

# Music Information Retrieval

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Conceptual Framework, Annotation and User Behaviour

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Volume 2



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## Introduction

Volume two of this thesis consists of evidence tables, figures and illustrations that refer to the text in volume one.

This material was not included in volume one in order to keep the latter down to a manageable size. This enables the reader to consult the reference material without having to leaf through the pages all the time.

In volume two, reference to volume one is made by the verbatim reproduction of chapter headings and sub-headings, followed by the chapter and section number being referred to between brackets [e.g. (4.3.2)].

Reference to volume two is made in volume one by means of the symbol ②, followed by the page number between brackets [e.g. (② p. 33)].

# 1 Spontaneous User Behaviour (4)



### 1.1 Questions and findings (4.3.3)

#### Personal background

Personal background		
N = 49		
Occupation:	Students in art science	
Age (years)	Min	18
	Max	35
	Mean	20,6
Gender (%)	Male %	22,4
	Female %	77,6

Table 1: Summary of the output for personal background.

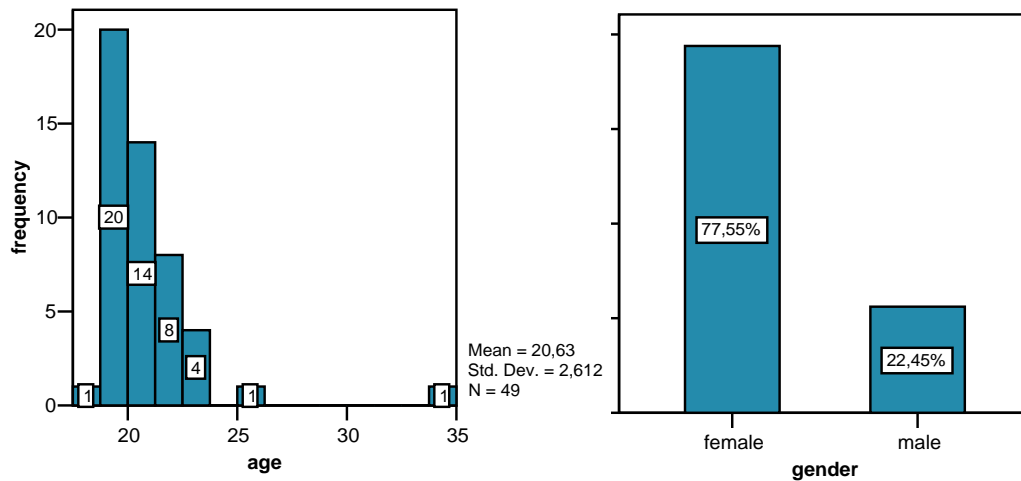


Figure 1: Histogram showing the distribution of age (left), bar chart representing the distribution of gender (right).

**Music behaviour: Q # 1**

Q #1: How many hours per day do you listen to music?			
Minimum		1	Hours
Maximum		9	Hours
Mean		3,7	Hours

Table 2: Time participants spend listening to music.

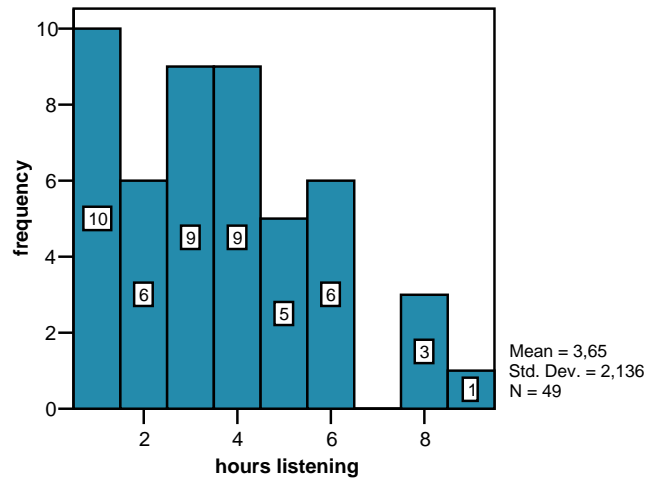


Figure 2: Histogram showing the time (hours) per day participants listen to music.

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**Music behaviour: Q # 2**

Question # 2: Do you listen actively (attentive) or passively (background) to music?	
% actively	49
% passively	51

Table 3: Distribution of the way participants listen to music.

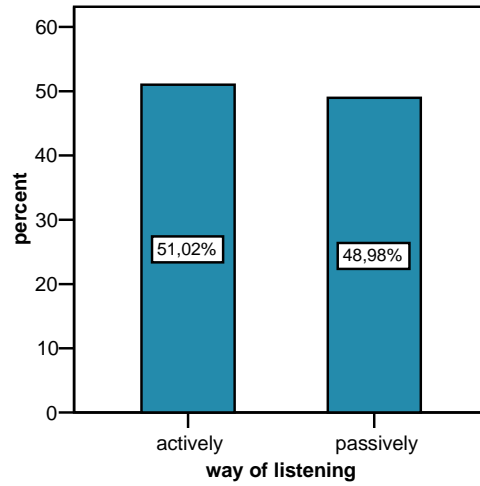


Figure 3: Bar chart showing the distribution of the way participants listen to music.

**Music behaviour: Q # 3**

Question # 3: Do you play an instrument?		
% yes		42,9
% no		55,1
% no reply		2

Table 4: Distribution of practicing an instrument.

