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COVID-19 and Intimate Partner Violence: Prevalence of Resilience and Perceived Stress During a Pandemic

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COVID-19 is a pandemic event not seen in a century. This research aims to identify the group differences regarding resilience and perceived stress for those who identified as single, in a relationship not experiencing intimate partner violence (IPV), and those in a relationship experiencing IPV during the COVID-19 pandemic. This study uses a cross-sectional design, with purposive snowball sampling, for primary survey data collected over 10 weeks starting the first week in April 2020 ($n = 374$). Participants completed a self-administered questionnaire on demographics and behavioral factors. Resilience was assessed using the 10-item Connor Davidson Resilience Scale, and perceived stress was assessed using the 10-item Perceived Stress Scale. Two one-way analysis of variance procedures were performed to identify statistically significant differences across 3 groups, those not in a relationship, those in a relationship not experiencing IPV, and those in a relationship and experiencing IPV. Analyses indicate that those experiencing IPV reported lower resilience and greater perceived stress. Analyses also show those in the experiencing IPV group were statistically significantly different from those in a relationship without IPV and those in the single group with respect to resilience. Those in the IPV experiences group were also statistically significantly different from the group of participants in relationships without reported IPV experiences with respect to perceived stress. These findings provide empirical support for the contention that public health measures put in place to combat the spread of COVID-19 might have negative, unintentional consequences for people experiencing IPV and mental health issues.

Keywords: COVID-19, resilience, perceived stress, intimate partner violence, health disparities

The global outbreak of the novel coronavirus disease 2019 (COVID-19) has spread across the globe, infecting millions and killing hundreds of thousands of people (John Hopkins University, 2020). COVID-19 has exacerbated mental health problems, such as anxiety and depression, created a global economic recession, and continues unabated in much of the world (Wan, 2020). COVID-19 has further exacerbated health disparities, especially mental health ones. In doing so, it has created a unique ongoing disaster context with severe impacts to daily life including exposure to an increased range of stressors (i.e., new fears related to contagion and illness, uncertainty around life events and economic circumstances, etc.) and reduced access to protective factors (i.e., in-person family and friend support; Gruber et al., 2020). Many are fighting to recover from the impact of COVID-19 or are mourning lost loved ones to the disease, without access to important cultural rituals. The pandemic further compounds another ongoing epidemic, intimate partner violence (IPV). Even before the pandemic led to a lockdown around the world, the World Health Organization (WHO) estimated that 35% of women globally experienced physical or sexual violence from an intimate partner over the course of their lives (WHO, 2017). Though these lockdowns, when adequately followed, have successfully slowed the transmission of the virus, they have most likely contributed to other epidemics of physical violence and mental health disparities (Holmes et al., 2020; Horesh & Brown, 2020). The United Nations Population Fund estimates a 20% increase in IPV globally due to quarantines and lockdowns (Stanley, 2020). There are reports from Wuhan Province in China suggesting that IPV rates for February 2020 were three times higher than they were during the same time period in 2019 (Wanqing, 2020), and the *Guardian* newspaper has documented similar situations occurring in Spain, Italy, Brazil, Cyprus, and elsewhere (Kelly, 2020). Such public health measures as social distancing, social isolation, and stay-at-home orders have created ideal conditions for IPV to flourish (Holmes et al., 2020) by increasing the amount of time that individuals have to spend home alone with their abusive partners. This unplanned increase in time together, coupled with the shame and fear of telling their families and friends about the violence they are experiencing, has exacerbated social isolation for IPV victims (WHO, 2020).

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Additionally, external relational stressors like unemployment and housing instability either caused by or exacerbated by COVID-19 increase opportunities for relational conflict (Barton & Bryant, 2016; Capaldi et al., 2012; DeMaris et al., 2003; Neal & Edwards, 2017; Schwab-Reese et al., 2016; Shortt et al., 2013). This, in turn, might increase the risk for more frequent and intense abuse in families already experiencing IPV before COVID-19, further exacerbating mental health disparities. Previous research into disasters, IPV, and resilience has found that disasters tend to increase both the frequency and intensity of IPV, though none of that research took place within a context of social isolation and home confinement (Buttell & Carney, 2009; Ferreira et al., 2018; Lauve-Moon & Ferreira, 2017). Nevertheless, this related research may prove insightful in understanding resilience characteristics for people experiencing IPV amid the COVID-19 pandemic.

