Emotional Resilience Among American University Faculty, Staff, And Students During The Fall 2021 Covid-19 Pandemic

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***Abstract*—Emotional resilience was measured in 1704 American university students, staff, and faculty in October to November 2021 of the Covid-19 pandemic. Chaos in the home, both before and during the pandemic (as measured by Matheny et al.,1995), fear of Covid-19 (as measured by Ahorsu et al., 2020), and loss of health and money, defined in the present study as emotional resilience or ER are predicted by family size, income, and relations (larger, richer, better), sleep quality (better), internet access (better), and less nonessential phone use. The least resilient use their phone too much, have poorer internet access, sleep poorly, have less family, less income, and don't get along. Practical implications for this are to have university community members be trained in better phone use health, better hardware and software guidelines, better sleep practices, and family enrichment ideas.**

Emotional resilience (ER) has been heavily studied during the Covid-19 pandemic (Cao et al., 2020; Kilgore et al., 2020; Odriozola-González et al., 2020). In the present study, results from more than 24 of these Covid-19 era studies have been used to devise a 20-item online survey. The present study uses the survey to operationalize ER as comprised of several independent components identified in past research. Chaos in the home (CHAOS, Matheny et al.,1995), fear of Covid-19 (FCS-19, Ahorsu et al., 2020), family income, sleep quality, internet access, phone use, university role, social experience and loss of job or health all contribute to ER. This study is designed to compare pre-pandemic and pandemic self-reports in October 2021 on each of these measures to design an outcome measure for ER research. Those with good ER are better equipped to handle whatever comes next. Psychiatry must continue to adapt to online teletherapy to improve the lives of people in a challenging environment.

Natural disasters like hurricanes and pandemics such as the Spanish Flu and wars like WW1 have all come at a cost in emotional, as well as monetary terms. In recent times, no disaster has affected quite so many people and in such a profound way as the global pandemic which began in Wuhan, China, in late 2019 and was caused by a novel and lethal coronavirus. As major disasters become a more frequent occurrence, it is essential for communities to gear up and respond appropriately. Ideas are already forthcoming from studies in 2020-2021. Masten and Motti-Stefanidi (2020) studied the effects of disasters on children and youth. Protective factors associated with positive adaptations and resilience included close-knit families with quality relationships, mental skill and capacity, and good parenting skills. Further, expertise, leadership, knowledge, skills, and funding are necessary components needed for all systems and services to cooperate and coordinate for the overall well-being of society. Resilience is more attainable when **multiple systems** (employment, family, medical, government) are in place to support individuals and family members. After each Covid-19 era study, there are lessons learned and gaps revealed to help communities take the necessary precautions and steps to prepare for future pandemics. The main research problem is to uncover the unique and strongest predictors of emotional resilience during Covid-19 in order to inform practical implications for psychiatry teletherapy.

Cassinat et al. (2021) defines the Covid-19 pandemic as a stressor and a non-normative life event. Cassinat and colleagues used the CHAOS scale (1995) and found that more chaos occurred in families during the pandemic than in the year before. Matheny et al. (1995) created the CHAOS scale to evaluate changes in family systems due to disturbances of order and balance in the home. McCubbin and Patterson (1982) created a precursor of the CHAOS scale in their widely cited book to address changes in family order and its ramifications. Marsh et al. (2020) used the CHAOS scale (1995) to show that the pandemic co-occurred with a rise in chaos, hubbub and disorder, much to common sense views. Empirical observation, even correlational, can show how emotional resilience takes hold in certain people in some conditions despite increased chaos. Questions 16 and 17 (out of a 20-item online survey, See Appendix A) asked the nine most reliable questions from the original CHAOS scale for 2019 and 2021, respectively. The sixteenth and seventeenth questions asked about ten items from the CHAOS scale, did they apply in 2019, and in 2021, and which ones applied. Items were taken directly from the

CHAOS scale (Matheny et al.,1995) and included: there was very little commotion in our house, we could find things when we needed them, we were usually on time for things, we were usually able to stay on top of things, we could talk to each other without interruption, our home was a good place to relax, family plans usually worked out ok, phone time didn't replace people time in our home, and first thing in the day, we had a regular routine at home. High scores on the CHAOS scale meant low levels of family chaos.

In November 2021 when the present study was completed, nearly 50 million cases of SARS-Cov-2 had occurred and almost 800,000 Americans had perished. The Omicron variant had not yet reached the news. The Covid-19 story is much varied by geopolitical and economic variables even among the 50 U.S. states; the present study focuses on America, specifically, a large, private university in South Florida. This paper is about emotional resilience among a Florida university community in the late 2021 pandemic period. A twenty-item online survey was returned by over 1,700 students, faculty, and staff who self-reported their university role and family income. They were asked to report about internet access, phone use, family size, family relations, sleep, social experience, loss of job or health, chaos, and fear. A longitudinal study like that by Shanahan et al. (2020) would help with questions of cause. In their case, they luckily and cleverly hitchhiked onto an ongoing study. In the present study self-reports were requested about participants' experience before and after the start of the pandemic at one point in time. Shanahan et al. (2020) defined the pandemic as filled with uncertainty, ambiguity, and loss of control, and in their study all markers were worse in 2020 than in 2019. The present study asked participants to compare life right before the pandemic and during the last months of 2021. The results will be used to suggest psychiatry teletherapy ideas.

