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Connecting design, emotion, and behaviour in urban soundscape

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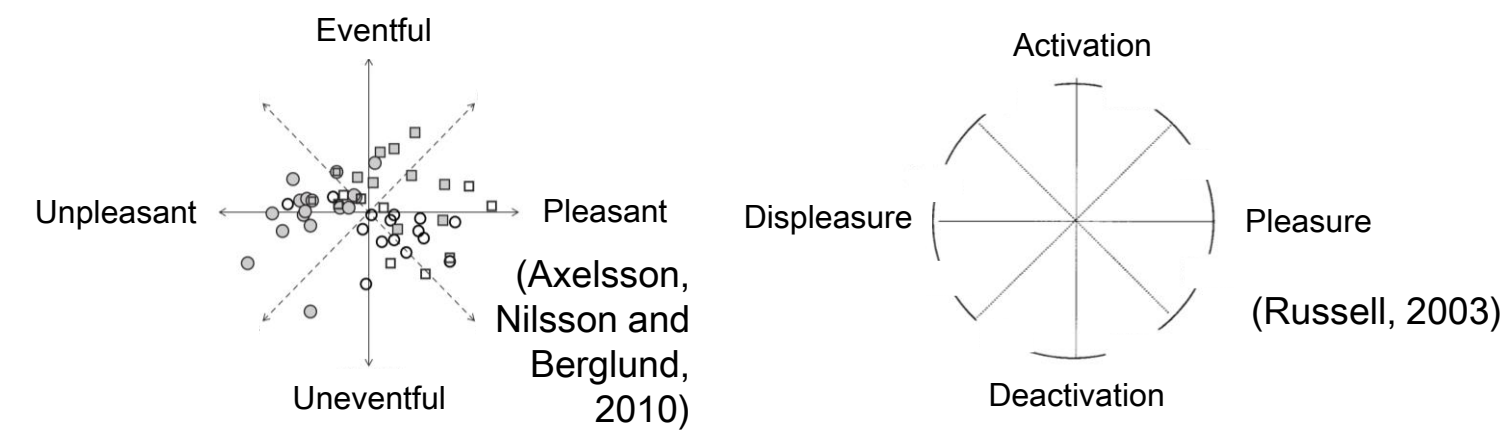
Goals | Aims

From an architectural, urban, and environmental acoustic perspective, focus on the gaps of:

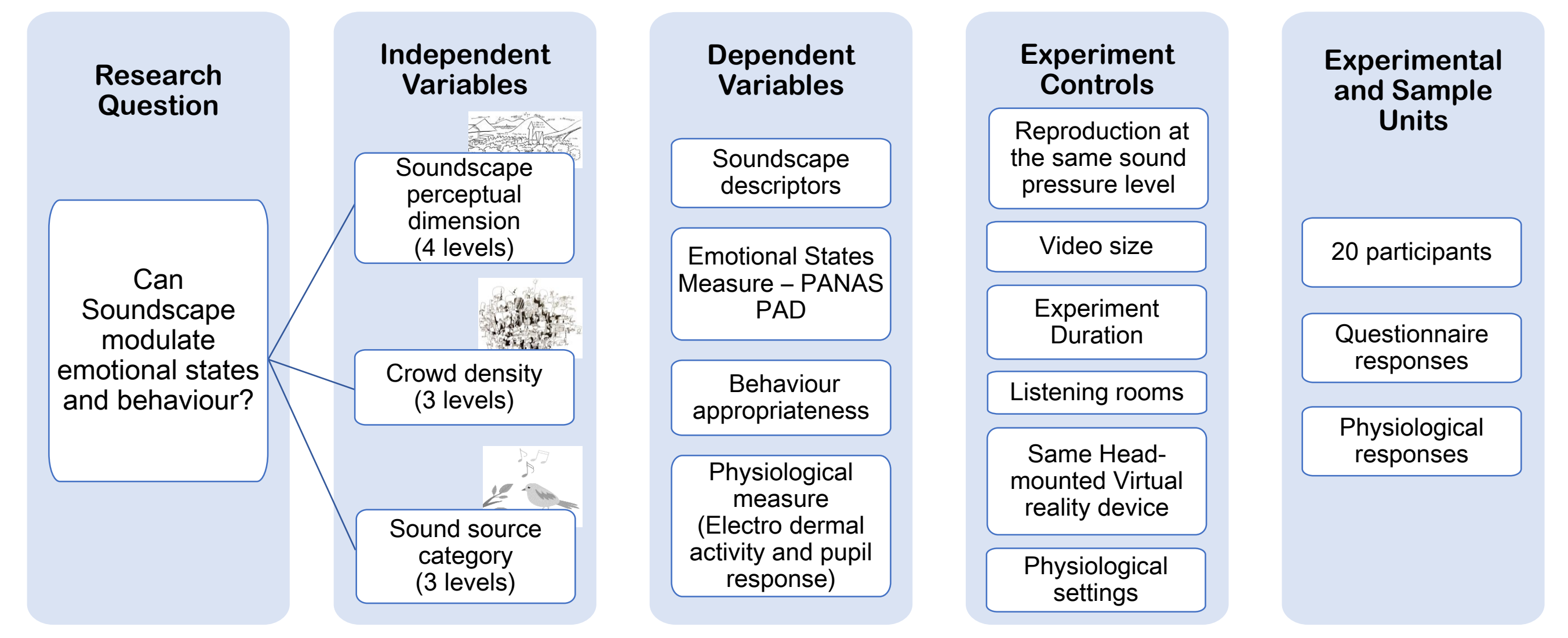
- how behaviour and emotional states can be modulated by urban sounds, and
- how these findings can approximate research to design practice.

