BRIEF REPORT

Dyadic Coping and Salivary Interleukin-6 Responses to Interpersonal Stress

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Dysregulated immune responses to stress are a potential pathway linking close relationship processes to health, and couples' abilities to cope with stress together (dyadic coping) likely impact such immune responses. Most stress research has focused on immune reactivity, whereas knowledge of immune recovery remains limited. The present study examined how acute interpersonal stress affects immune reactivity and recovery, as well as whether dyadic coping moderates these effects. Healthy couples ($N =$ 24) completed the Dyadic Coping Inventory and provided saliva samples 4 times each day for 5 days, including 2 days before a laboratory dyadic stressor (discussing an area of disagreement), the day of, and 2 days after. Four additional saliva samples were taken throughout the laboratory stressor. Saliva samples were assayed for interleukin (IL)-6. Multilevel models that adjusted for demographic and health variables indicated that partners low in dyadic coping showed immune reactivity to the stressor whereas partners high in dyadic coping did not. Dyadic coping did not moderate immune recovery, which had occurred by 5 hr poststressor across all participants. Results suggest that partners low in dyadic coping show increased reactivity of immune responses to interpersonal stress. Enhancing dyadic coping in couples may impact not only their mental health and relationship quality, but also their risk of stress-related immune disorders.

Keywords: couples, inflammation, reactivity, recovery, interpersonal stress

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People in lower quality or distressing relationships are at greater risk for health problems than their counterparts in higher quality relationships (Robles, Slatcher, Trombello, & McGinn, 2014). Although previous research has focused on endocrine (i.e., cortisol) pathways linking close relationships and health (see Robles et al., 2014 for review), elevated proinflammatory cytokines, or inflammation, is another critical biological mechanism that warrants investigation (Whisman & Sbarra, 2012). Stressful relationship events can induce immune dysregulation, partly through increases in inflammation (Glaser & Kiecolt-Glaser, 2005). Dysregulated immune responses can lead to chronic inflammation, which increases risk for multiple health problems (Ershler & Keller, 2000).

Dysregulated immune responses to interpersonal stress may be due, in part, to a lack of adequate coping strategies to deal with such stress. Couples' ability, or lack thereof, to cope together with stress (dyadic coping), particularly when dealing with relationship conflicts, may buffer or exacerbate immunological stress re-

sponses. Dyadic coping involves stress communication and support exchange but is more than social support because both partners are providing and receiving support from each other and engaging in joint problem-solving activities and shared emotion regulation (Bodenmann, 1995). In addition, dyadic coping makes unique contributions to relationship functioning (and likely health) above and beyond individual coping strategies (Papp & Witt, 2010) and is meant to restore prior physical, psychological, and social homeostasis for each partner (Bodenmann, 1995). Although dyadic coping is associated with improved mental health and relationship outcomes (Bodenmann et al., 2008; Papp & Witt, 2010), research linking dyadic coping with physical health is limited. In one study, experimentally stressed individuals (via a public speaking task) showed faster cortisol recovery the more positive dyadic coping they received from their partner after the task (Meuwly et al., 2012). It is unknown, however, whether dyadic coping is associated with couples' immunological stress responses.

An immunological stress response contains a reactivity phase (e.g., an increase in inflammation from baseline to after a stressor), and a recovery phase (e.g., the return of inflammatory processes to homeostatic function after a stressor; McEwen & Seeman, 1999). Most of the work on immunological stress responses has been framed in terms of reactivity; distressed couples show greater immune reactivity to interpersonal stress (Gouin et al., 2009; Miller, Dopp, Myers, Stevens, & Fahey, 1999). However, knowledge of couples' immune recovery to an interpersonal stressor remains limited, despite potential implications for physical health. Inflammatory levels may remain elevated up to 24 hr and potentially days poststressor, particularly for couples less able to cope with relationship stressors together (Kiecolt-Glaser et al., 2005). Thus, the present study extended the recovery window after an interpersonal stressor to include samples approximately 5 and 10 hr poststressor, as well as samples the following 2 days, in attempt to capture the temporal dynamics of immune recovery. Importantly, however, to assess immune recovery 5 and 10 hr poststressor and into the following days, the diurnal (i.e., daily) variation of cytokines must be accounted for. The present study involved assessment of immune function multiple times per day over 5 days.