Chaos in the home has long been assessed by self-reports like the CHAOS (Matheny et al.,1995) scale and it correlates with poor mental health and weak coping strategies. The Fear of Covid-19 Scale (FCV-19S) has only been around since the pandemic named in the scale, but it is based on fear questions in previous scales that have been shown to be reliable and valid in predicting health outcomes (Ahorsu et al., 2020). It has already been adapted for use in many countries and translated into many languages. Huckins et al. (2020) found college students reported more anxiety and depression and more nonessential phone use, especially for those who watched a lot of Covid-19 news. The present study compares CHAOS and FCV-19S scores in the first pandemic study to do this. Doing well in face of fear and chaos is a hallmark of resilience. The present study compares fear and chaos of university students, staff, and faculty in order to better understand emotional resilience correlates.

The Annual Review of Psychology focuses on cultivating resilience during Covid-19 (Zhang, Yang, & Jia, 2021). Research is needed that assesses self-reported behaviors that are predictive of better mental health outcomes and stronger emotional resilience. Resilience that naturally occurs can provide support for theories about what works and who survives relatively unscathed from a global pandemic and its resulting social isolation. What works and who survives, statistically controlling for material wealth, is the purpose of this research. Kilgore, Taylor and Cloonan (2020) showed that emotional resilience can be predicted with a set of seven variables and from respondents across all 50 states. The American Psychologist magazine devoted a 2020 issue to the topic (Prime et al., 2020). More data about resilience is needed in order to develop applications for improving it the next time around. Covid-19 will move from pandemic to endemic. That means it will be around seasonally, like the common cold, or influenza. Teletherapy will need to address the issues of chaos and fear. What protects people from poor emotional resilience? Family connection. Good phone use. Good sleep.

The first question on the survey asked the only demographic collected, aside from family income, which was role at the university. Two thirds of the respondents were students at the university, a third were staff, and a third were faculty. A study by Van der Feltz-Cornelis et al. (2020) showed that Italian university students self-reported more resilience than staff but also more psychological distress. Each country has many factors that influence how and when Covid-19 affected them. Rahman et al. (2020) used the FCV-19S in Australia between June 2020 and July 2021 with a sample of 516 residents ages 18 years and above. Rahman et al. found that higher scores on the FCV-19S were associated with higher scores on the Hospital Anxiety and Depression Scale, which can be used to identify those individuals more likely to develop mental illness. Odriozola et al. (2020) also found undergraduate students to be more negatively affected than faculty or staff in a Spanish university sample of about 2,000. As many as 12.5% of their respondents reported severely negative symptoms that were attributed to the pandemic.

The second and third questions were a pair asking about self-reported reliability of internet access in 2019 and again in late 2021 on a five-point scale from poor to excellent. This is an important domain to consider as the number of faculty, staff, and students working and studying from home increased during the lockdown period created by the pandemic. Additionally, for those with children in school, parents had to spend more time assisting them with school-related work on computers, tablets, and mobile phones, all of which required reliable and high-speed internet. This can prove to be a daunting task for those with unreliable internet access. Carolan (2021), who conducted research with 70 participants in Colorado during the period of late 2019 through May 2020, reported that 50% of fathers and 80% of mothers indicated they spent more time on homeschooling than their spouses. It was evident that

both mothers' and fathers' perceptions were different about who spent the most time on homeschooling. Carolan (2021) also found that some respondents learned to use new tools like Facebook Live and Zoom for connecting with colleagues, teachers, and family members, which was contingent on having reliable internet access as well. Internet access is related to hardware and software issues. The present study takes poor internet access (despite increased technological knowledge) to mean that more information is needed about it. Psychiatry teletherapy can offer relief and increased emotional resilience by providing internet access encouragement and tips.

The fourth and fifth questions were a pair asking about nonessential phone use in 2019 and in 2021. Categories were less than one hour a day up to eight hours a day. This was the only question that yielded follow-up emails to the Principal Investigator to ask what was meant by "nonessential." The research team answered the query by saying that it meant using the phone when you didn't have to or need to. Ratan et al. (2021) reported that many people have replaced in-person social gatherings with smartphone use to stay connected with others. However, the practice of smartphone overuse for talking, surfing the internet, playing video games, and social media can lead to detrimental psychological and physical health problems such as anxiety, depression, difficulty sleeping, and pain in the neck, back, or shoulders. Furthermore, Ratan et al. (2021) suggests that smartphone overuse could potentially turn into a public health issue. The present study addresses the predictive power of bad phone use for emotional resilience.

The sixth and seventh questions were a pair asking for social experiences outside the home in 2019 and in 2021. Categories were less than one hour to up to 8 hours per day. Nguyen et al. (2021) suggested that because of physical distancing requirements during the pandemic, people have replaced in-person communications with digital communications. Moreover, those from lower socioeconomic groups are at a disadvantage due to digital inequities, which can lead to diminished social interactions.

