Vital Signs: Using a Survey to Assess the Vitality and Viability of 101 Music Genres

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Abstract: The effects of globalisation have challenged the music practices of many peoples, particularly those of Indigenous and minority groups. In the context of renewed scholarly interest in the sustainability of music traditions (and other intangible forms of cultural expression), this article reports on a survey, based on the 12-part "Music Vitality and Endangerment Framework", which between May 2014 and March 2015 gathered data on the vitality and viability of 101 music traditions around the world. The primary aim of the study was to evaluate the validity, reliability and usability of the survey instrument itself. This article provides an overview of the findings, assesses the advantages and limitations of carrying out assessments of music traditions in this way, and reflects on implications for ongoing efforts to support the sustainable future of music traditions across the world.

Keywords: *Cultural sustainability; intangible cultural heritage; music endangerment; music revitalisation; music sustainability*

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> *There is great danger that the rapid diffusion of European culture will eliminate the last vestiges of song and story of foreign cultures. We must save what can be saved, before cars and electric trains are supplemented with steerable aircraft and the musical world becomes totally homogenous. (Hornbostel 1904-5, p. 97, in Nettl, 2010, p. 161)*

Attitudes and approaches have changed considerably since Hornbostel wrote these words over a century ago. Yet an ethnomusicological concern with "dying" music traditions continues today, partly reignited by UNESCO's assertion that much intangible cultural heritage across the world is "in need of urgent safeguarding" (2003a). Marett (2010) refers to a "massive cultural extinction" in Aboriginal Australia, caused in the main by the ongoing effects of colonisation – a situation by no means unique to the Australian context. Seeger (2013) refers to music traditions around the world not just disappearing, but actively "being disappeared" by unfavourable policies, rapid changes in social and economic processes, and other factors. Nettl fears that music genres "are changing to be more like one another" (2010, p. 7), asking, "Are we coming to Lomax's feared 'cultural grayout'?" (2010, p. 106). Titon (2013) challenges us to engage with "the struggle for cultural sustainability in the face of increasing environmental, economic, and social injustice"; and Schippers (2016) believes that the sustainability of music genres is one of the key issues facing applied ethnomusicologists in the 21st century. The renewed ethnomusicological interest in the topic is also evident from the raft of recent academic

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publications in this field (including Bendrups and Barney, 2013; Grant, 2010, 2011, 2012, 2013, 2014, 2015; Keogh, 2013, Marett, 2010, Schippers, 2015, Schippers and Bendrups, 2015, Schippers and Grant 2016, Titon 2009a, b).

Despite these recent efforts, we still know very little about the global dynamics of music endangerment. While some genres seem to have suffered a good deal from the local and large-scale transformations of recent decades, others have become more vibrant and visible. Sometimes-unexpected revivals show how difficult it is to predict the trajectory of specific genres (Grant 2014, pp. 22-23), and new digital technologies have given rise to a milieu rich in possibilities for musical cross-fertilisation, exchange, creation and dissemination. In this climate, it is difficult to make convincing claims about whether, at the global level, music endangerment even really exists – or if it does, how we should best define it. Perhaps Alan Lomax was right (1968) and we (still) face the risk of cultural grey-out; but on the other hand, in other ways, global musical diversity is arguably as strong as it has ever been. A convincing case may be made either way.

One possible step toward better understanding the complexity of the situation is to examine the levels of vitality of music traditions (or 'genres', as I will call them, partly to avoid preservationist or static implications), both specifically and across cultural contexts. Doing so would help ascertain the current situation of specific genres and track their trajectory over time. It would also form a more rigorous basis for claims about the global situation of music genres, and the need (or not) for their "urgent safeguarding". Coulter (2007, 2011, 2013) proposes possible adaptations for music of several tools that assess language vitality; one specific aim of his research was to gauge the levels of vitality of the music of the indigenous Alamblak of Papua New Guinea's East Sepik Province. Surveying almost 100 community members about their self-professed knowledge and experience in Alamblak music, he concludes that shifts in the vitality, or strength, of specific music genres "can be identified and assessed", which leads "to more informed decisions for local communities interested in revitalizing endangered traditions" (2011, p. 71).

Despite various localised efforts like this to understand and measure music vitality and viability[1], no coordinated effort has yet been made to measure global shifts in the strength of music genres. By using a single framework to gather data on the vitality and viability of multiple genres across contexts, this research begins to fill a pressing need to better understand the mechanisms of global music sustainability, as well as ways of diagnosing specific genres at risk of decline. It does not assume that the phenomenon of music endangerment exists. Rather, it forms essential groundwork for future claims about global trends in music vitality or endangerment, and enriches the limited and problematic tools for understanding and supporting the sustainability of music genres and intangible cultural heritage more generally.

Music Vitality and Endangerment Framework (MVEF)

This research employs the Music Vitality and Endangerment Framework (henceforth MVEF), a conceptual framework I develop and present at some length in another publication (Grant, 2014). The MVEF takes inspiration from the Language Vitality and Endangerment framework (UNESCO 2003b), which was developed at UNESCO's request by an international group of linguists to assist in identifying endangered languages and developing and implementing appropriate strategies to support them. That language framework presented nine factors in the vitality of any given language. The strength of the language against each factor is assessed both qualitatively (against a description) and quantitatively (for almost all factors, against a scale of 0 to 5, representing increasing vitality). (The full language framework is downloadable from www.unesco.org/new/en/culture/themes/endangered-languages/language-vitality/; UNESCO 2003b).

