Love in the time of COVID-19: A brief report on relationship and individual functioning among committed couples in the United States while under shelter-in-place orders

Danielle M. Weber | Alexandra K. Wojda | Emily A. Carrino | Donald H. Baucom

University of North Carolina at Chapel Hill, Chapel Hill, North Carolina, USA

Correspondence
Danielle M. Weber, University of North Carolina at Chapel Hill, 235 E. Cameron Avenue, Chapel Hill, NC 27599-3270, USA. Email: dmweber@live.unc.edu

Abstract
The COVID-19 pandemic in the United States has changed many aspects of people's daily life, including increased time at home in response to shelter-in-place orders, heightened stress about health effects of COVID-19, and shifts in other domains of life (e.g., employment). These lifestyle changes are likely to impact the well-being of individuals and their romantic relationships. This investigation examined how COVID-19 influenced couple and individual well-being in real-time during the early phase of the pandemic. Data were collected in early May 2020 during shelter-in-place orders in the United States. Participants in committed relationships (n = 332) completed an online survey assessing their experiences currently and before the pandemic. Results suggested that while couple functioning overall maintained or even improved, individual well-being was more negatively impacted by the pandemic. Moreover, some groups who are at higher risk of a poor health outcome from COVID-19 or experience unique challenges as a result of COVID-19 reported worse outcomes (e.g., those whose employment changed) while others did not decline in their psychological and couple functioning (e.g., Black individuals and older individuals). These findings suggest that the pandemic has had varied impacts on couples and individuals, as well as across different virus-related risk factors.
Further research is needed to understand the nuanced effects of this pandemic on couples and individuals across time.

**KEYWORDS**
Couples, COVID-19, Mental Health, Relationship Well-Being, Shelter-in-Place

The COVID-19 pandemic has had a significant impact on our social lives. In the first month of the pandemic in the United States, shelter-in-place orders were implemented to contain the virus by requiring individuals to remain at home. This resulted in increased interactions with others living in the home, such as cohabitating romantic partners—which likely influenced couple's relationships. Similarly, shifts in daily life from COVID-19 also likely impacted individual functioning. Notably, emerging empirical research on the impact of COVID-19 on couples (e.g., Williamson, 2020) and individuals (e.g., Twenge & Joiner, 2020) has largely focused on couple and individual outcomes separately (one exception Pieh et al., 2020). However, given the association between couple and individual well-being (e.g., Whisman, 2019), it is important to consider how the pandemic has impacted both couple and individual functioning. The current study investigated both relationship and individual functioning during the early phase of the COVID-19 pandemic while the United States was under shelter-in-place orders.

Given the novelty of COVID-19, there is burgeoning literature on the impact of the pandemic on relationships. Pietromonaco and Overall (2020) proposed that the pandemic may result in couples demonstrating either (a) greater dysfunction or (b) resilience and growth. First, dysfunction can result from decreased positives (e.g., reduced opportunities for fun activities due to public health restrictions) and increased negatives (e.g., increased stress resulting in impaired communication; e.g., Neff & Karney, 2017). Indeed, Luetke et al. (2020) found that one third of couples reported some increased conflict focal to COVID-19. Moreover, Schmid et al. (2020) found that 40% of their German sample during COVID-19 reported drops in relationship satisfaction. Second, other couples exhibit resilience or growth. For many across the early phase of the pandemic, relationship satisfaction remained stable (Schmid et al., 2020; Williamson, 2020) or even improved (Günther-Bel et al., 2020). Indeed, Williamson (2020) found that individuals were engaging in fewer blaming attributions of their partners during COVID-19, suggesting that couples may place less blame on partners and more on the pandemic. Moreover, while couples experienced fewer positive activities outside the home, some created novel activities to do at home (Pietromonaco & Overall, 2020). Thus, couples may have engaged in different processes that maintained, enhanced, or eroded relationship functioning.