Intimate Partner Violence and Disasters

IPV, previously and commonly referred to as domestic violence, continues to be a pervasive and pernicious public health problem globally and in the United States, where ~25% of women and 10% of men in the United States experience some form of IPV in their lifetime. According to U.S. crime reports, ~16% of all homicide victims are killed by an intimate partner (Cooper & Smith, 2011; Lutgendorf, 2019; Stöckl et al., 2013; Velopulos et al., 2019). However, that number rises considerably when only considering women, as half of all women killed in the United States are killed by a current or former male partner. IPV includes physical violence, sexual violence, stalking, and psychological aggression and may range in frequency and severity across each of these constructs (Center for Disease Control and Prevention [CDC], 2020). IPV is associated with other adverse health outcomes such as cardiovascular, reproductive, musculoskeletal, and nervous system conditions (Black, 2011; Campbell, 2002; Carbone-López et al., 2006; Sugg, 2015). Experiences of IPV are associated with higher risks of engaging in health risk behaviors (e.g., smoking, binge drinking, and HIV risk). Of the scant literature available, research suggests that IPV increases in prevalence and severity post disaster (Harville et al., 2018; Molyneaux et al., 2020; Norris, 2005; Parkinson & Zara, 2013). For example, in a study of the prevalence of IPV after Hurricane Katrina, findings showed both women and men reported an increase in psychological victimization, whereas only women reported an increase in physical victimization (Schumacher et al., 2010). The available empirical evidence also suggests that recovery can take much longer for postdisaster victims of IPV, contributing to and exacerbating mental health disparities (Buttell & Carney, 2009; Enarson et al., 2018; Harville et al., 2018). More recently, research suggests victims of postdisaster IPV may have increased difficulty accessing both tangible (e.g., shelter) and intangible (e.g., social support) resources (Lauve-Moon & Ferreira, 2017). IPV contributes to such disparities and, consequently, necessitates empirical evaluation of characteristics of resilience for those most at risk (Ferreira et al., 2020; Fischbach & Herbert, 1997; Plichta, 1996; Saltzman & Johnson, 1996). Finally, apart from IPV, there are external relational stressors brought on by disasters, such as unemployment and housing instability, which are stressors themselves that contribute to an array of physical, behavioral, cognitive, and emotional symptoms that can affect social interactions (Baker & Cormier, 2014; Ferreira et al., 2018). The prevalence and severity of IPV has likely been exacerbated by the ongoing disaster of COVID-19 (Holmes et al., 2020; Wanqing, 2020), but research on IPV in disaster contexts continues to be understudied.

Postdisaster Resilience, Stress, and IPV

Resilience is understood as a person's ability to cope with adversity and stress in response to exposure from a serious stressor (Adger et al., 2005; Baker & Cormier, 2014; Bonanno, 2004; Cutter, 2016). An important feature of resilience research is a primary focus on both protective and risk factors to individuals (Ferreira et al., 2018, 2019, 2020; Hobfoll et al., 2015). Although the nature of resilience continues to be debated (see Cutter, 2016; Kendra et al., 2018), understanding what contributes or not to resilience is important to identifying and reducing health disparities and to building a strong recovery. Previous research suggests that social and demographic indicators impact resilience outcomes, as social groups are differentially affected by disasters and their harmful effects and may impact their ability to cope and exhibit resilience (Cutter et al., 2003; Ferreira et al., 2020). Specifically, extant research indicates resilience is multidimensional and varies across age, gender, race and ethnicity, socioeconomic status, employment, whether English is a second language, and relationship status (Bonanno et al., 2007; Connor & Davidson, 2003; Cutter et al., 2008; Ferreira et al., 2020; Williams & Drury, 2009). Similarly, there is strong evidence that IPV occurs differentially across social groups (Field & Caetano, 2004; West, 2012). For instance, research by the CDC suggests that Black women are victimized the most, followed by Whites and Latinos, with Asians the least likely to be victimized (Cho & Kim, 2012; Petrosky et al., 2017; Stockman et al., 2015). Thus, the disaster of COVID-19, with likely increases of IPV, may further exacerbate health disparities for already vulnerable populations.

