

SNAPAPPY: A POSITIVE PSYCHOLOGY INTERVENTION USING SMARTPHONE PHOTOGRAPHY TO IMPROVE MENTAL WELL-BEING

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Introduction

Momentary photography is enjoyed by many smartphone users, especially with the popularity of apps such as Snapchat and Instagram.

Many traditional positive psychology interventions focus on lengthy writing tasks to express positive emotions experienced during past experiences, acts of kindness and gratuitous situations.

By augmenting momentary photography with traditional intervention methodologies, this research assesses whether taking photos and writing about positive moments, events and experiences, and revisiting the photos later, has a positive effect on the participant's mental well-being.

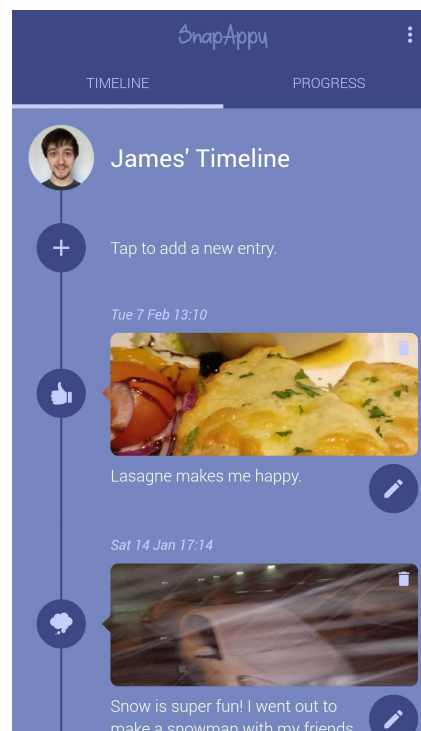
The SnapAppy application was developed for Android and iOS smartphones in order to conduct this study.

Methodology

- Log at least one entry per day about a positive moment, event or experience for one month:
 1. Take a photo using the in-app camera or upload a photo from the device.
 2. Choose a category to define the type of positivity: positivity, reminisce, kindness, gratitude or destiny.
 3. Write an emotive description about the positive moment, event or experience.
- Log mood once per day (7-point Likert scale).
- Complete PANAS¹ and SWLS² surveys every 10 days.

Data Collection

- Participants who completed the study: **36** (25 female)
- Average duration of participation: **30.1 days**
- Photos taken: **996**
 - Top photo themes: **food, people, nature, animals**
 - Categories: **51%** positivity, **15%** reminisce, **8%** kindness, **9%** gratitude, **4%** destiny, **13%** unassigned
- Mood reports: **1074**
- Completed surveys: **119**
- Location traces: **80026**



Analysis

The goal of the analysis was to observe how participating in the intervention affects the participant's psychological state (mood, PANAS and SWLS).

- **Wilcoxon signed-rank test** to observe changes across the whole study.
- **App interaction feature extraction** to observe the effect of individual in-app actions.
- **Correlational analysis** to determine which interaction features had the largest impact on psychological state.

Conclusions

- Wilcoxon shows significant increase in SWLS scores by merely participating in the study ($T = 90, p = .002, r = .36$).
- **Positive PANAS** scores show significant positive correlation with the **length of the written descriptions** ($r = .25, p = .03$).
- **Negative PANAS** scores show significant negative correlation with the number of times the participant **revisits photos** ($r = -.28, p = .01$).
- **Mood reports** show significant positive correlation with the **number of photos** the participant takes per day ($r = .26, p = .03$).

Further Work

- Assess the overall psychological change using the **intervention effectiveness metric** which was developed as a singular value to summarise the intervention's impact.
- Image and location feature extraction.
- Classification to identify mood from app interaction.