Beyond how the virus impacted couples, it is also important to consider how the virus impacted individual partners. The well-being of individuals is related to relationship functioning generally (e.g., Whisman, 2019) and since COVID (Pieh et al., 2020). Similar to couples, individuals may experience either heightened difficulties or psychological growth. Primarily, COVID-19 has resulted in increased rates of depression and anxiety (e.g., Shah et al., 2021; Twenge & Joiner, 2020). In contrast, others may reflect on the broader “meaning” of the pandemic by making the most of a negative situation. Following a range of stressors, individuals can grow in their perception of their abilities, relationships, and spirituality—what is referred to as post-traumatic growth (PTG; see Tedeschi & Calhoun, 1996). For instance, Chen et al. (2021) found PTG in nurses working during COVID-19. In sum, during the COVID-19 pandemic, individuals may experience increases in mental health concerns or positive changes in their psychological well-being due to meaning-making.

Additionally, some may be at higher risk for negative effects relative to others as a result of more stress (see Pietromonaco & Overall, 2020). Some are more likely to experience worse...
health outcomes from COVID-19, including older individuals, Black individuals (due to health disparities stemming from institutional racism; e.g., Gaynor & Wilson, 2020), and individuals with medical conditions (CDC, 2020). Others have job-related stressors, including those working outside the home (who have higher risk of virus exposure) and those who have lost employment. In sum, those who experience greater risk of harm may experience worsened functioning.

The current study examined the impact of the early phase of the COVID-19 pandemic in the United States, while shelter-in-place orders were in effect. This investigation builds on the growing literature on COVID-19 by exploring both couple and individual functioning among those in committed relationships. Moreover, because the pandemic has disproportionately impacted subsets of the population, this investigation also explored how functioning varies within the population. In total, this study endeavored to understand: (a) the current state of functioning for individuals and their relationships, (b) how the pandemic may have changed functioning relative to retrospective reports of prior functioning, and (c) whether individuals who are at higher risk of impact from the pandemic experience greater changes to their functioning.

METHOD

Participants and procedure

Participants completed an online survey through Amazon Mechanical Turk (MTurk\(^1\)) or a local email listserv. Participants were eligible if they were in a romantic relationship and in the U.S. Data collection took place between May 2, 2020, and May 11, 2020.\(^2\) Data validity indicators (Chmielewski & Kucker, 2020) were used to remove participants with low-quality responses. Given our interest in cohabitating couples, our final sample included 332 individuals living with partners.

Full demographics are provided in Table S1. Participants lived in 42 out of 50 U.S. states. Most (89.5%) reported being under “full stay-at-home orders.” Participants were 50.3% male. Age ranged from 21 to 72 (\(M = 38.2, SD = 11.3\)). The majority (78.7%) were White, 10.9% Black, 4.9% Asian, 1.8% Multiracial, 1.2% American Indian or Alaska Native, and 2.4% Other Race. Many (73.8%) were employed full time, 10.7% part time, 10.7% unemployed and 4.9% students or retired. The majority (75.2%) were married. The average length of relationship was 11.4 years (\(SD = 10\)), with a range of 0.3–50 years.

Measures

Measures included a combination of validated scales and items developed by our team.\(^3\) Given our interest in assessing functioning currently and before the pandemic, we created several items, anchoring them “before the virus” and “since the virus.”\(^4\) Sample items are included in Table S2.

---

\(^1\)MTurk is a recruitment platform which allows for quick data collection from samples more demographically diverse than convenience samples (Buhrmester et al., 2018).

\(^2\)By mid-May 2020, the U.S. had surpassed 80,000 deaths from COVID-19.

\(^3\)Given the need for expediency to collect data while shelter-in-place orders were still in effect, newly developed items did not undergo validity testing prior to data collection.

\(^4\)Participants were prompted to anchor their experiences around when restrictions were first put into effect. For example, “before the virus” should refer to the time before any restrictions were put into effect.
Couple functioning

Participants reported on their current relationship satisfaction using the 8-item version of the Couple Satisfaction Index (CSI; Funk & Rogge, 2007). The CSI achieved excellent internal consistency in our sample ($\alpha = 0.95$). Participants also responded to one item written by the authors to assess satisfaction before and since COVID. Several items assessed couple activities (i.e., extent of “fun” in their relationship) and communication, including overall quality, tone of conversations, and satisfaction with communication. Given that the latter items achieved strong internal consistency ($\alpha = 0.89$), they were combined to form a “communication quality” measure.

