

# THE RELATIONSHIP BETWEEN SOCIAL CONNECTIONS AND PSYCHOLOGICAL DISTRESS DURING THE COVID-19 PANDEMIC

## LA RELACIÓN ENTRE LAS CONEXIONES SOCIALES Y EL ESTRÉS PSICOLÓGICO DURANTE LA PANDEMIA POR COVID-19

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### ABSTRACT

During the years 2020 and 2021, in Puerto Rico and worldwide, social distancing was used as a public health precautionary measure to prevent the spread of the COVID-19. Literature suggests that social distancing could cause social isolation, leading to psychological distress. The purpose of this study was to identify protective factors against psychological distress by evaluating the variables of social connections, positive experiences, and age. The sample consisted of 227 participants between the ages of 22 to 77 who lived in Puerto Rico during the pandemic. The correlation analysis suggests that when reported levels of social connections are higher, reported levels of psychological distress are lower. Specifically, social connections with family may help counteract psychological distress. These results are consistent with the cultural value of "familism," which explains how family ties in Latino family members promote their emotional well-being and mental health. There was no significant relationship between positive experiences and psychological distress or between age and social connections. We recommend family care and support programs in order to help families manage psychological distress caused by crises such as pandemics, among others.

**KEYWORDS:** COVID-19, psychological distress, social connections, social distancing.

### RESUMEN

Durante los años 2020 y 2021, en Puerto Rico y a nivel mundial, el distanciamiento social fue utilizado como medida de precaución de salud pública para prevenir la propagación del COVID-19. La literatura sugiere que el distanciamiento social podría causar aislamiento social y provocar estrés psicológico. Este estudio buscó identificar factores protectores contra el estrés psicológico mediante la evaluación de las variables conexiones sociales, experiencias positivas y edad. La muestra consistió en 227 participantes de entre 22 y 77 años residentes de Puerto Rico durante la pandemia. Se encontró que cuando los niveles de conexiones sociales reportados son más altos, los niveles de estrés psicológico son más bajos. Específicamente, se encontró que las conexiones sociales con la familia pueden ayudar a contrarrestar el estrés psicológico. Esto es consistente con el valor cultural del "familismo" que explica cómo en familias latinas los vínculos familiares promueven su bienestar emocional y la salud mental. No encontramos una relación significativa entre experiencias positivas y estrés psicológico, ni entre edad y conexiones sociales. Recomendamos programas de atención y apoyo familiar que ayuden a las familias a manejar el estrés psicológico provocado por situaciones de crisis como pandemias, entre otros.

**PALABRAS CLAVE:** Aislamiento social, conexiones sociales, COVID-19, estrés psicológico.

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On March 11, 2020, the World Health Organization (WHO, 2020) declared COVID-19—an infectious disease caused by the severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2)—a pandemic due to an alarming level of spread and severity. Many people infected with the virus may experience illnesses that can go from mild to more severe ones and recover, while others could experience severe illness or even death (WHO, 2020). Therefore, public health measures such as lockdowns, social distancing, use of face masks, among others, were necessary and established worldwide to slow the spread of the disease (Best et al., 2021; Broche-Pérez et al., 2020). On March 12, 2020, the Government of Puerto Rico declared a state of emergency and established the first total lockdown from March 15-30th to prevent contagion (Exec. Order No. 2020-023, 2020). The restrictions related to the lockdown included social distancing measures, restraining people in their homes.

Although quarantining and social distancing are necessary to prevent the spread of the virus, both can lead to elevated levels of loneliness and social isolation that can have consequences on physical and mental health (Hwang et al., 2020). Social isolation is an objective and quantifiable reflection of reduced social network size and paucity of social contact (Steptoe et al., 2013), and the inadequate quality and quantity of social relationships, or lack or deprivation of social connectedness (Li & Huynh, 2020; Zavaleta et al., 2017). A study consisting of 20,158 Italian adults ranging from 18-50 years old aimed to evaluate the impact of COVID-19 quarantine found that the confinement, changes in routine, and reduction in social and physical contact with others, resulted in distress to the participants (Bonati et al., 2021).