The eighth and ninth questions were a pair asking for family size, or how many people lived in the home including respondents in 2019 and 2021. Categories were 1 to 5 or more people. Okabe-Miyamoto et al. (2021) found that household size wasn't as important as the role played by those in the household during the pandemic. Larger households may contain a wider range of resilience. The quality and frequency of healthy interactions among members of the household are important as they help people feel a sense of connection and companionship. Additionally, those living with a partner, children, and/or pets reported higher levels of well-being and lower levels of isolation.

The tenth and eleventh questions asked about family relations in 2019 and 2021 on a five-point scale from poor to excellent. Prime et al. (2020) suggested that close-knit families who provide support, emotional security, and positive interactions help family members cope and become more resilient during stressful times. Vulnerable populations such as immigrants, single-parents, and those from lower socioeconomic groups are more susceptible to financial hardships, mental health issues, and substance abuse. Because of the many changes families have had to endure throughout the pandemic such as social isolation, confinement, financial insecurity, changes to regular routines, and caregiving responsibilities, the impact of the pandemic is still under investigation. The present study investigates the best predictors of emotional resilience collated from Covid-19 era research publications.

The twelfth and thirteenth questions asked about sleep quality in 2019 and 2021 on a five-point scale from poor to excellent. Huang and Zhao (2020) found that Covid-19 significantly affected the mental health of people living in China. Furthermore, of the approximately 7,200 people surveyed by these researchers, 20% of respondents reported experiencing poor sleep quality. Health care workers had the highest rates of poor sleep quality compared to all other occupations. Therefore, the researchers suggest ongoing monitoring and interventions targeted to those negatively affected by the pandemic as routine practice.

The fourteenth and fifteenth questions asked about combined family income in 2019 and 2021. Nine stanines of income from 14,570 dollars or less per year to over 150,000 dollars per year were listed. Prime et al. (2020) reported that the Covid-19 pandemic has threatened the overall well-being of families related to financial insecurity and other challenges, and low-income families are disproportionally affected by income loss. Cao et al. (2020) surveyed approximately 7,000 college students in China and found that economic variables such as an unsteady family income significantly affected students' anxiety levels. Cao et al. (2020) also suggested mental health monitoring and support for college students during public health crises such as the Covid-19 pandemic.

The eighteenth question asked about the seven items from the Fear of Covid-19 Scale (FCS-19), how many applied, and which items apply now. The survey came out right before the Omicron variant was discovered in South Africa. The items were: I am quite afraid of Covid-19; It makes me uncomfortable to think about Covid-19; My hands become clammy when I think about Covid-19; I'm afraid of losing my life because of Covid-19; When watching news and stories about Covid-19, I become nervous or anxious; I can't sleep because I'm worried about getting Covid-19; and My heart races or palpitates when I think about getting Covid-19. Prime et al. (2020) illuminated the many layers of challenges individuals have had to

face that were brought on by the pandemic: health, economic, social, and emotional. Huang and Zhao (2020) reported that individuals are at higher risk of mental health issues when they spend too much time thinking about and focusing on the Covid-19 pandemic.

The nineteenth question asked whether three items applied and how many applied to one's family at the time of the survey. The three items were about delayed medical care because of Covid-19, contraction of Covid-19 and recovery, and contraction of Covid-19 without recovery. Walsh (2020), in a widely cited paper, described the numerous constraints people have endured throughout the pandemic and continual challenges that must be overcome moving forward. One of the most difficult and traumatic challenges is the sense of loss and devastation associated with the death of a close friend or family member. Survivors experience grief, sadness, guilt, anxiety, depression, and must learn to adapt to a significant loss in their lives. Family belief systems can help survivors restore hope, heal, and recover over time. Walsh (2020) stressed the importance of affirming one's strengths, staying connected with others, and keeping a positive outlook to foster resilience. Lenzo et al. (2020) studied 6,300 Italians during the period of March – May of 2020 and found that those with resilience had the lowest self-reported emotional distress. At the outset of the pandemic, Italy was hit very hard and one third reported moderate to severe depression, anxiety, and stress at that time.

The twentieth question asked whether and how many of these items applied to one's family at the time of the survey. The three items addressed whether someone in the family lost a job, income, or a business. Douglas et al. (2020) discussed mitigating the wider health effects of Covid-19. Resilience is one way that some people are able to mitigate the negative effects of the pandemic. Kilgore et al. (2020) found that resilience as measured by the CD-RISC (Connor & Davidson, 2003), was predicted up to 35% by a stepwise regression model containing more outside activity, more exercise, more perceived family and friend support, better sleep and more praying. All seven items made a significant and independent contribution to predicting resilience scores. Connor and Davidson (2003) created the CD-RISC as a 25 item, 5-point Likert scale survey to assess resilience as a modifiable construct that is specific to context, time, age, gender, and culture. Their idea of resilience was in turn adapted from a scale by Wagnild and Young (1993).

