

**A feasibility analysis of smartphone-based Ecological Momentary
Assessment to study patterns, predictors and consequences of ecstasy
use**

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Abstract

Background: The use of the illicit drug 'ecstasy' is related to acute, sub-acute and long term consequences to the health of its users. The causes of these consequences may be predicted by specific patterns of ecstasy use, such as polydrug use, physical exhaustion and lack of sleep. To inform future prevention policies aimed at educating users on high-risk ecstasy use it is necessary to identify patterns, predictors and consequences of ecstasy use. Smartphone based - Ecological Momentary Assessment, a method to assess constructs in 'real-time', by making use of smartphones, is posed to be a fruitful methodology to study ecstasy use. However, it is not yet clear whether EMA is feasible methodology in terms of compliance and acceptability.

Aim: To assess the feasibility of smartphone based EMA to study patterns, predictors and consequences of ecstasy use.

Methods: This study used a mixed-methods design gathering (1) rates of compliance towards smartphone based EMA assessments, and (2) the gathering of respondent perspectives on five sub-domains of acceptability of the methodology through semi-structured interviews. To be able to do so, a sample of 9 respondents participated in a smartphone based EMA for a period of three weeks. During these three weeks, patterns, predictors and consequences of ecstasy use were assessed every day and during nights out.

Results: Over a three week assessment period, compliance rates were high (84%), and remained high. Participants expressed a very positive attitude and deemed that no costs of participation were involved. However, participants did express increased effort of complying to assessments as a result of social situations, ecstasy and alcohol use. Also, some issue of coherence (understandability) and effectiveness (the extent to which participants perceived the EMA method measured what it intended to measure) were found.

Conclusion: Smartphone based EMA showed to be a feasible method in terms of rates of compliance and dimensions of acceptability attitude and cost. However, future EMA researchers should be attentive to issues of burden, coherence and effectiveness of the methodology.