Social isolation is especially harmful when it endures over a long time, affecting people's quality of life and mental health. Studies have demonstrated that longer durations of quarantine (more than ten days) have been associated with a high prevalence of symp-

toms of psychological distress, emotional disturbance, nervousness, sense of isolation, loneliness, and post-traumatic stress symptoms (Gómez-Salgado et al., 2020; Hawryluck et al., 2004; Ramírez-Ortiz et al., 2020; Reynolds et al., 2008). In their article, Pérez-Pedrogo et al. (2020) mention the need to consider the social implications of prolonged quarantine and isolation among vulnerable populations like older adults, whose mental health may be most affected by these measures.

#### Adults and Social Isolation

The WHO (2017b) suggests that by the year 2050, the worldwide population of older adults or those aged 60 and above will increase from 900 million to 2 billion. They recommend the promotion of healthy aging for older adults; therefore, they endorse living conditions and environments that support well-being, thus the importance of ensuring access to social support. In a study that sampled 7,724 older adults from England, social isolation was associated with poor well-being (Shankar et al., 2015). When physical distancing measures imposed by government officials during the coronavirus pandemic result in social isolation, it can affect well-being because it exacerbates stressors and pre-existing threats to well-being that older adults already experience (Hwang et al., 2020). Some of these health problems are cognitive decline, depression, anxiety, heart disease (National Institute on Ageing, 2019; WHO, 2017b), bereavement, and decrease in socioeconomic status, all of which contribute and result in isolation, loneliness (Shankar et al., 2011; WHO, 2017b), and psychological distress (WHO, 2017b). Furthermore, social distancing experienced by older adults due to the COVID-19 pandemic is raising mental health risks, such as loneliness, a higher risk of developing severe symptoms from COVID-19 (Harrington & Sliwinski, 2020), and greater risk for depression (National Institute of Mental Health, 2016). In a longitudinal study with a population of 6,500 adults aged 50 and older from England, the authors found a

strong relationship between social isolation and mortality (Stephoe et al., 2013). In a recent meta-analysis, evidence suggested that individuals lacking social connections have a greater risk of premature mortality compared to other risk factors like substance abuse, mental health, violence, access to health care, among others (Holt-Lunstand et al., 2015). Also, recent literature in the context of the current pandemic found that younger cohorts (Best et al., 2020; Bonati et al., 2021; Every-Palmer et al., 2020; Sandín et al., 2020; Wang et al., 2020) and women (Best et al., 2020; Bonati et al., 2021; Sandín et al., 2020; Wang et al., 2020) reported higher psychological distress during confinement. Feelings of loneliness resulting from social isolation can worsen the symptoms of pre-existing mental health conditions of younger adults (Achterbergh et al., 2020).

#### Psychological Distress

Psychological distress is a state of emotional anguish that includes symptoms of depression and anxiety (Arvidsdotter et al., 2016; Drapeau et al., 2012; Mirowsky & Ross, 2002; Ridner, 2004). It consists of various painful mental and physical symptoms that relate to normal mood fluctuations but can also imply the commencement of a major depressive disorder, anxiety disorder, schizophrenia, somatization disorder, and other clinical conditions (American Psychological Association, n.d.-a). These unpleasant feelings or emotions that may arise when overwhelmed can interfere with daily living and even with a person's reaction to the people around them (UHN Cardiovascular Prevention & Rehabilitation Program at the Toronto Rehabilitation Institute, n.d.). In a study conducted in Canada, with individuals aged 16 to 100 years old, to find the correlates between the early stages of the COVID-19 pandemic restrictive measures, found that social distancing and isolation correlated with psychological distress, even during short periods of isolation (Best et al., 2021). In a study conducted during the COVID-19 lockdown in New Zealand, with 2,010 adults ranging from 18-75+ years of age, they

identified moderate to severe psychological distress within one-third of the participants (Every-Palmer et al., 2020). In addition, Sandín et al. (2020) conducted a study to assess the psychological impact of the COVID-19 pandemic in Spain. Authors examined the levels of distress or negative emotions associated with the period of confinement within a sample of 1,161 adults aged 19 to 84 years. They found that men and women were equally affected regarding elevated worry, stress, hopelessness, and sleep problems.