The present study takes the reliable predictors of previous studies and looks for patterns of successful adaptation to the pandemic from an American university community. The main hypothesis is that college students, staff, and faculty will reveal the best unique predictors of emotional resilience or ER. This informed and better understood ER can be used to plan resilience training.

Method

Participants

Participants at a south Florida university near Miami were sent a single IRB-approved online 20-item questionnaire and asked to take a 5–10-minute survey. One thousand forty college students, 318 staff, and 344 faculty, for a total sample of 1704 (approximately 10% response rate) were included. Annual family income ranged from 14K a year to over 150K a year. All participants were from an American university community during the Covid-19 pandemic period September 30th to November 30th, 2021. Family income was a stronger predictor than role since staff and faculty earned more family income than did college students in both 2019 and 2021.

Only staff earned less in 2021 than in 2019 and the other two groups were stagnant as to annual family income from 2019 to 2021.

Design of Instrument for Emotional Resilience ER

Twenty self-report questions were devised from the results of 24 published reports. Data were collected for self-reported 2019 (pre-pandemic) to late 2021 (right before discovery of Omicron) time periods. One to Five point Likert scale and word choice questions were posed in a single *Opinio* software program called ER. Responses were anonymous and completely de-identified. See Appendix A for all questions.

Procedure

After written consent, all participants responded anonymously to the 20 item ER questionnaire. Responses were quality checked for accuracy and recorded in SPSS version 28. IRB approval included written consent for being in the study, but no ability to know an individual's responses. Only one email request was sent to all active university email addresses after both IRB and University Research Review Online approval. No incentive, no follow-up, no text appeal and completely de-identified data reduced the response rate but provided potentially more honest self-report (Saleh and Bista, 2017). Saleh and Bista (2017) found that a study should appeal to research interests. The present study went to active university email addresses and included the first author's full contact information, shortness of the survey (4-6 minutes) and assurance of anonymity and confidentiality.

Results

Best Model of ER

Twenty-five percent of the variability in 2021 ER is predicted by a model including Internet Access, Phone Use, Family Size, Family Relations, Sleep Quality, and Family Income in 2021. See Table 1 for the regression model and coefficient beta weights. A stepwise regression predicting ER yields $R = .50$, R *square* $= .25$, $F(8,1646) = 70.75$, $p < .001$. Internet access contributed a unique .13 beta to the model predicting 2021 ER. Phone use contributed a unique

and negative .19 beta. Smaller family size was associated with poorer ER, beta is - .06. The single largest unique and significant predicter is family relations at .23. Better family relations predict higher ER. Sleep quality is higher, and income is higher in those with higher ER, both beta significant at .14 beta weight.

ER is a composite of CHAOS19, CHAOS21, Covid-specific items FEAR, HEALTH+, and DOLLAR+. Chaos in the home, both before and during the pandemic (Matheny et al.,1995), fear of Covid-19 (Ahorsu et al., 2020), loss of health and money dure to Covid-19 are predicted by family size and income and relations, sleep quality, internet access, phone use. This model reduces the number of factors and variables that are required to explain 25% of the variance in ER. No variables remain that contributed unique statistical power because they did not predict some portion of ER (See Appendix A).

Pre-pandemic compared to pandemic of October 2021

Pre-pandemic and pandemic self-reports in October 2021 differ significantly. The following are the paired sample t tests for pre and pandemic, 2019 v 2021, for each unique predictor of ER. Paired sample t tests show that the predictor internet access is reliably worse in 2021 *(mean = 4.27, SD = .84) than in 2019, (mean = 4.23, SD = .84), t (1691) = 2.09, p < .03.* Cohen's d effect size is large at .80 for the effect of decreased internet access quality.in 2021 than in 2019.

Paired sample t tests show that nonessential phone use increased significantly from 2019 to 2021*, (mean = 1.76, 1.08) versus 1.87 hours of nonessential phone use in 2021, t (1698) = -5.97, p < .001.* The Cohen's effect size of increased nonessential phone use is .75. Nonessential phone use in 2021 is significantly correlated to *ER, r = -.19, p < 001.* More phone use deemed nonessential is associated with less emotional resilience.

Paired sample t tests show that sleep quality in 2019 *(mean = 3.67, SD = 1.03) was better than in 2021, mean = 3.31, SD = 1.07, t (1696) = 12.17, p < .001.*

CHAOS Ensues

CHAOS scores were significantly worse in 2021 than in 2019 for all three university roles. The 1004 college students reported a CHAOS score of *mean of 5.06 (SD = 2.68) before the pandemic in 2019 and a reliably poorer CHAOS score in 2021 with a mean of 4.69 (SD = 2.77, t (1039) = 5.20, p < .001.* The Cohen's d effect size was a reliable 2.27.

The 318 staff also reported a significantly better CHAOS score in 2019*, mean = 6.27 (SD = 2.66) than in 2021, mean = 5.68 (SD = 2.85), t (317) = 4.45, p < .001.* The Cohen's d effect size was a reliable 2.36.

Finally, the 344 faculty reported a significantly better CHAOS score in 2019, *mean = 6.38 (SD= 2.63), than in 2021, mean = 5.90 (SD= 2.71), t (343) = 4.33, p < .001.* The Cohen's d effect size was a reliable 2.02.

