data

MDPI

Data Descriptor

Survey Data for Measuring Musical Creativity and the Impact of Information

Petros Kostagiolas [1], Charilaos Lavranos [1] and Panagiotis Manolitzas [2,*]

[1] Department of Archives, Library Science and Museology, Ionian University, 49100 Corfu, Greece; pkostagiolas@ionio.gr (P.K.); lavranos@ionio.gr (C.L.)
[2] Department of Tourism Management, Ionian University, 49100 Corfu, Greece
* Correspondence: pmanol@ionio.gr; Tel.: +30-26450-23241

Received: 5 April 2019; Accepted: 30 May 2019; Published: 1 June 2019

Abstract: This paper presents data about the analysis of Webster's model of creative thinking in music products, and the impact of information on musical creativity. For this purpose, a specially designed closed-ended structured questionnaire was developed and distributed. The questionnaire was completed by 238 musicians and was analyzed using the Statistical Package for Social Science (SPSS) version 22.0. The data are presented though descriptive and inferential statistics, principal component analysis for variable reduction, and finally, bivariate regression analysis. The data provide information on Webster's model of creative thinking in music as well as on the impact of music information on musical creativity. The survey results indicate that the overall sense of musical creativity includes conceptional and replicational musical creativity components. These are significantly positively correlated with music information. Musicians' sense of creativity is impacted by music information availability when dealing with various musical creative activities.

Dataset: The data is submitted as a supplementary file.

Dataset License: CC0

Keywords: musical creativity; creative thinking; information

1. Summary

Webster studied musical creativity as a process of creative thinking in music and provided a theoretical framework for musical creativity [1]. This framework incorporates the use of information within the creative process in music, while grouping the basic creative activities of musicians into five dimensions/creative products: composed music scores/recordings; recorded performances; recorded improvisations; written analysis; and mental representation of the music heard [1]. The concept of information relates to symbol representation, message transmission, data interpretation, knowledge acquisition, meaning rendering, contributing to the development of critical thinking, and supporting decision-making for problem-solving situations [2]. Information constitutes the accumulated knowledge of the organized human experience [3] and is interpreted as anything that reaffirms reality, any given information that is consciously or unconsciously engaged in the human environment and has a specific place in our cognitive field [4]. According to Amabile [5], creativity takes place in an individual and collective context within which the search for and retrieval of information is generated about the production of new ideas and new knowledge. The basis of creativity concerns the ability to generate new knowledge through search and retrieval of information involving skills related to selective coding (separation of relevant and unrelated information), selective combination (combination of relevant information), and comparison (linking new and old information) [6]. Additionally, the

collection and access to information is considered to have an important role in the dissemination and flow of information within the creative process [7].

The concept of information in the creative process in music focuses on a central progressive thought process [1]. Music information represents the interaction between divergent and converging processes, which include both the development of skills and other relevant factors (e.g., personal, social, cultural, etc.) within a specific context. Creative activities in music imply the exploitation of the multiple features of music information, critical thinking and constant exposure to ideas and experiences that lead to personal discovery, as well as the creation of new musical knowledge [1]. Over the last decades, in the topic of music information there is a wide number of studies including, among others, theoretical and empirical approaches of information science, musicology and music theory, as well as audio and digital processing of music, stressing the fact that musicians use music information for conceptualizing, creating, and performing music [8–14]. A significant part of these studies, indeed, focus on music information seeking and how this affects the way musicians employ information in managing music collections, use various music information resources (both digital and printed), and employ music information technologies for scoring, listening, performing, etc. Furthermore, it has been shown that a stimulating music information environment enhanced musical creativity and expression [15–20]. Finally, the topic is further explored by theoretical approaches of musical creativity including those by Webster [1,21], Kratus [22], Lock [23], and Menard [24]. The above are summarized in the recent systematic literature review for information seeking for musical creativity by Lavranos et al. [20]. Nonetheless, there are very little data available to back up this rather interesting interplay of musical creativity to music information access and retrieval.

The objective of this paper is two-fold: to provide a detailed review of a survey data for musical creativity based on Webster's model of creative thinking in music and to provide evidence on the impact of information on specific musical creativity dimensions/products.

