participants under 12 and older than 24 were excluded from the sample. An additional one case was removed as an outlier. This left a group of 2,764 participants, who served as the final sample. Within the final sample, 1,877 had at least one missing value which was replaced by the group mean value for the purpose of conducting the regression.

Table 2 shows the descriptive data for the continuous variables in the study. The Mean Depression scores in the current sample ($M = 2.19$, $SD = 1.73$) were significantly worse (i.e. higher) than those of college students in the United States (Khubchandani, Brey, Kotecki, Kleinfelder, and Anderson, 2016) ($M = 1.06$, $SD = 0.04$), $t(2738) = 34.00$, $p < .001$, and the effect size indicated that

this is a large difference between the groups, $d' = .92$. Anxiety scores in the current sample ($M = 1.99$, $SD = 1.76$) also were significantly worst (i.e. higher) than those of college students in the United States (Khubchandani et al., 2016) ($M = 1.91$, $SD = 0.05$), $t(2738) = 2.50$, $p = .013$, however the effect size indicated no difference between these groups, $d' = .06$ . Resilience scores in the current sample ($M = 103.53$, $SD = 14.29$) were significantly worse (i.e. lower) than those of youths from eleven countries ($M = 111$, $SD = 16.21$), $t(2738) = -27.34$, $p < .001$, and the effect size indicated a moderate-sized difference between these groups (Ungar & Liebenberg, 2011), $d' = .49$ . Finally, the Wellbeing scores in the current sample ($M = 64.90$, $SD = 12.34$) were compared with those of Australian high school students ((Lau, Cummins, & McPherson, 2005) ($M = 73.88$, $SD = 13.29$) and found to be significantly worse, $t(2738) = -38.10$, $p < .001$, and the effect size indicated a moderate-sized difference between these groups, $d' = .70$ . The observed differences between the sample and norms were expected, particularly given difficulties and stressful life events Nicaraguan youth experience, as explained earlier. However, they provide more quantitative data to describe some of the challenges young adults in Nicaragua face during formative years.

Table 2. *Descriptive Data for the Continuous Variables in the Study*

|             | N    | Mean   | SD    |
|-------------|------|--------|-------|
| Depression  | 2739 | 2.19   | 1.73  |
| Anxiety     | 2739 | 1.99   | 1.76  |
| Resilience  | 2739 | 103.53 | 14.29 |
| Age         | 2739 | 16.64  | 2.85  |
| Grade Level | 2724 | 10.68  | 2.551 |
| Wellbeing   | 2739 | 64.90  | 12.34 |

Table 3 shows the modal responses for important nominal and ordinal variables in the study. Of particular interest within this population was that

nearly half (46.6%) of participants identified as being above the poverty line. Additionally, the sample was highly religious, with 77.7%

identifying as committed to their faith. The modes for parents' occupation were difficult to find and varied greatly.

Table 3. *Modal Responses for Important Nominal and Ordinal Variables in the Study.*

| Variable | Modal Value | Frequency | Percentage |
|---|---|---|---|
| Gender | Female | 1666 | 60.30 |
| Poverty Line | Above | 1276 | 46.60 |
| Religious | Committed | 2149 | 77.70 |
| Mother's Education | Secondary School | 898 | 32.50 |
| Father's Education | Secondary School | 702 | 25.04 |
| Mother's Occupation | Services & Sales | 635 | 23.20 |
| Father's Occupation | Crafts & related trades | 409 | 14.90 |
| | Professionals | 399 | 14.60 |

Bivariate correlation coefficients between each predictor and Wellbeing scores are presented in Table 4. Several relationships should be noted. First, Age, Depression, Anxiety, and Resilience are the only variables to have relationships with Wellbeing, and their relationships are small with the exception of Resilience, which has a medium relationship with Wellbeing. Also, Mother's and Father's Education levels and Mother's and Father's Occupations had several relationships among the four variables, but none were above a medium relationship. Most were small. There were few other relationships of note among these variables.