Individual functioning

The Patient Health Questionnaire (PHQ-9; Kroenke et al., 2001) and Generalized Anxiety Disorder-7 (GAD-7; Spitzer et al., 2006) are validated measures to assess depression and anxiety symptoms (respectively). Internal consistency for the PHQ-9 ($\alpha = 0.92$) and GAD-7 ($\alpha = 0.92$) was excellent. The Post-Traumatic Growth Inventory-Short Form (PTGI-SF; Cann et al., 2010) is a 10-item measure that assesses participants’ perceived growth associated with a crisis (instructions modified to be focal to COVID-19). Internal consistency for the PTGI was excellent ($\alpha = 0.95$). Additional items assessed overall emotional state and life satisfaction.

RESULTS

Aim 1. Assessment of current functioning

The average CSI score was 32.87 ($SD = 7.33$). The majority (79.6%) endorsed scores in the relationally satisfied range (scores $>27.5$). On our single item assessing satisfaction since the virus, the average score was 4.48 ($SD = 0.77$), with a maximum score of 5. The average score for participants endorsing fun in their relationship was 3.78 ($SD = 1.06$), with a maximum of 5. The average score for communication quality was 4.28 ($SD = 0.80$), with a maximum score of 5.

The average PHQ-9 score was 6.53 ($SD = 6.43$), and GAD-7 score was 5.53 ($SD = 5.36$), in the “mild” range of symptoms. Using the clinical cut-off of a score of $\geq 10$, 32.2% endorsed clinically elevated depression and 25.6% endorsed clinically elevated anxiety. Higher PHQ-9 and GAD-7 scores were correlated with lower CSI ($rs = -0.21, -0.19, ps \leq .001$, respectively). The average score for post-traumatic growth (PTG) was 22.75 ($SD = 13.48$) on a scale that ranges from 0 to 50. While there are no established norms for this short form measure, nurses working during COVID-19 reported an average PTG-SF score of 28 (Chen et al., 2021). The average for overall emotional state was 3.75 ($SD = 1.07$), with a maximum of 5. The average for life satisfaction was 3.93 ($SD = 1.06$), with a maximum of 5.

Aim 2. Change in functioning from before to since the virus

Paired sample $t$ tests were used to test differences between functioning before and since the virus. Domains that changed included keeping the relationship fun/exciting ($decreased$, $t = -1.97, p = .050$), communication quality ($increased$, $t = 2.12, p = .035$), overall emotional state ($decreased$, $t = -5.72, p < .001$), and life satisfaction ($decreased$, $t = -4.92, p < .001$). Relationship satisfaction did not change ($p = .602$).
Aim 3. Impact of virus-specific risk factors on functioning

One of the virus-specific risk factors (age) was continuous, whereas the rest were categorical. Three racial categories were examined: White, Black, and Other Participants of Color. Models were run with different “reference” groups to test all possible differences. Tables S3 and S4 report results from regression models evaluating the impact of factors on functioning. Given that all factors were included simultaneously, each effect can be interpreted as the effect of that variable while controlling for all others. While all associations are reported in Tables S3 and S4, only significant associations are described below. For domains in which only current functioning was assessed (e.g., depression), linear regression was employed (Table S3). When experiences before and since were assessed (see Table S4), a raw change score was computed and variables were entered as predictors of the change score.

As participants increased in age, they reported lower depression, anxiety, and post-traumatic growth (PTG). Black participants (a) declined in relationship satisfaction relative to White participants and (b) improved in life satisfaction relative to Other Participants of Color. Black participants were higher in depression than Other Participants of Color, and White participants were higher in anxiety than Other Participants of Color. Black participants were higher in PTG than White participants and Other Participants of Color. A high-risk health condition was associated with higher depression and anxiety. Working outside the home was associated with lower depression and anxiety and higher PTG. Change in employment status (relative to no change) was associated with declining in (a) overall emotional state and (b) life satisfaction.

DISCUSSION

This study sought to understand (a) current functioning of individuals and their relationships, (b) how functioning may have changed, and (c) whether certain individuals experience greater impacts in the context of shelter-in-place orders early in the COVID-19 pandemic. This study highlights several themes. First, consistent with prior work (e.g., Twenge & Joiner, 2020; Williamson, 2020), couple functioning was maintained overall, whereas individual functioning appeared to be more negatively impacted. Next, whereas some groups of individuals experienced worse functioning, others maintained or improved.