2. Data Description

An appropriate survey questionnaire was developed and was made available to musicians online with the Google Forms tool. Professional and amateur musicians from all over Greece were notified through memberships of the Greek Branch of the International Association of Music Libraries, Archives and Documentation Centers (IAML), the Greek Composers' Union, and the Athens State Orchestra.

The specially designed closed-ended structured questionnaire includes the following sections:

- Section A: demographics, four variables (sex, age, profession status, music education level)
- Section B: self-assessment of musical creativity, six variables (overall sense of musical creativity, composed music scores/recordings, recorded performances, recorded improvisations, written analysis, mental representation of the music heard/Cronbach's Alpha, 0.722)
- Section C: impact of information on musical creativity, six variables (overall impact of information on musical creativity, composed music scores/recordings, recorded performances, recorded improvisations, written analysis, mental representation of the music heard/Cronbach's Alpha, 0.816)

For the closed-ended questions, a 5 point Likert type scale was employed with 1 = "not at all", 2 = "a little", 3 = "quite a bit", 4 = "a lot" and 5 = "very much". The scale exhibited good internal consistency with all Cronbach's Alpha values above 0.8. The internal consistency for the overall questionnaire was acceptable (Cronbach's Alpha, 0.841).

3. Methods

The survey took place from May to July of 2018 and included a total number of 238 musicians (population consisted of Greek musicians of all levels—composers, performers, educators, students, amateurs etc.—members of the Greek Branch of the International Association of Music Libraries, Archives and Documentation Centers (IAML), the Greek Composers' Union and the Athens State

Orchestra) which successfully completed and returned the online survey distributed with the Google Forms tool. A qualitative pilot study was performed in the questionnaire development stage prior to making the survey available online. In the qualitative study, questionnaire credibility and English to Greek translation was throughout considered by eight experts from both academia (Ionian University professors) and music professions (Greek Composers' Union/Athens State Orchestra). The musicians were asked to self-assess their musical creativity in regard to the five musical creativity dimensions of Webster's model of creative thinking in music products [1]. Moreover, they addressed the impact of information on musical creativity. For data representation descriptive and inferential statistics were performed as well as principal components analysis. Supplementary Materials are provided including the data and the corresponding variables of the survey in SAV file, whiles the survey questionnaire in Word format (Docx).

4. Results

Table 1 portrays the demographic profile of the respondents which comprise of sex, age, profession status, as well as music education level. The gender distribution of the responders shows that 151 (63.4%) were males, the average age was 38.63; while 150 (63.0%) of the responders were professional musicians, and 120 (50.4%) were graduates of bachelor studies or conservatoire. The demographic variables music education level and professional status, in particular, by their nature separate the musicians that took part in the survey into subgroups with distinct information profiles. Therefore, explanatory hypotheses may assume that the higher the educational level of the musicians, the wider their music information space used (e.g., scholarly resources, libraries, etc.) and thereafter, the more the impact of music information on their musical creativity. Similarly, a musician being a professional, he/she might use music information in a more formal way in order to achieve his/her aims. The Kolmogorov–Smirnov and Shapiro–Wilk normality tests indicated that the case of regularity does not apply, thus we used nonparametric inferential statistics (Mann–Whitney U Test and Kruskal–Wallis test) to present the data.

Table 1. Demographic characteristics of the respondents.

Demographics of the Respondents		Respondents	Percentage
Sex	Male	151	63.4%
	Female	87	36.6%
Age	18–30 years	69	29.0%
	31–40 years	72	30.3%
	41–50 years	60	25.2%
	51 years and above	37	15.5%
Profession Status	Leisure Musician	17	7.1%
	Amateur Musician	34	14.3%
	Music Student	37	15.5%
	Professional Musician	150	63.0%
Music Education	Self-taught	24	10.1%
	Bachelor/Conservatory Degree	120	50.4%
	Postgraduate Diploma	69	29.0%
	Doctoral Diploma	25	10.5%