Moreover, research suggests that disasters exacerbate existing mental and physical health problems, creating even greater disparities (Bell & Folkerth, 2016; Cutter et al., 2013; Lutwak, 2018; Raker et al., 2019; Stewart & Vigod, 2017). For instance, recent research suggests those most socially vulnerable are more likely to report greater stress following a disaster (Ferreira et al., 2019; Schwartz et al., 2015). Perceived stress is understood here as the degree to which a person perceives a threat of a stressor and how capable they feel in behaviorally and cognitively adapting to it (Caplan, 1981; Lazarus & Folkman, 1984). Disaster research using the Perceived Stress Scale (PSS; Cohen, 1994) as a measure of perceived stress has found ethnicity, previous experience of disaster, and mental health issues likely increased perceived stress (Schwartz et al., 2015; Utsey et al., 2002). Moreover, perceived stress may negatively affect resilience (Willis & Burnett, 2016). Resilience, in turn, may also inform one's perception of stress with implications for quality of life and health (Abolghasemi & Varaniyab, 2010; Sarrionandia et al., 2018; Tung et al., 2014). Similarly, IPV research has found, using the PSS, that increased stress has been associated with higher levels of depression (Rodríguez et al., 2010), that perceived stress mediates relationships between IPV and cardiovascular disease (Wright et al., 2019), and that IPV victims report higher levels of perceived stress, psychological distress, and somatic complaints (Bonomi et al., 2006; Dillon et al., 2013; Frasier et al., 2004; Williams et al., 2020).

Purpose of the Study

The purpose of this study is to identify group differences as they relate to resilience and perceived stress among a sample of respondents exposed to the COVID-19 pandemic. The sample consists of three unique groups: (a) single not in a relationship, (b) in a relationship and not experiencing IPV, and (c) in a relationship and experiencing IPV. The guiding research question was to determine if there were observable differences in self-reported levels of individual resilience and perceived stress by relationship status. More specifically, the purpose of this study is threefold and aims to (a) investigate levels of individual resilience and perceived stress during the COVID-19 outbreak; (b) present findings from a study that was active during the beginning of the COVID-19 pandemic; and (c) add to the scant literature on disasters, IPV, and resilience.

Method

This study uses a cross-sectional design. Data for the study were collected over a 2-month period from an online survey launched the first week of April 2020. The study was approved by the Tulane University institutional review board. The self-administered online survey was distributed through one of the authors' personal social media accounts (e.g., Facebook, Instagram, and LinkedIn) and advertised on the Tulane University's social media outlets and website for a period of 2 months. The main inclusion criteria for the online survey required participants to be older than 18 years and have direct access to the survey link. Exclusion criteria included those who were younger than 18 years. The survey focus was on participants' (a) previous disaster experience, (b) resilience (i.e., the Connor Davidson Resilience Scale), (c) perceived stress (i.e., Perceived Stress Scale), (d) current situation as it relates to COVID-19, (e) experienced intimate partner violence, and (f) personal and household demographics. The online *Qualtrics* survey took an estimated 10 min to complete.

Participants

The study sample consisted of individuals having access to the online Qualtrics survey link. Participants were recruited for participation in the study through a mixture of snow-ball sampling with one study author requesting participants to share the survey link on their own personal social media accounts, as well as having the survey link displayed on the school's home page and in media outlets for the school. The sample for this study includes 374 adults who completed the online survey. SPSS 26 was used to conduct the final data analysis.

Measures

Groups

The study sample was divided into three unique groups: (a) single not in a relationship, (b) in a relationship and not experiencing IPV, and (c) in a relationship and experiencing IPV. For relationship status, the grouping variable was used from the single response to the following question, "Are you currently married, widowed, divorced, separated, or have you never been married but in a relationship, single, don't know?" Regarding experiences of IPV, we included a nominal variable of whether or not the participant reported an IPV experience.