Consistent with research suggesting that relationship satisfaction early in COVID remained stable (e.g., Williamson, 2020), most couples were currently satisfied with no change from before COVID. Also, communication improved since the pandemic, potentially due to fewer competing demands (e.g., work outside home, traveling) that “get in the way” of communication. In contrast, “fun” in relationships decreased. Future research is needed to explore other areas of functioning. However, these results may suggest that during a pandemic, relationship quality is less about fun, and other aspects of functioning may be more important.

Whereas couples overall were well-adjusted, individuals were not: 32.2% had elevated depression and 25.6% had elevated anxiety. Indeed, Twenge and Joiner (2020) found that anxiety and depression have more than tripled since the pandemic. Moreover, we found that overall emotional state and life satisfaction also declined since the pandemic, suggesting substantive declines in well-being. Participants also demonstrated notable post-traumatic growth (PTG); thus, along with greater challenges, many appeared to grow and even benefit.

5Asian, Multiracial, American Indian/Alaska Native, and Other Race were combined due to small sample sizes.
6Including all factors obviated the need to run several independent models, which increases risk of Type I error.
Integrating these findings, the pandemic may have differentially impacted couple and individual well-being. Consistent with prior research (e.g., Whisman, 2019), higher symptoms of depression and anxiety were associated with lower relationship satisfaction; however, on the whole, the sample was mostly satisfied despite many being elevated in depression and anxiety. It is possible that attributions about current distress fall on the pandemic and not on the relationship, maintaining positive relationship evaluations. This is consistent with findings that individuals have made less blaming attributions of partners (Williamson, 2020). It also may be that relationship difficulties as a result of symptoms take time to develop. Thus, further research will be important to clarify these associations over time.

We were also interested in functioning among those at greater risk of harm from the pandemic. First, older individuals were less depressed, anxious, and lower in PTG. Indeed, pandemic anxiety and depression have been higher in younger individuals (Shah et al., 2021). It may be that older individuals have better abilities in individual emotion regulation (see English & Carstensen, 2013) and adapting to stressful events as a couple (e.g., Baucom et al., 2020). While further research is needed, older individuals may experience more adaptive functioning, despite increased vulnerability to harm from the pandemic.

Next, given the pandemic's disproportionate impacts on Black communities, it was important to understand functioning among Black participants. There was evidence for some unique challenges, including Black participants decreasing in relationship satisfaction relative to White participants and experiencing more depression than Other Participants of Color. However, Black participants also improved in life satisfaction relative to Other participants of color and experienced greatly more PTG compared to White and Other participants of Color. Thus, Black participants demonstrated some evidence of resilience to the pandemic, which is consistent with research showing that Black communities are highly resilient despite ongoing adversity (e.g., Myers et al., 2015). Moreover, religious faith has grown in Black communities since the pandemic (Pew Research, 2020), which may facilitate resilience. Further research is needed to understand the unique challenges and strengths of Black communities under stress.

Additionally, those working outside the home, who may have increased harm via exposure to the virus and long work hours, displayed lower depression and anxiety and higher PTG than those inside the home. It is possible that these workers were able to maintain a sense of normalcy or benefit from having a prosocial and active “role” during the pandemic (e.g., Chen et al., 2021). Future research is needed to understand these workers' unique experiences.

In contrast to factors above, having a high-risk health condition and change in employment were each associated with poorer functioning. First, a high-risk health condition was associated with higher depression and anxiety. Depression and anxiety are often associated with chronic health conditions (e.g., Bhattacharya et al., 2014); thus, research will be important to explore if such associations are greater due to the pandemic. Change in employment was associated with a more negative emotional state and lower life satisfaction. Indeed, employment changes such as losing one's job are associated with worsened functioning (e.g., Howe et al., 2004). Given the extent of unemployment during the pandemic (Dalton, 2020), further research is needed to understand impacts from economic vulnerability.

In interpreting the current results, limitations should be considered. Data were collected from one individual in each couple. Next, in our interest of reducing response burden, we composed our own short measures. We did not validate these items due to the need for expedient data collection (given state-level plans to remove shelter-in-place orders). Third, given this study was designed after the pandemic started, we did not have pre-pandemic baseline functioning and were restricted to retrospective reports of prior functioning; notably, there is evidence that retrospective reports following acute stressors have validity (e.g., Mancini et al., 2015). Finally, this was an online sample largely comprising of White individuals in mixed-gender relationships; thus, aggregated findings may not generalize to all committed couples.
CONCLUSIONS

The current study captured a snapshot of couple and individual functioning in the midst of the early phase of a crisis unprecedented in magnitude and scope. While couples overall maintained their functioning, many individuals experienced psychological distress, and some at higher risk of harm from COVID experienced worse functioning. As this pandemic continues to be an insidious backdrop in the United States, it will be important to further understand continued impacts to the well-being of individuals in relationships, including what contributes to heightened distress and resilience.