To gain such a comprehensive assessment of immune responses, this study used a salivary measure of interleukin (IL)-6. Among a larger group of salivary cytokines, IL-6 has emerged as an important correlate of psychosocial stress (Slavish, Graham-Engeland, Smyth, & Engeland, 2015) and its diurnal variability has been documented (Izawa, Miki, Liu, & Ogawa, 2013). IL-6 levels in saliva likely reflect compartmentalized oral immune activity (Bosch, 2014) and have been reported not to correlate with circulating levels in plasma or serum (Fernandez-Botran, Miller, Burns, & Newton, 2011). However, similar to circulating IL-6, salivary IL-6 is sensitive to psychosocial stress (Chiang et al., 2012; Slavish et al., 2015), is positively related to psychosocial risk factors (e.g., depression, anxiety) (Sjögren, Leanderson, Kristenson, & Ernerudh, 2006), and is negatively associated with cortisol levels (Izawa, Sugaya, et al., 2013), illustrating its use as a clinically relevant inflammatory biomarker.

The present study used a novel design that combined a laboratory interpersonal stressor (including laboratory immune samples) with daily immune measures (sampled four times a day for five consecutive days), thereby benefitting from a controlled laboratory session, while also increasing temporal resolution through multiple repeated assessments of immune functioning in couples' everyday lives. In view of prior theory and research, we predicted that couples low in dyadic coping would show more reactivity to the interpersonal stressor (indexed by the laboratory immune samples) and delayed immune recovery (as evidenced by higher IL-6 levels at daily time points poststressor as compared to the same time points on nonlab days).

Methods

Participants and Procedures

Twenty-four healthy heterosexual couples ($n = 48$ individuals) participated, recruited via flyers posted within the community and advertisements on Craigslist and university list-servs. Individuals were eligible if both partners were healthy, over the age of 18, in a committed relationship for at least 6 months, and willing to participate. Because of their influence on immune concentrations, exclusion criteria included current or chronic psychiatric disorder (depression, anxiety disorder, or substance abuse), major medical illness (cancer, HIV), tobacco smoking, immunosuppressive medication use (e.g., corticosteroid, psychotropic medications), recent dental treatments, and any self-reported oral health issues (including known periodontal disease, tooth decay, recent tooth loss, gingivitis, or any injuries in the mouth). Individuals were screened separately and asked to answer eligibility questions about both themselves and their partner. If individual- and partner-reported responses passed the exclusion criteria, the couple was invited to participate. Participants were, on average, 35.8 years ($SD = 14.3$, range = 20–78), in their relationship for 10.0 years ($SD = 9.53$, range = 0.5–31.0) and the majority were living together (88%), either as married, engaged, or committed individuals. The remaining couples were engaged or committed but not currently living together. In addition, the majority were Caucasian (73%), non-Hispanic (88%), had a yearly income of up to $50K (58%), and had either an undergraduate or graduate degree (68%). All procedures were approved by the University's Institutional Review Board. Participants who completed all portions of the study received $75.

Daily saliva collection (Days 1–5). For 5 consecutive days, participants provided saliva samples and reported collection times at: (a) upon waking; (b) midmorning; (c) later afternoon; and (d) bedtime. Corresponding mean collection times were 7:15 a.m., 11:40 a.m., 5:30 p.m., and 10:00 p.m. The standard deviation of collection time was largest in the later afternoon (113 min) and smallest in the midmorning (93 min). Each time participants provided a saliva sample, they also completed a short online assessment (to assess covariates), which study personnel continually checked the completion of to ensure samples were completed in a timely manner. Participants were provided with instructions and materials needed to collect their own saliva (described below).