Outcome Variables

Individual Resilience. Resilience is one outcome variable used for this study. The 10-item Connor Davidson Resilience Scale (CD-RISC 10) was administered to study participants as the measure of resilience. This study used the CD-RISC 10, which is a well-established, abbreviated version of the original 25-item CD-RISC. The scale uses a 5-point Likert scale ranging from 1 (*not at all*) to 5 (*nearly all the time*; Connor & Davidson, 2003). The CD-RISC 10 has displayed high internal consistency, construct validity, and test–retest reliability (Connor & Davidson, 2003; Fincham et al., 2009; Nrugham et al., 2010). The 10-item scale has proven to have strong psychometric properties in general, as well as across various demographic indicators, including gender, age, and race/ethnicity (Gulbrandsen, 2016; Liu et al., 2015; Ni et al., 2016; Windle et al., 2011). The CD-RISC 10 asks respondents to rate their own resilience by responding to the following 10 statements: (a) I am able to adapt when changes occur; (b) I can deal with whatever comes my way; (c) I try to see the humorous side of things when I am faced with problems; (d) Having to cope with stress can make me stronger; (e) I tend to bounce back after illness, injury, or other hardships; (f) I believe I can achieve my goals, even if there are obstacles; (g) Under pressure, I stay focused and think clearly; (h) I am not easily discouraged by failure; (i) I think of myself as a strong person when dealing with life's challenges and difficulties; and (j) I am able to handle unpleasant or painful feelings like sadness, fear, and anger. Scores on the CD-RISC 10 range from 0 to 40 and most studies use 32 as the cutoff score for determining resilience. The CD-RISC 10 has displayed high internal consistency, construct validity, and test–retest reliability (Connor et al., 2003; Nrugham et al., 2010; Windle et al., 2011).

Perceived Stress Scale. The study also included a second outcome variable, total score on the PSS. The PSS shows correlations with a variety of health-related measures that include stress measures, self-reported health and health services, health behavior, health-seeking behaviors, and smoking status (Cohen, 1994). Scores on the PSS can range from 0 to 40, with higher values on the PSS indicating greater perceived stress. Scores ranging from 0 to 13 are considered low, 14 to 26 are considered moderate, and 27 to 40 are considered as high. The PSS has been shown to have excellent psychometric properties across a wide range of studies investigating stress (Lee, 2012; Roberti et al., 2006).

Results

Descriptive Statistics of the Total Sample

Descriptive statistics are reported in Table 1. The sample of 374 participants had a mean age of 47.01 years old (SD = 14.67) and was composed of 74.6% women (n = 279) and 25.4% men (n = 95). The majority of the sample identified as White (86.1%; n = 322). Regarding relationship status, the majority of participants were in a relationship, 55.9% (n = 209). The majority of the sample were employed, with 63.4% (n = 237) reporting being employed at the time of study participation. Regarding education, only 1.3% of respondents had less than a high school diploma (n =

Table 1

Demographics of the Three Subsamples, Single, in a Relationship With No Reported IPV, and in a Relationship With IPV Experiences, and the Total Sample