Fear of Covid-19 scale is reliably, but very modestly, *correlated with CHAOS in 2021, r = .12, p < .001 for students, and staff, r = .16, but not faculty*. Faculty have a reliably higher family income than students or staff. That is the main way in which they vary along with the defining way of education level attained.

Fear is not correlated with CHAOS in 2019 for any group.

The bivariate correlation is very low in power such that the two likely form distinct constructs. Fear of Covid holds its own. Fear and Chaos are both contributors to predicting ER. ER requires these and many others in order to predict outcomes.

Role is Minimal and Mostly Income

University role, student, staff, or faculty, is linked to ER mostly through family income, 2021 income, but not 2019 income. Income remained the same from 2019 to 2021 for both students (mean 2019 = 100k, mean 2021 = 99K) and faculty *(mean 2019 = 138.2K, mean 2021 = 138.6, both ps > .05*. Staff, however, made significantly less money in 2021 than they did in 2019, *mean 2019 = 104.5K, mean 2021 = 107.7K, t (313) = - 2.60, p < .008.* Staff were burdened by the risk of less income during the pandemic. And no role gained money in 2021 as would be expected by inflation. Because of the drop in Staff income, role is only predictive in 2021, see Table 4.

Factor Analysis of ER

A principal components factor analysis was conducted on all survey items. The principal component was called ER (22% of the variance in the survey) and included a contribution from all variables except Socializing outside of home, which formed the second significant factor, Social which explains 13% of the survey data. The third factor with an Eigen value greater than 1 was a multivariable component indicating that the survey is mostly about one construct (another 10% of survey variance explained). See Table 4a. and b. for the full PCA component matrix and coefficients.

Predicting FEAR

Faculty were not fearful, but students (mean = .19) and staff (mean = .27) were so. Role matters to fear because role is related to income and maturity. Too much phone time also is predictive of FEAR perhaps by way of role. Socializing now, but not pre-pandemic was associated with significant FEAR. Sleep was significantly worse for those with FEAR, beta .10 in 2021, but not significant in 2019 (beta less than .004).

Discussion

University people who avoid too much phone use, understand, and maximize hardware and software limits, sleep better, have better family relations, more money skill, less Covid-related disease risks, are able to be more resilient. Resilience is complex so it is no wonder that it is a multiverse, a multifactor, phenomenon. Each of variables in teletherapy come from a model that predicts emotional resilience. Emotional resilience, ER is comprised of better phone use, better tech skill, better family relations, better sleep, less Covid-related disease risk, and more money skill. ER itself is measured with a composite of the following factors with an Eigen value greater than 1: CHAOS19, CHAOS21, FEAR, HEALTHGAIN, MONEYGAIN. Psychiatric teletherapy should use these variables to increase emotional resilience. The following is a potential script draft for teletherapy use research taken from the outcomes of the present research. Correlation is not causation, but it can be helpful.

Script draft for teletherapy research

Do what you can for yourself. Wear a mask, wash your hands, stay isolated: Whatever you consider taking less health risk, do it. Use technology to connect with people instead of physical contact. FaceTime-type technologies like Zoom and Teams allow people to connect with face and words. Connections breed resilience. Use your phone to connect with other people instead of watching videos that scare you about Covid-19.

Internet access can be improved by knowledge about hardware and software. A single cell phone with a battery charger and access to WiFi or connected to a home internet router, should be able to see and hear everything necessary to connect with family and friends. Use free software like FaceTime or Zoom or anything you find that works well. Tell your friends and family about the software you like.

Sleep better. Sleep hygiene will increase your emotional resilience. Huang and Zhao (2020) found that 20% of their survey participants said that they slept more poorly now than before the pandemic. Don't be one of those 20%.

Get teletherapy. Emotional resilience takes knowledge and work.

Learn how to manage your money better.

Conflicts of Interest. The authors report no conflicts of interest.

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Figures 1, 2, and 3, Frequency distributions of family income by university role. Students and faculty have positive skew indicating a larger proportion of high income relative to low. Staff are more normally distributed across low- and high-income frequencies.

Appendix A

Emotional Resilience Survey

Question 1: What is your role at Nova Southeastern University? Student, staff, or faculty.

Question 2: On an average day, how reliable was your internet access in 2019? 1 poor to 5 excellent.

Question 3: How is it in 2021? On an average day? 1 poor to 5 excellent.

Question 4: How many hours a day did you typically spend on nonessential phone use in 2019? Less than 1 hour to over 8 hours.

Question 5: How is it in 2021? On an average day? Less than 1 hour to over 8 hours.

Question 6: How many hours a day did you typically spend socializing outside home or on campus in 2019?

Question 7: How many hours in 2021? Socializing outside your home or on campus?

Question 8: How many people lived in your family home in 2019, including yourself?

Question 9: How many live in your family home now, including yourself?