Laboratory session (Day 3). Laboratory visits took place on Day 3 between 11 a.m. and 2 p.m. when salivary IL-6 levels are stable and at their lowest (Izawa, Miki, et al., 2013). Before arriving to their scheduled session, participants provided their usual waking and midmorning samples on their own. At the laboratory session, partners identified one to two topics that have

been a source of heated and unresolved discussion in the past month. The researcher randomly selected a topic and asked the partners to discuss the topic for 15 min and attempt to come to a resolution. Partners provided saliva samples at baseline (prior to the conversation), immediately after the conversation, and approximately 45 and 120 min after the conversation. Partners also reported their levels of negative emotion prior to and immediately after the conversation (see Online Supplemental Material). During the 45 min poststressor, height and weight were recorded and participants completed questionnaires not relevant to the current study's hypotheses. Participants were then debriefed and escorted out of the laboratory. Participants provided the 120 min sample on their own, and then continued later on in the day with their usual later afternoon and bedtime samples.

Measures

Salivary IL-6. Saliva samples were collected and stored following standardized procedures outlined by Salimetrics. Participants were instructed to place the noncotton sponge (SalivaBio Oral Swab; Salimetrics LLC, State College, PA, USA) underneath their tongue and to not disturb the sponge for at least 2 min until it was saturated, at which point participants replaced the sponge in the tube. For the daily life component, participants stored their samples in home freezers until study personnel collected all samples after the last collection time point. All samples were stored at -20 °C until the time of assay. Of a possible 1,152 samples, 25 samples (2% of the data) were not completed/missing samples.

Salivary IL-6 levels were determined by ELISA per kit instructions (Salimetrics LLC). Samples were run diluted (1:2 ratio) in duplicate. Samples were post-processed (Graphpad Software, San Diego, CA) according to the manufacturer's protocol. The intraassay coefficient of variation (CV) was 9.6% and the interassay CV was 6.6%. Undetectable values (25% of data) were substituted with one half the concentration of the lower detection limit value, which was calculated as 3 *SD* above the blank/zero replicates (for each plate that included undetectable values) and interpreted from the standard curve for each corresponding plate. Substituted values ranged from 0.003 –to 0.725 pg/mL. IL-6 outliers greater than 3 *SD* from the mean were excluded from analyses ($n = 31$, 2.8%). The distribution of salivary IL-6 concentration was positively skewed, so the values were transformed (natural log) prior to analyses.

Dyadic coping. Prior to Day 1 of the study, participants completed the 37-item Dyadic Coping Inventory (DCI; Bodenmann, 2008), which assesses how couples handle stress together. Individuals rate how frequently they and their partner engage in certain coping and communication behaviors (e.g., "We engage in serious discussion about the problem and think through what has to be done") on a scale of 1 (*very rarely*) to 5 (*very often*). Appropriate items were reverse-scored and then all items were summed together. Higher scores indicate more positive dyadic coping. The DCI had good reliability in the current sample ($\alpha = .92$).

Covariates. Several variables were considered for inclusion as covariates of salivary IL-6. Age, income, race, ethnicity, and relationship length were assessed on a baseline questionnaire. Body mass index (BMI; kg/m2) was calculated from weight and height, which were recorded using a Body Composition Analyzer (Tanita Corporation, Tokyo, Japan) and measuring tape, respec-

tively. Momentary (i.e., "since the last sample") physical activity (min) and caffeine and alcohol use ($0 = none$, $10 = a large amount$) were recorded each time participants provided a saliva sample. Daily sleep quality was assessed each morning (i.e., "How well did you sleep last night?," $0 = very poorly$, $10 = very well$).

Data Analysis

To test our hypotheses, we used the lme function from the nlme package (version 3.1.121) in R (version 3.2.2) with maximum likelihood estimation to account for the repeated measures nested within person and partners nested within couple (Singer & Willett, 2003). Covariates were tested and significant variables were retained in all further models. Significant interactions were probed following methods outlined by Aiken and West (1991).

To examine reactivity to the interpersonal stressor, partners' four IL-6 lab samples were predicted by time (in min, relative to baseline) and quadratic time (time²). Time² was included to capture the expected curvature in the IL-6 trajectory over the course of the lab session. Reactivity was defined as a significant effect of time² on IL-6. Dyadic coping was included in the model as a main effect and a moderator of time and time² to determine if reactivity differed depending dyadic coping levels. Model comparisons indicated that including separate random intercept and linear slope terms for men and women improved the model fit, but that including random quadratic terms did not. Thus, at Level 2, random male and female intercepts and linear slopes were included, which were allowed to covary between partners (unstructured covariance matrix), and residuals were allowed to be auto-correlated within person.