#### Protective and Risk Factors

Protective factors are positive buffering events associated with a low probability of adverse outcomes (Substance Abuse and Mental Health Services Administration, 2019). Protective factors reduce the impact of risk factors, which are biological, psychological, family, community, and cultural levels associated with a higher probability of adverse outcomes (Substance Abuse and Mental Health Services Administration, 2019). Protective factors like maintaining social and family connections, healthy activities, and positive emotions can help mitigate the consequences of loneliness, isolation, and psychiatric symptoms (Hwang et al., 2020). These protective factors can also reduce the effects of daily stressors and improve mental health (American Psychological Association, n.d.-b).

Social support is a vital psychosocial protective resource that can contribute to a person's resilience for mental health problems. It involves being connected to strong social networks, including family members, friends, and communities that you can turn to in times of need. Social support includes emotional connection and perception of support, and for relationships to act as a protective factor, the element of subjective perception of affection must be present (Seppala et al., 2013). In clinical psychology research—and for this research—the term social support has been used to refer to the concept of social connections or “a person's subjective sense of having close and posi-

tively experienced relationships with others in the social world” (Seppala et al., 2013, p. 412). This perceived subjective sense of being positively close to family and friends, and being supported, makes people feel emotionally connected.

Staying socially connected can serve as a buffer against experienced stressors (Cohen, 2004). The need to belong is a fundamental human motivation; thus, missing social connections or not meeting the need for belongingness is a risk factor for psychological problems such as anxiety, depression, grief, loneliness, and relationship problems (Baumeister & Leary, 1995). This can be particularly true for family social connections and it is consistent with the concept of familism, which is a cultural value that focuses on strong nuclear and extended family connections that include feelings of loyalty, reciprocity, and solidarity (Corona et al., 2017; Losada et al., 2010; Nicasio et al., 2019; Sabogal et al., 1987). This cultural value is significant within the Latino community. Research has shown that familism may serve as a protective factor against poor emotional health (Campos et al., 2014) and may positively affect psychological health (Corona et al., 2017). For example, a study that aimed to assess how familism contributes to the mental health of a sample of Europeans, Latinos/as, and Asians, found that higher levels of familism contribute to a sense of closeness between the family and to a higher perception of social support (Campos et al., 2014). The Latino community reported higher levels of familism.

Positive experiences can also serve as an important protective buffering function against psychological distress. During periods of stress, for example, positive experiences can reduce reactivity to stress and promote a faster recovery upon exposure to stressors (Hwang et al., 2020). At the same time, psychological distress can be a consequence of the lack of social connections (Levula et al., 2017; Seppala et al., 2013). A meta-analysis with 68 studies, consisting of 288,830 participants from 19 different countries aimed

to determine factors associated with psychological distress during the COVID-19 pandemic; the authors found that the improvement of family and social support, as well as positive coping strategies, were related to a reduced risk of psychological distress (Wang et al., 2020). In their study, Every-Palmer et al. (2020) found that over 60% of the participants identified positive aspects of the lockdown, like more family time, work flexibility, and the opportunity to promote healthy habits. In another study, Sandín et al. (2020) concluded that during the confinement caused by the preventive measures related to slowing the spread of COVID-19, the participants had positive experiences. Some of these experiences included: valuing new aspects of life, exposing oneself to new experiences, valuing important things, spending more time with their family, showing interest in others and interpersonal relationships, and even discovering or learning new abilities or hobbies.