Table 2 presents the results for the respondents' musical creativity self-assessment. According to Webster [1], musical creativity components are divided into three main areas which concern composition, performance/improvisation, and analysis (written and listening). These components can

be considered as the outset of creative thinking in music, representing the final product of musical creation [21]. As shown in Table 2, the musical creativity components with higher values of median (median = 4.0) (e.g., recorded performances, mental representations of the music heard and overall sense of musical creativity), are considered by the musicians who took part in the survey as more important. The components with lower median follow in the sense of musical creativity (e.g., recorded improvisations and written analysis) (median = 3.0). Statistical significance differences ($p < 0.05$) were identified through the Mann–Whitney U test and Kruskal–Wallis test on the sex of the participants and the composed music scores/recordings, recorded improvisations, and overall sense of musical creativity. Furthermore, statistical significance differences ($p < 0.05$) were identified on the age of the respondents and the recorded performances, music education level and written analysis, as well as the musicians' profession status and the composed music scores/recordings, recorded performances, written analysis, mental representations of the music heard, and overall sense of musical creativity.

Table 2. Results for musical creativity self-assessment.

Self-Assessment of Musical Creativity	1 = "not at all" to 5 = "very much"					
	1	2	3	4	5	Median
B1. Composed Music scores/recordings (valid $N = 238$) $^{\varphi, \sigma}$	37.8%	31.1%	14.7%	9.7%	6.7%	2.0
B2. Recorded Performances (valid $N = 238$)$^{\eta, \sigma}$	4.6%	16.0%	27.3%	24.4%	27.7%	4.0
B3. Recorded Improvisations (valid $N = 238$)$^{\varphi}$	18.5%	21.8%	32.4%	16.4%	10.9%	3.0
B4. Written Analysis (valid $N = 238$)$^{\sigma, \varepsilon}$	14.7%	24.4%	23.5%	23.1%	14.3%	3.0
B5. Mental Representations of the Music Heard (valid $N = 238$)$^{\sigma}$	0.4%	9.7%	26.5%	25.2%	38.2%	4.0
B6. Overall Sense of Musical Creativity (valid $N = 238$) $^{\varphi, \sigma}$	2.9%	12.2%	27.3%	28.6%	29.0%	4.0

Note: Mann–Whitney U test and Kruskal–Wallis test (φ: $p < 0.05$ sex; η: $p < 0.05$ age; σ: $p < 0.05$ profession status; ε: $p < 0.05$ music education level).

Table 3 provides the results for the impact of information on musical creativity dimensions. As shown in Table 3, composed music scores/recordings, recorded performances, mental representations of the music heard and overall impact of information on musical creativity are considered to be more important components for the respondents regarding the assessment of the impact of information on musical creativity (median = 4.0). Moreover, statistical significance differences were identified through the Mann–Whitney U test and Kruskal–Wallis test ($p < 0.05$) on the age of the respondents and the recorded performances, and overall impact of information on musical creativity. Additional, statistical significance differences ($p < 0.05$) were identified on the music education level of the participants and the composed music scores/recordings, as well as the musicians' profession status and the composed music scores/recordings, written analysis, mental representations of the music heard, and overall impact of information on musical creativity.

In order to group the factors of musical creativity, principal component analysis with varimax rotation was employed. The Kaiser–Meyer–Olkin (KMO) measure of sampling adequacy indicates the proportion of variance in survey components. As for the results, values close to 1.0 indicate that the analysis may be useful with the survey data. Bartlett's test of sphericity indicates if surveys' variables are unrelated and therefore unsuitable for structure detection. Values less than 0.05 indicate that the analysis may be useful with the survey data [25]. As can be noted from Table 4, the KMO measure for sample adequacy is plausible and Bartlett's test is significant ($p < 0.001$) indicating that the data set is appropriate for factor analysis [26]. Furthermore, the scree plot of factors explaining musical creativity (Figure 1) shows that that there are two main groups to the factors affecting musical creativity.

Table 3. Results for the impact of information on musical creativity.