REFERENCES

Baucom, D. H., Fischer, M. S., Corrie, S., Worrell, M., & Boeding, S. E. (2020). Treating relationship distress and psychopathology in couples: A cognitive-behavioural approach. Routledge.

Bhattacharya, R., Shen, C., & Sambamoorthi, U. (2014). Excess risk of chronic physical conditions associated with depression and anxiety. BMC Psychiatry, 14, 1–10. https://doi.org/10.1186/1471-244X-14-10

Buhmester, M. D., Talafai, S., & Gosling, S. D. (2018). An evaluation of Amazon’s Mechanical Turk, its rapid rise, and its effective use. Perspectives on Psychological Science, 13(2), 149–154. https://doi.org/10.1177/1745691617706516

Cann, A., Calhoun, L. G., Tedeschi, R. G., Taku, K., Vishnevsky, T., Triplett, K. N., & Danhauer, S. C. (2010). A short form of the posttraumatic growth inventory. Anxiety, Stress & Coping: An International Journal, 23(2), 127–137. https://doi.org/10.1080/10615800903094273

Centers for Disease Control and Prevention (2020). Cases, data, and surveillance. Coronavirus disease 2019 (COVID-19). Retrieved from https://www.cdc.gov/coronavirus/2019-ncov/cases-updates/index.html

Chen, R., Sun, C., Chen, J., Jen, H., Kang, X. L., Kao, C., & Chou, K. (2021). A large-scale survey on trauma, burnout, and posttraumatic growth among nurses during the covid-19 pandemic. International Journal of Mental Health Nursing, 30(1), 102–116. https://doi.org/10.1111/ijn.12796

Chmielewski, M., & Kucker, S. C. (2020). An MTurk crisis? Shifts in data quality and the impact on study results. Social Psychological and Personality Science, 11(4), 464–473. https://doi.org/10.1177/1948550619875149

Dalton, M. (2020). Labor market effects of local spread of COVID-19. U.S. Bureau of Labor Statistics.

English, T., & Carstensen, L. L. (2013). Shifts in emotional experience and regulation across adulthood. In D. Hermans, B. Rimé, & B. Mesquita (Eds.), Changing emotions (pp. 31–36). Psychology Press.

Funk, J. L., & Rogge, R. D. (2007). Testing the ruler with item response theory: Increasing precision of measurement for relationship satisfaction with the Couples Satisfaction Index. Journal of Family Psychology, 21(4), 572–583. https://doi.org/10.1037/0893-3200.21.4.572

Gaynor, T. S., & Wilson, M. E. (2020). Social vulnerability and equity: The disproportionate impact of COVID-19. Public Administration Review, 80(5), 832–838.

Günther-Bel, C., Vilaregut, A., Carratala, E., Torras, G. S., & Pérez, T. C. (2020). A mixed method study of individual, couple, and parental functioning during the state-regulated covid-19 lockdown in Spain. Family Process, 59(3), 1060–1079. https://doi.org/10.1111/famp.12585

Howe, G. W., Levy, M. L., & Caplan, R. D. (2004). Job loss and depressive symptoms in couples: Common stressors, stress transmission, or relationship disruption? Journal of Family Psychology, 18, 639–650. https://doi.org/10.1037/0893-3200.18.4.639

Kroenke, K., Spitzer, R. L., & Williams, J. B. W. (2001). The PHQ-9: Validity of a brief depression severity measure. Journal of General Internal Medicine, 16(9), 606–613. https://doi.org/10.1046/j.1525-1497.2001.016009606.x

Luetke M., Hensel D., Herbenick D., Rosenberg M. (2020). Romantic relationship conflict due to the COVID-19 pandemic and changes in intimate and sexual Behaviors in a nationally representative sample of American adults. Journal of Sex & Marital Therapy, 46(8), 747–762. http://dx.doi.org/10.1080/0982623x.2020.1810185

