

Testing Similarity in Romantic Partners' COVID-19 Experiences at the Time of a Pain-Related Emergency Department Visit

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ABSTRACT

Background: Research has established associations between romantic partners' health-related behaviors, although links between partners' experiences of the COVID-19 pandemic at the time of an important medical event remain untested.

Methods: The sample was drawn from an existing study of patients who received a new opioid prescription at an emergency department visit for acute pain. We assessed COVID-19 experiences of 97 patients and their romantic partners from April 2021 through June 2022.

Results: Romantic partners reported similar ratings of COVID-19 impact and were likely to agree on their coping with the pandemic by engaging in more time on activities like puzzles or books, using marijuana, and drinking alcohol. Partners also demonstrated high concordance in their COVID-19 vaccination statuses.

Conclusions: These findings extend a robust literature showing romantic partners' concordance in a host of health-relevant behaviors to their COVID-19 experiences.

BACKGROUND

People tend to exhibit health behaviors similar to those around them—especially their romantic partners or spouses.^{1,2} In earlier research, Wilson³ analyzed the interspousal correlation in health status among married couples in later life and reported a tendency to share lifestyle behaviors, such as diet, smoking, and exercise. Comparable patterns have been found in research based on other types of romantic relationships, although marital

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couples are the most frequently studied. For example, in a sample comprised of nearly all (>90%) dating couples, partners demonstrated similarity in their drinking behaviors and drinking motivations.^{4,5}

Emerging research shows that many aspects of adults' health behaviors have been altered in mostly negative directions since the onset of COVID-19, including sleep, physical activity, dietary habits, and relationship aggression.⁶ Despite longstanding recognition that romantic relationships play an important role in how individuals' health may change over time in response to the pandemic onset,⁷ few studies have been able to test

dyadic-informed hypotheses about connections between partners' COVID-19 experiences (eg, coping behaviors, perceived adjustment). Dyadic study designs involving both members of the romantic couple are critical for testing similarity of linked partners' health-related behaviors and experiences.⁸ Having this dyadic perspective can reveal insights regarding medical events with potential for surveying or treating both patients and their partners to promote health during the pandemic and beyond.

Here, we draw from a study of patients receiving a new prescription for pain medication during an emergency department (ED) visit for acute pain and their romantic partners. This broader study provided a value-added opportunity to test the links between partners' experiences of the COVID-19 pandemic. We predicted that patients and their partners would report similarities in their COVID-19-related coping and experiences (ie, perceived impact, life satisfaction, coping behaviors, and vaccination status) at the time of this salient medical event.

METHODS

Study Design and Setting

This report is drawn from a broader study designed prior to the pandemic to investigate romantic partner characteristics as risk factors for an individual's problematic opioid use or misuse at the time of a new opioid prescription. Questions about COVID-19 were incorporated to understand patient (and partner) experiences in the evolving public health situation. Study enrollment and data collection occurred following the pandemic onset from April 2021 through June 2022. Participating patients and their partners received electronic gift card payments (US \$50 per participant).

Target individuals were recruited and enrolled by staff members of the BerbeeWalsh Department of Emergency Medicine's Emergency Department Research Coordinator (EDRC) Program at the University of Wisconsin-Madison. Potentially eligible patients were identified using electronic health records and then approached for the study if they were aged 21 years or older, English speaking, able to provide informed consent and sign the HIPAA (Health Insurance Portability and Accountability Act) authorization form, receiving a new opioid prescription for acute pain, and in a committed romantic relationship with a same- or different-sex partner. Romantic partners were required to be at least 21 years old and needed to enroll during the same emergency visit. Potential patients were excluded if their medical chart indicated a cancer diagnosis or opioid prescription in the prior 6 months. Patients and their partners completed informed consent, and all procedures were approved by the university's Institutional Review Board. Trained research coordinators administered surveys to patients using RedCap on EDRC-owned tablets; partners completed the RedCap surveys using the same procedures or on their personal devices at the same time as the patient when the ED needed to enforce restrictions on visitors to comply with public health orders.