Impact of Information on Musical Creativity	1 = "not at all" to 5 = "very much"					
	1	2	3	4	5	Median
C1. Composed Music Scores/Recordings (valid N = 238) $^{\sigma, \varepsilon}$	0.8%	13.4%	26.5%	27.3%	31.9%	4.0
C2. Recorded Performances (valid N = 238) $^{\eta}$	0.4%	9.2%	20.6%	38.2%	31.5%	4.0
C3. Recorded Improvisations (valid N = 238)	8.0%	21.4%	31.1%	24.4%	15.1%	3.0
C4. Written Analysis (valid N = 238) $^{\sigma}$	6.7%	23.1%	27.3%	24.4%	18.5%	3.0
C5. Mental Representations of the Music Heard (valid N = 238) $^{\sigma}$	4.2%	16.8%	20.2%	26.9%	31.9%	4.0
C6. Overall Impact of Information on Musical Creativity (valid N = 238) $^{\eta, \sigma}$	0.4%	4.6%	34.5%	34.0%	26.5%	4.0

Note: Mann–Whitney U test and Kruskal–Wallis test (η: $p < 0.05$ age; σ: $p < 0.05$ profession status; ε: $p < 0.05$ music education level).

Table 4. Kaiser–Meyer–Olkin (KMO) and Bartlett's test for factors of musical creativity.

Tests for Musical Creativity Factors	Musical Creativity
Kaiser–Meyer–Olkin Measure of Sampling Adequacy	0.625
Bartlett's Test of Sphericity	
Approx. Chi-Squared	175.508
Degree of freedom	10
Significant level	0.000

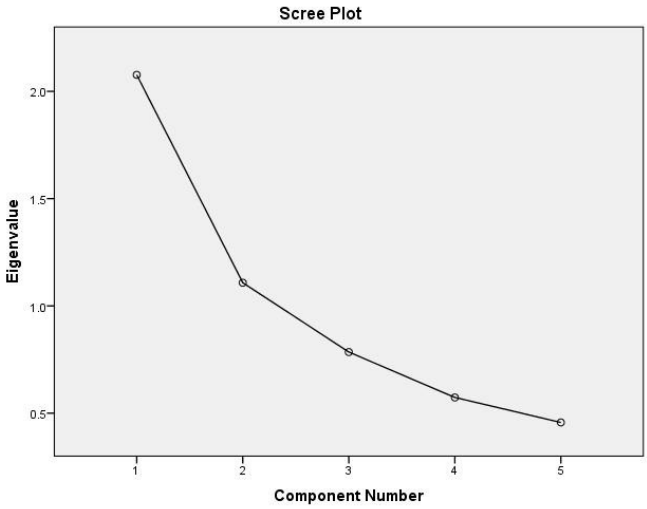

Figure 1. Scree plot for factors explaining musical creativity.

Table 5 presents the component matrix with the corresponding factor loadings after rotation; while loadings are sorted by size and those less than 0.4 have been suppressed. Hence, two components have been identified: The first one relates to the creativity expressed through composed music scores/recordings, recorded improvisations and written analysis, and thus is labeled as "conceptional musical creativity", and the second one includes creativity components related to recorded performances and mental representations of the music heard, and therefore is labeled as "replicational musical creativity".

Table 5. Rotated component matrix for musical creativity.

Factor Grouping Webster's Creativity Products	Components	
	Conceptional Musical Creativity Component (CMCC)	Replicational Musical Creativity Component (RMCC)
B1. Composed Music Scores/Recordings	0.884	
B3. Recorded Improvisations	0.668	
B4. Written Analysis	0.658	
B5. Mental Representations of the Music Heard		0.797
B2. Recorded Performances		0.783
Extraction method: principal component analysis Rotation method: varimax with Kaiser normalization a. Rotation converged in three iterations		

In the same manner as above, the data for the impact of information on musical creativity are presented. Therefore, Table 6 indicates sample adequacy for factor analysis. Figure 2 portrays the scree plot which, in turn, indicates that the factors from one or from a component solution were derived from the un-rotated principal component analysis with the component matrix solution presented in Table 7 (one component extracted labeled as "info impact on musical creativity").

Table 6. KMO and Bartlett's test for the musical creativity factors.

