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# In Pursuit of Measuring Pre-reflective Music Listening Experiences

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## ABSTRACT

While the diverse effects and uses of music and sound have been extensively documented within music psychology, relatively little attention has been paid to the process and experience of listening itself. Previous literature have, however, considered different ways of attending to sounds via the concept of listening modes, which highlights the different ways and strategies through which listeners intentionally orientate themselves to the activity of listening and creating the experiential meaning of the sound. In this paper, we continue on these lines by focusing on the very basic attentional dispositions for listening that often remain unconscious. As opposed to more deliberate and intentional listening strategies, this pre-reflective domain of listening is characterised by its receptive quality, that is, being attuned to sound in a pre-conceptual and pre-cognitive manner without cognitive appraisal of its meaning. Based on previous theoretisations and following ideas from embodied and enactive cognition, we re-conceptualise pre-reflective listening through five modes of listening. Moreover, in order to bring these theoretical considerations into dialogue with empirical research we also operationalise the suggested listening modes into prototyped survey items and discuss methodological issues with the aim of building a groundwork for developing psychometric measures of pre-reflective music listening experiences.

## CCS CONCEPTS

• **Applied computing** → **Sound and music computing**; • **Human-centered computing** → **HCI theory, concepts and models**.

## KEYWORDS

music, listening, pre-reflective experience, modes of listening, embodied cognition, imagination

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## 1 INTRODUCTION

The ways of engaging with and making sense of sound and music are diverse, and do not necessarily involve directed attention or cognitive appraisal of the meanings of what we hear. For instance, sound effect design for a film does not usually intend to capture the viewer's attention nor do they try to create an "effect" that stands out in the narration. Rather, the functions of sound effects are often subliminal, and their design is mostly about the implicit feeling of the sound that is immanently situated in the viewer's embodied experience, and about providing support in creating and sustaining an imagined, lived world of embodied constitution [13]. In this paper, we consider these embodied feelings and imagining being closely related to the primordial human sense-making that is fundamentally action-oriented and relies on constituting knowledge through the living and moving body [24, 31]. Mental images and imagining are not considered merely as cognitive representations, but rather, we have adopted the Kantian (e.g., [23]) and enactive (e.g., [34]) approaches that embrace the intermediary and creative role of imagination between the embodied and the abstract elements of human cognition. Besides relating to a general faculty of sensemaking, the embodied "fabric" of felt, dynamic experiences arguably is at the core of engaging meaningfully with music as well [10, 15, 19, 20, 32]. Such experiences can include, for instance, bodily feelings of tightening or loosening in music, images of movement, and/or feelings of bodily agency in relation to movement.

Despite the potential importance of the subject, experiences of "what it is like to listen to music" have not exactly been in the forefront of music psychology research, apart from a few exceptions (e.g., [4, 22, 29]). One central challenge in conducting such research is that when people are asked to reflect and verbalise their sonic experiences, they might not always have attentive disposition for becoming aware, nor the verbal repertoire for describing the transient feelings within the process of listening (see, e.g., [3, 27]). Most importantly, reflections of these feelings inevitably become removed from the particular first-order experience that was concretely lived through. In phenomenological terms, we establish a notion of pre-reflective experience that refers to the instant first-order "awareness we have before we do any second-order reflecting on our experience" [6]. Focusing on the first-order awareness, the goal of this paper is to first investigate what kind of dimensions (i.e., modes) of pre-reflective listening can be outlined on the basis of literature concerning the modes of listening. Moreover, the feasibility of studying the resulting hypothetical dimensions through a survey approach is considered. Finally, the dimensions are operationalised in the form of a prototyped pool of survey items for a psychometric scale measure.