Question 10: On an average day, how well were family relations in 2019? 1 poor to 5 excellent

Question 11: How are family relations now? 1 poor to 5 excellent

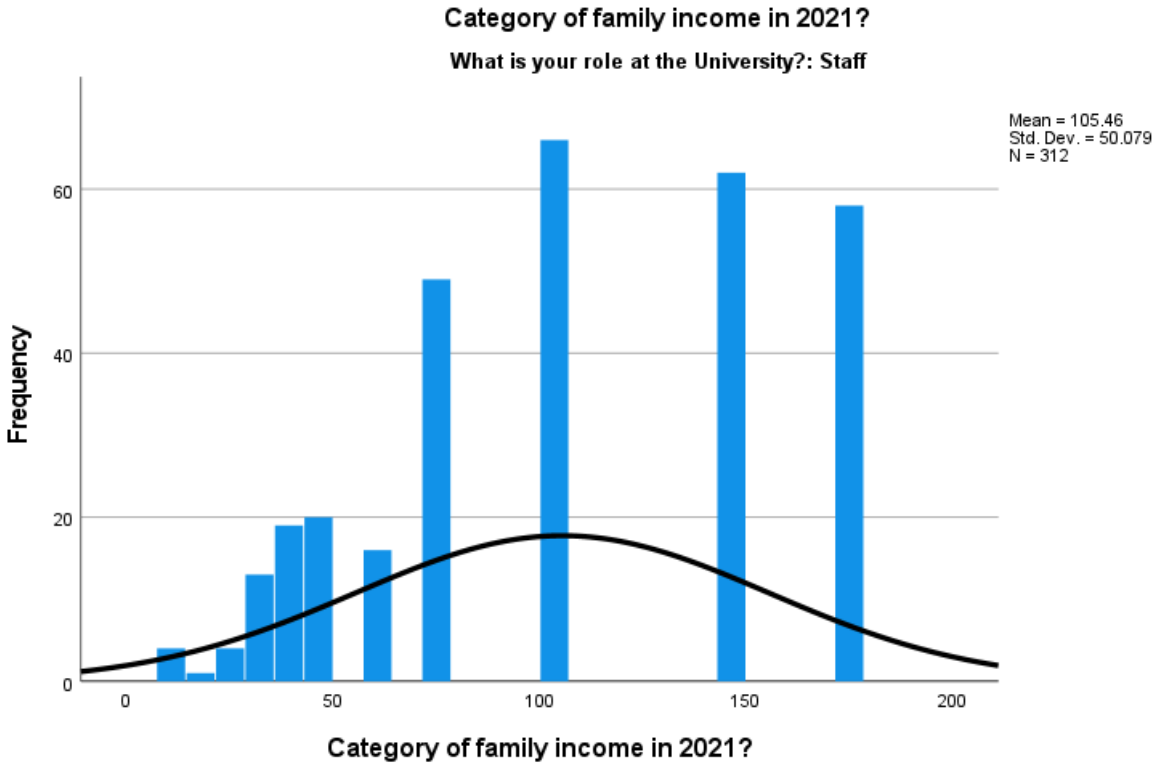
Question 12: On an average night, how well was your sleep in 2019? 1 poor to 5 excellent

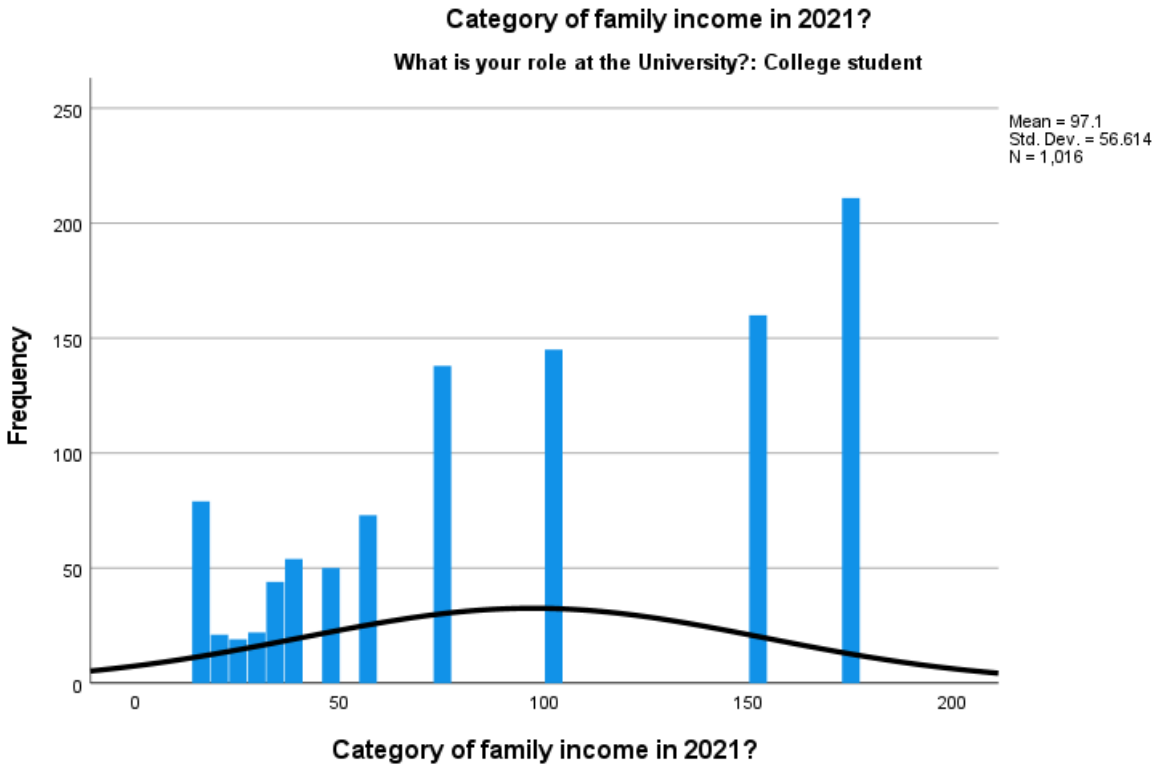
Question 13: How is your sleep now? 1 poor to 5 excellent

