Table S1

|  |
| --- |
| Items of the self-report inventory |
| **Active Engagement (9 items, α=.872)** |
| I don`t spend much of my disposable income on music |
| I enjoy writing about music for example on blogs and forums |
| I have attended \_\_\_ the following number of live music events as an audience member in the past twelve months |
| I keep track of new music that I come across e.g. new artists or recordings |
| I listen attentively to music for \_\_\_ per day |
| I often read or search the internet for things related to music |
| I spend a lot of my free time doing music related activities |
| I’m intrigued by musical styles I’m not familiar with and want to find out more |
| Music is kind of an addiction for me - I couldn’t live without it |
| **Perceptual Abilities (9 items, α=.873)** |
| I am able to judge whether someone is a good singer or not |
| I can compare and discuss differences between two performances or versions of the same piece of music |
| I can tell when people sing or play out of time with the beat |
| I can tell when people sing or play out of tune |
| I find it difficult to spot mistakes in a performance of a song even if I know the tune |
| I have trouble recognizing a familiar song when played in a different way or by a different performer |
| I usually know when I’m hearing a song for the first time |
| When I hear music I can usually identify its genre |
| When I sing I have no idea whether I’m in tune or not |
| **Musical Training (7 items, α=.903)** |
| I engaged in regular, daily practice of a musical instrument (including voice) for \_\_\_ years |
| I can play the following number of musical instruments (including voice) |
| I have never been complimented for my talents as a musical performer |
| At the peak of my interest, I practised \_\_\_ hours on my primary instrument (including voice) |
| I have had formal training in music theory for \_\_\_ years |
| During my life time I have had formal training on a musical instrument (including voice) for \_\_\_ years |
| I would not consider myself a musician |
| **Singing Abilities (7 items, α=.870)** |
| After hearing a new song two or three times, I can usually sing it by myself |
| I am able to hit the right notes when I sing along with a recording |
| I am not able to sing in harmony when somebody is singing a familiar tune |
| I can sing or play music from memory |
| I don’t like singing in public because I’m afraid that I would sing wrong notes |
| I only need to hear a new tune once and I can sing it back hours later |
| If somebody starts singing a song I don’t know, I can usually join in |
| **Emotions (6 items, α=.791)** |
| I am able to identify what is special about a given musical piece |
| I am able to talk about the emotions that a piece of music evokes in me |
| I often pick certain music to motivate or excite me |
| I sometimes choose music that can trigger shivers down my spine |
| Music can evoke my memories of past people and places |
| Pieces of music rarely evoke emotions for me |
| **General Musical Sophistication (18 items, α=.926)** |
| I would not consider myself a musician |
| I engaged in regular daily practice of a musical instrument (including voice) for \_\_\_ years |
| I have never been complimented for my talents as a musical performer |
| I can sing or play music from memory |
| At the peak of my interest I practised \_\_\_ hours on my primary instrument (including voice) |
| I am able to hit the right notes when I sing along with a recording |
| I spend a lot of my free time doing music related activities |
| Music is kind of an addiction for me - I couldn’t live without it |
| I don’t like singing in public because I’m afraid that I would sing wrong notes |
| When I sing I have no idea whether I’m in tune or not |
| After hearing a new song two or three times, I can usually sing it by myself |
| I can play the following number of musical instruments (including voice) |
| I only need to hear a new tune once and I can sing it back hours later |
| I often read or search the internet for things related to music |
| I am able to identify what is special about a given musical piece |
| I am not able to sing in harmony when somebody is singing a familiar tune |
| I enjoy writing about music for example on blogs and forums |
| I can compare and discuss differences between two performances or versions of the same piece of music |

Table S2

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | Active Engagement | Perceptual Abilities | Musical Training | Singing Abilities | Emotions |
| Active Engagement | 1 |  |  |  |  |
| Perceptual Abilities | .637 | 1 |  |  |  |
| Musical Training | .521 | .657 | 1 |  |  |
| Singing Abilities | .562 | .806 | .719 | 1 |  |
| Emotions | .808 | .788 | .486 | .615 | 1 |