State of the Art | Approaches

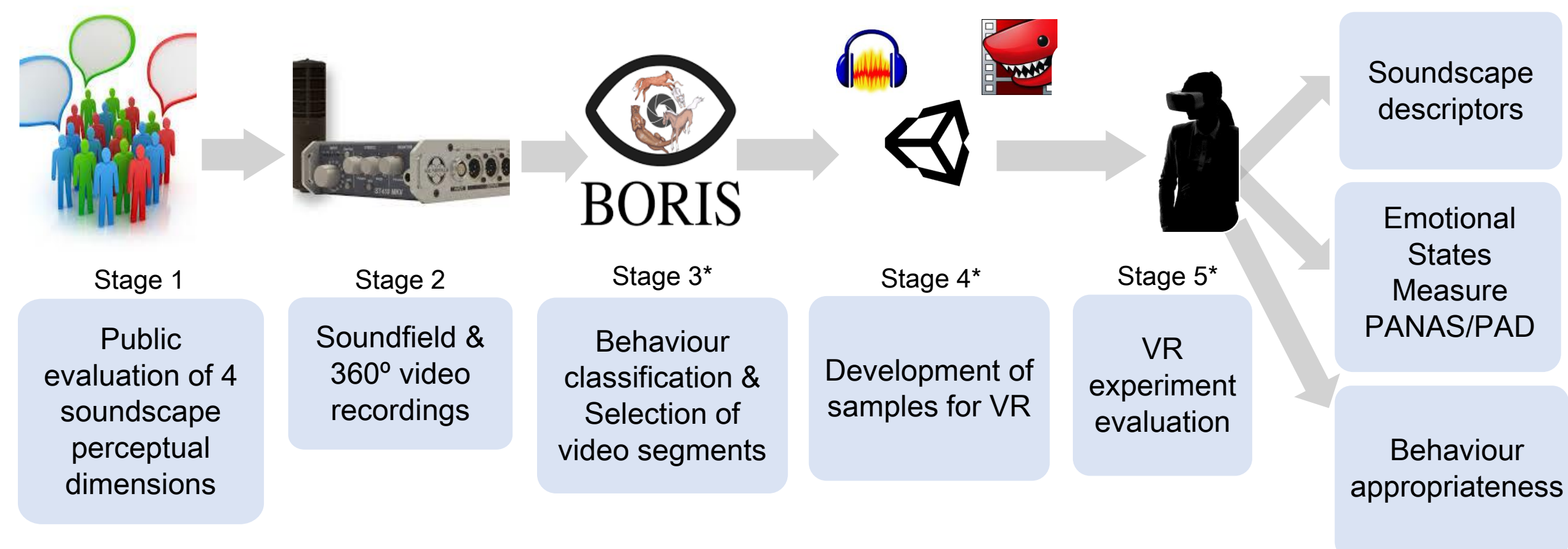
- Soundscape perceptual dimensions
- Core effects and Psychological Construction of Emotion
- “Audible safety” contributions to behaviour and emotion changes
- Soundscape Virtual Reality Evaluation--tool for modelling urban sound.