Characteristics	Participants (n = 374)			
	Single group (n = 89)	Relationship non-IPV group (n = 246)	IPV group (n = 39)	Total sample (N = 374)
Age (in years)	47.04 (SD = 17.09)	47.00 (SD = 13.8)	46.97 (SD = 14.5)	47.01 (SD = 14.6)
Gender				
Male	18.0 (16)	28.0 (69)	25.6 (10)	25.4 (95)
Female	82.0 (73)	72.0 (177)	74.4 (29)	74.6 (279)
Race				
White	84.3 (75)	87.0 (214)	84.6 (33)	86.1(322)
Minority	15.7 (14)	13.0 (32)	15.4 (6)	13.9 (52)
Employment				
Employed	57.3 (51)	67.5 (166)	51.3 (20)	63.4 (237)
Unemployed	42.7 (38)	32.5 (80)	48.7 (19)	36.6 (137)
Education				
Less than 12 years/No HS diploma	3.4 (3)	0.8 (2)	—	1.3 (5)
HS diploma/GED	3.4 (3)	2.8 (7)	7.7 (3)	3.5 (13)
Some college	18.0 (16)	10.2 (25)	17.9 (7)	12.8 (48)
Associate degree	4.5 (4)	4.5 (11)	5.1 (2)	4.5 (17)
Bachelor degree	21.3 (19)	26.0 (64)	33.3 (13)	25.7 (96)
Graduate degree	49.4 (44)	55.7 (137)	35.9 (14)	52.1 (195)
English second language				
English	70.6 (63)	73.1 (179)	66.7 (26)	71.7 (268)
English second language	28.4 (25)	26.8 (66)	33.3 (13)	28.3 (104)
Housing status				
Own house	37.1 (33)	72.2 (177)	74.4 (29)	63.9 (239)
Rent	62.9 (56)	27.8 (68)	25.6 (10)	36.1 (134)
Stress				
Nutrition stress				
Yes	28.1 (25)	17.1 (42)	48.7 (19)	22.9 (86)
No	71.9 (64)	82.9 (204)	51.3 (20)	77.1 (288)
Rent/mortgage stress				
Yes	43.8 (39)	26.4 (65)	56.4 (22)	33.6 (126)
No	56.2 (50)	73.6 (181)	43.6 (17)	66.4 (238)
Resilience				
CD-RISC 10	31.33 (SD = 5.65)	31.34 (SD = 5.05)	27.84 (SD = 6.57)	30.97 (SD = 5.46)
Perceived Stress Scale				
Perceived stress mean score	17.24 (SD = 5.69)	15.58 (SD = 6.04)	19.33 (SD = 7.75)	16.37 (SD = 6.27)

Note. IPV = intimate partner violence; HS = high school; GED = general equivalency diploma; CD-RISC 10 = 10-item Connor Davidson Resilience Scale.

5), whereas 3.5% had a high school diploma or general equivalency diploma (n = 13), followed by 12.8% (n = 48) with some college, 4.5% (n = 17) held an associate's degree, 25.7% held a bachelor's degree (n = 96), and the majority of the sample held a graduate degree 52.1% (n = 195). The majority of the sample spoke English at home, 71.1% (n = 268). Nearly two thirds of the sample reported owning their home (63.9%; n = 239). Of the total sample, 10.4% (n = 39) reported having experienced IPV. Of respondents, 22.9% (n = 86) expressed having stress related to having enough money to buy nutritious meals. As it relates to mortgage and rent stress, roughly one third (33.6%; n = 126) of respondents expressed stress related to how often they worry about being able to meet mortgage or rent obligations.

Single Not in a Relationship Group Demographics

The subsample of 89 participants who experienced IPV had a mean age of 44.04 years old (SD = 17.0), and, of them, 82.0% identified as women (n = 73) and 18.0% as men (n = 16). The majority of this subsample identified as White 84.3% (n = 75). Roughly half of the subsample were employed, with 57.3% (n = 51) reported being employed at the time of study participation. Regarding education, half of the subsample had a graduate degree (49.4%; n = 44). The majority of the subsample spoke English at home (71.6%; n = 63). Nearly three-quarters (62.9%, n = 56) of the subsample reported owning their home. Among the subsample, 28.1% (n = 25) expressed experiencing stress as it relates to nutrition access. Regarding mortgage and rent stress, 43.8% (n = 39) of respondents expressed they experienced stress related to being able to meet mortgage or rent obligations.

In a Relationship and Not Experiencing IPV Group Demographics

The subsample of 246 participants who reported being in a relationship and not experiencing IPV had a mean age of 47.0 years old (SD = 13.81), and, of them, 72.0% identified as women (n = 177) and 28.0% as men (n = 69). The majority of this

subsample identified as White 87.0% (n = 214). Roughly two thirds of the subsample were employed, with 67.5% (n = 166) reporting being employed at the time of study participation. Regarding education, the majority of the subsample had a graduate degree (55.7%; n = 137). The majority of the subsample spoke English at home (73.1%; n = 179). Nearly three-quarters (72.2%; n = 177) of the subsample reported owning their home. Half of the subsample expressed experiencing stress as it relates to nutrition access, i.e., 17.1% (n = 42). Regarding mortgage and rent stress, 26.4% (n = 65) of respondents expressed experiencing stress related to being able to meet mortgage or rent obligations.