Considering that immune levels could remain elevated hours and potentially up to a day poststressor, immune recovery was assessed using the daily samples, not the lab samples. Delayed immune recovery was defined as higher IL-6 levels at time points after the stressor (i.e., later afternoon/bed samples) on the lab stress day, as compared to the same time points on the nonlab (i.e., control) days. For reliability purposes, corresponding waking, midmorning, later afternoon, and bedtime IL-6 samples from Days 1 and 2 were averaged together (i.e., prestress day samples), and corresponding samples on Days 4 and 5 were averaged together (i.e., poststress day samples). Daily samples from Day 3 were kept separate (i.e., stress day samples). Partners' IL-6 samples were predicted by day (pre-, stress, and poststress days), time (in hours, relative to waking sample), quadratic time (time²), and dyadic coping. Interactions of Day * Time * Dyadic Coping and Day * Time² * Dyadic Coping were included to test if differences in IL-6 at certain time points on the lab stressor day as compared to the nonlab days differed depending on the level of dyadic coping. The same Level 2 structure used for the reactivity model also improved the recovery model fit and was therefore used.

Results

Table 1 presents descriptive statistics for all study variables. Of particular note, partners were primarily satisfied in their relationships and their reports of dyadic coping were correlated with each other. In preliminary analyses, we tested associations between participants' demographic and health characteristics and their lab and daily salivary IL-6 samples. Income, race, ethnicity, relation-

Table 1

Descriptive Information for Study Variables

| Variable | M (SD) | Range | Correlations | | | | | | | | | |
			1	2	3	4	5	6	7	8	9	10
1. Daily IL-6 (pg/mL)	3.7 (7.7)	.003–89.7	**.26**	.54**	.45*	.09	.28	.12	−.21	−.09	.15	−.03
Wake	7.6 (12.9)	.003–89.7										
Midmorning	2.2 (3.6)	.003–25.5										
Later afternoon	2.1 (4.5)	.003–35.9										
Bed	3.0 (4.4)	.003–24.0										
2. Lab IL-6 (pg/mL)	2.8 (4.4)	.003–29.1	.57**	**.18**	.39	.07	.20	.17	.20	.00	.34	−.32
Baseline	2.6 (2.9)	.005–13.6										
Immediately poststress	3.2 (4.4)	.003–18.3										
45-min poststress	3.8 (6.4)	.016–29.1										
120-min poststress	1.6 (2.2)	.005–8.8										
3. Age	35.8 (14.3)	20–78	.49*	.51*	**.97****	−.14	.06	.37	−.21	−.10	.11	−.21
4. Dyadic coping	134.8 (17.3)	91–171	.22	.25	.14	**.48****	.64**	−.41	−.35	−.26	.58**	.42
5. Relationship satisfaction	30.6 (5.8)	8–35	.09	.07	−.10	.74**	**.71****	−.12	−.37	−.71**	.21	.20
6. Body mass index	29.7 (5.8)	18–32	−.42*	−.18	−.09	−.36	−.04	**.41****	.44*	.02	−.20	−.02
7. Daily caffeine	1.32 (.99)	0–6	.02	.19	−.17	−.33	.10	.28	**.28****	.40*	−.16	−.03
8. Daily alcohol	.78 (.88)	0–6	−.33	−.44*	−.23	−.23	−.47*	.22	.13	**.61****	−.02	−.33
9. Daily physical activity	62.7 (50.6)	0–360	.03	.25	.11	.39	.30	−.50*	.02	−.26	**−.07**	.09
10. Daily sleep quality	6.7 (2.5)	0–10	.17	−.02	.26	−.16	.09	.25	−.20	−.23	−.37	**.31***

Note. IL = interleukin. Health behavior variables (#7–#9) were calculated by summing momentary reports within day per person and then averaging across all days per person. Pearson's correlation coefficients for men appear below the diagonal and for women appear above the diagonal. Bolded Pearson's correlation coefficients along the diagonal are between dyad members.