Question 14: Which category best describes your combined family income, (for students: family you grew up w...

Question 15: Category of family income in 2021? Less than 14K to over 150K

Question 16: How many of these things were true about your family home back in 2019? CHAOS (1995)


Category of family income in 2021?
What is your role at the University?: Staff
Mean = 105.46
Std. Dev. = 50.079
N = 312
Frequency
0
20
40
60
0
50
100
150
200
Category of family income in 2021?


Category of family income in 2021?
What is your role at the University?: College student
Mean = 97.1
Std. Dev. = 56.614
N = 1,016
Frequency
0
50
100
150
200
250
0
50
100
150
200
Category of family income in 2021?

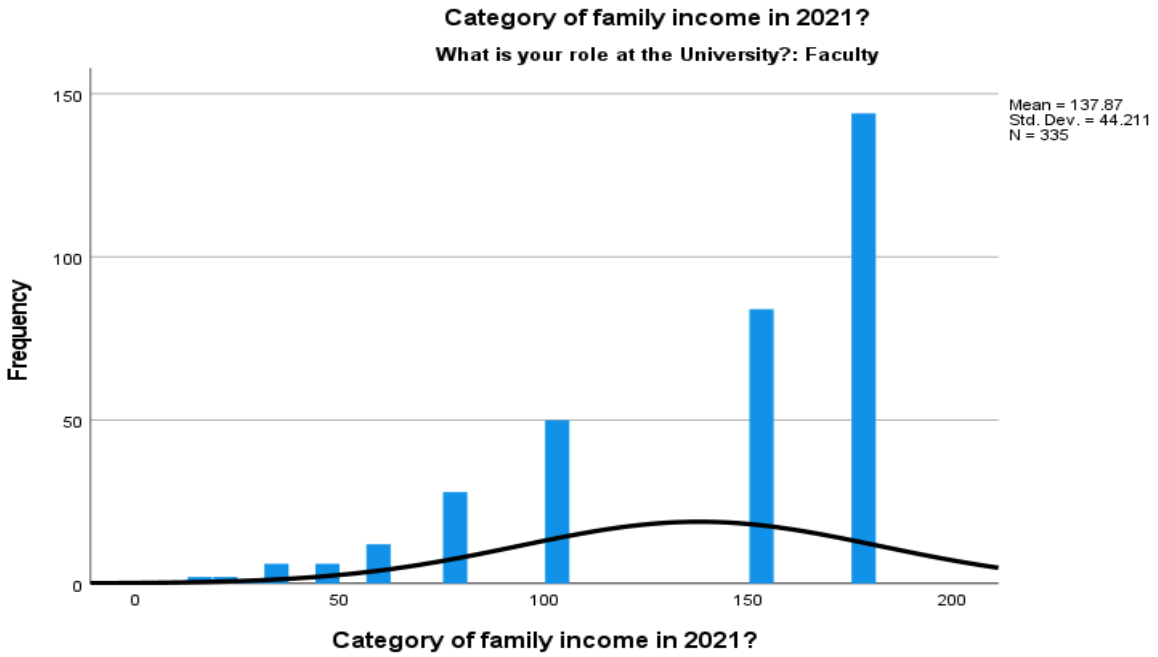


Table 1. Pearson Correlations and Coefficients by University Role and Income

		What is your role at the University?	Which category best describes your combined family income, (for students family you grew up with) in 2019?	Category of family income in 2021?
What is your role at the University?	Pearson Correlation	1	.262**	.275**
	Sig. (2-tailed)		.000	.000
	N	1702	1614	1663
Which category best describes your combined family income, (for students family you grew up with) in 2019?	Pearson Correlation	.262**	1	.886**
	Sig. (2-tailed)	.000		.000
	N	1614	1615	1613
Category of family income in 2021?	Pearson Correlation	.275**	.886**	1
	Sig. (2-tailed)	.000	.000	
	N	1663	1613	1664

**. Correlation is significant at the 0.01 level (2-tailed).

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.141	.044		25.682	.000
	Which category best describes your combined family income, (for students family you grew up with) in 2019?	.001	.001	.096	1.866	.062
	Category of family income in 2021?	.003	.001	.186	3.600	.000

a. Dependent Variable: What is your role at the University?