#### Objectives and Hypotheses

The specific objectives of this study were: (1) to examine the relationship between social connections and psychological distress, (2) to examine the relationship between having positive experiences and psychological distress, (3) to identify if there is a relationship between being a younger adult (21-59) or an older adult (60 and older) and social connections, and (4) to examine the moderating effect of social connections in the relationship between positive experiences and psychological distress. The reliability of the instruments used to assess the study's variables was also calculated. Based on the objectives, the hypotheses of this study were: (1) lack of social connections will relate to psychological distress, (2) having positive experiences during social isolation will result in lower levels of psychological distress, (3) there will be a relationship between being a younger adult (21-59) or an older adult (60 and older), and social connections, and (4) social connections will moderate the relationship between positive experiences during social distancing and distress.

METHOD

Design

This study consisted of a non-experimental, cross-sectional, correlational design. In this type of design, data collection takes place at a specific point in time to describe the relationship between two or more variables (Hernández Sampieri et al., 2014). The data were collected between April and May of 2021 using an online questionnaire published on social media platforms.

Participants

The study sample consisted of 227 participants after removing the participants that did not complete the entire questionnaire. The inclusion criteria were adults aged 21 and older who lived in Puerto Rico during the COVID-19 pandemic-related lockdowns that started on March 15, 2020, and consent to participate in the study voluntarily. Participants had to understand Spanish to answer

the questionnaires and have access and minimum knowledge in managing and using the Internet and technological equipment. The participants who did not comply with the inclusion criteria were excluded from participating in the study. The recruitment of the sample was through non-probabilistic convenience sampling. The participants did not receive incentives or compensation of any type for their participation in this study.

Regarding the sociodemographic data of the sample, as presented in Table 1, 98.2% ( $n = 223$ ) of the participants were Puerto Rican, 80.2% ( $n = 182$ ) were female, and 91.6% ( $n = 208$ ) were heterosexual. The participants reported to be mostly living with family members (62.6%,  $n = 142$ ) and living in an urban residential zone (65.6%,  $n = 149$ ). In addition, 53.7% ( $n = 122$ ) of the participants reported to be employed, 25.6% ( $n = 58$ ) retired, and 11.0% ( $n = 25$ ) reported to be unemployed. Regarding annual income, 28.2% of the participants reported earning \$25,001-\$41,500.

TABLE 1.  
Frequencies of Sociodemographic Data of Participants.

	<i>f</i>	%
Age groups		
21-59	138	60.8
60+	89	39.2
Ethnicity		
Puerto Rican	223	98.2
Cuban	2	0.9
Others	2	0.9
Gender identity		
Male	45	19.8
Female	182	80.2
Sexual orientation		
Heterosexual	208	91.6
Lesbian	3	1.3
Gay	9	4.0
Bisexual	5	2.2
Others	2	0.9
Practices a religion	146	64.3
Living arrangements		
Lives alone	52	22.9
Lives with family	142	62.6
Lives with friends	3	1.3
Other living arrangements	30	13.2
Reported physical distancing from loved ones	161	70.9
Increase in the use of technology to communicate with others	197	86.8
Residential zone		
Rural	78	34.4
Urban	149	65.6

	<i>f</i>	%
Employment status		
Employed	122	53.7
Student	10	4.4
Unemployed	25	11.0
Retired	58	25.6
Other	12	5.3
Annual income		
Less than \$9,000	25	11.0
\$9,000-\$25,000	58	25.6
\$25,001-\$41,500	64	28.2
\$41,501-\$61,500	31	13.7
More than \$61,500	49	21.6

Note. *N* = 227

## Instruments

### *Socio-Demographic Questionnaire*

A socio-demographic questionnaire developed by the principal investigator for the study was used to collect demographic data from the participants. This included age, ethnicity, gender, marital status, income, religion, and other relevant information.