* $p < .05$. ** $p < .01$.

ship length, BMI, momentary alcohol use, momentary physical activity, and daily sleep quality were not associated with lab IL-6 (all ps > .21), nor daily IL-6 (all ps > .15). Age was positively associated with lab IL-6—b = .04, $t(161)$ = 3.17, p = .002—and daily IL-6—b = .04, $t(885)$ = 3.38, p = .001; momentary caffeine use was not related to lab IL-6 (p = .52), but negatively associated with daily IL-6—b = −.31, $t(858)$ = −3.36, p = .001. Significant covariates were retained in all models, centered on their respective means.

Overall, the laboratory interpersonal stressor was successful in inducing higher negative emotions in participants over time (see Online Supplemental Material). In support of our hypothesis that couples low in dyadic coping would show greater immune reactivity to the interpersonal stressor, dyadic coping significantly moderated the association between time^2 predicting laboratory IL-6, $F(1, 132)$ = 9.49, p = .003 (full model results in Supplemental Table S2 in the Online Supplemental Material). As shown in Figure 1 (left panel), individuals low in dyadic coping showed significant reactivity to the laboratory stressor (quadratic slope = −.44, p = .002), whereas those high in dyadic coping did not (quadratic slope = .00, p = .97). The effect of time^2 remained significant for those with dyadic coping scores lower than 134.6 (44% of the sample). Despite the significantly different trajectories, absolute levels of salivary IL-6 were not different from each other at low versus high levels of dyadic coping for any of the time points.

The immune recovery model accounted for diurnal variability in IL-6, and indeed the fixed effects of time and time^2 were significant main effect predictors of daily IL-6—Time: b = −.35, $t(511)$ = −5.89, p = .000; Time^2: b = .018, $t(511)$ = 4.97, p = .000—indicating the presence of diurnal variability in IL-6 averaged across all days. However, contrary to our hypothesis that couples low in dyadic coping would show delayed immune recov-

ery, dyadic coping did not significantly moderate IL-6 levels at time points after the lab stressor on stressor versus control days, $F(2, 420)$ = .96, p = .38 (full model results in Supplemental Table S3 in the Online Supplemental Material). As depicted in Figure 1 (right panel), across all participants, IL-6 levels at time points after the stressor (i.e., later afternoon/bed) on the lab stressor day did not significantly differ from the same time points on nonlab days, suggesting that everyone had recovered by the later afternoon time point (approximately 5 hr poststressor) on the lab stressor day.

Discussion

The present study examined the moderating role of dyadic coping on healthy adults' immune reactivity and recovery in response to an interpersonal stressor. Findings from the present study begin to fill gaps in the research on interpersonal processes such as dyadic coping that may facilitate more adaptive immune responses to interpersonal stress, as well as on the temporal dynamics of salivary IL-6 stress responses. As hypothesized, couples low in dyadic coping showed immune reactivity to the laboratory interpersonal stress. This finding is in line with previous research that suggests that negative and conflictual social interactions are associated with heightened proinflammatory cytokine activity poststressor in individuals and couples, and particularly for those in distressing relationships (Chiang et al., 2012; Gouin et al., 2009; Kiecolt-Glaser et al., 2005). The one previous study to our knowledge associating dyadic coping with physiological functioning demonstrated that couples high in positive dyadic coping showed better-regulated cortisol responses to stress (Meuwly et al., 2012). Our findings add an additional biomarker (salivary IL-6) that may be impacted by dyadic coping.