Languages and music have many similarities in relation to their sustainability – most obviously, they are both intangible expressions and vehicles of culture that are influenced by (and in turn influence) their social, cultural, political, and geographical contexts (Grant 2014). However, languages and music genres also have fundamental differences in relation to sustainability, such as the greater facility of music genres to cross-fertilise, recontextualise, and transform (notwithstanding that languages interact and change too), and the more significant role of the media and industry in the vitality of specific music traditions (arguments I elaborate upon in Grant, 2010, 2011). Based on a systematic comparison of these similarities and differences between language and music in relation to their vitality, the MVEF proposes twelve factors as indicators of the strength ("vitality"), of any music genre (Grant, 2014). Like UNESCO's framework, the MVEF offers a way for each indicator ("factor") to be measured qualitatively (against the best-fitting description) and quantitatively (against a six-grade numeric scale, 0-5). Considered together, these factors build an overall picture of the vitality of the genre. The twelve factors, with a brief description of each, are presented in Table 1. A full description of the factors and grades, as well as more information on the process of developing of the framework itself, is given in Grant (2014).

Developing and implementing a survey

Like the twelve-factor MVEF, the survey instrument and questionnaire methodology used for this research take close inspiration from a UNESCO precedent: a large-scale data collection and collation effort on language endangerment (UNESCO 2006-2009). For that project, UNESCO used a survey instrument[2] based on the nine-factor Language Vitality and Endangerment Framework to gather around 300 responses on the status of languages around the world. Not long before, linguist Paul Lewis (2005) had also used a survey methodology to assess 100 languages against the nine factors of UNESCO's framework (indeed, this present article takes inspiration from Lewis'). Unsurprisingly, both of these projects revealed at least as much about the framework and survey tool as they did about the vitality of the languages represented. Offering several criticisms and suggestions for improvement of both framework and survey methodology, which are taken into account in the design of the MVEF, Lewis nevertheless concluded that the approach was both "reasonable and feasible" and represented a useful research agenda.

In 2011, UNESCO reviewed the implementation and usefulness of its language framework over the eight years or so since its development. During this period, the framework had found usage across several contexts, including academia (e.g. in the efforts of the Chinese Academy of Social Sciences in 2009 to assess the status of the minority languages of China), government (e.g. for the 2004-5 National Indigenous Languages Survey in Australia), and internationally (e.g. UNESCO's own survey). Feedback on the framework and survey was solicited from various stakeholders, and a "background paper" summarizing the findings was made publicly available (UNESCO Culture Sector 2011). This document included practical advice for future iterations of the language survey, like ensuring clear language and manageable length, plus several recommendations on matters of theoretical consistency (use a graded scale of 0-5 for all nine factors); structure (solicit data on overall vitality at the end rather than the beginning of the survey); and content (build in a diachronic assessment on some factors; and consider problematic instances where none of the grade descriptions accurately represent the situation at hand).

Taking these suggestions into careful account, for this current project I developed a survey instrument to enable collection of comparable data on the vitality and viability of music genres across contexts and situations, whether the genres are endangered or strong, traditional or contemporary, local or global, indigenous or diasporic (however those terms are defined). I

Table 1. Twelve factors of the Music Vitality and Endangerment Framework (MVEF)

1. **Intergenerational transmission.** This factor refers to the extent to which a music genre is successfully being passed on from one generation to the next. UNESCO's language vitality assessment tool identified this factor as the main indicator of the vitality of languages, and it too placed the factor first in its framework.
2. **Change in number of proficient musicians.** This factor assesses the change in number of proficient musicians over time. The period of 5-10 years is suggested as the time frame to assess trends. For some genres, a different timeframe may be chosen, according to the situation at hand and the purpose of the assessment. "Proficient" will mean very different things across genres and cultures. For some genres, this will mean a deep knowledge of repertoire; for others, it may mean high technical skill and years of training. The meaning of the word should be gauged from the perspective of the genre and the community itself.
3. **Change in number of people engaged with the genre.** This factor assesses the change in numbers of people engaged with the genre. Again, the period of 5-10 years is the suggested timeframe. "Engaged" can mean in any number of ways: as learners, audience members, 'consumers', and so on.
4. **Pace and direction of change in music and music practices.** This factor relates to the way the genre and the practices surrounding it have changed in the last 5 to 10 years. It gauges whether this reflects increased or decreased strength (vitality) in the genre, overall. Issues that fall under this factor include changes in the use of technology, in repertoire, in performance practices, in gender roles, and other issues relating to how the genre is performed or experienced.
5. **Change in performance context(s) and function(s).** This factor assesses changes to the function(s) of the genre, and the context(s) it is found in, in the last 5 to 10 years. It considers whether this reflects a decrease or increase in its strength, overall.
6. **Response to mass media and the music industry.** This factor relates to the way the genre interacts with, and responds to, the mass media and the music industry, and the extent to which this reflects strength or weakness overall. Note that for some genres, high media or industry engagement will indicate strength; for others, a lack of engagement may indicate strength.
7. **Accessibility of infrastructure and resources.** This factor considers the extent to which the infrastructure and resources that are needed for the music genre are accessible and available. It takes into account the availability of musical instruments, venues for rehearsing and performing, teaching materials, required costumes or ritual objects, and so on.
8. **Accessibility of knowledge and skills for music practices.** This factor assesses whether the community holds the knowledge and skills that are required for practicing (creating, performing, and teaching / learning the genre).
9. **Official attitudes toward the genre.** This factor examines the official attitudes toward the music genre - those of governments or others in power.
10. **Community members' attitudes toward the genre.** This factor relates to the attitude of the community toward the genre. Depending on the genre, 'community' could mean those directly involved with the genre – teachers, learners, audience members, and so on – or it could mean the group of people who share or identify with the genre through their common geographical, cultural or ethnic background.
11. **Relevant outsiders' attitudes toward the genre.** This factor gauges the attitudes of relevant outsiders toward the music genre, where 'relevant outsiders' may include researchers, fieldworkers, non-government organisations and funding bodies.
12. **Amount and quality of documentation.** This factor assesses the quality, quantity, and accessibility (to the community and others) of documentation of the music genre, including text-based and audiovisual documentation.

omitted grade descriptions for each factor in an effort to reduce the survey's complexity, the amount of time needed to complete it, and the risk that the descriptions would not fit each and every situation. The "reliability index" that was included against each factor in UNESCO's language survey was collapsed into a single question. Two questions on overall vitality and viability were included at the end; and several questions assessed change in the situation of the music over time. These changes respond to some of the key criticisms of UNESCO's framework for languages.