Tests for Musical Creativity factors	Impact of Information on Musical Creativity
Kaiser–Meyer–Olkin Measure of Sampling Adequacy	0.733
Bartlett's Test of Sphericity	
Approx. Chi-Squared	328.425
Degree of freedom	10
Significant level	0.000

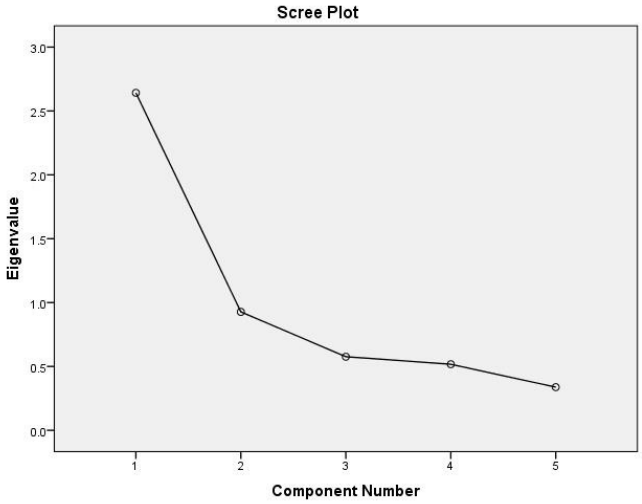

Figure 2. Scree plot for factors explaining the impact of information on musical creativity.

Table 7. Un-rotated component matrix for the impact of information on musical creativity.

Information Impact on Musical Creativity Components	Component
	Information impact on Musical Creativity Component (IMCC)
C5. Mental representations of the music heard	0.800
C4. Written analysis	0.800
C2. Recorded performances	0.767
C1. Composed music scores/Recordings	0.695
C3. Recorded improvisations	0.540
Extraction method: principal component analysis a. One component extracted	

Bivariate correlations for all grouped variables based on Pearson r statistics are shown in Table 8, with Pearson control (2-tailed) level of significance at $p < 0.05$ (*) and $p < 0.01$ (**). The bold numbers provided in Table 8 indicate that the corresponding correlation coefficients are statistically significant.The results indicate that info impact on musical creativity is significantly associated with the profession status ($r = 0.232/\mathbf{p} < 0.01$), conceptional musical creativity ($r = 0.231/p < 0.01$), replicational musical creativity ($r = 0.501/p < 0.01$), overall sense of musical creativity ($r = 0.401/p < 0.01$), and negatively associated with the age ($r = -0.142/p < 0.05$) of the respondents. The conceptional musical creativity is positively associated with the profession status ($r = 0.214/p < 0.01$), music education level ($r = 0.154/p < 0.05$), overall sense of musical creativity ($r = 0.358/p < 0.01$), overall impact of information on musical creativity ($r = 0.227/\mathrm{p} < 0.01$), and negatively associated with the sex ($r = -0.215/p < 0.01$) of the participants. Furthermore, the replicational musical creativity is positively associated with the overall sense of musical creativity ($r = 0.481/p < 0.01$), overall impact of information on musical creativity ($r = 0.445/p < 0.01$), and negatively associated with the age ($r = -0.229/p < 0.01$) of the musicians. It is also worth mentioning that music education level is significantly associated with the age ($r = 0.186/p < 0.01$) and the profession status ($r = 0.506/p < 0.01$) of the survey respondents.

Table 8. Bivariate correlations for demographics and all grouped variables.

	A1.	A2.	A3.	A4.	B6.	C6.	CMCC	RMCC	IMCC
A1. Sex	1								
A2. Age	−0.080	1							
	0.217								
A3. Profession Status	−0.072	0.122	1						
	0.270	0.060							
A4. Music Education Level	−0.019	**0.186** **	**0.506** **	1					
	0.775	0.004	0.000						
B6. Overall Sense of Musical Creativity	**−0.155** *	**−0.145** *	**0.223** **	0.080	1				
	0.017	0.025	0.001	0.219					
C6. Overall Impact of Information on Musical Creativity	−0.028	**−0.183** **	**0.190** **	0.062	**0.555** **	1			
	0.662	0.005	0.003	0.344	0.000				
Conceptional MCC	**−0.215** **	−0.032	**0.214** **	**0.154** *	**0.358** **	**0.227** **	1		
	0.001	0.628	0.001	0.017	0.000	0.000			
Replicational MCC	0.068	**−0.229** **	0.080	−0.031	**0.481** **	**0.445** **	0.000	1	
	0.297	0.000	0.220	0.637	0.000	0.000	1.000		
Info Impact on MCC	−0.013	**−0.142** *	**0.232** **	0.123	**0.401** **	**0.659** **	**0.231** **	**0.501** **	1
	0.846	0.028	0.000	0.058	0.000	0.000	0.000	0.000	

Note: * correlation is significant at the 0.05 level (2-tailed); ** correlation is significant at the 0.01 level (2-tailed).