### *Social Support Appraisals Scale*

The social connections variable was assessed using the Social Support Appraisals Scale (Escala de Percepción de Apoyo Social or EPAS). The EPAS was used in a study of 255 students from the National Autonomous University of Mexico's psychology program and others, with a good (15 items,  $\alpha = .87$ ) overall general reliability (Nava-Quiroz et al., 2014). This adapted Spanish version of the Social Support Appraisals Scale developed by Vaux et al. (1986) has 15 items and is a self-report scale that can be answered using a 4-point Likert scale ranging from 1 (*totally disagree*) to 4 (*totally agree*). This instrument had the objective to measure social support, considering the degree to which a person feels loved, esteemed, and part of a group, be it family, friends, etc. (Nava-Quiroz et al., 2014). In addition, the authors calculated the internal consistency reliability of the three subscales of perceived social support from family ( $\alpha = .82$ ), friends ( $\alpha = .87$ ), and others ( $\alpha = .64$ ).

### *Distress Scale*

The psychological distress variable was assessed using the Distress Scale (Escala de Distrés or ED), which consists of 10 items that are to be answered using a 5-point Likert scale ranging from 1 (*never or almost never*) to 5 (*always or almost always*). This indicator was obtained from one of the nine Coronavirus Psychological Impact Questionnaire (Cuestionario de Impacto Psicológico del Coronavirus or CIPC) sub-scales; developed to assess the psychological impact of the COVID-19 pandemic in Spain (Sandín et al., 2020). The questionnaire was used in a study consisting of 1,161 participants aged 19 to 84 years. The reliability of the Distress Scale was excellent (10 items,  $\alpha = .93$ ).

### *Positive Experiences in the Face of Adversities Scale*

The positive experiences variable was assessed using the Positive Experiences in the Face of Adversities Scale (Escala de Experiencias Positivas ante las Adversidades or EEPA), which is also part of the CIPC. The scale consists of 12 items, which can be answered using a 5-point Likert scale ranging from 1 (*nothing or almost nothing applicable to me*) to 5 (*totally applicable to me*). This scale resulted in overall good reliability (12 items,  $\alpha = .84$ ).

## Procedures

The present study was approved by the Institutional Review Board of Albizu University in San Juan, Puerto Rico (protocol number: Spring 21-36). The previously authorized instruments were used to create the study questionnaire in the virtual platform SurveyMonkey. Before administering the questionnaire, we evaluated the language used in the original creation of the scales and determined that no changes were necessary. The questionnaire instructions advised the participants to answer considering the period of social distancing. The average time the participants spent completing the survey was 8 minutes. Digital ads linked to the questionnaire were published and shared by other people on internet-based social media platforms such as Facebook, Instagram, and WhatsApp. The data collection period ran from April 14, 2021, until May 14, 2021.

Upon collecting data for a month, we reviewed how many participants had completed the entire questionnaire. A priori power analysis using G\*Power 3.1 (Faul et al., 2009) determined that 84 participants were needed to achieve 80% power for detecting a medium-sized effect ( $r = .30$ ) when using a .05 criterion for statistical significance in a two-tailed bivariate correlation analysis. The medium-sized effect is the average observed effect across many fields (Cohen, 1992). In consensus between the investigators, the data collection process was concluded with 280 participants. Out of the 280 people that accessed the survey, three refrained from completing the survey after reading the informed consent, and 50 left one or more scales unanswered. Out of these 50 individuals, 34 did not respond to any part of the questionnaire, 10 responded to socio-demographic questions only, and 6 did not complete 2 or more of the whole scales. This process resulted in a total sample of 227 participants for the data analysis. The cases were excluded listwise because the missing values consisted of entire scales. If there are too many missing values, choosing to exclude

cases pairwise could lead to significant findings that result from the data replacement rather than a real effect (Field, 2018). The principal investigator used the data collected online to create a database with unidentifiable information of the participants.