## 2 ON THE NATURE OF PRE-REFLECTIVE EXPERIENCE

We next discuss the phenomenal characteristics of the pre-reflective experience of music listening. First of all, pre-reflective listening experiences are embodied [13, 26, 27, 35]. The first-order awareness thus relies on the feelings and the pre-reflective knowledge of a body as a living organism inhabiting a physical and social environment (e.g., [34]). This sort of embodied sensemaking is essentially about the basic experiences of being-in-the-world [11], and about living through experiences of interacting with worldly phenomena. Instead of relying on abstractions of the world, sensemaking is about bringing forth the world as a phenomenologically meaningful space for the organism. In the enactive approach to human cognition [37], even higher-order cognition is considered as being rooted in bodily sensemaking.

The ontology of embodied sensemaking is action-oriented, including also the constitution of musical knowledge [20]. Action-relevant ontology means that embodied meanings and valuations are essentially dynamic (e.g., basic experiences of vitality [32]), and the meanings are structured through recurring interactions with the physical and social environment [14, 37]. Because such action-related meanings are fleeting and transient in nature, they typically remain hard to grasp in terms of conceptual thinking. However, we may assume that embodied, pre-reflective meanings are communicated through lively episodic accounts of happenings, in which these meaningful feelings are implicitly manifested.

Pre-reflective listening experience arguably is closely related to imagination [12, 13, 15, 22, 27, 35]. Tuuri and Eerola [35] have conceptualised imagination in listening as emerging embodied resonances of action-relevant values involving the patterns of sensation and the sensorimotor profiles in the possession of an organism. Conforming to the enactive viewpoint, the role of imagining in listening can be seen as “enacting or entertaining a possible perceptual experience” [34, p. 269]. Imagination also entangles with two notable processes of expressive meaning formation (see [20]): synesthetic processes (involving multisensory integration) and kinaesthetic processes (involving sensing musical dynamics with the body). The listener is thus able to generate imaginative impressions of visual and tactile space from the auditory sensation. Kinaesthetic engagement with music can be understood in the form of enacting listening experience in bodily movement, for example, through motor-mimetic imagining [9, 10] and thinking in movement [30]. Both of these types of engagement involve kinaesthetic memory and body schemata of the listener [5, 13]. It is also easy to associate kinaesthetic engagement with sensory-motor neural mechanisms relating to the “mirroring” of actions [18].

Embodied sensemaking in listening allows us to imagine and concretely feel actions taking place in lived worlds [13], regardless of whether we are talking about real environments or “perceptual realities” [2] constituted together with music. In terms of enactive experiencing [19], music listening also can be similarly seen as a world-making activity that allows meaningfully inhabiting and exploring a fictitious space. The essence of such a sensemaking activity is not exclusively “music” but, rather, an embodied apprehension and imaginative (multimodal) realisation of the sounding moment.

## 3 METHODOLOGICAL CONSIDERATIONS

A great deal of music psychology research relies on using validated measuring instruments (see, [39]). Therefore development of psychometrically sound measures for pre-reflective listening experiences establishes an important prospect for future research on music related experiences, by opening up new directions of investigation. However, the methodological qualities of the survey in itself set various challenges for accomplishing this agenda. Firstly, surveys usually require a generalised reflection of one’s past experiences and therefore effectively are detached from particular pre-reflective experiences. Survey measures traditionally focus on participants’ “typical experiences” with music, by asking to evaluate the appropriateness of certain concepts (such as emotion categories, see [16]) or statements (about, e.g., reasons for listening to music, see [21]) in terms of their general experience. These kinds of questions function well in gaining rational/reflective information about the participants’ experiences, but might be counter-effective in tapping into pre-reflective sensemaking. Secondly, unlike interviews, surveys of course do not permit close interaction with the informant. Hence, the researcher cannot ask follow-up questions or provide any situational support often needed for gaining access to pre-reflective experiences and evaluating the validity of the informant’s answers. Especially, in so-called second-person interview techniques, the role of researcher is seen as that of a mediator, a guide, and an intersubjective validator in investigating an informant’s experiences together [25, 38].