Participants completed questions about their demographic characteristics, COVID-19 experiences, and additional measures not included in the current study; all measures were completed during a single survey session. Patients and their romantic partners reported on their COVID-19 experiences via brief scales from the Environmental Influences on Child Health Outcomes (ECHO) Program COVID-19 Questionnaire – Adult Version available from the National Institutes of Health PhenX Toolkit (www.phenxtoolkit.org). Participants rated the extent to which COVID-19 had an impact on their functioning. Instructions stated, "COVID-19 is an emerging respiratory disease caused by a new coronavirus that can be caught by, and spread among, people. Using a scale from 1 (not true of me at all) to 7 (very true of me), please indicate the degree to which each statement below describes you." Items included the following: "Thinking about COVID-19 makes me feel threatened," "I am afraid of COVID-19," "I am not worried about COVID-19," "I am worried that I or people I love will get sick from COVID-19," "I am stressed

Table 1. Demographics Reported by Patients and Romantic Partners, N = 97 Dyads

Demographic Characteristics	Patients	Partners
Gender		
Man	58	36
Woman	37	60
Nonbinary	0	0
Transgender	0	1
None of these	0	0
Unknown	2	0
Age, years; mean (SD)		
	52.3 (16.4)	52.0 (15.4)
Married		
Yes	81	
No	15	
Unknown	1	
Race/ethnicity		
White	86	87
Black	4	3
Hispanic/Latinx	4	2
Other or mixed race	2	4
Unknown	1	1
Education		
No high school degree	0	4
High school degree or equivalent	13	13
Some college	32	34
Bachelor's degree or greater	51	45
Unknown	1	1

Age was reported by 87 patients and 83 partners.

around other people because I worry I'll catch COVID-19," "I have tried hard to avoid other people because I don't want to get sick," "COVID-19 has impacted me negatively from a financial point of view," "I have lost job-related income due to COVID-19," and "COVID-19 has NOT impacted my financial status at all." Responses were recoded such that higher values for all items indicated greater impact of COVID-19 on adjustment and then averaged (α for patients = 0.78, α for partners = 0.76). Participants also rated a single item from 1 (not at all) to 5 (very often) that asked how often they felt happy and satisfied with their life since becoming aware of the COVID-19 outbreak. Participants completed a checklist of 11 possible behavioral coping responses to manage stress related to the COVID-19 outbreak (behaviors listed in Table 2), along with an option stating, "I have not done any of these things to cope with the COVID-19 outbreak." Participants were instructed to check all that apply (yes/no). Finally, participants reported whether they had received a COVID-19 vaccine (yes/no).

Data Analysis

Statistical tests of concordance were conducted using Pearson correlation for continuous outcomes and χ^2 analysis for dichotomous outcomes. Specifically, a positive r indicates a positive association between romantic partners' ratings of a construct, while a significant χ^2 reflects a positive likelihood that a behav-

ior (or response) endorsed by one participant is also likely to be endorsed by their partner. Statistical significance was evaluated at $P < 0.05$.

RESULTS

Descriptive statistics on participant demographic characteristics are shown in Table 1. Ninety-eight patients were enrolled in the study. Romantic partner data were available for 97 patients; these 97 couples formed the analytic sample. Missing data were minimal (99.7% complete across study variables shown in Table 2) and were handled using listwise deletion.

Romantic partners demonstrated a positive link in their ratings of the extent to which COVID-19 had impacted them ($r = 0.21$, $P = 0.042$), whereas there was no reliable association between partners' ratings of their life satisfaction since COVID-19 ($P > 0.05$). See Table 2.

According to both patients and their partners, the most frequent coping behaviors in response to COVID-19 were "talking with friends and family" and "increased television watching or other 'screen time' activities." Most participants engaged in at least one coping behavior; however, 12.4% of patients and 14.4% of partners did not engage in the behaviors listed. Among those who reported coping behaviors, patients used an average of 3.82 (SD 1.95, range 1-10) and their partners used an average of 3.40 (SD 1.72, range 1-8). As shown in Table 2, results revealed significant associations between patients' and their partner's use of the same coping behavior in response to COVID-19, including engaging in increased time reading or completing puzzles ($\chi^2 [1] = 6.72$, $P = 0.01$), engaging in alcohol use ($\chi^2 [1] = 12.23$, $P < 0.001$), and engaging in marijuana use ($P = 0.033$). Similarity in romantic partners' use of other coping behaviors was not observed (remaining tests had P values > 0.087 ; see Table 2).

Most participants (80.4% of patients, 82.5% of partners) reported receiving a COVID-19 vaccine. As reported in Table 2, patients were significantly likely to report being vaccinated if their romantic partner also did ($P < 0.001$), in line with previously documented concordance in health-promoting behaviors.