The challenges in defining *genre* for purposes of this research have resonance with challenges from the fields of linguists and language endangerment in defining "what people speak" (some of the analogies are explored in Nettl, 2015, pp. 36-40). One risk is of fixing a moving target, that is, of precluding or ignoring the dynamic processes of change and exchange that blur distinctions and boundaries between genres, and between present, past and future forms of a genre. For this project, respondents were able to interpret the term *genre* largely as they wished: the survey instrument simply requested sufficient identifying information to enable subsequent comparisons to be drawn between survey responses. The survey instructions read:

> This page asks about the music genre (sometimes called 'musical tradition') you are going to complete this survey about. The genre and community you report on in this survey may be quite broad (e.g. Balinese gamelan) or very specific (e.g. Balinese gamelan selonding in Denpasar). Please try to avoid very general categories (e.g. traditional Balinese music).

Respondents were also asked to specify the geographical location of the "community" they would report on, with the following clarification:

> Throughout this survey, depending on the genre, 'community' could mean those involved with the genre – teachers, learners, audience members, and so on – or a group of people who share or identify with the genre through their common geographical, cultural or ethnic background.

Thus, genre and community could be coterminous (as for *awelye*, central Australian Aboriginal women's ceremonial songs, practiced almost exclusively within a geographically-bounded region by Central Australian Anmatyerr, Alyawarr and Kaytetye speaking communities), or not (as in "Chaozhou Opera in Sydney, Australia", or "Highland bagpiping in New Zealand" – two further 'genres' that are represented in the survey responses).

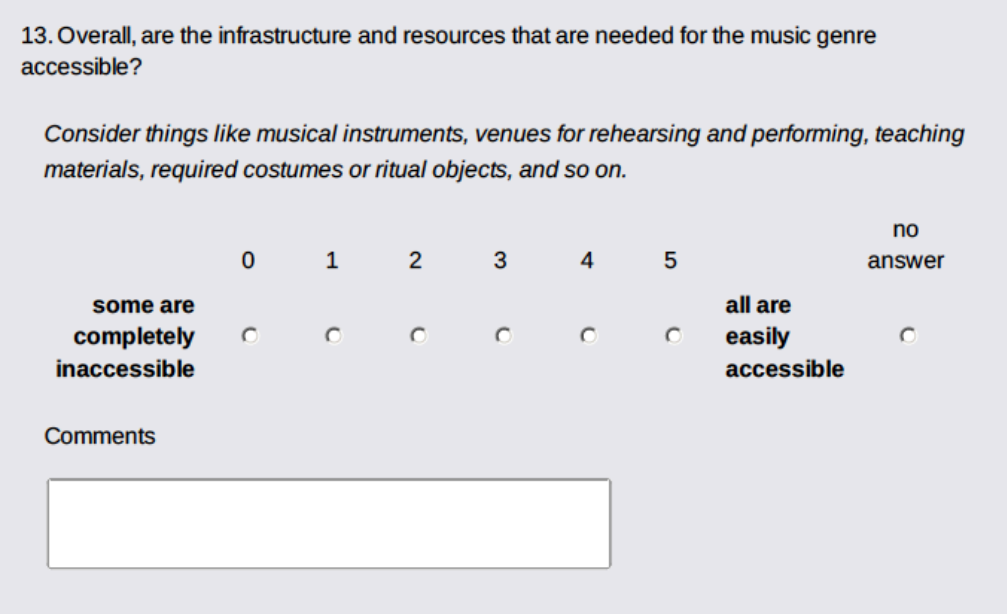
The looseness with which *genre* and *community* are defined in this research are, I contend, unproblematic for its aims and scope, since here I do not aim to generalise my research findings on vitality and viability to the global situation of genres or communities. However, in any future iterations that intend to make such claims, defining *genre* in particular will become an increasingly important (and problematic) concern. Arguably, ethnomusicological scholarship currently lacks a workable identification system for music genres that is functional across global contexts. In this pursuit, the field of linguistics may again prove instructive[3]. Any such system would inevitably be imperfect, but as has been done in linguistics for languages, having a way to identify and classify music genres would arguably enable tasks like assessing and tracking vitality and endangerment to be carried out with greater logic and consistency than would otherwise be the case.

The final survey comprised 23 questions in three sections. The first section (six questions) solicited background information on the music genre and the respondent's relation to it. The final section (three questions) asked for feedback on the questionnaire, invited respondents to (optionally) provide their name and contact details for data-checking, and asked

about preference for anonymity in research outcomes. The second section (14 questions), relating to degrees of vitality and endangerment, formed the core of the survey. One question related to each of the twelve MVEF factors in music vitality, and two further questions asked about the overall vitality and overall viability of the genre. In this section, respondents were asked to grade the vitality of the music genre against each of these fourteen factors from 0 (non-vital) to 5 (vital), and provide comments. (See Figure 1).