In a Relationship and Experiencing IPV Group Demographics

The subsample of 39 participants who reported experiencing IPV had a mean age of 46.97 years old (SD = 14.5), and, of them, 74.4% identified as women (n = 29) and 25.6% as men (n = 10). The majority of this subsample identified as White 84.6% (n = 33). Roughly half of the subsample were employed, with 55.1% (n = 20) reporting being employed at the time of study participation. Regarding education, one third of the subsample had a graduate degree (35.9%; n = 14). The majority of the subsample spoke English at home (66.7%; n = 26). Nearly three-quarters (74.4%; n = 29) of the subsample reported owning their home. Half of the subsample expressed experiencing stress as it relates to nutrition access, i.e., 48.7% (n = 19). Regarding mortgage and rent stress, 56.4% (n = 22) of respondents expressed experiencing stress related to being able to meet mortgage or rent obligations.

Analysis Strategy: Analysis of Variance—Analyzing Group Differences

To determine the differences in individual resilience (CD-RISC 10-item scale) and perceived stress (PSS 10-item scale) between the three unique groups, (a) single not in a relationship, (b) in a relationship and not experiencing IPV, and (c) in a relationship and experiencing IPV, the research team used two one-way analysis of variance (ANOVA) procedures.

ANOVA: Group Differences in Resilience

A one-way ANOVA was performed to test for differences in resilience among three subgroups of the sample—(a) being single not in a relationship, (b) in a relationship and not experiencing IPV, and (c) in a relationship and experiencing IPV. The mean score for resilience using the CD-RISC 10 measure for the single group was 31.33, for in a relationship and not experiencing IPV the mean score was 31.34, and 27.84 was the mean score for those in a relationship and experiencing IPV. Mean scores and standard deviation for these groups are presented in Table 2. The ANOVA results indicate the difference among the three groups was significant, $F(2) = 7.36$, $p = .001$, with a small effect size (partial $\eta^2 = 0.04$) and 93.8% power. The Bonferroni post hoc test indicates that the main difference lies between the (c) IPV experienced group and the rest of the sample. There was not a significant difference between (a) the single not in a relationship and (b) in a relationship and not experiencing IPV groups. Table 3 presents the Bonferroni post hoc test summarizing the differences in resilience scores.

Group Differences in Perceived Stress

A one-way ANOVA was performed to test for differences in perceived stress among three subgroups of the sample—(a) single not in a relationship, (b) in a relationship and not experiencing IPV, and (c) in a relationship and experiencing IPV. The mean score for perceived stress measured by the PSS for the single group was 17.24, for in a relationship and not experiencing IPV the mean score 15.58, and for those in a relationship and experiencing IPV the mean score was 19.33. Mean scores and standard deviations for these groups are presented in Table 2. The ANOVA results indicate the difference among the three groups was significant, $F(2) = 7.29$, $p = .001$, showing a small effect size (partial $\eta^2 = 0.04$) and 93.6% power. The Bonferroni post hoc test indicates that the main difference lies between the (c) IPV experienced group and the (b) in a relationship and not experiencing IPV group. There was not a significant difference between the (a) single and (c) in a relationship and experiencing IPV groups. Table 3 presents the Bonferroni post hoc test summary for differences in perceived stress scores.