DISCUSSION

This study extends support for concordance in romantic partners' COVID-19 experiences in the context of critical medical situations. Participants' evaluations of COVID-19 impact and life satisfaction after COVID were assessed; romantic partners reported similar levels of impact but not life satisfaction. Thus, there was

Table 2. Descriptive Statistics and Similarity of Patient and Romantic Partner COVID-19 Experiences, N=97 Dyads

Variable	Patient	Romantic Partner	Statistical Test
Impact of COVID-19	2.97 (1.16)	3.00 (1.06)	$r (96) = 0.21$, $P = 0.042$
Life satisfaction since COVID-19	3.93 (1.00)	3.80 (0.92)	$r (95) = -0.13$, $P = 0.21$
Activities to cope with COVID-19			
Meditation and/or mindfulness practices	32 (33%)	27 (27.8%)	$\chi^2 (1, N = 97) = 1.02$, $P = 0.31$
Talking with friends and family	76 (78.4%)	72 (74.2%)	$\chi^2 (1, N = 97) = 0.11$, $P = 0.74$
Engaging in more family activities	43 (44.3%)	31 (32%)	$\chi^2 (1, N = 97) = 0.11$, $P = 0.75$
Increased television watching or other screen time activities (eg, video games, social media)	50 (51.5%)	52 (53.6%)	$\chi^2 (1, N = 97) = 2.92$, $P = 0.087$
Eating more often, including snacking	27 (27.8%)	24 (24.7%)	$\chi^2 (1, N = 97) = 0.03$, $P = 0.87$
Increased time reading books or activities like puzzles and crosswords	41 (42.3%)	42 (43.3%)	$\chi^2 (1, N = 97) = 6.72$, $P = 0.01$
Drinking alcohol	14 (14.4%)	13 (13.4%)	$\chi^2 (1, N = 97) = 12.23$, $P < 0.001$
Using tobacco	9 (9.3%)	3 (3.1%)	Fisher exact, $P > 0.99$
Using marijuana	11 (11.3%)	3 (3.1%)	Fisher exact, $P = 0.033$
Talking to health care providers more frequently, including mental health providers	13 (13.4%)	5 (5.2%)	Fisher exact, $P = 0.52$
Volunteer work	9 (9.3%)	10 (10.3%)	Fisher exact, $P = 0.59$
None of these things	12 (12.4%)	14 (14.4%)	Fisher exact, $P = 0.68$
Received COVID-19 vaccination	78 (80.4%)	80 (82.5%)	Fisher exact, $P < 0.001$

Fisher exact test is reported when 1 or more cell counts (including those not shown) were less than 5 in a given χ^2 analysis.

mixed support for the hypothesis that romantic partners would rate their adjustment levels following COVID-19 in similar ways.

Additionally, patients and their partners reported a range of coping behaviors (and typically multiple behaviors) in response to COVID-19. Although most coping behaviors endorsed by romantic partners were not interrelated (3 of 11 behaviors tested reached statistically significant levels; see Table 2) and thus did not support our hypothesis, reliable findings emerged for behaviors that are particularly important to patients' health. Specifically, coping through substance use (ie, alcohol use and marijuana use) demonstrated concordance among romantic couples. Longer-term study is needed to understand whether this similarity endures as the pandemic evolves and the extent to which the link holds risks to partners' health and their relationships.⁹ Partners also reported reliable concordance in their vaccination statuses.

Strengths, Limitations, and Implications

We utilized a rigorous data collection protocol, including trained researchers in the ED setting and simultaneous survey completion by patients and their partners to collect dyadic perspectives at the time of a new prescription for pain medication—a medical event that commonly precedes longer-term problematic opioid use or misuse.¹⁰ The broader study required romantic partners to participate at the same time during an ED visit, which may have introduced a selection bias towards more supportive partnerships. Results cannot necessarily generalize beyond the current population but do provide initial evidence for partner-related health

behaviors and experiences associated with the COVID-19 pandemic among couples seeking emergency treatment for one partner's acute pain.

In terms of limitations, we acknowledge that survey assessments were collected from couples at a single timepoint and from a single academic ED in a majority-White geographical region. It remains to be tested whether similar interdependence would be observed in different settings and populations; for example, strong positive concordance in partners' vaccination status may not hold among those from locales with lower vaccination rates. The COVID-19 surveys were limited to measures available at the time; in particular, the checklist format of the coping measure included 11 behaviors and did not allow participants to write in other strategies that were likely used and, thus, should be regarded as incomplete. Future research should consider the couple relationship context of the pandemic among samples with more diverse racial-ethnic and geographic characteristics.

By necessity, patient care typically focuses on the individual patient. However, patients experience medical visits oftentimes in the presence of their partner, and these may provide a more thorough and powerful vantage point at which to collect information or share guidance. For example, when sending patients home with guidance for health-promoting behaviors, it may be more powerful to share the information with both partners, when possible, to maximize the benefits.

CONCLUSIONS

These preliminary findings document concordance of some aspects of romantic partners' COVID-19 experiences, including the extent to which they reported being affected by COVID-19 and their likelihood of using substances to cope. Thus, the results encourage additional consideration of romantic relationships as a context for understanding and targeting change in both adaptive and problematic aspects of health-relevant behaviors and experiences.

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