A small pilot of the survey instrument (n=3) was carried out in advance of the survey launch, to gather feedback on the survey questions, completion time, sufficiency of options for responses, complexities and challenges in responding, and other matters of survey design. Minor revisions were made prior to launch[4]. Potential respondents, reached through various professional list-servs[5] and my own networks, were those with knowledge of how a particular music genre works within its sociocultural context. Respondents could complete multiple questionnaires on different genres if they wished. Multiple reports on a single genre from different respondents were also encouraged.

Between May 2014 and March 2015, 101 responses were received. Meta-data and quantitative responses were analysed using statistical software SPSS to count frequencies, percentages, and statistical significance (set at $p < 0.05$ for all tests, as is standard); correlations between factors were determined using Spearman's rho. Qualitative responses were coded and analysed thematically. Cross-analyses of certain questions (e.g. the location of the genre against the overall perception of its vitality) were also performed, though with recognition that the relatively small sample size would preclude definitive conclusions.


13. Overall, are the infrastructure and resources that are needed for the music genre accessible?

Consider things like musical instruments, venues for rehearsing and performing, teaching materials, required costumes or ritual objects, and so on.

	0	1	2	3	4	5		no answer
some are completely inaccessible	○	○	○	○	○	○	**all are easily accessible**	○

Comments

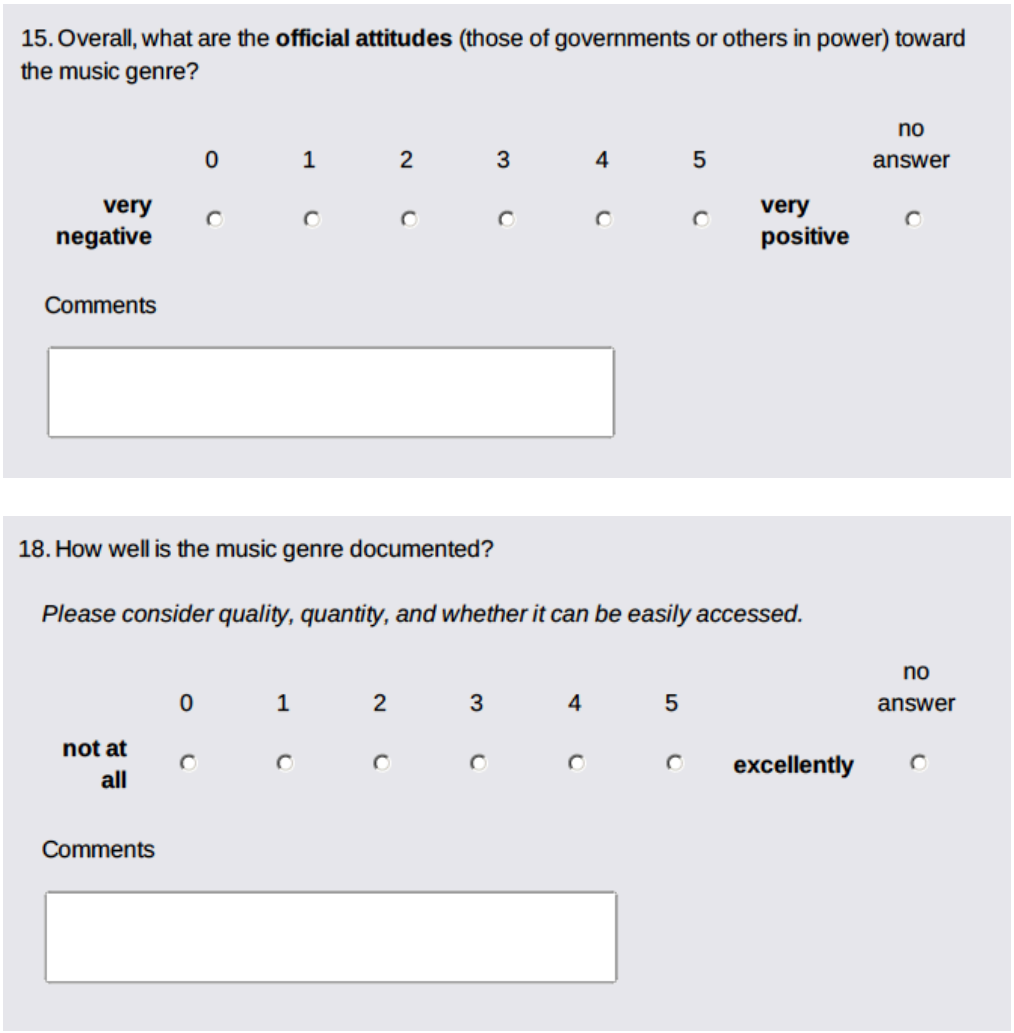


Figure 1. Example survey questions. Each question in the core of the survey correlated with one of the twelve factors of the Music Vitality and Endangerment Framework

The survey tool, raw data, and meta-data generated from this project are open source, and available online at www.musicendangerment.com, enabling independent conclusions to be drawn about the results and interpretations below. (With the intent that it may be useful as a teaching and learning resource, the website also contains basic textual and audio-visual information on each of the genres represented.)

Assessing vitality and viability

The geographical distribution of the 101 genres represented in the survey responses (see Table 2) is partly a reflection of my own professional networks (strongest in the Asia-Pacific); though with no restriction on the number of responses an individual could provide, one respondent completed the survey twelve times for twelve different genres, all on the islands of Vanuatu. No claim is made that the survey data presents a representative sample of genres, or situations of music vitality and endangerment, across the world; again, the primary aim of this research was not to generate representative data but rather to trial and evaluate, for the first time, the use of a music vitality assessment tool across a range of global contexts.