The above mentioned challenges will be answered with the following two solutions: (1) by focusing on describing particular and episodic experiences in survey items that would incorporate pre-reflective listening experiences, and (2) by framing the items as second-person descriptions in the survey. The first solution means that all items must describe concrete happenings and feelings in an episodic and detailed manner, instead of making condensed generalisations. Of course, to be useful in the survey, items must be generalised in a sense that the described experience retains as much potential familiarity to the respondent as possible. Therefore there needs to be a proper balance between particularity and generality. A typical psychometric instrument focuses on generality but avoids particularity in order to keep the wordings of the inventory items short and easy to comprehend. Since our approach and research objectives require both generality and particularity, the wordings of survey items developed for measuring pre-reflective listening experiences are necessarily longer and richer than those of the run-of-the-mill psychometric instruments. Secondly, in order to support intimacy and credible closeness in descriptions, we aimed to utilise conversational language (that might call forth appropriate forms of expression) instead of succinct or formal text. And finally, we utilised occasional transitions to the present tense in the descriptions of (past) experiences, because these transitions function as an indication of an evocativeness of expression, where the person literally re-lives the experiences in the process of making an expression [25].

The idea behind the second solution is to cultivate interpersonal empathy towards the experience, by asking the respondent to “imagine that a person is describing one specific music listening experience to you”. Therefore, the basic disposition to read each

survey item is to be associated with this interactive framing. In regard to answering the items, the following instructions are given to the respondent: “To what extent do you agree or disagree that each description resembles one or more of your own music listening experiences? Answer each question by selecting the option that best applies to you.” By framing survey items as second-person descriptions – expressed “from me to you” – we aim to amplify the feeling of closeness, while also making it explicitly clear for the respondent how the experience is generalised in the survey (i.e., comparing your own experiences to the other person’s particular experience). In this way, a potential confusion about the particular nature of the described experiences might be avoided. Furthermore, although the type of experience portrayed in a survey item might feel very unlikely or even incomprehensible to a survey participant, it might be possible that she would know persons who could describe their experiences akin to the survey items, or at least she could imagine that such a conversation with another individual would take place. We believe that it makes it easier for the respondents to assess the experiences in comparison with their own experiences through emphatic resonances (somewhat similarly to the second-person approach, see [38]).

#### 4 MODES OF PRE-REFLECTIVE LISTENING

In this section, we outline and characterise five hypothetical experiential dimensions of pre-reflective listening: *felt sound (diffuse)*, *felt sound (kinaesthetic)*, *heard sound*, *sounding source*, and *semantic fields*. Our particular focus is on the existing theoretical conceptualisations of listening modes. We concentrate especially on Petitmengin et al.’s [27] account of “listening from within”, which differentiates modes of listening from the perspective of pre-reflective consciousness. In this account, modes of listening primarily refer to different attentional dispositions of listening. This is a slight deviation from the more usual way of characterising listening modes as different stances of intentional directness in listening (e.g., [35]), as the concept of intentionality has more emphasis on reflective consciousness. In our analysis, Petitmengin et al.’s account of three modes works as a template, which is discussed below and expanded by the experiential modes of listening identified in Tuuri and Eerola’s [35] article, and Huovinen and Kaila’s [12] outline of semantic fields of consistently shared, freely evoked extramusical associations.

In accordance with Petitmengin et al.’s [27] account, the listening modes manifest a continuum, starting from an unfocused embodied sensitivity of felt sound (with little or no differentiation between interior and exterior), to gradually more directed modes of ultimately world-oriented sensemaking (with differentiation between interior and exterior spaces). At the unfocused pole, modes are essentially receptive, as “the [intentional] effort to seize and characterise an object is more relaxed to make way for an attitude of receptivity” [27, p. 280]. Towards the more directive modes, the receptive character diminishes as the intentionality of listening gradually increases. Acknowledging that modes belonging to the intentional pole potentially overlap with reflective awareness, the focus in characterising all the experiential dimensions is kept on pre-reflective consciousness of listening. For each listening mode, example survey items that intend to manifest the characteristics

of the given mode are presented. Whenever appropriate, actual descriptions of experiences presented in [27, 36] and in [12] were used as an inspiration for the item generation. The full list of the prototyped survey items is shown in Table 1.

