Bidirectional Relationship of Stress and Affect with Physical Activity and Healthy Eating - Dana Schultchen et. al.

Review by Ramesh Sah

Objectives

It is know that (also might be experienced by us)

- Physical activity can reduce stress and negative emotions
- People tend to eat unhealthy during stressful times

1. Examine the relationship between stress and physical activity and healthy eating in both direction - negative and positive - using ecological momentary assessment (EMA).

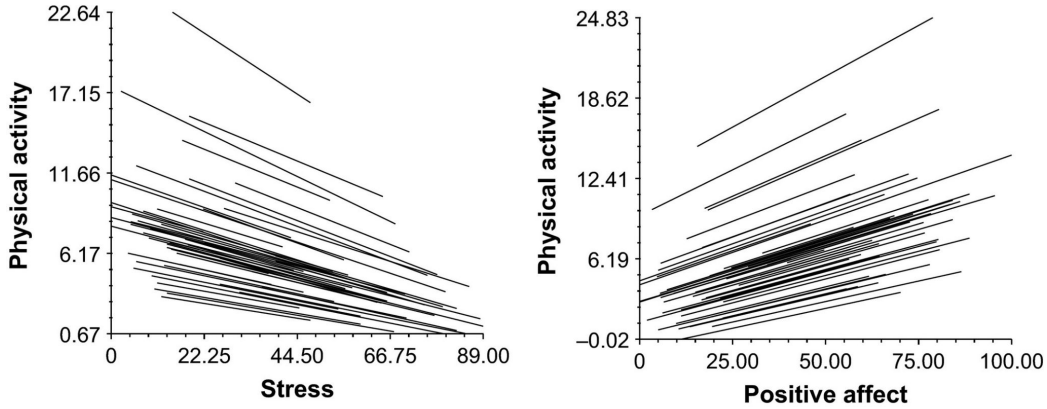
Test Hypotheses

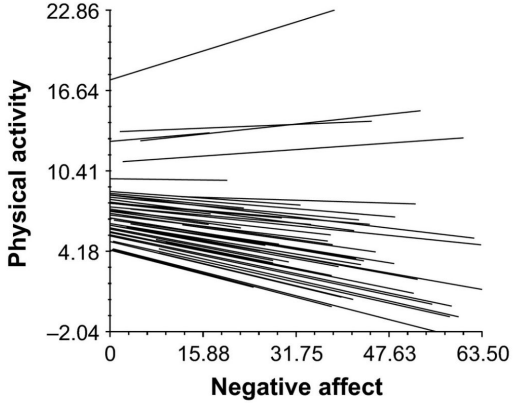
- Physical activity is reduced subsequent to periods marked by higher stress and negative affect.
- Higher physical activity levels are related to less perceived stress/negative affect and more physical affect.
- Unhealthier eating is reported during times marked by higher stres.
- Healthy eating is associated with less stress and higher positive affect.

Design

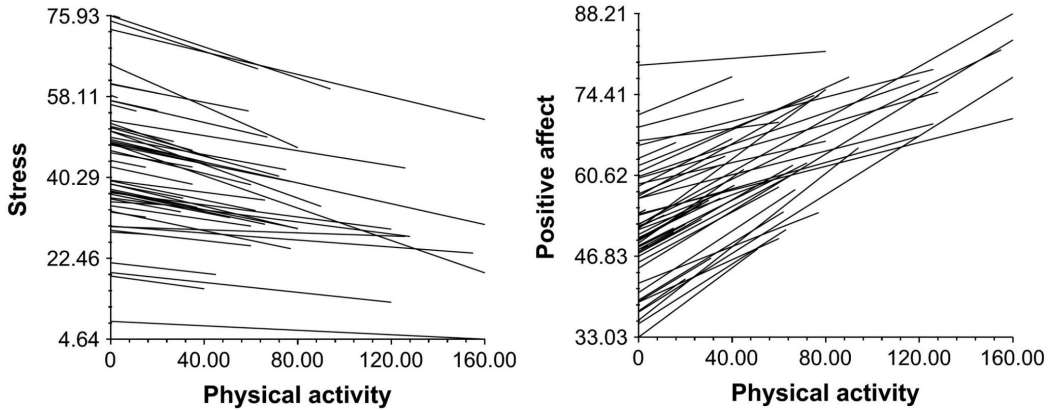
- 51 (11 men) university students, 6 daily prompts, 7 days of enrollment
- Questions about 12 different emotions - 6 positive (active, cheerful, enthusiastic, relaxed, calm, and awake) and 6 negative emotions (depressed, bored, irritated, dissatisfied, worried, and nervous/stressed)
- Stress was assessed with two items from the Perceived Stress Scale
- Physical activity was assessed with ‘How many minutes have been physically active since the last signal so that you sweated or were out of breath?’
- Eating was assessed with ‘How would you consider your meal?’

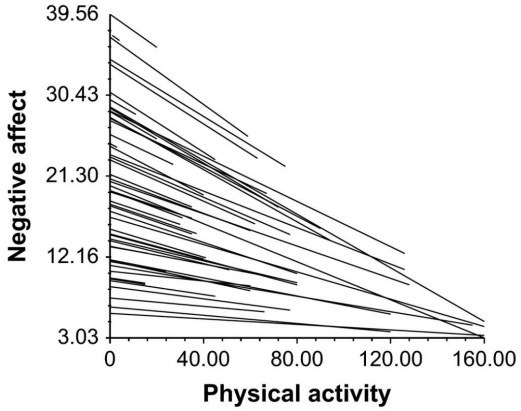
Stress and affect relating to subsequent physical activity





Physical activity related to subsequent stress and affect





Conclusion

1. Higher physical activity level was found to be associated with less stress and negative affect and more positive affect over the next several hours in daily life.
2. No association between healthy eating and stress was discovered.
3. Beneficial to break the cycle of inactivity, stress, and negative effect by promoting physical exercise.

Limitations and Possible Extensions

1. A more fine-grained temporal resolution of affect ratings directly before, during, and after physical activity.
2. Objective indicators like sensor data along with subjective measures as EMA might be more generalizable. Use fitness tracker.
3. Measuring details such as calorie and micronutrients might give us a better picture about healthy eating and stress. Picture of the participants food.