Oceania	33%
Asia	32%

Europe	13%
Americas	12%
Africa	7%
None identified	4%

Table 2. Geographical distribution of genres represented in survey (n=101)

The four genres for which the given respondent did not identify a geographical location – "organ music", "electroacoustic music", "electronic music", and "Shakespeare songs" – challenged the bounds and design of the survey on several counts, including their apparent lack of a central locus (an issue raised further below). For several (other) geographically dispersed genres ("Western opera", "light music"), the respondent identified the specific location they were reporting on.

Almost all respondents had carried out fieldwork on the genre (57%) or identified as a member of the community (20%), or both (22%). Only one response was based only on secondary sources. The majority of respondents (77%) reported on their knowledge of the current situation of the genre. A few (16%) reported on an earlier time, specifying a year (ranging from 1998 to 2010). Anomalously, the remaining 7% provided a time-span, ending at some time in the past ("1945-1970s", "1992-2006", "1994-2010") or the present ("1820-today"; "both earlier and now"; "both past and present"). Given that several survey questions related to assessing change over the "previous" five to ten year period (the reasons for which are justified in the full description of the MVEF; Grant, 2014), it may have been beneficial to state more explicitly in the survey instrument the need for a single end-reference time point. For those respondents who cited a time span, it remains unclear whether their responses about the factors measuring change over time refer to the entire specified range, or only the five to ten years to the latest reported date.

In the interpretation of the survey data that follows, it is important to remember that the individual survey responses represent only one person's view on the vitality of a genre, and may be idiosyncratic. Whether a response represents an "accurate" picture of a genre will depend on several factors, not least how well the respondent knows and understands its situation. Even political motivations may play a part (like a respondent claiming a genre is less viable than it is, to encourage greater efforts to support it). In short, for now, this survey data should be interpreted as representing the respondents' *perspectives* on the situation of the specific genres represented. Suggestions on possible ways to improve the validity of the data over time are offered in the closing section of this article. The main objective of this research was to test the reliability and usability of the survey tool itself, and the MVEF that served as its basis.

Table 3 presents the key descriptive statistics relating to the twelve factors, and to overall vitality and viability. It displays the number of responses against each of these fourteen criteria (where the total number possible = 101; where n is less than 101, this indicates one or more no-responses), as well as the mean response and standard deviation for each. Means are fairly uniform across all fourteen variables, with Factor 6 (Response to mass media and the music industry) the lowest (M=2.65) and Factor 10 (Community members' attitudes toward the genre) the highest (M=3.77). The standard deviations were generally similar across all variables. For all but one factor, and for overall viability, the full range of possible values (0-5) were reported in the survey responses. Factor 10 (Community attitudes) and Overall Vitality were the exceptions, for which no respondent gave a grade of 0. The very wide range of response values across all fourteen criteria points to the wide diversity of (perceived) situations of these 101 genres.

Factor	n	M	SD	% weak
Overall Vitality	99	3.30	1.28	28.3
Overall Viability	100	3.27	1.33	25
1. Intergenerational transmission	97	2.99	1.33	33
2. Change in number of proficient musicians	92	2.82	1.25	40.2
3. Change in number of people engaged with the genre	94	3.10	1.17	28.7
4. Change in the music and music practices	96	2.99	1.29	32.3
5. Change in performance contexts and functions	95	3.03	1.18	24.2
6. Response to mass media and the music industry	93	2.65	1.60	38.8
7. Infrastructure and resources for music practices	100	3.38	1.55	29
8. Knowledge and skills for music practices	99	3.51	1.45	24.2
9. Governmental policies affecting music practices	88	3.14	1.50	33
10. Community members' attitudes toward the genre	94	3.77	1.19	16
11. Relevant outsiders' attitudes toward the genre	89	3.54	1.33	19.1
12. Amount and quality of documentation	101	2.93	1.41	41.6

Table 3. Descriptive statistics for all factors. n=sample size; M=mean score; SD=standard deviation. "% weak" = percentage of genres receiving scores of 0-2 on the MVEF scale 0-5.

Table 3 also displays the percentage of responses, by factor, corresponding with relatively "weak" (0-2) scores on the 0-5 scales of the MVEF. (A score of 3 on the scales represented "no change" or "average", and 4 or 5 represent strength). The factors receiving the highest number of "weak" scores were Factor 2 (Change in the number of musicians) and Factor 12 (Amount and quality of documentation), with 40% and 42% of responses respectively. Conversely, Factor 10 (Community members' attitudes toward the genre) had the highest mean score, with only 16% of genres scoring "weakly". Over half of all genres surveyed also received "strong" scores (of 4 or 5) on Factor 7 (Infrastructure and resources for music practices), Factor 8 (Knowledge and skills for music practices), and Factor 11 (Relevant outsiders' attitudes toward the genre). These findings should not be generalised to considerations of the situation of music genres more widely – not only due to the small sample size, but also the question of whether the 0-5 scale for each factor generates sufficiently valid and reliable responses. To determine this in future research, duplications may help.

Duplications

Methodologically, comparing multiple responses on a single genre helps gauge the validity of the survey instrument. In this research, a handful of genres received more than one survey response, though none of these duplications are directly comparable, for three reasons. First, the respondents invariably reported on different communities or locations (of the two responses on hip-hop, for example, one reports on the Australian and one on the New Zealand situation). Second, a response occasionally reported on a sub-category of another genre (e.g. responses were received on Balinese gamelan and Balinese gamelan gong gede, on Celtic music and on

Celtic harp music). Third, in one case, different time periods for assessment were used (for Cambodian *phleng kar boran*, responses were received about an earlier time (2009) and on the current situation). Also, while the given genre names (and "alternative names") sometimes unambiguously referred to the same tradition (Vietnamese *ca trù* / *hát ả đào*), others were less clear in this regard: take for instance two responses, one for "improvised music" with alternative name "jazz" in Melbourne, Australia; and another for "Australian jazz" (reporting on the Brisbane community). For these three reasons, these duplications were not compared, as the practical significance of doing so would be limited both in terms of interpreting the vitality of the genre and gauging the reliability of the tool itself. Comparisons between broader categorisations would also be misleading: although Wangga, Noongar music, and East Kimberley Indigenous classical songs were all identified by the respondents as belonging to the same wider category (Australian Indigenous), these genres are affected by considerably different forces in their local contexts.