Table S3

*Data norms for subscales and general sophistication (sample n = 147,633)*

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | Active Engagement | Perceptual Abilities | Musical Training | Singing Abilities | Emotions | General Musical Sophistication |
| 1% | 15 | 29 | 7 | 9 | 21 | 32 |
| 2% | 18 | 32 | 7 | 12 | 23 | 37 |
| 3% | 20 | 35 | 7 | 13 | 24 | 41 |
| 4% | 22 | 36 | 7 | 15 | 25 | 43 |
| 5% | 23 | 37 | 8 | 16 | 26 | 46 |
| 6% | 24 | 38 | 8 | 17 | 27 | 48 |
| 7% | 25 | 39 | 9 | 18 | 27 | 50 |
| 8% | 26 | 39 | 9 | 19 | 28 | 51 |
| 9% | 27 | 40 | 10 | 19 | 28 | 53 |
| 10% | 28 | 41 | 10 | 20 | 28 | 54 |
| 11% | 28 | 41 | 11 | 21 | 29 | 55 |
| 12% | 29 | 41 | 11 | 21 | 29 | 56 |
| 13% | 29 | 42 | 11 | 22 | 29 | 57 |
| 14% | 30 | 42 | 12 | 22 | 29 | 58 |
| 15% | 30 | 43 | 12 | 23 | 30 | 59 |
| 16% | 31 | 43 | 13 | 23 | 30 | 60 |
| 17% | 31 | 43 | 13 | 23 | 30 | 61 |
| 18% | 32 | 43 | 14 | 24 | 30 | 62 |
| 19% | 32 | 44 | 14 | 24 | 30 | 63 |
| 20% | 33 | 44 | 14 | 25 | 31 | 64 |
| 21% | 33 | 44 | 15 | 25 | 31 | 64 |
| 22% | 34 | 44 | 15 | 25 | 31 | 65 |
| 23% | 34 | 45 | 16 | 26 | 31 | 66 |
| 24% | 34 | 45 | 16 | 26 | 31 | 67 |
| 25% | 35 | 45 | 17 | 26 | 31 | 67 |
| 26% | 35 | 45 | 17 | 26 | 32 | 68 |
| 27% | 35 | 45 | 18 | 27 | 32 | 69 |
| 28% | 36 | 46 | 18 | 27 | 32 | 69 |
| 29% | 36 | 46 | 19 | 27 | 32 | 70 |
| 30% | 36 | 46 | 19 | 28 | 32 | 71 |
| 31% | 37 | 46 | 20 | 28 | 32 | 71 |
| 32% | 37 | 46 | 20 | 28 | 33 | 72 |
| 33% | 37 | 47 | 21 | 28 | 33 | 73 |
| 34% | 38 | 47 | 21 | 29 | 33 | 73 |
| 35% | 38 | 47 | 21 | 29 | 33 | 74 |
| 36% | 38 | 47 | 22 | 29 | 33 | 75 |
| 37% | 39 | 48 | 22 | 29 | 33 | 75 |
| 38% | 39 | 48 | 23 | 29 | 33 | 76 |
| 39% | 39 | 48 | 23 | 30 | 34 | 76 |
| 40% | 39 | 48 | 23 | 30 | 34 | 77 |
| 41% | 40 | 48 | 24 | 30 | 34 | 77 |
| 42% | 40 | 49 | 24 | 30 | 34 | 78 |
| 43% | 40 | 49 | 25 | 31 | 34 | 79 |
| 44% | 41 | 49 | 25 | 31 | 34 | 79 |
| 45% | 41 | 49 | 25 | 31 | 34 | 80 |
| 46% | 41 | 49 | 26 | 31 | 34 | 80 |
| 47% | 41 | 50 | 26 | 31 | 35 | 81 |