Among the aforementioned interesting results, it is worth mentioning that overall sense of musical creativity is highly correlated with the conceptional ($r = 0.358/p < 0.05$) as well as the replicational ($r = 0.481/p < 0.05$) musical creativity components. Moreover, the overall impact of information on musical creativity is correlated with both conceptional ($r = 0.227/p < 0.05$) and replicational ($r = 0.445/p < 0.05$) musical creativity components. Hence, although musicians' sense of creativity is significantly positively correlated by music information, the dimensions related to replicational creativity (mental representations of the music heard, recorded performances) exhibit a higher correlation. The results of Table 8 provide insight into the way music information impacts musical creativity within different subgroups of music education level and professional status. Indicatively, the overall impact of information on musical creativity is highly correlated with professional musicians ($r = 0.190/p < 0.05$), which in their majority have an academic level of music education.

5. Conclusions

Creativity is of paramount importance in music [19]. In fact, one may argue that creativity and music is profoundly and intensely connected [20]. On the other hand, music information space becomes richer and more accessible and this affects musical creativity [17]. This data paper reveals the role of information on musical creativity and can help individuals as well as institutions (universities, conservatories, orchestras, philharmonic bands, and choirs) to comprehend the important role and the impact of music information on musical creativity. Researchers and practitioners interested in musical creativity and the impact of information can reproduce and extend this analysis by repeating the survey in different musical contexts (i.e., other countries, specific musician's groups, etc.). Moreover, having based creativity and information interrelation in the theoretical framework of Amabile [5], we suggest that researchers in different areas of the creative industries (e.g., performing arts, theatre, cinema, etc.) might dwell into specific creativity dimensions, explaining creativity in particular areas in a similar manner that we did based on musical creativity components. Furthermore, the dataset provided may be revisited through more advanced statistical analysis methods (e.g., structural equation modeling, other regression techniques) in order to reveal models explaining the mediation and/or moderation process analyses commonly used in social senses. Therefore, investments on music information services (archives, libraries, repositories, etc.) can play an active role on the universe of musical creativity.

Supplementary Materials: The data and the questionnaire are available online at http://www.mdpi.com/2306-5729/4/2/80/s1, SAV: Data Descriptor_SAV, Docx: Data Descriptor_Questionnaire.

Author Contributions: Questionnaire development, P.K., C.L., P.M.; methodology, P.K., C.L., P.M.; supervision, P.K.; writing—original draft preparation: P.K., C.L., P.M.; data analysis, C.L., P.K.

Funding: This research received no external funding.

Acknowledgments: The authors are grateful to the members of the Greek Branch of the International Association of Music Libraries, Archives and Documentation Centers (IAML), the Greek Composers' Union and the Athens State Orchestra for their active participation support in the survey.

Conflicts of Interest: The authors declare no conflicts of interest

References

1. Webster, P. Creative thinking in music: Advancing a model. In *Creativity and music education*; Sullivan, T., Willingham, L., Eds.; Britannia Printers: Toronto, Canada, 2002; pp. 16–34.
2. Savolainen, R. Everyday life information seeking: Approaching information seeking in the context of 'way of life'. *Libr. Inf. Sci. Res.* **1995**, *17*, 259–294. [CrossRef]
3. Case, D.O. *Looking for Information: A Survey of Research on Information Seeking, Needs and Behavior*, 3rd ed.; Emerald Group Publishing: Bingley, UK, 2012.
4. Artandi, S. Information concepts and their utility. *J. Assoc. Inf. Sci. Technol.* **1973**, *24*, 242–245. [CrossRef]
5. Amabile, T.M. *Creativity in Context: Update to the Social Psychology of Creativity*; Westview Press: Boulder, CO, USA, 1996.