In only two cases, then, were multiple responses received for a genre where the respondents were reporting on the same timeframe (the current situation) *and* a geographically similar (though not identical) community: *ca trù*, for which responses were received for the locations "Northern Vietnam" and "primarily the greater Hanoi area"; and Hindustani classical music, where responses were received for "New Delhi, Varanasi" and "Northern states of India". For these genres, agreement between survey responses for each of the twelve factors plus overall vitality and overall viability was reasonable: no response for any given question varied by more than two units on the MVEF scale of 0-5, and half of all responses (11 of 22) received identical grades. However, given the slightly different scopes of the communities being reported upon, a comparison of these responses is still inconclusive in determining whether discrepancies of scores and comments indicate true differences in vitality levels, or simply the inability of two raters to agree. Without strong data for assessing duplication (which was not an explicit aim of the research), no further statistical tests were conducted. Future research may productively conduct more formal assessments of agreement, where many respondents report on the current situation of the same genre in the same reference community, and appropriate statistical tests of inter-rater reliability are then carried out (cf. Savage et al, 2012, which uses Cohen's Kappa to assess and compare the reliability of CantoCore versus Lomax's Cantometrics).

Correlations

Statistical tests were run on the survey data to investigate the correlations between the scores for the twelve factors, and the scores for overall vitality and viability, across the 101 genres. The larger the value of the resulting correlation co-efficient (between -1 and 1), the stronger the correlation (see Table 4)

Factor	**Vitality**	**Viability**
1. Intergenerational transmission	.81*	.64*
2. Change in number of proficient musicians	.70*	.74*
3. Change in number of people engaged with the genre	.66*	.69*
4. Change in the music and music practices	.67*	.69*
5. Change in performance contexts and functions	.52*	.48*
6. Response to mass media and the music industry	.53*	.51*
7. Infrastructure and resources for music practices	.37*	.28*

8. Knowledge and skills for music practices	.60*	.51*
9. Governmental policies affecting music practices	.31*	0.21
10. Community members' attitudes toward the genre	.50*	.42*
11. Relevant outsiders' attitudes toward the genre	.33*	.36*
12. Amount and quality of documentation	.40*	.43*

Table 4. Correlation co-efficients between all factors and overall vitality and overall viability using Spearman's rho (ρ), where 0.5 may be considered a "large effect" (i.e. represents a large correlation; Cohen 1988). *=Correlation is statistically significant (at the 0.01 level).

Statistically significant positive correlations were found between each of the twelve factors and overall vitality and viability, with one exception (the correlation between Factor 9, Governmental policies affecting music practices, and overall viability). Overall, this finding suggests that the twelve factors of the MVEF, taken together, are indeed reasonable indicators of overall vitality and viability of music genres. Further research may focus on determining whether those factors with relatively weak correlations to overall vitality and/or viability – those relating to Governmental policies affecting music practices (Factor 9) and Relevant outsiders' attitudes toward the genre (Factor 11), and to a somewhat lesser extent Infrastructure and resources for music practices (Factor 7) – are appropriate indicators of vitality and viability (that is, appropriate inclusions in the MVEF).

The first four factors of the framework are the ones that correlated most strongly with overall vitality and viability: Intergenerational transmission; Change in number of proficient musicians; Change in number of people engaged with the genre; and Change in the music and music practices. Factor 1 (Intergenerational Transmission) correlated most strongly with overall vitality (ρ=0.81), confirming predictions (indicated by its place as Factor 1 in the MVEF; see also Grant 2014). The factor most strongly correlated with overall viability was Factor 2, Change in the number of musicians over time (ρ=0.74).

Correlations between the twelve factors themselves were also mostly statistically significant, with strongest correlations between Factors 2 and 3 (Change in the number in musicians, and Change in others engaged with the genre) (ρ=0.79) and Factors 3 and 4 (Change in musical practices, and Change in those engaged with the genre) (ρ=0.79). The correlation between overall vitality and overall viability was also very strong (ρ=0.81). It may be worthwhile to consider whether these pairs of factors may be collapsed into a single dimension in future iterations of the survey, especially given considerations of survey length and simplicity; further considerations regarding these kinds of analyses of musical factors are raised in Lomax (1976, 1980).

Missing value patterns

All questions in the core (Part 2) of the survey were optional; only 5% (n=1414) received no answer. This relatively strong response rate suggests that respondents found the questions generally comprehensible and answerable. The factors corresponding with highest rate of "no answers" were Factor 9 (Governmental policies affecting music practices) (13%) and Factor 11 (Relevant outsiders' attitudes toward the genre) (12%). Tabulation of all the "missing value patterns" revealed clusters of no-answers for the questions relating to change in a genre over time (Factors 2 to 5) as well as those relating to attitudes toward the genre (Factors 9 to 11). Respondents' accompanying comments for these no-answers suggest that the questions relating to change over time may have caused some confusion (particularly, understandably, for those

who had aberrantly chosen to respond about a timespan rather than an identified time, as mentioned earlier), whereas for most respondents the questions relating to attitudes seemed to be understandable, but respondents were not easily able to provide a response (which may point to a gap in research on those matters).

