

Emotion Regulation Through Personal Music Listening: The MuPsych Application

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ABSTRACT

Background

Music is an essential part of everyday life for young people, with increased levels of music listening related to adolescent psychosocial development. Personal music listening is of particular relevance to this age group, as it is a flexible method of music engagement, which has expanded massively with the age of portable devices and internet downloads. Adolescence is also a time of emotional unrest, with declines in mental health and an increased need for self-regulation of emotions. An extensive body of research supports music listening as a commonly used self-regulation strategy, including the series of studies by Saarikallio [1] on adolescent music mood regulation.

However, empirical evidence supporting emotion regulation through music use has been limited. This has been largely due to shortcomings in the methods of observing music listening behaviours. In particular, laboratory-based methodologies remove the choice and autonomy of listeners, while retrospective questionnaires introduce recall biases. Neither of these maintain the ecological validity that is required in the measurement of personal music listening.

The Experience Sampling Method [ESM: 2] offers a solution, by presenting brief questionnaires throughout everyday functioning, relating to current subjective experience. Although this method increases ecological validity and reduces recall biases, previous studies employing ESM in everyday music use have had several limitations. These include the use of foreign devices and pen and paper questionnaires, along with delays in response times. Previous studies have also relied on random experience sampling, rather than event-related sampling [E.g. 3]. Event-related sampling has the potential to extend such studies, as it offers a more sensitive measure of everyday personal music listening.

Aims

The objective of the current project was to develop and trial a mobile Experience Sampling Methodology (m-ESM) which addressed the limitations of previous methodologies in the measurement of everyday music use. Specifically, this m-ESM design was developed to maintain a natural and familiar listening experience for the participant, and to collect real-time and dynamic data on personal music listening.

This methodology was designed with the purpose of collecting empirical and ecologically valid data on the frequency and efficacy of specific music regulation strategies. A further purpose of the m-ESM design was to determine if regulation through music use occurs in accordance with the Process Model of Emotion Regulation [4].

Method

To achieve these aims, the current design utilised mobile-device application technology, allowing for the combination of experience sampling with a personal music player. This innovative design allows for several major advantages over previous methodologies. Importantly, it removes the need for foreign devices or pen and paper questionnaires, while maintaining listener choice and autonomy. Furthermore, it allows for event-related sampling at the exact moment that the participant begins listening to music.

The application, named MuPsych, collects data through several means: electronic consent and demographics forms, music experience sampling questionnaires (ESQs), non-music ESQs, psychological surveys and automated data collection. Music ESQs, presented at the time of listening, collect data on change in affective state, social context variables, music variables, and emotion regulation strategies of the listener. The psychological surveys include measures of subjective well-being, musical experience, psychopathological indicators, emotion regulation strategies, and personality.

Participants were asked to download MuPsych to their own portable device, and use it as their personal music player for a two-week data collection period. During this time they were presented two music ESQs and two non-music ESQs per day, along with eight surveys. The trial of this m-ESM design included 30 participants (19 female). A series of analyses were performed on the data to determine the efficacy of the MuPsych m-ESM design.

Results

Subjective feedback revealed that participants generally found MuPsych to be non-intrusive to their everyday activities, enjoyable, and very easy to understand and use. Timestamp data also indicated that the application was non-intrusive, with a mean daily participation time of just over five minutes. In addition, automated data collection suggested that the presentation of psychological surveys through MuPsych was effective, with short response times, and high completion rates. Included measures of response variance and consistency revealed that participants were willing to provide accurate and personal information through the application. Taken together, these results suggest that MuPsych causes minimal intrusion into everyday activities, and maintains a natural and familiar listening experience for the participant.

Music ESQ timestamp data were analysed to determine the immediacy of responses from the time of music listening. This analysis revealed that listeners provided their affective state within 10 seconds of music commencement, and opened the remaining ESQ items within 5 seconds of being prompted. This offers strong evidence that MuPsych collects real-time listening data, and effectively eliminates the problem of retrospective recall biases.

Conclusions

These results provide support for the efficacy of the MuPsych m-ESM design, in maintaining a natural listening experience for the participant, and collecting real-time data on personal music listening. This innovative methodology allows for the collection of a wealth of listening data, which has been inaccessible through previous methodologies.

Further results from MuPsych will reveal how young people use music in their everyday lives to self-regulate emotions, and the conditions under which this is successful. This study will also determine how emotion regulation through music use relates to established models of emotion regulation.

Keywords

Emotion Regulation, Adolescence, Experience Sampling

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