Limitations

It is necessary to note some important limitations of this analysis. First, the sample was limited in that it was predominantly female, White, middle-aged, educated, and employed at the time of the survey. Moreover, because the survey was deployed online, participants needed to be computer literate and have access to the Internet. Second, the use of purposive snowball sampling technique to collect data quickly at the beginning of the pandemic may have contributed to the lack of representativeness of the sample. Although not representative, it is important to note that our sample is most likely better off than most given their race/ethnicity,

Table 2

Mean, Sample Sizes, and Standard Deviations of Groups for the Dependent Variables, CD-RISC 10, and PSS Used in Two One-Way Between ANOVA

Variable	Groups	*N*	*M*	*SD*
CD-RISC 10	Single	87	31.33	5.66
	In relationship with no reported IPV	243	31.34	5.06
	In relationship with reported IPV	39	27.85	6.58
PSS	Single	87	16.38	5.7
	In relationship with no reported IPV	241	15.59	6.05
	In relationship with reported IPV	39	19.33	7.75

Note. CD-RISC 10 = 10-item Connor Davidson Resilience Scale; PSS = Perceived Stress Scale; ANOVA = analysis of variance; IPV = intimate partner violence.

Table 3
Bonferroni Post Hoc Tests for Two One-Way Between ANOVA Analyses With CD-RISC 10 and PSS as Dependent Variables

Dependent variable	Groups (*i*)	Groups (*j*)	Mean difference (*i* − *j*)	*SE*	Sig.
CD-RISC 10	In relationship with reported IPV	In relationship with no reported IPV	−3.5**	0.93	0.001
		Single	−3.49**	1.04	0.003
	In relationship with no reported IPV	In relationship with reported IPV	3.5**	0.93	0.001
		Single	0.01	0.67	1.00
	Single	In relationship with reported IPV	3.49**	1.04	0.003
		In relationship with no reported IPV	−0.01	0.67	1.00
Perceived Stress Scale	In relationship with reported IPV	In relationship with no reported IPV	3.74**	1.06	.001
		Single	2.09	1.19	0.24
	In relationship with no reported IPV	In relationship with reported IPV	−3.74**	1.06	0.001
		Single	−1.65	0.77	0.099
	Single	In relationship with reported IPV	−2.09	1.19	0.24
		In relationship with no reported IPV	1.65	0.77	0.099

Note. ANOVA = analysis of variance; CD-RISC 10 = 10-item Connor Davidson Resilience Scale; PSS = Perceived Stress Scale; Sig. = significance; IPV = intimate partner violence. Corrected model with CD-RISC 10 dependent variable had a mean square of 212.81, $F(2) = 7.36$, $p = .001$, with partial $\eta^2 = .04$ and 93.8% power. Corrected model with PSS dependent variable had a mean square of 277.71, $F(2) = 7.3$, $p = .001$, with partial $\eta^2 = .04$ and 93.6% power.
** $p < .01$.

employment status, and education. This is particularly notable, given those who reported IPV experiences still evidenced high levels of perceived stress and lower levels of resilience. These data are cross-sectional and offer a snapshot in time while not accounting for when instances of IPV may have occurred. The analyses are helpful for understanding differences across groups particularly at the beginning of the pandemic and subsequent public health interventions (e.g., lockdowns) but do not account for confounding factors. To address these limitations, future research should consider both more representative samples as well as longitudinal data collection and analyses to better understand diverse and long-term impacts of COVID-19 on resilience and IPV survivors.

Discussion

The results of this study are important for several reasons. First, this study represents the first empirical investigation of the relationship among IPV, stress, and resilience gathered from participants during the COVID-19 pandemic. The findings here suggest that a public health crisis like COVID-19 may have differential impacts on resilience and stress for people experiencing IPV compared with those that are not. At the time of this study, two of the three subgroups of the sample reported levels of resilience that were on the cusp of being considered "resilient" according to the CD-RISC 10, indicating that none of the sample reported being resilient. Those who reported being single (CD-RISC 10 mean score of 31.3) and those who reported being in a relationship without IPV occurring (CD-RISC 10 mean score of 31.3) were both very close to the cutoff score of 32 for being considered resilient by the CD-RISC 10 scale. However, those in the experiencing IPV group had a CD-RISC 10 score of 27.8, which the ANOVA procedure and follow-up test indicated was significantly lower than the other two groups. There are many possible interpretations of this finding, but it seems likely that the public health strategies used to combat the COVID-19 pandemic seem to be inadvertently negatively affecting those people who are experiencing IPV. This study offers empirical support for the idea that confining people to their homes to protect them from catching and/or spreading the COVID-19 virus may increase their risk of experiencing IPV and its associated mental health costs. It is certainly likely that this exposure contributes to participants who experienced IPV reporting themselves as being less resilient. Further, it is important to note that this study took place during the first few months of lockdowns in the United States. It is reasonable to suspect that levels of resilience have fallen, and levels of stress have risen during the months that have occurred since. This puts policymakers in a bind, as it seems to suggest that public health strategies to combat COVID-19 may have the unintentional consequence of putting people at greater risk of experiencing IPV and associated mental and physical health problems, potentially exacerbating health disparities (Rodríguez et al., 2010; Williams et al., 2020; Wright et al., 2019).