Where no response was given to the core survey questions, 38% (n=25) provided a reason. These reasons may be grouped into three categories (with some responses falling across more than one category):

(1) the respondent didn't understand the question, or was unclear on its meaning;

Factor 5: I'm not sure what you mean by function. Are you asking if more people are using the genre for more contexts? (ID 240 Samba)

Factor 10: Not sure what you mean there... the fans in the different relevant scenes (I would veer away from 'community' in our networked world) like the music they engage in - so that would always be positive... (ID 177 Electronic dance)

Overall Vitality: I don't really understand this question (ID 115 Electroacoustic)

(2) the respondent felt the question wasn't applicable to the genre;

Factor 1: Not really applicable (ID 135 Neue Musik)

Factor 9: I don't know what you mean. I feel like your questionnaire wants me to discuss a particular type of music. Clearly the genre I am interested in and currently research does not fit the mould of your survey. (ID 115 Electroacoustic)

(3) the respondent didn't know the answer, or felt otherwise not able or willing to make a judgment based on the information at hand.

Factor 1: Difficult to answer this one. The instrument is being passed with an increasing frequency in my opinion, however the traditions that accompany the instrument are undergoing constant change. This causes many cultural participants in traditional forms of music to suggest that the genre is not being passed well from generation to generation. (ID 62 Highland bagpiping in New Zealand)

Factor 2: Sorry, I do not have enough data for this. (ID 77 Khmer wedding music)

Factor 2 [and four further factors]: This genre is very taboo and secret, I don't have a lot of information. (ID 31 Newertiang)

Factor 4: Hard to say. The government stepped in and "sponsors" Hua'er; there seem to be two strands, one "official", one "inofficial". Official gets more recognition, while inofficial is marginalized. So, "de/increase" is a point of view. (ID 231 Hua'er)

Factor 10: Impossible to say, I'm afraid, but many young community members regard this as being a symbolic feature of their culture (ID 183 Tangsa Wihu)

Of particular interest are those responses where respondents felt the question was not applicable to the genre at hand. Understanding these instances is important not only for matters of survey

design and for better understanding the complex processes at play in music vitality and viability, but also for maximising the applicability of the MVEF across contexts. As indicated by the above excerpts, instances of claimed non-applicability, as well as those where the respondent had trouble understanding the question, were mostly genres tending toward the globalised or mediatised, without an easily-definable geographical locus: electroacoustic music, electronic dance music, and *neue Musik*, for example. Indeed, for these genres some of the concepts of the MVEF become appreciably problematic (what, for instance, does "intergenerational transmission" mean for these genres)? This difficulty could be evaded (but not resolved) by claiming that these kinds of genres are unlikely to be significantly at risk or to qualify for urgent safeguarding measures, in the sense of UNESCO's intangible cultural heritage concerns. Nevertheless, it would be a productive exercise to examine the specific characteristics of genres that challenge the viewpoints and assumptions of the MVEF, and to consider implications for issues of music vitality and viability (a recommendation for future studies).

Conclusions

The discipline of ethnomusicology is wary of positivist approaches to music, with reason. Cultural practices are endlessly complex phenomena, and their sustainability or endangerment in a fast-changing and globalizing world is more of a "wicked problem" (Grant, 2015) than the MVEF's neat twelve-point delineation of factors in their vitality arguably imply. Without care, implementation of the MVEF may fall into certain traps of the earlier comparative work of Alan Lomax and colleagues (especially the problematic Cantometrics; 1968, 1976): failing to sufficiently acknowledge subjectivity and a degree of imprecision in ratings; reducing nuanced systems into gross categories; implying grand narratives that overarch music systems or practices (see Dubinskas, 1983; Averill, 2003).

The MVEF should always be critically applied. Its quantitative measurements should always only supplement the qualitative, avoiding representing of the situation of a genre exclusively by the set of numerical scores. It should be adapted to fit the purpose at hand, and may itself require adaptations over time, as the factors impacting on people, cultures, and music shift along with the fast-changing world (witness the relatively recent, but enormously significant, role of the mass media and music industry in music vitality). Perhaps most importantly, the role of musicians and communities in implementing the MVEF should be carefully considered; as Terralingua warns (in relation to its efforts to track changes in global language diversity), any global measurement system "runs the risk of being irrelevant (or, worse, antithetical) to the needs of indigenous communities if it is not properly qualified – and, in addition, supplemented by other information that is generated by the communities themselves" (2011, p. 28).

In testing and evaluating a methodological approach to assessing music vitality that is, at the least, implicitly comparative (in that it uses a single framework of analysis across genres, though this research stops short of making direct comparisons between genres), I acknowledge the risks and limitations posed by such an approach. And yet, with those contemporary researchers who are exploring new possibilities for comparative musicology (Brown and Jordania, 2013; Savage and Brown, 2013, 2014; Savage et al, 2012; Schippers and Grant, 2016; Rzeszutek et al, 2012), I concur with Merriam, whose statement of over three decades ago seems as relevant today:

> We need the process of comparison as we need other techniques of analysis, and I suggest that instead of thinking of reasons for discarding it, we need to devote concentrated attention to making comparison a more workable weapon in the ethnomusicological arsenal. (1982, p. 325)

Having a means to assess music vitality within and across contexts may be useful to musicians and communities, fieldworkers and researchers, cultural organisations, government and non-government agencies, funding bodies, and policy-makers, who may use it to advance more effective local and global strategies supporting the sustainable future of music. At the local level, assessing vitality could help identify specific music genres at risk; gauge how urgently a genre may need support; determine appropriate courses of action to counter endangerment; track the trajectory of a genre over time; and evaluate the effectiveness of any interventions. At the global level, it could build evidence about the state of music around the world and the need for safeguarding; inform policy decisions relating to music and intangible cultural heritage generally; ensure that resources and funds for safeguarding are directed where they can have greatest efficacy; and support advocacy and activism on the issue of music sustainability. Being able to systematically assess music vitality may also be useful at a pragmatic level: many international programs, initiatives and organisations (such as UNESCO) that support intangible cultural heritage are led by agencies operating in Western frameworks. For this reason, it will be useful for researchers to at least be able to operate within the world of quantifiable evaluations: such evidence is often demanded by those agencies for funding and policy decisions.

