# Using Smartphones in Multi-Modal Qualitative Research

## Supporting Document

Part of the resource: <https://www.ncrm.ac.uk/resources/online/all/?id=20856>

## Affordances and Limitations of Different Data Modalities

This table offers an overview of the main affordances and limitations associated with the most common data modalities or formats.

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| **Data Modality** | **Affordances** | **Limitations** |
| Text | - Enables swift, asynchronous logging;  - Allows for anonymity;  - Low participant burden (i.e. can record snippets only);  - Traditional qualitative coding (manual or software-assisted) | - Some participants may feel discomfort with typing (e.g. older adults, people with dexterity issues, people with low literacy);  - Prone to misinterpretation due to typographical errors and the brevity of responses |
| Visual (images) | - Captures rich and evocative contextual detail;  - Allows for participant creativity, self-expression and empowerment;  - Helps express emotions that are difficult to verbalise | - Anonymity and privacy risks;  - May be difficult to interpret without accompanying descriptors or in-person participant elaboration (i.e. photo elicitation);  - Uncertainty and inexperience about how and whether to code visual data |
| Audio | - Captures rich and evocative contextual detail (incl. tone of voice, mood, surroundings);  - More naturalistic than typing;  - Can be used to collect diary-style data;  - Can be transcribed and analysed directly | - Anonymity and privacy risks;  - Risk of oversharing;  - Background noise can impede clarity;  - Higher storage and transcription requirements |
| Video | - Captures the richest contextual detail (incl. emotional expression, environment, movement);  - Can be used to collect diary-style data | - Anonymity and privacy risks;  - Higher storage and transcription requirements;  - More complex to analyse |
| Geospatial | - Records movement, location and spatial patterns;  - Useful for mapping social and environmental interactions and mobilities | - Anonymity and privacy risks;  - Requires technical knowledge for set-up and analysis |

## Smartphone-Assisted Multi-Modal Designs

This table presents several hypothetical smartphone-assisted multi-modal designs — exemplifying various combinations of modalities and formats.

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| **Research Question** | **How Smartphones Facilitate Data Collection** | **Modalities** | **Analysis Options** |
| How do frontline healthcare workers find meaning and fulfilment in their work during COVID-19? | Use text notes or video diaries for real-time reflections during or after shifts;  Offer immediacy and intimacy;  Diary-style entries can foster reflection and solidarity (Davidson et al., 2024) | TEXT + VIDEO | Thematic or content analysis of text entries to reveal significant themes, contexts and relationships;  AI-powered sentiment analysis of text entries (e.g. to surface frustrations, humour, gratitude, joy);  Transcribed video entries analysed thematically, or alternatively, videos are live coded (Parameswaran et al., 2019) |
| How is a strong sense of community among recent migrants and asylum-seekers in urban settings constructed? | Collect WhatsApp messages and group chat interactions to analyse how support networks form;  Ask participants to take snapshots of social gatherings and places and spaces fostering belonging | TEXT + IMAGES | Conversation/ discourse analysis of group chats;  Visual and/or thematic analysis of images;  Photo elicitation interviews - transcribed and analysed qualitatively |
| How do formerly homeless adults engage in community roles and activities once moving into permanent housing? | Understand patterns of community engagement and integration, including places, encounters and services that promote citizenship and inclusion;  Ask participants to make daily recordings of meaningful relationships, activities and other experiences using text and voice notes and images (mobile ethnography);  Track participants’ movements to understand neighbourhood integration and access to community spaces | TEXT + IMAGES + AUDIO + GEOSPATIAL | Social network mapping;  GIS software-assisted mapping of movements and spatial relationships;  Qualitative coding of interviews, text responses and participatory mapping;  Integrating quantitative measures (e.g. distance walked, places visited);  Photo elicitation (Karadzhov, 2023);  Multi-modal coding (Craig et al., 2021) |
| How do social entrepreneurs in low-resource settings maintain their resilience and well-being over time? | Capture reflections and activities through text and video content;  Use smartphone journals (text or voice notes) where participants log daily habits, productivity rituals, coping strategies and moments of low/high mood;  Analyse LinkedIn posts, TikTok videos, and business-related chats | TEXT + VIDEO | Thematic analysis of textual data;  Content and sentiment analysis of videos;  Multi-modal coding (Craig et al., 2021) |
| What role does music play in enhancing everyday well-being in discharged mental health patients? | Uncover key ways participants use music to facilitate recovery and enrich their lives;  Ask participants to record short reflections or playlists on their smartphones, explaining how music affects their mood | TEXT + AUDIO | Transcribe audio entries and analyse thematically;  Audio elicitation interviews (Kahlke et al., 2025) |

## Further Reading

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