Table 4. *Correlations Among Variables in the Study.*

| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Wellbeing | | | | | | | | | | |
| 2 | Age | -0.19** | | | | | | | | | |
| 3 | Depression | -0.31** | 0.06* | | | | | | | | |
| 4 | Anxiety | -0.21** | -0.11** | 0.36** | | | | | | | |
| 5 | Resilience | 0.5** | -0.01 | -0.18** | -0.16** | | | | | | |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 6 | Mom job | 0.05 | -0.18** | -0.09** | 0.07* | -0.08* | | | | | |
| 7 | Dad job | 0.05 | -0.15** | -0.10** | 0.04 | -0.06* | 0.39** | | | | |
| 8 | Mom ed | -0.09** | 0.07* | 0.11** | -0.06 | 0.04 | -0.5** | -0.33** | | | |
| 9 | Dad ed | -0.04 | 0.04 | 0.15** | -0.04 | 0.04 | -0.33** | -0.50** | 0.50** | | |
| 10 | Poverty line | 0.02 | -0.08* | 0.03 | 0.05 | -0.05 | -0.03 | 0.00 | 0.08* | 0.04 | |
| 11 | Gender | 0.07* | -0.08* | -0.05 | -0.06* | 0.04 | -0.02 | -0.05 | 0.04 | 0.06* | -0.01 |

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

The assumptions of a regression analysis were met. Specifically, the assumption of independence was met, Durbin-Watson = 2.05. The assumption of noncollinearity was met, VIF < 2 for each variable. The assumption of normality was met by visual inspection of distribution plots. Finally, one outlier was removed based on the Mahalanobis distance.

Regression results indicate an overall model of five predictors (resilience, age, depression, anxiety, and mother's education) that significantly predict wellbeing, $R^2 = .30$, $R^2_{adj} = .297$, $F(11, 2727) = 106.188$, $p < .001$. This model accounted for 30.0% of variance in wellbeing. Coefficients associate with the regression model are presented in Table 5. Resilience is positively related to Wellbeing (i.e., higher scores predict better Wellbeing) while Age, Depression, Anxiety, and Mother's Education are inversely related to Wellbeing (i.e., lower scores predict better Wellbeing).

Table 5. *Regression Model Coefficients.*

| | Unstandardized B-weights | Standardized Beta | t | Sig |
|---|---|---|---|---|
| | 5.04 | | 15.73 | .00 |
| Resilience | .05 | .44 | 26.75 | .00 |
| Age | -.08 | -.15 | -9.42 | .00 |
| Depression | -.13 | .15 | -7.97 | .00 |
| Anxiety | -.08 | -.09 | -4.89 | .00 |
| Mom ed | -.08 | -.07 | -3.66 | .00 |
| Poverty line | .06 | .03 | 1.66 | .10 |
| Gender | .06 | .02 | 1.22 | .23 |
| Mom job | .01 | .01 | 0.54 | .59 |
| Dad ed | -.01 | -.01 | -0.67 | .51 |

| | | | | |
|---|---|---|---|---|
| Dad job | .00 | .00 | -0.25 | .80 |
| Religious | .01 | .00 | 0.18 | .86 |

## Discussion

Even with the current research regarding wellbeing in developing nations such as Nicaragua, there is still much to be done. Studies have tended to focus on particular traits in relation to quality of life among Central Americans. An understanding of several variables that help predict wellbeing can be very valuable in attempting to improve quality of life in Nicaraguan youth. This study contributes to this growing understanding.

The results of this study yielded intriguing outcomes. Among these was the identification of five particular independent variables that predicted wellbeing. These were resilience, age, depression, anxiety, and mother's education. Additionally, this study yielded both expected and unexpected outcomes. For example, the positive relationship between resilience and wellbeing was expected. As explained, in a study among Nicaraguans from varying occupations, participants generally expressed overall life satisfaction, and university students reported the highest levels of life satisfaction (Cox, 2011), suggesting resilience as a possible correlate and predictor of wellbeing. Another expected outcome was the inverse relationship between anxiety and resilience. Fava et al. (2005) found that Cognitive Behavioral Therapy (CBT) focused on improving wellbeing in Generalized Anxiety Disorder (GAD) helped facilitate a significant reduction in GAD symptoms both immediately and post-follow up. Given the relationship between resilience and wellbeing, it is possible these interventions directed towards improving wellbeing may have improved resilience as well. The third expected outcome was the inverse relationship between depression and wellbeing. This idea follows conventional knowledge and is supported by literature. A comparative study among depressed and non-depressed college students found that non-depressed students reported higher levels of wellbeing, life satisfaction, higher mood, and several other benefits (Kapur & Khosla, 2013).