It was not the aim of this research to produce knowledge that enables general assertions to be made about global music vitality and endangerment. The focus must still, at this stage, be on developing and refining the tool that would enable such general assertions to be made. I hope this article may stimulate scholarly discussion about this challenge, within the discipline of ethnomusicology and more broadly across the traditional arts. Using the approach outlined here, claims about global musical vitality could only be made possible through a significantly larger sample size (which could be achieved by expanding the scope of survey data collection), a significantly more representative sample (by using a broader and more systematic sampling technique), and by confirming the quality of data (for example, by collecting multiple responses on individual genres and comparing them for inter-rater reliability, or by cross-referencing the survey responses with further ethnographic fieldwork or secondary sources).

The question of how the MVEF data is best collected will be a critical one for future efforts. The survey methodology is only one possibility, and even that could be carried out in several ways. One approach could be to maintain an ongoing open online survey (in the manner of crowdsourcing, as used for endangered languages on the website www.endangeredlanguages.com). Another (more resource-intensive) approach is to support and activate data collection internally, within communities, in which case "the importance of awareness-raising activities and to the need for training local mediators" will be critical (Cabral, 2011, p. 38). A third approach would be to gather MVEF data via the long-term ethnographic research that is so characteristic of ethnomusicology; this, like the other approaches, has both advantages and disadvantages in terms of community involvement, human resources, time, and funding (for further discussion, see Grant, 2014).

Whichever approach is taken, if information about levels of vitality could eventually be compiled on many genres, this could form a foundation for verifiable claims about the situation of music at the global level. UNESCO's data collection and dissemination on endangered languages shows a possible trajectory: its "Atlas of the World's Languages in Danger" (Moseley 2009) used UNESCO's Language Vitality Assessment Framework to gather and make available data on global language endangerment. The first (1996) edition of the Atlas included information on the vitality of around 600 languages, its second (2001) edition, around 900, and its third (2009, including an interactive online version), over 2500 languages. In the words of UNESCO Director-General Irina Bokova, the Atlas has become "a powerful tool for monitoring the situation of the world's endangered languages", while also being an instrument for raising

awareness of the issue among policy makers, the media, the public, and even speakers of endangered languages themselves[6] (Moseley, 2010, p. 5).

It has been a tendency of ethnomusicological research to engage in intensive field studies that respond to our own specific interests and those of the communities with whom we work, in favour of generalising studies that examine the more embracing aspects of music on a worldwide level. The same is true of other disciplines that engage with traditional arts and arts practices. In 1975, Sarana wrote of anthropology "that at this stage of the development of our discipline we cannot attempt generalizations on a broader scale, with the same depth and authority, as we can do at the level of our microscopic and intensive fieldwork studies" (pp. 94-95) – a statement equally true of ethnomusicology, both then and now. With international claims that many intangible cultural expressions are in need of urgent safeguarding, and renewed angst in at least some quarters about the "massive extinction" of musical and other cultural practices across the world (Marett, 2010), turning our scholarly attention beyond our own (geographical) areas of specialty to see what we could learn about the state of music and other traditional arts across the world is, I would argue, a potentially profitable undertaking. Such a shift need not be at the expense of our work with specific traditions and communities, but may instead enrich and broaden it, by helping us to position and understand our work in a wider context, and by offering us deeper insights into the global situation of traditional arts.

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Notes

[1] The current vitality (strength) of a genre is often, but is not necessarily, an indicator of its viability (prospects into the future); the divergence in meanings of these terms is demonstrated by those unfavourable government policies or despotic regimes that put an immediate end to even the most vibrant of musical practices.

[2] Downloadable at http://www.unesco.org/new/fileadmin/MULTIMEDIA/HQ/CLT/pdf/Linguistic_Vitality_and_Diversity-20090209.doc.

[3] The system of three-letter ISO-codes (International Organization for Standardization codes) uniquely identify ethnolinguistic communities, and could feasibly form both a philosophical and a pragmatic basis for a global identification and classification system for music genres. See http://www.iso.org/iso/home/standards/language_codes.htm. Thanks to Pat Savage (Department of Musicology, Tokyo University of the Arts) for this idea.

[4] Pilot respondents were invited to revisit their responses post-launch, making changes if they wished; two of them did so. Only their responses, revised, are included in the final analysis.

[5] List-servs of the Society for Ethnomusicology, Canadian Society for Traditional Music, International Council for Traditional Music (via the Study Groups), Musicological Society of Australia, and Resource Network for Linguistic Diversity. Survey invitation recipients were invited to distribute it further. Respondents could fill out the survey in Word, hardcopy, or online via the survey software SurveyGizmo (www.surveygizmo.com); all responded via the online version. Before data analysis, respondents who provided contact details were given the opportunity to check the information they gave. The survey is accessible in PDF on the project website www.musicendangerment.com.

[6] An attempt at mapping the survey data from this project is available at the project website, www.musicendangerment.com/map. Users can style the map according to the overall vitality of the 101 genres, their overall viability, or any of the twelve factors of the MVEF. The raw survey data are provided on separate genre "profile pages". On the website, I briefly outline my approach to creating the map, and describe some of these challenges and proposed solutions. As with UNESCO's map of endangered languages, the solutions are admittedly varyingly successful; I reserve a more in-depth exploration of the mapping process and outcomes for elsewhere.

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