

Is the content of the “inner human experience” related to mindfulness and well-being?

An experience sampling study

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INTRODUCTION

Humans are the only animals whose minds are constantly filled with thoughts. In the current study, we used the Experience Sampling Methodology (ESM), in which people are prompted to self-report throughout their day, to ask the following questions about the “inner human experience”:

- 1) What percentage of the time do people spend in different mental states (i.e., **Present vs. Not Present vs. Zoned Out**) and what percentage involves **Inner Speech**?
And, do the percentages of different mental states differ between *Genders* and *across Ethno-Racial Groups*?
- 2) Does the Inner Speech of *Present vs. Not Present* experiences differ in terms of:
 - A) Deliberateness, Clarity and Reaction to the Inner Speech?
 - B) Momentary (i.e., State) Well-Being? (Here, we also included inner experiences with *No Inner Speech*, as well as *Zoned Out*)
- 3) Will simply being prompted to report one’s inner experience (as part of the ESM protocol) increase Mindfulness and Trait Well-Being?

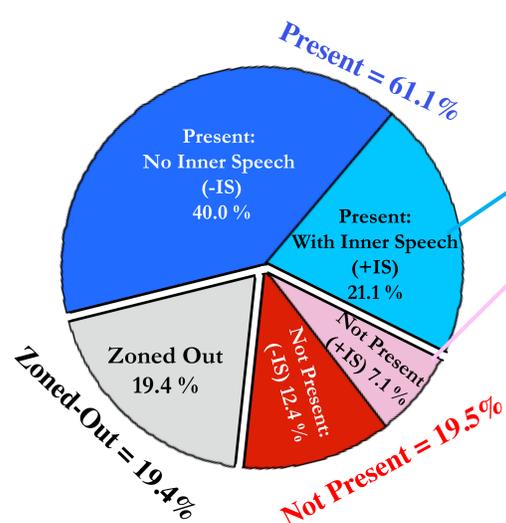
METHODS

Participants were students from UCSD. They began by filling out three questionnaires: 1) Five Facet Mindfulness Questionnaire (FFMQ), 2) Warwick-Edinburgh Mental Well-Being Scale, and 3) Demographics. They then started the ESM part of the study: For 6 days, their mobile devices prompted them to respond 3 times/day to a series of questions, starting with asking if they were “**Present**” (i.e. **my attention was related to the current activity/immediate surroundings**), “**Not Present**” (i.e. **my attention was NOT related to the current activity/immediate surroundings**), or “**Zoned Out**” (i.e., **thinking nothing, almost in a sleep-like state**). This was followed by a series of questions about the content of their thought (if one existed), for example, “with inner speech” vs. “no inner speech”, deliberateness, clarity, and reaction to the thought. They were also asked to pick their current activity from 20 activity types, which was used as a random effect in our analyses. At the end of the 6 days, participants filled out questionnaires (1) and (2) again to determine whether mindfulness and/or well-being improved after the ESM protocol. Their improvement was compared to a control group from whom we collected questionnaires (1) and (2) two times, with 6 days in between.

We ran this study twice. We show only data from Spring 2018 (ESM: n = 138, control: N = 241), which replicated the data from Winter 2018 (ESM: n = 136, control: N = 241). Mean age was 20.5 ± 2.3 years. Percentage of female was 73.0%. The three major ethno-racial groups were Asians (52.3%), Caucasians (12.7%) and Hispanics (18.7%). The Asians were further divided into Asian Americans (64.9%) vs. those who grew up in Asia (35.1%). On average, participants in the ESM group provided 14.8 prompts, and the total number of prompts used for analysis was 2049. For analyses performed on prompts, participant and activity type were included as *random effects*.

RESULTS

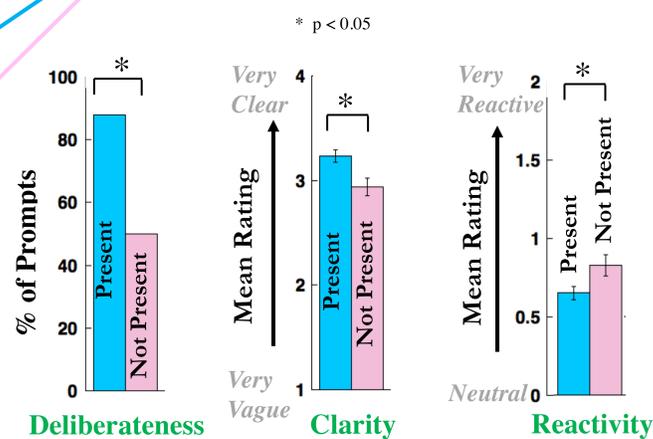
1) Percentage of Different Mental States