Mancini, A. D., Bonanno, G. A., & Sinan, B. (2015). A brief retrospective method for identifying longitudinal trajectories of adjustment following acute stress. Assessment, 22(3), 298–308. https://doi.org/10.1177/1073191114550816

Myers, H. F., Wyatt, G. E., Ullman, J. B., Loeb, T. B., Chin, D., Praise, N., Zhang, M., Williams, J. K., Slavich, G. M., & Liu, H. (2015). Cumulative burden of lifetime adversities: Trauma and mental health in low-SES African Americans and Latinóis. Psychological Trauma: Theory, Research, Practice, and Policy, 7(3), 243–251. https://doi.org/10.1037/a0039077

Neff, L. A., & Karney, B. R. (2017). Acknowledging the elephant in the room: How stressful environmental contexts shape relationship dynamics. Current Opinion in Psychology, 13, 107–110. https://doi.org/10.1016/j.copsyc.2016.05.013
Pew Research (2020). *Few Americans say their house of worship is open, but a quarter say their faith has grown amid pandemic.* Retrieved from https://www.pewresearch.org/fact-tank/2020/04/30/few-americans-say-their-house-of-worship-is-open-but-a-quarter-say-their-religious-faith-has-grown-amid-pandemic/

Piek C., O’Rourke T., Budimir S., Probst T. (2020). Relationship quality and mental health during COVID-19 lockdown. *PLOS ONE, 15*(9), e0238906. http://doi.org/10.1371/journal.pone.0238906

Pietromonaco, P. R., & Overall, N. C. (2020). Applying relationship science to evaluate how the COVID-19 pandemic may impact couples’ relationships. *American Psychologist, 76,* 438–450. https://doi.org/10.1037/amp0000714

Schmid, L., Worn, J., Hank, K., Sawatzki, B., & Walper, S. (2020). Changes in employment and relationship satisfaction in times of the COVID-19 pandemic: Evidence from the German family panel. *European Societies, 23*(suppl. 1), S743–S758. https://doi.org/10.1080/14616696.2020.1836385

Shah, M. A., Mohammad, D., Qureshi, M. F. H., Abbas, M. Z., & Aleem, S. (2021). Prevalence, psychological responses and associated correlates of depression, anxiety and stress in a global population, during the coronavirus disease (COVID-19) pandemic. *Community Mental Health Journal, 57,* 101–110. https://doi.org/10.1007/s10597-020-00728-y

Spitzer, R. L., Kroenke, K., Williams, J. B. W., & Löwe, B. (2006). A brief measure for assessing generalized anxiety disorder: The GAD-7. *Archives of Internal Medicine, 166*(10), 1092–1097. https://doi.org/10.1001/archinte.166.10.1092

Tedeschi, R. G., & Calhoun, L. G. (1996). The posttraumatic growth inventory: Measuring the positive legacy of trauma. *Journal of Traumatic Stress, 9,* 455–471. https://doi.org/10.1002/jts.2490090305

Twenge, J. M., & Joiner, T. E. (2020). U.S. Census Bureau-assessed prevalence of anxiety and depressive symptoms in 2019 and during the 2020 COVID-19 pandemic. *Depression and Anxiety, 37,* 954–956. https://doi.org/10.1002/da.23077

Whisman, M. A. (2019). Psychopathology and couple and family functioning. In B. H. Fiese, M. Celano, K. Deater-Deckard, E. N. Jouriles, & M. A. Whisman (Eds.), *APA handbook of contemporary family psychology: Applications and broad impact of family psychology* (Vol. 2, pp. 3–20). American Psychological Association. https://doi.org/10.1037/0000100-001

Williamson, H. C. (2020). Early effects of the COVID-19 pandemic on relationship satisfaction and attributions. *Psychological Science, 31*(12), 1479–1487. https://doi.org/10.1177/0956797620972688

**SUPPORTING INFORMATION**
Additional supporting information may be found online in the Supporting Information section.

**How to cite this article:** Weber, D. M., Wojda A. K., Carrino E. A., & Baucom D. H. (2021). Love in the time of COVID-19: A brief report on relationship and individual functioning among committed couples in the United States while under shelter-in-place orders. *Family Process, 60,* 1381–1388. https://doi.org/10.1111/famp.12700