## Data Analysis

The research data were analyzed with IBM SPSS (Version 27). The data were checked for accuracy before being entered. The entered data included participants' responses that complied with the inclusion criteria and answered the entire online survey. Frequencies, demographic characteristics, and assumptions were analyzed through descriptive statistics. Missing values were excluded from the frequency analysis, and percentages were based on the number of non-missing values. The internal reliability of the instruments and additional reliability analyses for the subscales of the Social Support Appraisals Scale was assessed using Cronbach's Alpha model (Cronbach, 1951). Before running the reliability analysis of the subscales, exploratory factor analysis was performed to determine if the three factors identified in the original study by Nava-Quiroz et al. (2014) persisted within the sample of the current study. Spearman Rho correlation analysis with a two-tailed significance test evaluated the relationships between social connections and psychological distress and between positive experiences and psychological distress. Point biserial correlation analysis with a two-tailed significance test was used to assess the relationship between age groups and social connections. Correlations were computed based on the number of pairs with non-missing data. Exploratory correlations were used to determine the relationship between gender, age, and psychological distress variables. Exploratory multiple regression analyses were used to assess if social connections predicted psychological distress, to evaluate which type(s) of social connections—with family, friends, and others—were predictors of psychological distress, and to assess if gender, age, and

social connections with family were predictors of psychological distress.

RESULTS

Internal reliability analysis was performed on the Social Support Appraisals Scale ( $\alpha = .91$ ), the Distress Scale ( $\alpha = .94$ ), and the Positive Experiences in the Face of Adversities Scale ( $\alpha = .92$ ). The Cronbach's Alpha of the three scales reached an excellent level of reliability for the study sample. No items of the individual scales were eliminated since this would not produce substantial changes in reliability. An exploratory factor analysis of the Social Support Appraisals Scale using principal component analysis and varimax rotation was used to assess whether the original study's three factors persisted within the current study sample. The reliability of the three subscales was calculated: family ( $\alpha = .86$ ), friends ( $\alpha = .88$ ), and others ( $\alpha = .69$ ).

Correlations were used to evaluate the relationship between the variables and assess the study's hypotheses. The normality of continuous variables was assessed using graphical methods, including histogram and normality plots. In addition, two numerical measures of shape—skewness, and kurtosis—were used. Results showed that the positive experiences variable was the only

continuous variable that followed a normal distribution; therefore, Spearman Rho correlations were used. This type of correlation is a non-parametric statistic that can be used when the data is not normally distributed and can help minimize the effects of extreme scores by first ranking the data and then applying Pearson's equation to the ranked data (Field, 2018). Detailed information about descriptive statistics and Spearman Rho correlations are provided in Table 2. Consistent with the main hypothesis, a significant negative correlation was found between social connections and psychological distress,  $r_s(225) = -.28$ , 95% CI [-.395, -.147],  $p < .001$ . Results suggest that when social connections were higher, participants reported lower levels of psychological distress. However, no significant correlation was found between positive experiences and psychological distress variables,  $r_s(225) = -.08$ , 95% CI [-.210, .057],  $p = 0.24$ . Since no relationship was found between the positive experiences and distress variables, the hypothesis that social connections moderate the relationship between positive experiences and distress was not tested. After confirming the normality of the age groups, a point-biserial correlation was run to determine the relationship between age groups and social connections,  $r_{pb} = -.02$ , 95% CI [-.152, .108],  $p = 0.74$ . No significant correlation was found.

TABLE 2.  
Descriptive Statistics and Spearman Rho Correlations.

Variable	M	SD	Median	Min-Max	1	2	3
1. Social Connections	50.5	6.6	51	31-60	—		
2. Psychological Distress	24.0	9.2	22	10-50	-.28**	—	
3. Positive Experiences	38.4	11.5	38	14-60	.36**	-.08	—

Note.  $N = 227$ . \*\* $p < .001$  (2-tailed). Min-Max is Minimum-Maximum.