Experimental Design



Methods



Work flow methodology for laboratory VR experiment.
* Ongoing stage.

Initial Results

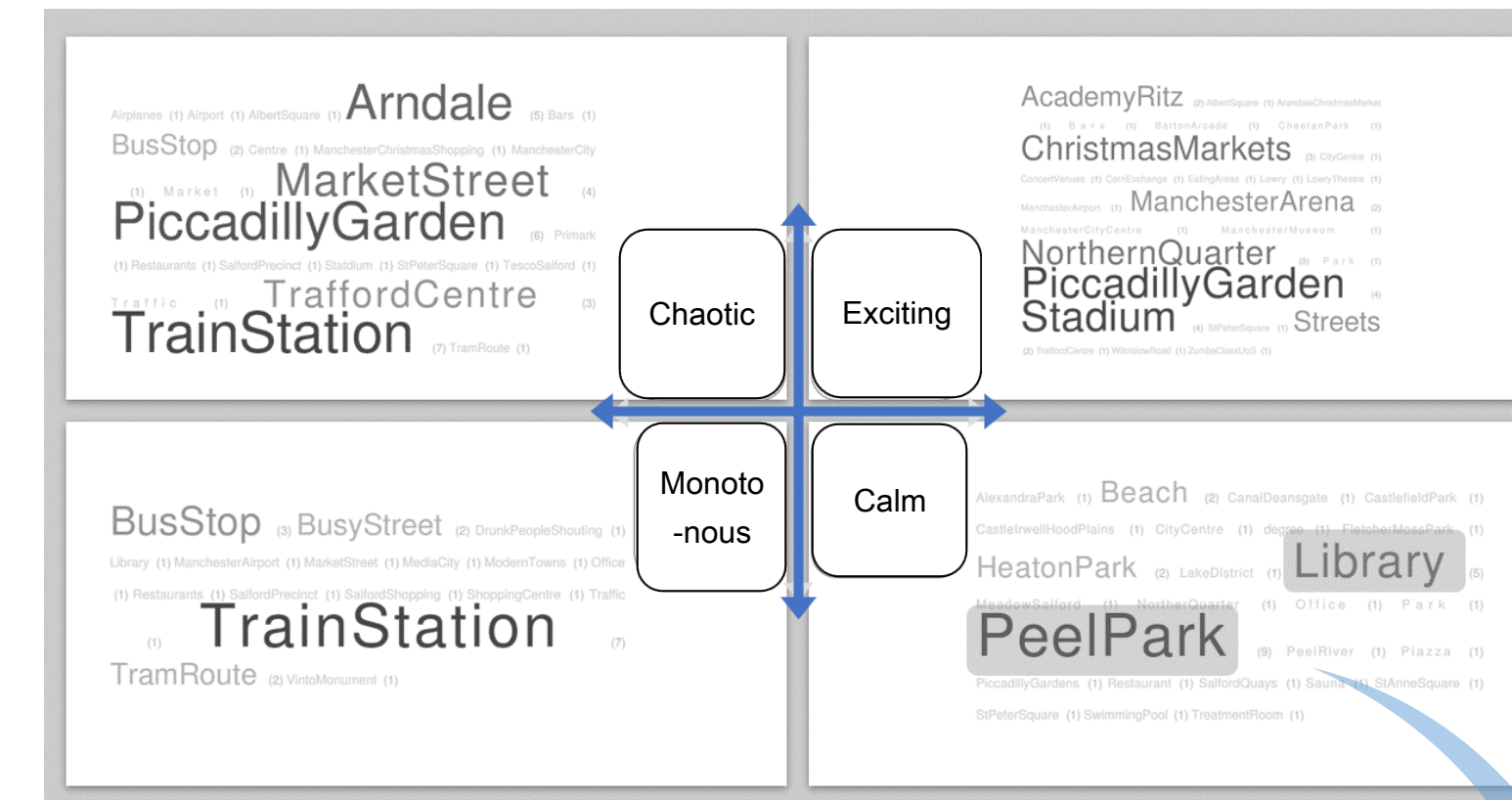


Figure 1 – Word clouds of public evaluation of soundscapes perceptual dimensions in Manchester (Stage 1).