##### 4.1 Two Modes of Felt Sound: Diffuse and Kinaesthetic

Petitmengin et al.’s [27] experiential dimension of *felt sound* is best characterised by an unfocused and receptive attention disposition for a listening experience, in which the inner and outer experiential spaces become synchronised or even completely dissolved together. This sort of unfocused, receptive and holistic orientation is embodied in the inventory items representing the *Felt sound (diffuse)* mode. Below are two examples:

- There was this feeling of a space in the music, in which I dwelled.
- There was this uplifting directness in the music that makes me see positive opportunities ahead.

The perceived outcome of this mode of listening potentially incorporates a plurality of embodied resonances to sound (see also “embodied resonator” in [35]), which do not necessarily appear as clear objects of experience, but rather refer to an embodied sensitivity to lived feelings, felt textures and dynamic changes in feelings induced in the course of listening to sounds or music [27]. The mode of felt sound is transmodal, which means that feelings may transform into different modalities in the experience [26, 27]. In this sense, qualities of felt sound seem to correspond with Stern’s [32] conceptualisation of forms of vitality, which refer to felt qualities of dynamic changes in experience that are amodal and therefore can be manifested in different sensory modalities. These additional item examples try to epitomise such dynamics:

- I got these feelings of tightening and loosening with the music, which are hard to specify.
- These rhythms and changing intensities in the music – I could describe them as pulsations I feel in me.
- I could describe these textures of music I felt in terms of different senses (e.g. touch or vision), not just in terms of what I heard.

For the purposes of our analysis, we decided to define a sub-dimension of felt sound dedicated to bodily sensations and kinaesthetic feelings of movement within the topography of the body. As a mode of listening, *Felt sound (kinaesthetic)* highly corresponds with kinaesthetic listening outlined in Tuuri and Eerola’s [35] account, while it in general incorporates the ideas of “thinking in movement” [31] in the characteristics of the felt sound dimension. Like the felt sound in general, the kinaesthetic dimension is also characterised by receptive attention disposition but it is centred on the body and its movement (e.g., motor imagining). The experiential space of this dimension is constituted as a kinaesthetically conceived realm. The following examples aim to capture the traits of this dimension:

- I felt the sound in me, entering my body like the air we breathe.
- Sounds of the music got me imagining body movements, which I can feel in my body.

- It felt as if the music were wrapping itself around me, it was as though it were massaging me.

## 4.2 The Mode of Heard Sound

The second mode in Petitmengin et al. 's [27] account is called “object sound”, meaning that this type of listening is oriented towards the heard sound itself. The attentional disposition of this *Heard sound* mode of listening is centred on the region of the ears and on sound as an experiential object, by deliberately ignoring the source of sound. Comparable to the idea of reduced listening mode [1, 28], putting the sound source (and the related everyday sense-making habits) into “brackets” enables the “discernment of nuances which are not perceived when the attention is absorbed by the source of the sound” [27, p. 267]. The sample items, below, illustrate what kind of descriptions of listening experiences should be associated with this mode:

- It was at once rough and shrill... the sound kind of pierced my ear ...like small needles.
- I paid attention to the character of the sound. It felt so fragile it could break with the slightest breath of air.
- I paid attention to the way sounds started and ended, there was this particularly soft slope at the beginning and end of a tone.

The perceived result of the heard sound mode relates to auditory qualities of the sound. As the above examples show, experiences are not so much associated with acoustic or musical terminology of sounds, but are more or less metaphorical. The following example further illustrates how auditory qualities are sometimes associated with quasi-visual or quasi-tactile traits [27, 36] in the lived experience of listening:

- I saw something visual as I heard the sound. I could not really say that I see it, but these sounds feel ...like colourful plastic pipes that have no sharp edges.