Additional exploratory correlations were performed to assess the relationship between some of the sociodemographic variables and psychological distress. Younger individuals reported higher levels of psychological distress ( $r = -.15$ , 95% CI [-.272, -.017],  $p = 0.027$ ), as did women ( $r_{pb} = .19$ , 95% CI [.060, .312],  $p = 0.004$ ).

A simple linear regression analysis using the enter method was used to test if social connections predicted the levels of distress reported by the participants. The regression results indicated that social connections significantly predicted distress ( $\beta = -.292$ ,  $p < .001$ ). The variable of social connections explained approximately 9% of the total

variance ( $R^2 = .085$ ,  $F(1, 225) = 20.897$ ,  $p < .001$ ) of the levels of distress reported by the participants of the study. A multiple regression analysis using the stepwise method was used to explore the types of social connections—with family, friends, and others—that significantly predict distress. The resulting model excluded the dimensions of social connections with friends and social connections with others, resulting in social connections with family to be a significant predictor of distress ( $\beta = -.309$ ,  $p < .001$ ). The model that included social connections with friends and others was not statistically significant. The dimension of social connections with family explained approximately 10% of the total variance ( $R^2 = .095$ ,  $F(1, 225) = 23.739$ ,  $p < .001$ ) of the levels of distress reported by the participants. A regression model using the enter method predicted psychological distress from gender, age, and social connections with family. It was found that gender ( $\beta = .238$ ,  $p < .001$ ), age ( $\beta = -.199$ ,  $p = .001$ ), and social connections with family ( $\beta = -.339$ ,  $p < .001$ ) significantly predicted psychological distress. The resulting model explained approximately 18% of the total variance ( $R^2 = .179$ ,  $F(3, 223) = 16.203$ ,  $p < .001$ ) of the levels of psychological distress reported by the participants of the study. These results suggest that even when controlling for gender and age, the social connections with family variable was significant.

## DISCUSSION

This study examined the relationship between the variable of psychological distress with social connections, positive experiences, and age in a sample of residents of Puerto Rico during the COVID-19 pandemic in the context of prolonged social distancing measures. Additional exploratory analyses were performed to examine predictors of psychological distress. The internal consistency of the Social Support Appraisals Scale, the Distress Scale, and the Positive Experiences in the Face of Adversities Scale was also evaluated.

As reported by other authors worldwide, in this sample in Puerto Rico, lack of social

connections was related to psychological distress (Best et al., 2021; Nair & Appu, 2021; Nitschke et al., 2021). In other words, individuals who reported less of emotional connection, love and support in their relationships with family and friends reported higher levels of psychological distress. The results suggested that the social connections variable explains approximately 9% of the variation in psychological distress. Specifically, social connections with family members explain about 10% of the variation. Similarly, in their study, Khatiwada et al. (2021) also found a negative relationship between perceived social support of family and psychological distress. This finding is consistent with the cultural value of familism that, underscores the effect of family ties and connections among Latino family members to promote their emotional well-being and mental health (Campos et al., 2014). Although familism is a concept studied mainly in the United States among the Latino population, literature of its effect among Puerto Ricans on the island is scarce. In a study that considered familism among Latino, European and Asian people, the authors found higher reports of familism among Latinos/as, particularly women (Campos et al., 2014). These results are relevant to the current study since it considers a Latino population in Puerto Rico and because our sample comprises mainly women. Consistent with what other researchers have found in the context of the COVID-19 pandemic (Best et al., 2020; Bonati et al., 2021; Sandín et al., 2020; Wang et al., 2020), the present study found that being a woman and of younger age was related to higher levels of psychological distress. Specifically, the variables of social connections with family, gender, and age significantly predicted psychological distress and accounted for approximately 18% of the variation. Therefore, the value of familism and social connections with family serve as buffers against psychological distress for younger cohorts of women.