Figure 2 - Field recordings (Stage 2).

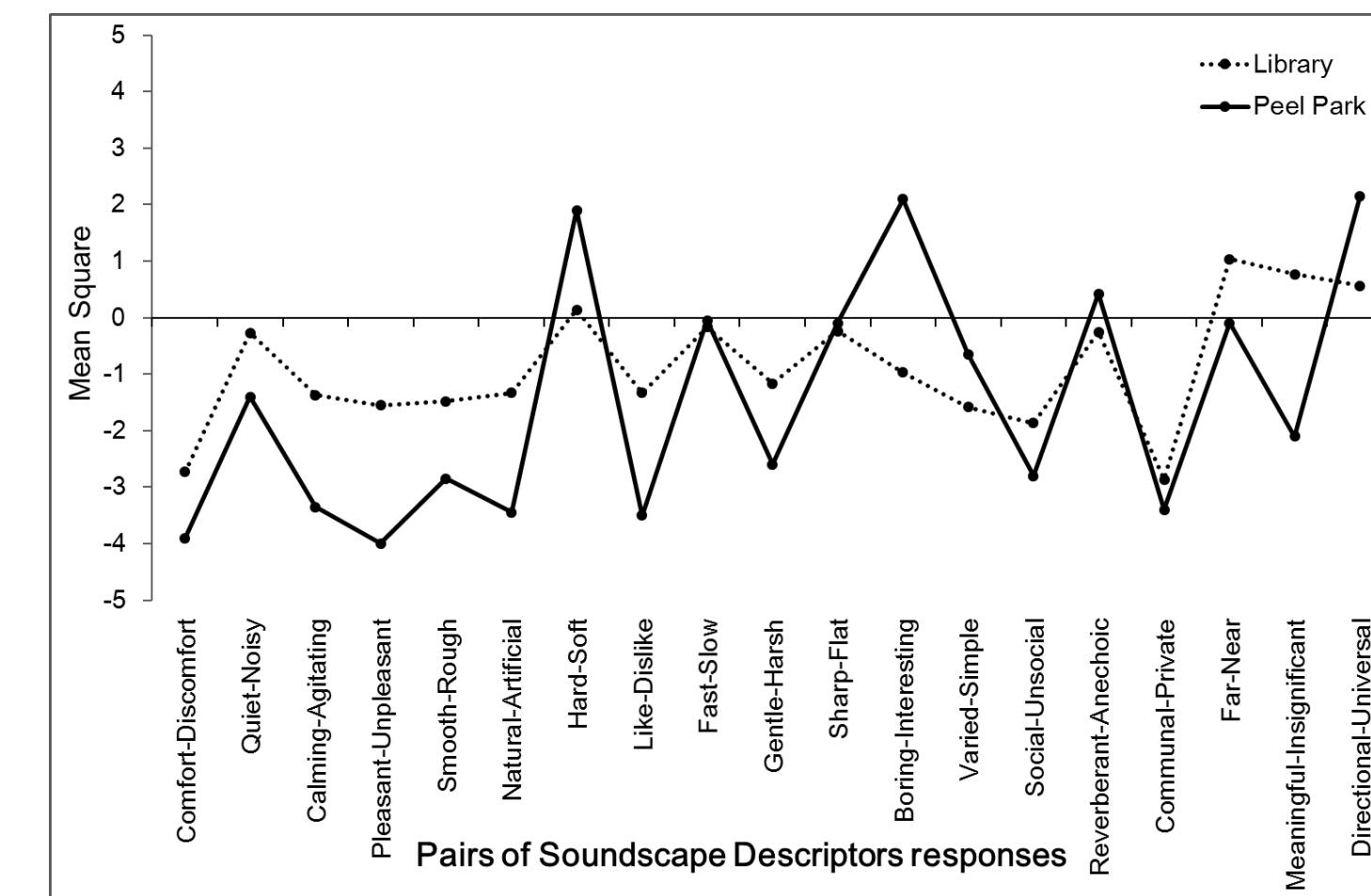


Figure 3 - Field results from questionnaires (Stage 2).