This study is also important because it measured participants self-reported levels of stress alongside resilience. Importantly, and relevant to this discussion, all three groups reported a "moderate" level of stress on the PSS at the time of study participation, which was very early in the pandemic (i.e., 28 days in lockdown on average). The results of the ANOVA procedure and follow-up test indicated that respondents who were single and those respondents who were in a relationship but not experiencing IPV reported levels of stress, as measured by the PSS, as statistically nonsignificantly different from one another. However, the group who reported experiencing IPV reported the highest levels of stress of any group and that group reported a level of stress that was significantly higher than those respondents who were in a relationship but not experiencing IPV. There are several possible explanations for these findings. First, the respondents who were in a relationship are the most comparable in that they both have significant others in their homes. The difference in their self-reported levels of stress is quite possibly due to the increased relational conflict brought on by both the IPV occurring in their relationships and in the forced confinement and social isolation occassioned by the public health safety measures related to COVID-19. Unfortunately, this study did not ask about whether the IPV was preex-

isting or brought on by the added stress of COVID-19, so there is no way to know whether COVID-19 pushed relationships into IPV or simply made it worse. Regardless, it appears as if the two subsamples for people in a relationship were very similar demographically, and it seems possible that the primary explanation for the difference in their self-reported levels of stress was experiencing IPV.

Another interesting aspect of these findings is that the ANOVA procedure and follow-up test suggested no significant difference between the single group and the group in a relationship experiencing IPV, in terms of self-reported stress. One possible explanation for this finding is that single people have to rely on themselves for things like paying the rent/mortgage, getting to work, and so forth. It seems possible that the economic consequences of the COVID-19 pandemic cast doubt over their ability to maintain their income and meet other financial obligations during the pandemic. If so, they had no other partner with whom to share the burden of these issues, which might have led to them having a higher level of stress than the people in a relationship but not experiencing IPV. Additionally, another explanation for the higher level of reported stress for the single group, relative to the group of people in a relationship but not experiencing IPV, is that the public health safety strategies related to COVID-19 may have left them more socially isolated and alone than this other group of people in a relationship. It seems possible that being largely confined to staying home and not having a partner to share the burdens created by the pandemic might explain this difference as well. Such an explanation certainly seems possible, as social confinement meant far fewer social interactions with people outside of the home and even those limited, brief interactions were required to have masks and social distancing.

Conclusion

The results of this study provide empirical support for some of the anecdotal information reported in newspapers and other media about the impact of the COVID-19 pandemic on people experiencing IPV (Kelly, 2020; Wanqing, 2020). The findings suggest that respondents who reported experiencing IPV also reported being less resilient and having more stress than those who did not report experiencing IPV. Although this finding makes intuitive sense, it is important to frame policy decisions on data. Research such as this can be used to help inform decision-makers as they grapple with the adverse negative effects of public health safety measures related to COVID-19. By understanding such intended consequences, decision-makers are better positioned to provide additional support and communications regarding IPV to help both alleviate potential stressors related to IPV and to target support to those most affected. Unfortunately, the findings here do not suggest a solution or even a different course of action for dealing with the next pandemic. Rather, they point out how a solution to a public health problem may have complicated and unintended consequences for people experiencing IPV and its associated health problems. This thorny relationship will have to be evaluated in more depth to make more informed decisions for the next pandemic.

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