The unexpected results involved the relationships of wellbeing with age and mother's education. Firstly, the inverse relationship between age and wellbeing seems to be contrary to the generally accepted concept of life satisfaction increasing or remaining stable over time (Herzog & Rogers, 1981). However, current research suggests the presence of a U-shape in regard to lifetime wellbeing or life satisfaction, meaning life satisfaction starts relatively high early in life and then falls until approximately middle-age then increases again. Following this model, life satisfaction regarding age also appears to decrease in a sample of adults aged between 20-30 (Piper, 2015). Therefore, it is possible the results of this study were a product of life cycle trends in regard to wellbeing and life satisfaction. Additionally, previous research on Wellbeing and Flourishing in Nicaraguan students found that college students reported lower levels of Wellbeing than high school counterparts, yet they reported higher Flourishing scores than high school students. Flourishing is a measure of Wellbeing that specifically focuses on eudemonic Wellbeing, meaning it focuses on perceived levels of meaning in life. Therefore, university students may report lower levels of wellbeing but may perceive their current stage in life to be very meaningful (Chang et al., 2016).

The second unexpected outcome was the inverse relationship between mother's education and wellbeing. However, there is some precedent to these findings. An Iranian study found that mother's education was negatively correlated with children's mental health, particularly anxiety. Additionally, father's education level had no effect (Mirshekari, 2014). Nicaragua and Iran share similarities in regards to traditional gender roles within the family, which may help explain the similar results. Furthermore, in this study mother's education level was negatively correlated with occupation category, meaning that the more educated mothers were, the higher skilled jobs they had. This may mean mothers were required to give these jobs significant attention and may have been away from home

more often than mothers who had less-skilled occupations.

## Limitations

This study included a large sample from several institutions which was extremely helpful in obtaining a large number of responses and increasing the study's power. However, the data was widely distributed to entire classes. Therefore, it was not collected via random sampling which limits some of the generalizability of these results. Random sampling would help obtain a more representative sample of the population.

Another limitation was that students in some classes may have been distracted by activities outside or by classmates who finished early. This may have led to the large number of identified careless responders that were omitted from the study. Additionally, some students declined to respond to all items in the questionnaire or did not know some of the information which further limited the number of usable responses.

One final limitation is the timeline between collection of this data and the final presentation of this study. As was previously described, Nicaragua's history has been complex and difficult, and this continues even now. Data was collected in 2015. Since the Spring of 2018 there has been significant political unrest in Nicaragua pertaining to corruption in the government. There have been widespread protests and demonstrations largely led and organized by young adults. Therefore, current political climate may affect student responses should this same study be performed today.

## Future Studies

The findings of this study open up new questions that can and should be explored moving forward. As mentioned, there is currently a dearth of research on Nicaraguan youth, and more research on wellbeing and positive psychology in this population could be greatly beneficial for the future of its youth.

Furthermore, this study was limited to students. It could be beneficial to have a wider study including young adults who are not currently in school, either by choice or necessity. This could lead to completely different responses to these same questions or, at the very least, provide additional information that could verify these results.

## Conclusion

High levels of wellbeing come with many benefits. Indeed, improving wellbeing is a goal that all good clinicians share. Understanding predictors of wellbeing in this particular population can greatly contribute to better overall understanding of the population itself. This study aids in this goal by identifying some of the significant variables that predict wellbeing for Nicaraguan students. Hopefully this can lead to studies of practical application of these variables to positively influence wellbeing levels for a very high-needs population.

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