## 4.3 The Mode of Sounding Source

The third mode of listening in Petitmengin et al. 's [27] account is directed to the causal relationship of the sound and its source (see also [1, 7]). In this mode, the experiential space extends towards the source, as the heard sound and the body become transparent in the experience. Compared to the previous modes, the attentive focus towards sound sources, that is, potential sounding actions and objects of the world, appears as an effortless and natural way of listening, which is also more clearly accessible to the reflective consciousness of everyday life. From the approach of organism-environment interaction, this type of listening may be referred to as ecological, in the sense of Gibson's [8] ecological psychology, as it is the attitude of making sense of the world through interacting with its (natural and fabricated) everyday sounds [7, 35].

However, our analysis here is centred on pre-reflective awareness in music listening, rather than on reflective reasoning of a cause of the sound. Therefore we ought to put more weight on the immediate, pre-reflective characteristics of this causal perception. And also to contextualise source-oriented listening in ways it might appear in listening to music. The pre-reflective domain of source-oriented listening has been theoretized in terms of immediate reception of (connotative) associations and imagery based

on action-sound couplings [35]. From this stance, we may establish that the fourth mode of pre-reflective listening, concerning *Sounding source*, is characterised by attentional disposition focused on action-sound relationship involving imagining of a potential sound source, possibly in association with the environmental context. First, we put together items that manifest the basic attentional disposition towards sounding objects:

- I cannot help but imagine what it is I just heard in the music, that is, what could have caused the sound.
- I did not pay attention to the musical instruments that were used in making the sounds. [Reverse Item]

Then we created items that are oriented towards the imaginative content perceived by utilising this mode of listening. In order to account for the variability of potential experiential content, we included three types of items that correspond with action-sound connotations involving (1) objects, (2) interpersonal, and (3) cultural habits entangled with sound-producing activity [35]. The following items illustrate each of these types:

- I had a clear image in my mind of what kind of actions and musical instruments (or sounding objects) were involved in playing that music. [action-sound-objects]
- I had a vivid image of the artist playing in an echoey hall, with me a long way from her. [action-sound-intersubjectivity]
- I had a clear image of a situation where the music is playing, what kind of people are present and what they are doing with music. [action-sound-habits]

## 4.4 The Mode of Semantic Fields

Petitmengin et al. 's [27] article does not take into account attentional dispositions of listening that are directed towards cultural or semantic references of sound and music. Therefore we needed to look elsewhere to find a theoretical basis for this type of experiential dimension. A semantic mode of listening has been distinguished in the previous literature [1], but this conceptualisation lacks the framework of pre-reflective consciousness. The type of semantic meanings we are looking for here should relate to mental images instantly evoked by music that do not necessarily refer to sounding actions or the music itself but to the audiovisual meshes and discourses which have repeatedly constituted experiential pairings of music and visual imagery. The underlying mechanism arguably involves conditioned associations of music and (extramusical) incidents, which contribute to the culturally constant emergence of para-musical connotations [33] as well as emotional responses to music [17]. In the end, we may talk about *musical topoi* (i.e., “common places” or topics of music's meaning), referring to certain types of musical materials that, within a culture, produce at least somewhat consistently shared extramusical associations [12].

Huovinen and Kaila [12] have empirically outlined a set of *Semantic fields* (of musical topoi), and this conceptualisation has worked as a basis for establishing the fifth mode of pre-reflective listening. This mode is characterised by an attentional disposition focused on para-/extramusical associations and mental imagery (visual images or episodes with the music) that are pre-attentively evoked in the music listening experience. In this dimension, the experiential space extends towards a musical topic and the related

**Table 1: The exemplary pool of survey items characterising pre-reflective listening experiences hypothetically associated with the five modes of listening.**