| 48% | 42 | 50 | 26 | 32 | 35 | 81 |
| 49% | 42 | 50 | 27 | 32 | 35 | 82 |
| 50% | 42 | 50 | 27 | 32 | 35 | 82 |
| 51% | 42 | 51 | 28 | 32 | 35 | 83 |
| 52% | 43 | 51 | 28 | 33 | 35 | 84 |
| 53% | 43 | 51 | 28 | 33 | 35 | 84 |
| 54% | 43 | 51 | 29 | 33 | 36 | 85 |
| 55% | 43 | 51 | 29 | 33 | 36 | 85 |
| 56% | 44 | 52 | 29 | 33 | 36 | 86 |
| 57% | 44 | 52 | 30 | 34 | 36 | 86 |
| 58% | 44 | 52 | 30 | 34 | 36 | 87 |
| 59% | 45 | 52 | 30 | 34 | 36 | 87 |
| 60% | 45 | 53 | 31 | 34 | 36 | 88 |
| 61% | 45 | 53 | 31 | 34 | 37 | 89 |
| 62% | 45 | 53 | 31 | 35 | 37 | 89 |
| 63% | 46 | 53 | 32 | 35 | 37 | 90 |
| 64% | 46 | 53 | 32 | 35 | 37 | 90 |
| 65% | 46 | 54 | 32 | 35 | 37 | 91 |
| 66% | 46 | 54 | 33 | 36 | 37 | 91 |
| 67% | 47 | 54 | 33 | 36 | 37 | 92 |
| 68% | 47 | 54 | 33 | 36 | 38 | 93 |
| 69% | 47 | 55 | 34 | 36 | 38 | 93 |
| 70% | 48 | 55 | 34 | 37 | 38 | 94 |
| 71% | 48 | 55 | 34 | 37 | 38 | 94 |
| 72% | 48 | 55 | 35 | 37 | 38 | 95 |
| 73% | 48 | 56 | 35 | 37 | 38 | 96 |
| 74% | 49 | 56 | 35 | 38 | 38 | 96 |
| 75% | 49 | 56 | 36 | 38 | 39 | 97 |
| 76% | 49 | 56 | 36 | 38 | 39 | 98 |
| 77% | 50 | 57 | 36 | 38 | 39 | 98 |
| 78% | 50 | 57 | 37 | 39 | 39 | 99 |
| 79% | 50 | 57 | 37 | 39 | 39 | 100 |
| 80% | 51 | 58 | 38 | 39 | 39 | 100 |
| 81% | 51 | 58 | 38 | 40 | 40 | 101 |
| 82% | 51 | 58 | 38 | 40 | 40 | 102 |
| 83% | 52 | 58 | 39 | 40 | 40 | 103 |
| 84% | 52 | 59 | 39 | 41 | 40 | 103 |
| 85% | 53 | 59 | 40 | 41 | 40 | 104 |
| 86% | 53 | 59 | 40 | 41 | 40 | 105 |
| 87% | 53 | 60 | 40 | 42 | 40 | 106 |
| 88% | 54 | 60 | 41 | 42 | 41 | 107 |
| 89% | 54 | 60 | 41 | 43 | 41 | 107 |
| 90% | 55 | 61 | 42 | 43 | 41 | 108 |
| 91% | 55 | 61 | 42 | 43 | 41 | 109 |
| 92% | 56 | 61 | 43 | 44 | 42 | 110 |
| 93% | 56 | 62 | 43 | 44 | 42 | 111 |
| 94% | 57 | 62 | 44 | 45 | 42 | 113 |
| 95% | 57 | 62 | 44 | 45 | 42 | 114 |
| 96% | 58 | 63 | 45 | 46 | 42 | 115 |
| 97% | 59 | 63 | 46 | 47 | 42 | 117 |
| 98% | 60 | 63 | 46 | 48 | 42 | 118 |
| 99% | 61 | 63 | 47 | 49 | 42 | 121 |
| 100% | 63 | 63 | 49 | 49 | 42 | 126 |