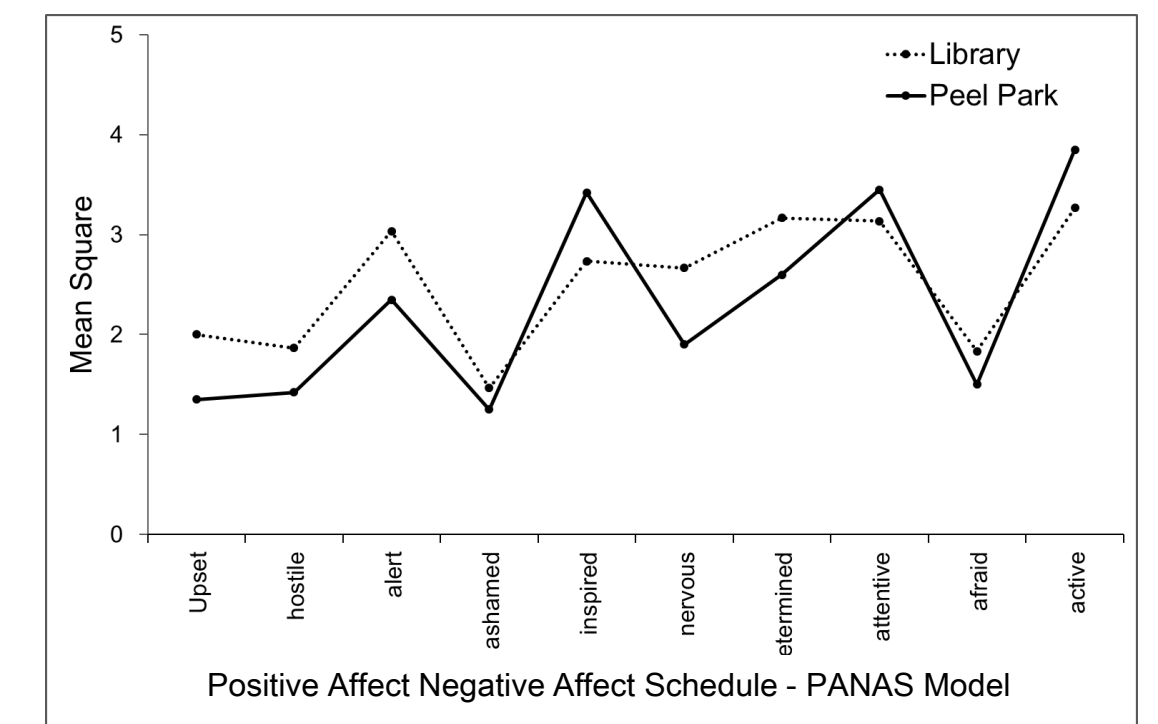


Figure 4 - Field results from questionnaires (Stage 2).

Initial Conclusions

- **Figure 1** repeats places in different soundscape perceptual dimensions:
 - Piccadilly Garden and Train Stations.

Correlations with crowd density may reveal why the site appears in more than one dimension and will be investigated in the future.
- **Figure 3** demonstrates only three descriptors pairs with opposite values among the different locations:
 - Boring-Interesting, Reverberant-Anechoic, and Meaningful-Insignificant.

The higher presence of natural sounds may indicate an increase in pleasant responses.
- **Figure 4** shows no contrasting results between sites. This may be due to the same classification in the "calm" soundscape.

Within the same trend, they indicated responses from positive (1) to neutral (3).

Future

- Revision of Experimental Design and running pilot tests.
- Identification of soundscape solutions suited to urban sound design