Imagine that a person is describing one specific music listening experience to you. To what extent do you agree or disagree that each description resembles one or more of your own music listening experiences? Answer each question by selecting the option that best applies to you.	LISTENING MODE:
I got this feeling of direction with the music, that seems to lead somewhere (in a particular way). There was this uplifting directness in the music that makes me see positive opportunities ahead. There was this feeling of a space in the music, in which I dwelled. These textures of feeling which come from the music swept over me. These rhythms and changing intensities in the music - I could describe them as pulsations I feel in me. I got these feelings of tightening and loosening with the music, which are hard to specify. There is this felt space that came with the music. It appears as a feeling background (of, e.g., airiness and vastness) to my perception of everyday surroundings. I could describe these textures of music I felt in terms of different senses (e.g. touch or vision), not just in terms of what I heard.	<b>Felt sound (diffuse)</b>
It felt as if the music were wrapping itself around me, it was as though it were massaging me. The music aroused feelings located in different parts of my body; e.g., in my chest, stomach or throat. I got feelings of something, like a "mass", emerging and moving in my body. I felt the sound in me, entering my body like the air we breathe. In the sounds I heard body movements or gestures that I felt I could perform with the music. Sounds of the music got me imagining body movements, which I can feel in my body. I got a feeling that my body resonates with the sounds of the music.	<b>Felt sound (kinaesthetic)</b>
I found myself characterizing the sound I heard; there are high notes, there are low notes, there are many tones in this sound. I paid attention to the character of the sound. It felt so fragile it could break with the slightest breath of air. I saw something visual as I heard the sound. I could not really say that I see it, but these sounds feel ...like colourful plastic pipes that have no sharp edges. It was at once rough and shrill... the sound kind of pierced my ear ...like small needles. I concentrated on the sound sensation, how sound comes to my ears. I heard nuances, different layers of sound. Like, irregular cracks which are more or less loud, and more continuous thumps in the background. I paid attention to the way sounds started and ended, there was this particularly soft slope at the beginning and end of a tone. I paid attention to textures and the tactility of these sounds: how smooth or rough they feel in themselves without thinking about their meaning.	<b>Heard sound</b>
I cannot help but imagine what it is I just heard in the music, that is, what could have caused the sound. I did not pay attention to the musical instruments that were used in making the sounds. [Reversed] I had a clear image in my mind of what kind of actions and musical instruments (or sounding objects) were involved in playing that music. I clearly imagined the player's hands and her fingers moving. I had a vivid image of the artist playing in an echoey hall, with me a long way from her. I instantly had a detailed image of a place and a setting where the music was being played. I had a clear image of a situation where the music is playing, what kind of people are present and what they are doing with music. This music felt appropriate to my routines of listening to music with headphones while sitting on a train.	<b>Sounding source</b>
I heard an intimate social situation in the music, like someone saying goodbye to a family member. The music evoked this imagery of natural environments and seasons, like I was walking outside in the spring. I instantly got this specific type of sentimental and dreamy feeling, with a vivid image of someone longing for something. I clearly saw this ceremonious imagery of some heroic achievement in the music, like a "king's victory parade". The music instantly evoked in me imagery of festivities or ceremonial celebration. In the music, there is this feeling of being ready and waiting, a distinctive imagery of "something big is going to happen". While listening to music I imagined situations where people are doing physical activities, like movie-like "training montages" or "people dancing". Music evoked these urban and busy feelings, and I got a clear image in my mind of busy city streets and nightlife.	<b>Semantic fields</b>

(semantic/paramusical) field of connotation [12, 33]. To achieve heterogeneity of different experiential contents, we generated survey items that represent each of the eight semantic fields presented in Huovinen and Kaila's study, by using the descriptions presented in [12, Appendix B] as a source of inspiration. The item examples below illustrate the general topical categories, INTIMACY, POTENCY and SPEED, in which the semantic fields are organised [12, p. 234]. All items are listed in Table 1.

- I heard an intimate social situation in the music, like someone saying goodbye to a family member.
- I clearly saw this ceremonious imagery of some heroic achievement in the music, like a "king's victory parade".
- Music evoked these urban and busy feelings, and I got a clear image in my mind of busy city streets and nightlife.