Table 2. Pearson Correlations All Roles and Incomes

		CHAOS19	CHAOS21	FEAR	HEALTHLOS	DOLLARLOS
CHAOS19	Pearson Correlation	--				
	N	1704				
CHAOS21	Pearson Correlation	.676**	--			
	Sig. (2-tailed)	.000				
	N	1704	1704			
FEAR	Pearson Correlation	-.061*	-.123**	--		
	Sig. (2-tailed)	.012	.000			
	N	1704	1704	1704		
HEALTHLOS	Pearson Correlation	-.071**	-.105**	.225**	--	
	Sig. (2-tailed)	.003	.000	.000		
	N	1704	1704	1704	1704	
DOLLARLOS	Pearson Correlation	-.094**	-.148**	.218**	.303**	--
	Sig. (2-tailed)	.000	.000	.000	.000	
	N	1704	1704	1704	1704	1704

**. Correlation is significant at the 0.01 level (2-tailed).
*. Correlation is significant at the 0.05 level (2-tailed).

Table 3. Model Summary predicting 2021 ER with model summary, ANOVA, and Coefficients for all participants

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.507[a]	.257	.253	5.07151

a. Predictors: (Constant), Category of family income in 2021?, How many live in your family home now, including yourself?, How is your sleep now?, How many hours in 2021? Socializing outside your home or on campus?, How is it in 2021? On an average day?, How are family relations now?, How is it in 2021? On an average day?, What is your role at the University?

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	14558.009	8	1819.751	70.752	.000[b]
	Residual	42129.674	1638	25.720		
	Total	56687.683	1646			

a. Dependent Variable: ER

b. Predictors: (Constant), Category of family income in 2021?, How many live in your family home now, including yourself?, How is your sleep now?, How many hours in 2021? Socializing outside your home or on campus?, How is it in 2021? On an average day?, How are family relations now?, How is it in 2021? On an average day?, What is your role at the University?

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-.568	.965		-.588	.556
	What is your role at the University?	.247	.179	.034	1.380	.168
	How is it in 2021? On an average day?	.904	.157	.130	5.746	.000
	How is it in 2021? On an average day?	-.999	.131	-.186	-7.653	.000
	How many hours in 2021? Socializing outside your home or on campus?	.084	.118	.016	.715	.475
	How many live in your family home now, including yourself?	-.276	.102	-.059	-2.691	.007
	How are family relations now?	1.350	.136	.226	9.921	.000
	How is your sleep now?	.738	.126	.135	5.863	.000
	Category of family income in 2021?	.015	.002	.145	6.429	.000

a. Dependent Variable: ER

25% of the variability in ER is predicted by a model including Internet Access, Phone Use, Family Size, Family Relations, Sleep Quality, and Family Income in 2021. ER is a composite of CHAOS19, CHAOS21, FEAR, HEALTHGAIN, and DOLLARGAIN.

Table 4a. Principal Component ER Survey Matrix[a]

	Component		
	1	2	3
How is it in 2021? On an average day?	.527	.028	.189
How many hours in 2021? Socializing outside your home or on campus?	-.175	.630	.242
How is it in 2021? On an average day?	-.577	.480	.045
How many live in your family home now, including yourself?	-.260	.379	.115
How are family relations now?	.535	.196	.414
How is your sleep now?	.524	.294	.347
CHAOS21	.633	.054	.335
FearInverse	.358	.431	-.321
HealthGain	.405	.329	-.544
DollarGain	.429	.311	-.511
What is your role at Nova Southeastern University?	.537	-.453	-.114

Extraction Method: Principal Component Analysis.
a. 3 components extracted.

Table 4b. Predicting FEAR of Covid-19 Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.258	.290		7.781	.000
	What is your role at the University?	.102	.049	.060	2.058	.040
	On an average day, how reliable was your internet access in 2019?	-.056	.049	-.034	-1.146	.252
	How is it in 2021? On an average day?	-.026	.049	-.016	-.543	.587
	How many hours a day did you typically spend on nonessential phone use in 2019?	-.007	.052	-.005	-.133	.894
	How is it in 2021? On an average day?	.134	.051	.106	2.637	.008
	How many hours a day did you typically spend socializing outside home or on campus in 2019?	.061	.033	.052	1.851	.064
	How many hours in 2021? Socializing outside your home or on campus?	-.150	.035	-.122	-4.339	.000
	How many people lived in your family home in 2019, including yourself?	.026	.039	.024	.657	.511
	How many live in your family home now, including yourself?	-.018	.038	-.016	-.465	.642
	On an average day, how well were family relations in 2019?	-.035	.046	-.024	-.765	.445

	How are family relations now?	-.053	.043	-.038	-1.249	.212
	On an average night, how well was your sleep in 2019?	.006	.037	.004	.153	.879
	How is your sleep now?	-.137	.036	-.107	-3.852	.000
	Which category best describes your combined family income, (for students family you grew up with) in 2019?	.001	.001	.029	.547	.584
	Category of family income in 2021?	-.003	.001	-.132	-2.457	.014

a. Dependent Variable: FEAR