Table S4

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | GMS statistic | GMS p-value  | MMT statistic | MMT p-value  | BPT statistic | BPT p-value  |
| Musical Training | -  | -  | 58.181 | .000 | 67.020 | .000 |
| Active Engagement | -  | -  | 22.662 | .000 | 45.738 | .000 |
| Age | -36.856 |   .000 | 16.932 | .000 | -26.600 | .000 |
| Gender Female | -7.612  | .000  | -3.302 | .055 | -20.181 | .000 |
| Occupation |   |   |   |   |   |   |
| Accounting/Finance |         -10.478 | .000 | -0.114 | 1.000 | -3.097 | .106 |
| Administration |     -6.410 | .000 | -0.545 | 1.000 | -5.988 | .000 |
| Business development |      -0.978 | 1 | -1.878 | .965 | -0.329 | 1.000 |
| Consultancy | -454 | .000 | 2.310 | .687 | 0.255 | 1.000 |
| Customer service |        -1.62 | .983 | -5.816 | .000 | -1.332 | 1.000 |
| Education/Training |    11.446 | .000 | 9.927 | .000 | 0.772 | 1.000 |
| Engineering/R and D | -6762 | .000 | 2.052 | .891 | 1.968 | .935 |
| Executive/Senior management | -6410 | .000 | 1.656 | .996 | -1.953 | .941 |
| General management |  -6.574 | .000 | -0.646 | 1.000 | -3.904 | .005 |
| Government/military | -6.828 | .000 | -1.475 | 1.000 | -2.951 | .165 |
| Healthcare |   -6.786 | .000 | -1.431 | 1.000 | -4.181 | .002 |
| Homemaker | -6.598 | .000 | 0.326 | 1.000 | -4.818 | .000 |
| IT |  -11.041 | .000 | 2.950 | .167 | 5.014 | .000 |
| Legal |  -1.395 | .999 | 2.198 | .786 | -1.004 | 1.000 |
| Manufacturing/Operations |  -5.121 | .000 | 0.358 | 1.000 | -0.288 | 1.000 |
| Media |  12.236 | .000 | 5.045 | .000 | 12.208 | .000 |
| Medical/Science |    -6.369 | .000 | 3.137 | .094 | -1.551 | .999 |
| Music |   15.917 | .000 | 5.319 | .000 | 7.691 | .000 |
| Other |    15.360 | .000 | -9.881 | .000 | 0.192 | 1.000 |
| Personnel | -2.847 | .166 | -0.092 | 1.000 | -1.021 | 1.000 |
| Professional | -2.480 | .398 | 6.461 | .000 | -3.546 | .022 |
| Sales/Marketing/Advertising | 1.953 | .855 | -3.672 | .014 | 2.182 | .800 |
| Skilled Labour | -3.082 | .083 | -3.733 | .011 | -0.900 | 1.000 |
| Unemployed |   8.685 | .000 | -9.973 | .000 | 2.075 | .880 |
| Occupational Status |   |   |   |   |   |   |
| At university |  16.136 | .000 | -9.699 | .000 | 8.291 | .000 |
| Homemaker/full time parent |   -7.412 | .000 | 0.617 | 1.000 | -6.186 | .000 |
| In full-time employment | -12.220 | .000 | 8.488 | .000 | 5.691 | .000 |
| In part-time employment | -4.809 | .000 | 3.185 | .081 | -4.497 | .000 |
| Retired |  -18.807 | .000 | -0.246 | 1.000 | -23.316 | .000 |
| Self-employed |   10.549 | .000 | 12.375 | .000 | 9.730 | .000 |
| Still at school |  20.905 | .000 | -18.136 | .000 | -0.636 | 1.000 |
| Unemployed |  -3.190 | .058 | -4.348 | .001 | -1.003 | 1.000 |
| Highest Educational Degree Obtained |   |   |   |   |   |   |
| A-levels |        4.810 | .000 | -5.956 | .000 | 3.149 | .090 |
| Completed GCSE/CSE/O-levels |          -4.067 | .002 | -12.291 | .000 | -4.426 | .001 |
| Completed post-16 vocational course |     -5.428 | .000 | -4.168 | .002 | -3.274 | .059 |
| Did not complete GCSE/CSE/O-levels |       -7.063 | .000 | -11.372 | .000 | -10.390 | .000 |
| I am still in education | 1,808 | .000 | -14.937 | .000 | 3.344 | .046 |
| Postgraduate degree |  -0.639 | 1 | 14.610 | .000 | 0.204 | 1.000 |
| Undergraduate degree or professional qualification |   -9.442 | .000 | 14.837 | .000 | 1.863 | .968 |
| Highest Educational Degree Expected  |
| A-levels | 7.283  | .000  | -7.862 | .000 | -1.401 | 1.000 |
| GCSE/CSE/O-levels | 1.144  | 1  | -6.887 | .000 | -4.881 | .000 |
| Not applicable | -24.333  | .000  | 17.028 | .000 | -6.586 | .000 |
| Post-16 vocational course | 1.121  | 1  | -2.820 | .238 | -0.467 | 1.000 |
| Postgraduate degree | 18.752  | .000  | -4.081 | .003 | 8.343 | .000 |
| Undergraduate degree or professional qualification | 11.179  | .000  | -13.114 | .000 | 2.739 | .295 |

*Footnote*. Values of the standardised linear test statistic and p-values from conditional inference tests derived from 50,000 permutations of the data for each test. P-values are adjusted by the single-step procedure for multiple testing on permutation statistics described in Westfall and Young (1993, algorithm 2.5 und formula 2.8). Column names designate scores of self-reported general musical sophistication (GMS), performance on the melodic memory test (MMT) and the beat perception test (BPT).