A novel feature of the present study was the examination of immune recovery poststressor, accounting for diurnal variability.
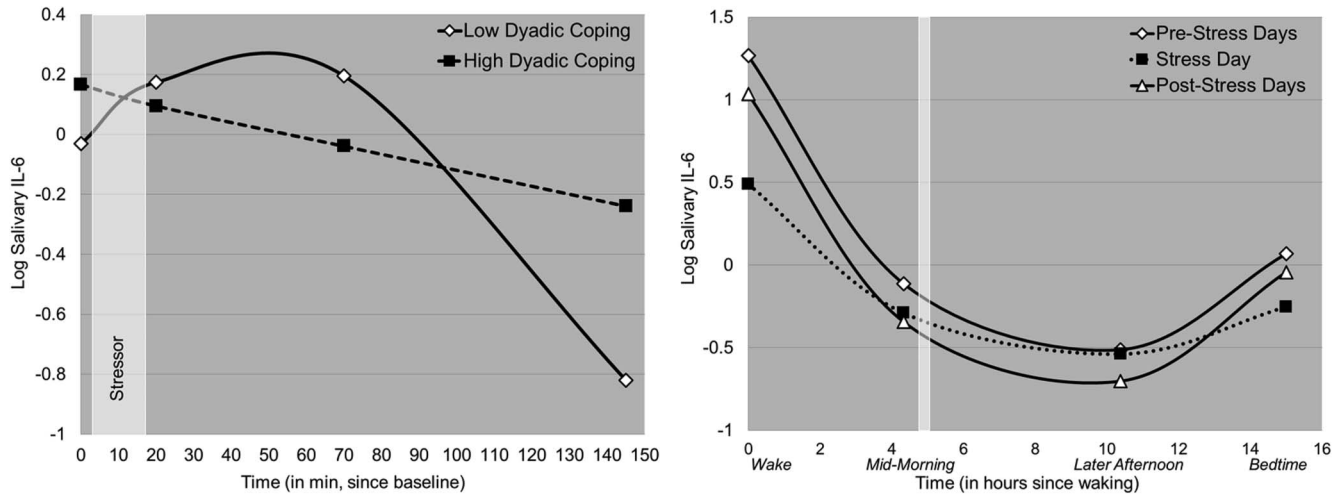
Figure 1. The left panel (reactivity) depicts the interaction between time^2 (in minutes, relative to baseline sample) and dyadic coping (low, 25th percentile $= 125.8$; high, 75th percentile $= 145.8$) predicting log salivary interleukin (IL)-6. For low versus high dyadic coping, there are no statistically significant differences between salivary IL-6 levels at any time point. Sample #1 (baseline) $= 0$ min; Sample #2 $= 20$ min after baseline (immediately poststress); Sample #3 $= 70$ min after baseline (45 min poststress); Sample #4 $= 145$ min after baseline (120 min poststress). The model is adjusted for mean age. The right panel (recovery) depicts daily log salivary IL-6 across time (in hours, relative to waking sample) on prestress, stressor, and poststress days. Time points are centered around the average hours since waking (midmorning $= 4.3$ hr postwaking; later afternoon $= 10.4$ hr postwaking; bedtime $= 15$ hr postwaking). The white shaded bar represents the time at which the interpersonal stressor took place on the stress day. The model is adjusted for mean age and caffeine use.

Most stress-immune research has focused on the reactivity component of temporal change in immune function over time, and if recovery is considered, it does not account for how baseline levels may change depending on the diurnal nature of the biomarker. Contrary to expectations, couples low in dyadic coping did not differ from couples high in dyadic coping on immune recovery. Rather, on the lab stressor day, all participants had recovered by the later afternoon time point, approximately 5 hr poststressor. Previous research suggests that circulating inflammatory markers may still be elevated 24 hr after a conflictual interpersonal stressor in couples (Kiecolt-Glaser et al., 2005), however, the temporal dynamics of salivary cytokines may be faster than cytokines measured in plasma or serum. In one study, salivary IL-6 levels peaked immediately after the completion of an exercise stressor, but recovered within 30 min poststressor, whereas serum IL-6 levels peaked immediately poststressor and remained elevated until 90 min poststressor (Minetto et al., 2007). Thus, it is possible that in the current study, because of the sampling time points chosen in the research design, recovery may have occurred earlier than 5 hr poststressor, and dyadic coping may have been associated with any delayed immune recovery earlier in the temporal sequence, but the current sampling method did not capture it. Future research that aims to assess immune recovery may benefit from repeated sampling up to 5 hr poststressor. In previous studies, salivary IL-6 levels in response to acute individual stress were no longer significantly different than baseline at 30 to 120 min poststressor (see Slavish et al., 2015 for review); however, diurnal variation was not taken into account. The present study extends these findings by using control days' samples to account for diurnal variability in recovery and by using an ecologically valid interpersonal stressor,

thereby providing new evidence that salivary IL-6 may recover within five hours of an acute interpersonal stressor.

