

## Isolating together is challenging – and relationship stresses can affect biological functioning

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Partners who feel connected to one another may experience health benefits. becca tapert/Unsplash, CC BY

In the wake of COVID-19 social distancing and stay-at-home orders, young couples may find themselves spending more time with each other than ever before.



In unprecedented times, couples navigate the latest relationship test. ItsDanSheehan/Twitter

As a developmental psychologist who conducts research on adolescent and young adult relationships, I'm interested in understanding how young people's everyday social interactions contribute to their

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health. Past research shows that people who have higher-quality friendships and romantic relationships during their teens and 20s typically have lower risk for illness and disease during adulthood, whereas individuals with early relationships characterized by conflict or violence experience heightened risk for negative health outcomes. Why might this be the case?

### **Can matters of the heart affect your heart?**

My colleagues and I wondered whether young people’s everyday, seemingly mundane, interactions with their dating partners might have acute effects on their physiological functioning. These direct connections between social functioning and physiology could accumulate over time in ways that ultimately affect long-term health.

We conducted a study to examine whether young dating couples’ everyday romantic experiences were related to their physiology. We specifically investigated if couples’ feelings towards one another during the day predicted changes in their heart rate while they slept.

We focused on overnight heart rate because other research shows that having chronically elevated heart rate can hamper the essential restorative effects of sleep and increase risk for later cardiovascular disease, the leading cause of death for men and women in the United States.

To test our question, we used participants from a larger, ongoing study in our lab at the University of Southern California to capture a “day in the life” of young dating couples. The couples, most of whom were in their early 20s and had been dating for 1-2 years, were recruited from the Los Angeles area.



Even subtle, day-to-day interactions between couples can leave their mark. The Creative Exchange/Unsplash, CC BY

### **24 hours together**

They were asked to choose a day they were planning to spend most of their time together and, on that chosen day, couples came into our lab first thing in the morning. They were equipped with a wireless chest-strap heart monitor and lent a mobile phone that sent surveys every hour until they went to bed. When participants left the lab, they were told to go about their day as they normally would.

Our study focused on 63 heterosexual couples who had valid 24-hour heart rate data (some participants took the monitors off when they slept or reattached them incorrectly after showering).

Every hour during the day, participants rated two things: how annoyed and irritated they felt with their dating partner, and how close and connected they felt to their dating partner. Participants also reported on their hourly behaviors to make sure we knew about anything else that could affect their overnight heart rate – like whether they drank alcohol, exercised or took medication. For 24 hours, the heart rate monitor tracked couples' heartbeats per minute, an indicator of physiological activity.

### **From feelings to physiology**

Even after taking into account both partners' daytime heart rate, stress levels, drug or alcohol use and physical activity, we found that men's overnight heart rate changed depending on how women felt toward their partner throughout the day.

When women felt closer and more connected to their partners during the day, men had lower overnight heart rates. When women felt more annoyed and irritated with their partners during the day, men had higher overnight heart rates. On average, men's overnight heart rates were about 2 to 4 beats per minute slower in couples where women expressed more closeness. On the other hand, men's heart rates were about 1.5 to 3 beats per minute faster if women expressed greater annoyance.

Interestingly, we found that women's annoyance did not predict increases in men's heart rate, if women also felt close to their partners throughout the day. In other words, the negative effects of annoyance got diluted if some closeness was also in the mix.

There were actually no effects of men's annoyance or closeness on women's overnight heart rates – men's cardiovascular responses appeared to be uniquely sensitive to women's daytime relationship feelings. **Other research** has found similar gender differences. One possibility is that women are more likely to express their feelings of closeness or annoyance, whereas men may **feel less comfortable** engaging in such communication.

Of course, every relationship has its natural ups and downs, and our study only captures a snapshot of young dating couples' lives together. However, the findings suggest the way romantic partners feel about one another, even within a single day, can have acute effects on their biological functioning during sleep.

These seemingly trivial, everyday experiences could build up over time and help explain why relationships wind up affecting people's health – for better or for worse.

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