1) **Percentages:** Percentage of time is shown for *Present*, *Not Present* and *Zoned Out*. These are further broken down into percentage of inner experiences with *Inner Speech* (+IS, light blue, pink) vs. with *No Inner Speech* (-IS, blue, red). Percentages are nearly identical when we use prompts (vs. participants) as the unit of analysis.

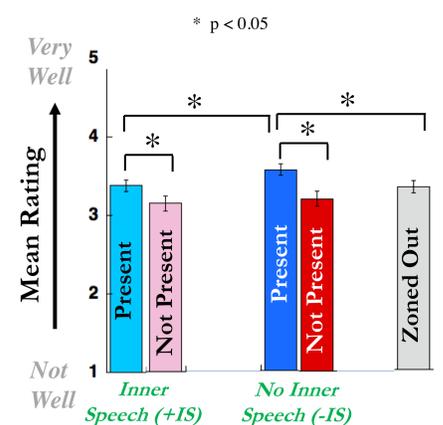
No Demographic Differences: Percentages do *not* differ between females and males, or across ethno-racial groups (including between Asians and Asian Americans).

2A) Quality of Inner Speech: Present vs. Not Present



2A) **Quality of Inner Speech:** Analyses performed on prompts show that Inner Speech is significantly *more deliberate* (88% vs. 50% of prompts) and *more clear* when participants are Present vs. Not Present. And, participants report feeling significantly *less reactivity* when Present vs. Not Present.

2B) Comparing State Well-Being across 5 Mental States



2B) **State Well-Being:** i) When there is Inner Speech (+IS), people are happier when Present (light blue) vs. Not Present (pink). ii) The same result is seen when there is No Inner Speech (-IS) (blue vs. red). iii) People report being fairly happy when Zoned Out (grey), and this is only lower when compared to being Present with No Inner Speech (blue). iv) When Present, people are happier when there is No Inner Speech (blue vs. light blue).

3) **Does partaking in the ESM protocol enhance Mindfulness or Trait Well-Being?** Here, we found very small effects on Trait Well-Being (Warwick-Edinburgh). In one sample (Spring 2018), improvements in well-being (compared to controls) were not significant, whereas in the other (Winter 2018), they were ($p = 0.037$), with ESM participants increasing 1.5% and controls decreasing -1.7%. No effects of the ESM protocol were seen on the FFMQ questionnaire.

DISCUSSION AND CONCLUSIONS

1) College students report being Present vs. Not Present about 60% vs. 20% of the time, respectively. To our knowledge, this is the first study to allow people the choice of “Zoned-Out” (i.e., in a sleep-like state), which accounts for 20% of the time. However, this may be an over-estimation since choosing this status allowed participants to skip questions about the quality of their experience, and so might reflect some “laziness” on their part. *There are no differences across genders and ethno-racial groups.*

Note that we resist using the word “mind-wandering” to refer to our category of “Not Present” (i.e., my attention was NOT related to the current activity/immediate surroundings) because the use of the term mind-wandering is inconsistent in the literature. In line with a recent theoretical paper on the topic (Seli et al., 2017), we suggest that mind-wandering in the current study includes prompts in which participants report being both “Not Present” and “Not Deliberate” in their thought (regardless of whether the thought contains Inner Speech or not). By this definition, college students in the current study mind-wander 9.4% of the time, which is on the low end of what is typically reported in the literature (15 – 50%: Giambra, 1995; Killingsworth & Gilbert, 2010; Seli et al, 2017; Smallwood, et al., 2004).

2) Inner speech is more deliberate, more clear and leads to less reaction, when participants are *Present vs. Not Present*. They report the highest momentary (i.e., state) well-being when they are *Present with No Inner Speech*. This state is even better than being *Zoned Out*! Because we also asked participants to rate the objective valence of the contents of their inner speech, as well as whether it involved “self” vs. “others” (data not shown in this poster), future analysis will take these parameters into account.

3) Six days of “checking in” with one’s inner experience (as part of the ESM protocol) is not sufficient to enhance trait well-being or mindfulness.

References

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