

## View Abstract

**CONTROL ID:** 3758275

**TITLE:** Self-report on smartwatch in a routine treatment for depression: a clinical trial on patient acceptance

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**PRESENTATION PREFERENCE:** Oral

**CURRENT PRIMARY TOPIC:** Wearables

**CURRENT SECONDARY TOPIC:** Mobile health

**ABSTRACT BODY:**

**Context:** Self-report of mood and daily habits can support successful outcomes in treatments for depression. However, self-report completeness and accuracy are often impeded by a lack of patient engagement, retrospective bias in records and perceived stigma. By automatically collecting sleep and physical activity and allowing immediate in-the-moment recording of moods, smartwatches have the potential to enhance self-monitoring. Because smartwatches are yet to be used in clinical interventions for depression and sensor-based monitoring might be perceived as intrusive, it is essential to investigate patient acceptance of using this technology in such sensitive contexts.

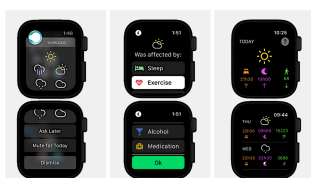
**Methods:** We designed the Mood Monitor (Fig. 1), a smartwatch application to self-report mood and lifestyle habits within a routine online-delivered treatment for depression. We used a longitudinal method to evaluate patient acceptance of the Mood Monitor over an 8-week treatment. Grounded in existing acceptance theories, our method aimed to build a rich understanding of patient acceptance by exploring users' demographics, acceptance before technology use (T1), at initial use (T2) and after sustained use (T3), and satisfaction with treatment. Through a randomized controlled setting, we assessed for differences in the use of self-report with and without smartwatch.

**Intervention (if relevant):** Clinicians recruited 69 patients at a site within the UK's National Health Service to take part in the trial. Participants were randomized to either the treatment alone or with smartwatch. Those in the Smartwatch (SW) group received an Apple watch for the duration of treatment and instructions on how to use the Mood Monitor app. Participants completed an acceptance questionnaire at day 0 (T1), week 3 (T2), and week 8 (T3). At T3, they also completed the Satisfaction with Treatment survey, and those in the SW group were invited for an interview. Participants received a £20 e-voucher after completing the last survey and returning the watch. Those who were interviewed received an additional £10 e-voucher.

**Results:** The findings revealed that the Mood Monitor app was highly accepted by patients, resulting in more consistent self-monitoring of mood and lifestyle habits in patients in the SW group. The study also helped identify key facilitators of patient acceptance (e.g. non-stigmatizing technology) but also barriers (e.g. patients' resistance to change), therefore further informing the smartwatch app design.

**Conclusions:** This study indicates high patient acceptance of the Mood Monitor smartwatch app as an aspect of routine treatment for depression. The study also suggests enhanced monitoring in the SW group, which supports treatment goals.

**Implications:** This research contributes to designing for self-monitoring on a smartwatch. This work also constitutes a useful example of a theory-based approach to the study of user acceptance of technology in a clinical setting, shedding light on possible challenges and opportunities for conducting Human-Computer Interaction research in this context.



The Mood Monitor watch app prompts the patient to log their mood several times a day (left), lets them select influencing factors (center), and displays a daily and weekly summary of their mood alongside bedtime, hours slept, and step count (right).

Full Manuscript: No

BY CHECKING THIS BOX, I AGREE TO PRESENT MY SUBMISSION AT ISRII 11 IF IT IS ACCEPTED:

Camille Nadal : Selected

**Agreement:** Camille Nadal: I attest.;Camille:Nadal | Caroline Earley: I attest.;Caroline:Earley | Angel Enrique: I attest.;Angel:Enrique | Corina Sas: I attest.;Corina:Sas | Derek Richards: I attest.;Derek:Richards | Gavin Doherty: I attest.;Gavin:Doherty

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**Other Relationships:** Camille Nadal: | Caroline Earley: | Angel Enrique: | Corina Sas: | Derek Richards: | Gavin Doherty:

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