## 5 DISCUSSION

The overarching idea of this paper is to outline listening, not as a homogeneous or an automatic process, but rather, as a plurality of activities we do, and different orientational dispositions we utilise when we listen. Indeed, we can deliberately direct our attention to different aspects of aural phenomena in order to, for example, identify the sound source or to contemplate the sound in an aesthetic manner, which affects how we experience the meaning of the

sound. However, instead of intentional listening strategies, in this paper, our focus has been on the immediate pre-reflective first-order experience of listening. By treating pre-reflective listening essentially as embodied and action-oriented sensemaking, our analysis was a conceptual synthesis of the previous literature that resulted in five hypothetical dimensions of attunement to sounds (i.e., pre-reflective modes of listening). The suggested five listening modes, felt sound (both diffuse and kinaesthetic), heard sound, sounding source and semantic fields, each outline a different disposition of being attuned to sound without (perhaps yet) grasping it as an intentional object of our consciousness. With an aim to bridge the gap between theoretical considerations and empirical research, we have operationalised these modes into a set of prototyped survey items and discussed the methodological challenges related to investigating them as aspects of immediate experience that often reside below conscious awareness.

The outlined five modes of listening provide promising groundwork for investigating the dimensionality of pre-reflective listening empirically. We have taken the first step in preparing such a study by developing here an exemplary survey item pool that can be later used to empirically assess the theory-based five modes of listening by conducting an exploratory factor analysis for the *Pre-reflective Music Listening* (PRE-ML) inventory. These phases would inform

about the functionality of the items and be followed by an item-screening process, further inventory development, and additional data collection for a confirmatory factor analysis and PRE-ML inventory validation. Empirical investigation of the inventory would make it possible to analyse how the PRE-ML dimensions are related to the underlying theoretical structure of the five modes of pre-reflective listening. It would also enable analyses on how empirically revealed dimensions of pre-reflective listening are associated, for instance, with music listening practices, music preferences, and musical well-being. Cluster analyses on the PRE-ML factors could furthermore make it possible to identify and discuss different types of music listeners.

The pre-reflective nature of experience poses obvious challenges for assessing the experience in an empirical manner, especially in the form of surveys. We have proposed that an inventory aimed for fleshing out survey participants' pre-reflective music listening experiences should make use of the second-person methodological approach [25, 38] in its question setup and item wordings. This is because the second-person approach makes it possible to describe particular events in a detailed manner by framing the questions from an interpersonal and conversational perspective. Particularity in item descriptions is required for making it possible to describe pre-reflective qualities in an experience whereas the conversational framing does not necessitate in itself that the survey participant would identify her experiences with the particular experience description. What the conversational framing requires is only that the survey participant imagines a situation in which the particular experience is shared, and empathises with the type of situation in which one describes their experiences in a detailed manner. In other words, the conversational question framing in the second-person approach to inventory development adds the element of condensed generalisation to it, and therefore enables, in principle, psychometric scale validation. To our knowledge, the second-person approach in developing and generating survey items is a highly uncommon practice that may prove to be beneficial for researchers representing a variety of academic backgrounds and research interests.

We primarily listen to achieve knowledge about the world we are interacting with. But in some cases, such as when listening to musical sounds, the “world” is available to us rather differently, and may require other kinds of skills and ways of exploration and interaction. Our motivation with this work is to generate more attention towards the embodied foundation of interacting with sounds within a domain of pre-reflective awareness. We believe that research in this particular area will bring us some new answers in regard to the above mentioned “ways of exploration” through which listeners are able to co-constitute the worlds of music as they enact musical experiences in the process of listening (see [19]). In addition to music psychology research, practitioners and musicians in the field of sonic interaction design would also benefit from investigating the pre-reflective dimensions of listening, as they should potentially shed a light on the unobtrusive (yet effective) ways sounds partake in facilitating, by virtue of not being consciously attended to, a very comprehensive and indeed immersive feeling of the situation. Indeed, a sound design or a musical composition “places us, the audience, in the middle of sound experience to trigger our imagination” [13, p. 611]. Through the pre-reflective ways of embodied listening [13], imagined worlds and spaces are created, whether

they resemble “exterior” environments of real-life or culturally stereotyped fantasy-worlds, or whether these worlds are created within an “interior” experiential space of kinaesthetic imagination and our felt domain of body.

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