Symposium S-F8

Positive affect and health: Emerging evidence from cells to behavior

Saturday, February 15, 2014, 11:15 AM - 12:30 PM, Room 18 A/B

Chair: Nancy Sin, University of California, San Francisco
Co-Chair: Judith Moskowitz, University of California, San Francisco

Using observational, experimental, and intervention methodologies, we present cutting-edge research on the link between positive affect and physical health. Our findings demonstrate that positive affect protects against cellular aging, cardiometabolic risk, and pain, and interventions to cultivate positive affect are effective among individuals experiencing health-related stress.

Happiness and Telomere Length among Patients with Coronary Heart Disease: Prospective Findings from the Heart and Soul Study
Nancy L. Sin, Judith T. Moskowitz, Elissa S. Epel, Jue Lin, Elizabeth H. Blackburn, Mary A. Whooley
University of California, San Francisco; University of California, San Francisco; Veterans Affairs Medical Center, San Francisco
Shortened telomere length, a marker of cellular aging, is a risk factor for cardiovascular morbidity and mortality. Negative psychological states (e.g., depression and stress) have been linked to shorter telomeres, but little is known about the possible protective effects of positive states on telomere length. We sought to evaluate longitudinal associations between happiness and telomere length among patients with coronary heart disease. Leukocyte telomere mean length was measured at baseline (N = 951) and five years later (N = 607). Participants were asked how often they felt happy during the past week. At baseline, each category increase in happiness was associated with a 41-base pair increase in mean telomere length, controlling for demographics and comorbidities including major depressive disorder. Happiness did not predict 5-year change in telomere length (i.e., differences in telomere length remained stable over time). These findings suggest that happiness may be a protective factor against telomere shortness.

Subjective Well-Being's Prospective Association with Cardiometabolic Risk in the Midlife in the United States Study
Julia K. Boehm, Ying Chen, Laura D. Kubzansky
Chapman University; Harvard School of Public Health
Individuals with greater subjective well-being (i.e., life satisfaction and positive emotions) have a reduced risk for heart disease, but limited research has examined subjective well-being's association with risk factors that precede heart disease (e.g., high blood pressure). We investigated whether life satisfaction and positive emotions were prospectively associated with cardiometabolic risk. Initially healthy men and women from the Midlife in the United States study self-reported their subjective well-being. A cardiometabolic risk score was constructed based on eight biomarkers (blood pressure, lipids, glycosylated hemoglobin, waist circumference, and C-reactive protein) measured 9-10 years later. Regression analyses showed that life satisfaction and positive emotions were prospectively associated with an 18-30% reduced probability of experiencing cardiometabolic risk. The association remained after controlling for covariates such as demographic characteristics and depressive symptoms. These findings are consistent with past research regarding heart disease and indicate that subjective well-being is associated with pre-disease cardiovascular functioning.

The Influence of Smiling on Needle Injection Pain

Sarah D. Pressman, Tara L. Kraft, Katie Aucott
University of California, Irvine; University of Kansas; University of Michigan

Experimentally manipulated smiling has been shown to have both psychological and physical benefits, with particular advantages shown for the Duchenne smile. We hypothesized that benefits might also be found in the context of a realistic stressor: needle injection (i.e., sham vaccination). 182 undergraduates were randomized to condition: Neutral, Standard smile, or Duchenne smile. Participants were told a cover story and then were taught to hold chopsticks in their mouths in the correct expression. Following a 1-minute practice, participants rated anticipated pain of the needle. Next, participants received the injection while holding the expression, followed by rating their experience of injection pain. ANOVA results revealed that smiling participants reported lower pain anticipation and lower experienced pain following the shot, with the Duchenne group showing the greatest benefits. These results indicate a simple intervention to reduce the experience of pain during unpleasant vaccinations.

Effects of a Positive Affect Skills Intervention for People Coping with Significant Health-Related Stress

Judith T. Moskowitz, Laura Saslow, Michael Cohn
University of California San Francisco, Osher Center for Integrative Medicine

We have developed a 5-week, multi-component intervention aimed at increasing positive affect and tailored the intervention for adults coping with a variety of health-related and other types of life stress, including type 2 diabetes, HIV, methamphetamine addiction, dementia caregiving, and work stress. A meta-analysis indicates that across these studies, the intervention increases positive affect relative to control participants. From baseline to one-month follow-up, we found a significant increase in overall positive affect and in the frequency of the individual positive affects of contentment, happiness, gratitude, hope, awe, and pride. Amusement, interest, and love did not change significantly. We will discuss the process of tailoring the intervention including adaptation for group, telemedicine, and online delivery. Next steps in this program of research include larger randomized controlled trials optimizing content and delivery method to maximize and sustain the impact on positive affect and reduce the deleterious health effects of stress.