One of the most life-altering situations experienced during the COVID-19 pandemic

was the lack of physical access to family and friends. This was also highly reported amongst participants in the current study, with more than two-thirds reporting physical distancing from their loved ones. From a needs perspective, specifically, the belongingness need as conceptualized by Maslow (1943), the necessity to fulfill the belongingness and love needs will evoke the pursuit of affectionate relations with people in general. Therefore, they will strive to achieve this goal. Particularly within family members, this sense of connectedness and the perception of social support from family members can protect against poor emotional health or distress during difficult times. Furthermore, social support networks, such as more significant support from family, friends, and community, are associated with better health in general (WHO, 2017a).

On the other hand, unlike the literature review that suggests that older adults may be more vulnerable to the effects of social distancing measures like social isolation or lack of social connections, no relationship was found between age and social connections within the current study sample. Similarly, no significant relationship was found between positive experiences and psychological distress. Furthermore, since no relationship was found between positive experiences and psychological distress, no moderation effect of the variable of social connections was determined. It is essential to highlight that most of the participants, independently of their age, reported higher levels of social connections. As raised by Memon et al. (2019), not capturing the total variance of the scores of all the variables could cause moderating effects that are small or not significant. In addition, the data for the current study was collected during April and May of 2021, where older adults had been the priority for vaccination against COVID-19 since February 2021 (Admin. Order No. 2021-480, 2021). During this period, social distancing measures were also made more flexible, which allowed older adults to have more significant contact and facilitate connections

with their families (Exec. Order No. 2021-019, 2021). Being immunized and reconnecting with their loved ones could have influenced a non-significant relationship between the age group variable and social connections.

Additionally, the internal consistency of the instruments used to assess the study's variables was evaluated. The Social Support Appraisals Scale, the Distress Scale, and the Positive Experiences in the Face of Adversities Scale were reliable in assessing the variables of social connections, psychological distress, and positive experiences, respectively. They reached an excellent level of reliability for the sample of the study.

#### Limitations and Future Recommendations

When facing life-threatening situations like this pandemic, public health, and governmental efforts should emphasize maintaining and strengthening social connections with family and the community. These can serve as buffers to developing mental health problems and psychological distress. Mechanisms that help strengthen family relations should be explored to promote mental health during times of crisis. For instance, aspects concerning supporting human bonding and access to health and social services to prevent social isolation may be addressed by distributing technological tools that facilitate communication between individuals. The results of this study should be interpreted upon considering its limitations. Given the circumstances under which the data was collected and the restrictions to interact with human subjects, the study sample was a convenience sample recruited through social media platforms; therefore, the results cannot be generalized. Another related and important consideration is the distribution of the variables; for instance, the minimum reported value for social connections suggests that the sample was experiencing higher levels of social connections. This distribution may be related to a reported increase in the use of technology to communicate with others by most participants. Further examination of the

psychometric properties of the Social Support Appraisals Scale, the Distress Scale, and the Positive Experiences in the Face of Adversities Scale is recommended since these instruments have not been validated in Puerto Rico. Finally, future studies should focus on the familism mechanisms leading to mental health outcomes during a crisis or potentially traumatic events like pandemic outbreaks or natural disasters.

#### Conclusion

In conclusion, the findings of this study support the idea that lack of social connections during crises can lead to psychological distress. In addition, social connections with family can serve as a protective factor for psychological distress, especially in younger cohorts of women. This study uncovers some of the effects of the COVID-19 pandemic in Puerto Rico. It is also a valuable scientific contribution because it delineates the importance of social connections with family in minimizing psychological distress and its potential to promote health and prevent disease.

#### Research Ethical Standards

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**Approval from the Institutional Review Board for Human Research:** The Institutional Review Board at Albizu University, San Juan Campus approved the study (# protocol: Spring 21-36).

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