6. Sternberg, R.J. *Beyond IQ: A Triarchic Theory of Human Intelligence*; Cambridge University Press: New York, NY, USA, 1985.
7. Csikszentmihalyi, M.; Wolfe, R. New conceptions and research approaches to creativity: Implications of a systems perspective for creativity in education. In *International Handbook of Giftedness and Talent*, 2nd ed.; Heller, K.A., Monks, F.J., Sternberg, R.J., Subotnik, R.F., Eds.; Elsevier Science: Amsterdam, The Netherlands, 2000; pp. 81–93.
8. Cunningham, S.J.; Reeves, N.; Britland, M. An ethnographic study of music information seeking: Implications for the design of a music digital library. In Proceedings of the 3rd ACM/IEEE-CS Joint Conference on Digital Libraries (JCDL), Houston, TX, USA, 27–31 May 2003.
9. Dougan, K. Information seeking behaviors of music students. *Ref. Serv. Rev.* **2012**, *40*, 558–573. [CrossRef]
10. Hunter, B. A new breed of musicians: The information-seeking needs and behaviors of composers of electroacoustic music. *Music. Ref. Serv. Q.* **2006**, *10*, 1–15. [CrossRef]
11. Laplante, A.; Downie, J.S. The utilitarian and hedonic outcomes of music information-seeking in everyday life. *Libr. Inf. Sci. Res.* **2011**, *33*, 202–210. [CrossRef]
12. Lee, J.H. Analysis of user needs and information features in natural language queries seeking music information. *J. Assoc. Inf. Sci. Technol.* **2010**, *61*, 1025–1045. [CrossRef]
13. Liew, C.L.; Siong, S.N. Beyond the notes: A qualitative study of the information-seeking behavior of ethnomusicologists. *J. Acad. Librariansh.* **2006**, *32*, 60–68. [CrossRef]
14. Weigl, D.M.; Guastavino, C. User studies in the music information retrieval literature. In Proceedings of the 12th International Society for Music Information Retrieval Conference (ISMIR), Miami, FL, USA, 24–28 October 2011.
15. Eaglestone, B.; Ford, N.; Brown, G.J.; Moore, A. Information systems and creativity: An empirical study. *J. Doc.* **2007**, *63*, 443–464. [CrossRef]
16. Ho, W.C. Students' experiences with and preferences for using information technology in music learning in Shanghai's secondary schools. *Br. J. Educ. Technol.* **2007**, *38*, 699–714. [CrossRef]
17. Kostagiolas, P.; Lavranos, C.; Martzoukou, K.; Papadatos, J. The role of personality in musicians' information seeking for creativity. *Inf. Res.* **2017**, *22*, 756.
18. Kostagiolas, P.; Lavranos, C.; Korfiatis, N.; Papadatos, J.; Papavlasopoulos, S. Music, musicians and information seeking behaviour: A case study on a community concert band. *J. Doc.* **2015**, *71*, 3–24. [CrossRef]
19. Lavranos, C.; Kostagiolas, P.; Martzoukou, K.; Papadatos, J. Music information seeking behaviour as motivator for musical creativity: Conceptual analysis and literature review. *J. Doc.* **2015**, *71*, 1070–1093. [CrossRef]
20. Lavranos, C.; Kostagiolas, P.; Korfiatis, N.; Papadatos, J. Information seeking for musical creativity: A systematic literature review. *J. Assoc. Inf. Sci. Technol.* **2016**, *67*, 2105–2117. [CrossRef]
21. Webster, P. Creativity as creative thinking. *Music. Educ. J.* **1990**, *76*, 22–28. [CrossRef]
22. Kratus, J. Music listening is creative. *Music. Educ. J.* **2017**, *103*, 46–51. [CrossRef]
23. Lock, G. Musical creativity in the mirror of Glaveanu's five principles of cultural psychology. *Cult. & Psychol.* **2011**, *17*, 121–136.
24. Menard, E. Creative thinking in music: Developing a model for meaningful learning in middle school general music. *Music. Educ. J.* **2013**, *100*, 61–67. [CrossRef]
25. Tabachnick, B.G.; Fidell, L.S. *Using Multivariate Statistics*, 5th ed.; Pearson Allyn & Bacon: Upper Saddle River, NJ, USA, 2007.
26. Nunnaly, J.C.; Bernstein, I.H. *Psychometric Theory*, 3rd ed.; McGraw-Hill: New York, NY, USA, 1994.