**The Scent of a Good Night’s Sleep: How Partner’s Scent Influences Sleep Quality**

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### Introduction

- Poor sleep is linked to negative health outcomes (Mittersich & Insel, 2007; Pichler, Ginter, & Saida, 2007)
- Social support is positively linked to higher quality sleep (Shoup, Streeter, & McBurney, 2008)
- **Hypothesis**: The scent of a close other may improve sleep quality.

### Method

- **N = 40 couples**
- **Males wore T-shirts for 24 hours**
- **Females slept with their partner’s shirt for 2 nights, and an unworn shirt for 2 nights (order randomized)**
- **Objective Sleep**: watches monitored movement
- **Subjective Sleep**: daily reports of sleep quality
- **Covariates controlling for Individual Differences**
  - Relationship Satisfaction & Length
  - Attachment Style
  - Daily Stress
  - Birth Control Usage

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### Results

**HLM model predicted sleep efficiency from:**
- Level 1 (group mean centered): scent type & daily stress
- Level 2 (grand mean centered): relationship satisfaction, length, birth control usage, attachment style, average stress & order of scent

Controlling for all covariates, scent type continues to predict sleep efficiency $\beta = 6.96, 95\% CI [2.67, 11.25], p = .003$.

- Sleeping with partner’s scent leads to
  - Increased sleep efficiency
  - No corresponding increase in perceived sleep quality
- Effect occurs outside of conscious awareness

### Future Directions

- Replicate and extend to males
- Stranger’s scent
- Individual differences
- Investigate other social bonds
Abstract
When can deadlines help vs. hinder task performance? Our study suggests that externally imposed deadlines may benefit productivity at the expense of creativity.

Introduction
Externally imposed deadlines can encourage task completion and performance (e.g., Ariely & Wertenbroch, 2002).

Yet, deadlines can also promote narrowed attentional focus (e.g., Shah, Mullainathan & Shafir, 2012).

Thus, deadlines could interfere with tasks that require divergent thinking.

Insight Tasks and Analytic Tasks

Flex-time Condition

“**You will have as much time as you need to complete these tasks. These tasks will take between 5 minutes and 1 hour of your time.”**

Deadline Condition

“**You will have X amount of time to complete these tasks.”**

Initial Findings
- Amount of time taken, ns
- # of tasks completed, ns
- Positive affect, ns
- Time pressure, ns

Analytic Tasks

<table>
<thead>
<tr>
<th>Flex-time</th>
<th>Deadline</th>
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<tbody>
<tr>
<td># of differences found</td>
<td>11.43</td>
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Insight Tasks

<table>
<thead>
<tr>
<th>Flex-time</th>
<th>Deadline</th>
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<tbody>
<tr>
<td># of insight questions correctly answered</td>
<td>2.37</td>
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Discussion & References
The perception of open-ended time resulted in a greater # of insight questions correctly answered. Initial analyses point to the role of enhanced distraction in explaining these effects.


The Scent of Social Support
Hanne Collins, Marlise Hofer & Frances Chen
The University of British Columbia

Summary
Past research has found that social support has stress buffering effects. Further research suggests that these beneficial effects can occur without one being physically present. Women exposed to their partner's scent appear to show a more rapid recovery after a stressful event than those exposed to no scent or a stranger's scent.

Research Question
- Close contact with loved ones can be very effective in lowering stress.
- Can the scent of a loved one communicate social support and reduce stress when they are physically absent?

Method
- 64 heterosexual couples
  - Men acted as "scent donors", asked to wear a white cotton t-shirt for 24 hours.
  - Women acted as "smellers".
- Experimental Manipulation: Women asked to smell either their partner's, a stranger's or an unworn shirt (without knowing source of the scent).
- Women participated in a standardized laboratory stress task involving delivering a speech and performing a math task in front of a panel of evaluators.
- Self-reported anxiety levels provided at 5 different points throughout procedure with a 5 item measure including items such as:
  - How anxious do you feel right now?
  - To what extent do you have the current situation under control? (reverse scored)

Manipulation
- Partner's scent (N=20)
- Stranger's scent (N=25)
- No scent (N=19)

Measures
- Self-reported anxiety levels throughout stress task

Results
- Data collection is ongoing
- Overall ANOVA revealed a non-significant trend ($F(2.48, 4.95) = 1.78, p = .12$) suggesting a possible difference between groups.
- Preliminary results suggest that:
  - Self-reported anxiety levels of individuals in the partner condition differ from those of individuals in the stranger and unworn conditions at '5 Min Post' and '10 Min Post'.