Findings from the present study should be interpreted in the context of its limitations. Sample characteristics may serve as both a strength and limitation of this investigation. Participants were primarily satisfied in their relationships. Rather than bias the results in an undesirable way, these sample characteristics provide a starting point to gain foundational knowledge of typical immune reactivity and recovery in response to interpersonal stress in healthy and relatively high relationship functioning partners. It is likely that using more clinical populations in future studies may yield health-relevant and more pronounced findings. In addition, however, data on other potential covariates were not collected (e.g., menstrual cycle, daily medication use), participants were primarily White and educated, and the smaller sample size engenders concerns about generalizability. Future studies attempting to replicate these findings should use larger and diverse samples, which may also aid in uncovering potential gender differences (Robles et al., 2014).

Another consideration of the present study is the use of salivary IL-6. There is preliminary evidence that poor oral health can inflate stress-related increases in salivary inflammation (Slavish et al., 2015). Although participants with any known oral health issues were excluded from the current study, oral health was not determined by an expert (e.g., dentist). However, as compared to a recent study in which participants received a full mouth periodontal exam and medical and dental records were obtained, average levels of salivary IL-6 in the present study (see Table 1) are comparable to average levels from the "healthy controls" (3.7

pg/mL) and lower than levels from individuals with gingivitis (6.3 pg/mL) and periodontitis (22.8 pg/mL; Ebersole, Nagarajan, Akers, & Miller, 2015). Although salivary immune biomarkers may not share the same health relevance of systemic measures, they do provide health-relevant information. Oral inflammatory activity is implicated in the pathogenesis of periodontal disease (Giannopoulou, Kamma, & Mombelli, 2003), which is a significant predictor of other systemic diseases including cardiovascular disease and diabetes (Genco, Glurich, Haraszthy, Zambon, & DeNardin, 2001). In sum, a growing number of empirical studies suggest that salivary markers of inflammation respond to social–cognitive and exercise-physical stressors (see Slavish et al., 2015, for review); the present study demonstrates that salivary IL-6 also responds to an ecologically valid interpersonal stressor. The potential clinical and research utility of salivary measures for studies on stress and health in both laboratory and naturalistic settings motivates additional work on this topic.

The present study makes an important contribution to the literature on the moderating role of dyadic coping on immune stress responses, as well as on the temporal dynamics of couples' salivary IL-6 reactivity and recovery to interpersonal stress. Partners less able to cope together with stress (i.e., lower dyadic coping) showed greater reactivity to the interpersonal stressor. Interestingly, dyadic coping did not moderate immune recovery, rather, all partners had recovered by five hours poststressor. If less supportive relationships provoke larger and more frequent dysregulated immune changes in response to stress, then partners could be at greater risk for a variety of health problems over time. Efforts to enhance dyadic coping in couples may impact not only their mental health and relationship quality, but also their risk of stress-related immune disorders.

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Couple and Family Psychology: Research and Practice
Current Topics in Couple and Family Psychology

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1. The *core change mechanisms* of couple and family psychology that promote positive client outcomes
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Interested authors should contact the Editor, Thomas L. Sexton (thsexton@indiana.edu), for guidance in proposing a submission. When proposing a topic area that is a single article, please clearly identify how the manuscript fits one of the areas noted above. When proposing a series of articles, we suggest the following format: a major theoretical paper that identifies the issues, the current state of affairs, and the implications for practice, and accompanying articles that include one or more research articles (on a topic identified in the theme article), and/or an evidence-based case study (see the Editor for specific guidelines). With either type of submission (single paper or series of related articles), it will be critical to identify a specific theme and its importance, and how this article or series of articles answer the current questions to provide a new perspective and/or bring new research to our understanding. Our interest is to identify new innovative practices and ideas that are on the cutting edge of the research/practice divide in Family and Couple Psychology.