Self-Reported Anxiety Levels Throughout Stress Task

Summary
- Past research has found that social support has stress buffering effects.
- Further research suggests that these beneficial effects can occur without one being physically present.
- Women exposed to their partner's scent appear to show a more rapid recovery after a stressful event than those exposed to no scent or a stranger's scent.


**Abstract**

Our study investigates the effectiveness of an online, CBT-based social anxiety treatment program. Initial results suggest that the program may reduce symptoms of social anxiety and increase life satisfaction among a non-clinical undergraduate population.

**Introduction**

- Social anxiety is one of the most prevalent mental disorders (Stein & Stein, 2008), but its rates of treatment are among the lowest (Olfson et al., 2000).
- Computer-delivered therapies can overcome barriers to treatment of social anxiety, but most are ineffective as standalone treatments (Spek et al., 2007).
- Overcome Social Anxiety was developed to address major shortcomings of other online CBT treatments (Helgadóttir et al., 2009).
- We hypothesize that Overcome Social Anxiety will be effective for socially anxious UBC undergrads.

**Method**

- N = 103 UBC students with subthreshold social anxiety
- Random assignment to treatment or wait-listed control
- Dependent measures (taken at baseline and four-month follow-up):
  - Fear of Negative Evaluation (FNE; Watson & Friend, 1969)
  - Quality of Life Enjoyment and Satisfaction Questionnaire (Q-LES-Q; Endicott, Nee, Harrison & Blumenthal, 1993)

**Results**

- Error bars represent the standard deviations of their respective measures.
- An independent samples t-test shows that there is not a significant difference between the two groups' changes in FNE scores over four months, $t(14)=1.48$, 95% CI [-1.68, 9.22], $p = .08$, one-tailed.
- Error bars represent standard deviations of their respective measures.
- An independent samples t-test shows that there is a significant difference between the two groups' changes in Q-LES-Q scores over four months, $t(14)=-2.08$, 95% CI [-2.99, .005], $p = .029$, one-tailed.

**Discussion**

- Data collection is ongoing; early results indicate that Overcome Social Anxiety may be effective in reducing social anxiety symptoms among UBC students.
- Empirical support for the effectiveness of standalone, computer-delivered treatments highlights the opportunity for further research in this exciting area.

**References**

Making Friends for your Health: Friendship Formation and Health in university students — a longitudinal study

Patrick Klaiber1,2, Ashley V. Whillans1,3, Frances S. Chen1
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INTRODUCTION
Social relationships and social integration play a critical role in an individual’s health.¹

When students enter university, they gain new opportunities to adopt or abandon healthy habits.

Research Question: Can first-term friendship formation contribute to students’ health and health behaviors years later?

METHODS AND MATERIALS

N = 67 (MŒ at T1 = 17.82; SD = 0.92, 75% female) university students were asked about their friendship formation at the beginning of their first and second term at university.

At a follow-up (2-3 years later) their health, and health-related behaviors were assessed:

MAIN RESULTS

Number of friends at different time points

<table>
<thead>
<tr>
<th></th>
<th>T1</th>
<th>T2</th>
<th>T3</th>
</tr>
</thead>
<tbody>
<tr>
<td>M</td>
<td>2.51</td>
<td>3.83</td>
<td>4.80</td>
</tr>
<tr>
<td>SD</td>
<td>2.06</td>
<td>3.37</td>
<td>5.27</td>
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Research Question

Are the effects of friendship formation on health and health behaviors due to more perceived social support at the follow-up?

→ Mediation analysis

# of close friends T2

social support (T3)

.37*

self-reported health

.41**

1 controlling for number of friends at T1, * p < .05, ** p < .01, standardized regression coefficients

A significant indirect effect was found for self-reported general health: b = 0.03, SE = 0.01, 95% CI = [0.01, 0.06].

➢ students who made more friends during their first term at university reported better general health due to perceiving more social support

CONCLUSION

The number of friends people make during a major life transition is an important predictor of self-reported health and healthy eating several years later.

Making more friends → more social support available → better self-reported health

How can we help students to adopt healthy eating habits?

➢ Helping students make friends could be one key aspect in designing programs and interventions on campus

REFERENCES