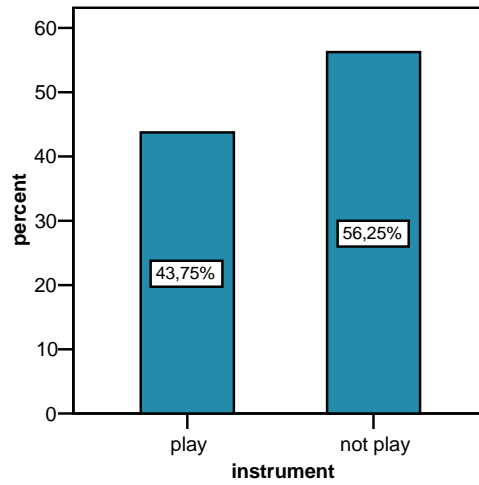


Figure 4: Bar chart representing the distribution of practicing an instrument.

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**Music behaviour: Q # 4**

Question # 4: What is the highest music education you have accomplished?		
% none		44,9
% self study		12,2
% music school		42,9
% conservatory		0

Table 5: Distribution of music education.

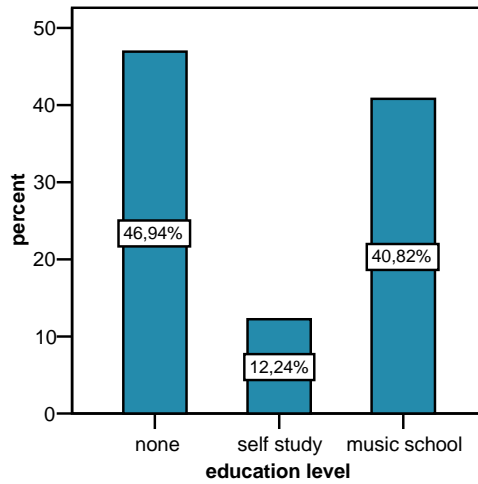


Figure 5: Bar chart representing the distribution of the highest education level of the participants.

**Music behaviour: Q # 5**

Question # 5: How many CD's do you buy per year?		
Minimum		0
Maximum		250
Mean		16,2

Table 6: Distribution of the number of CD's participants buy per year.

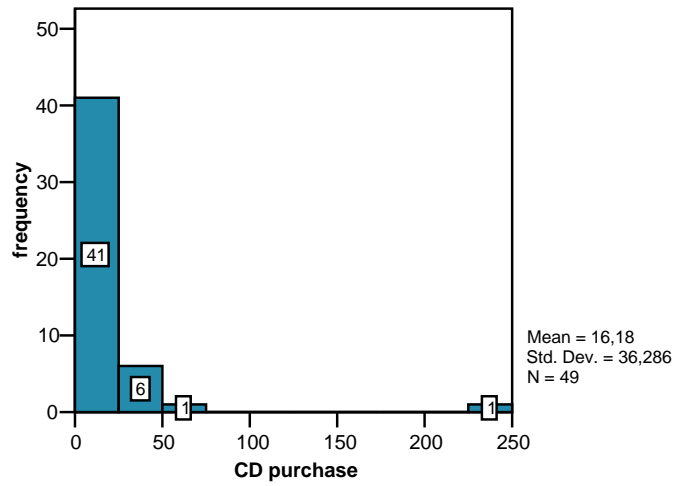


Figure 6: Histogram showing the number of CD's participants buy per year (average).

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**Music behaviour: Q # 6**

Question # 6: To which radio stations did you listen last week for at least one hour?			
Multiple choices from a fixed list		Count	%
	Stubru	30	39,5
	Klara	13	17,1
	Radio 1	12	15,8
	Donna	7	9,2
	Other	5	6,6
	No radio	3	3,9
	Qmusic	3	3,9
	Radio 2	2	2,6
	Contact	1	1,3
	<b>Total</b>	<b>76</b>	<b>100</b>

Table 7: Distribution of radio stations.

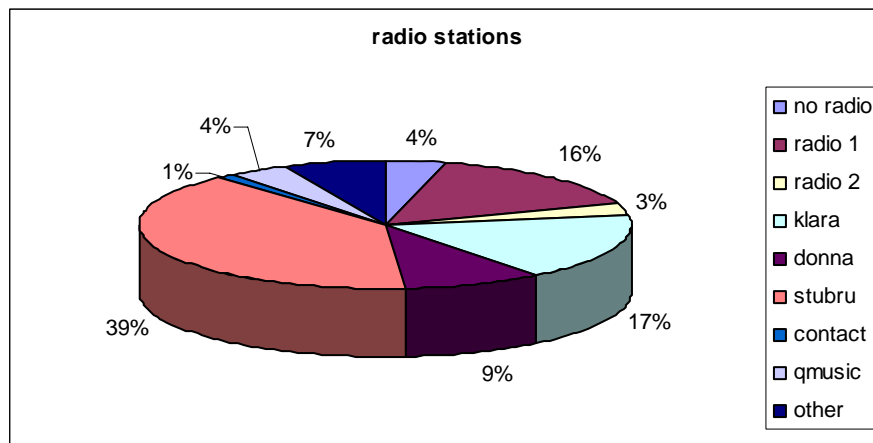


Figure 7: Pie chart representing the distribution of radio stations.

Music behaviour: Q # 7

Question # 7: Which genres did you listen to during the last week for at least one hour?		
Multiple choices from a fixed list	Count	%
Pop	27	22,9
Rock	26	22
Jazz	23	19,5
Classic	16	13,6
Drmbass	7	5,9
Folk	6	5,1
Other	6	5,1
Techno	5	4,2
Dance	1	0,8
Hiphop	1	0,8
Total	119	100

Table 8: Distribution of genres.

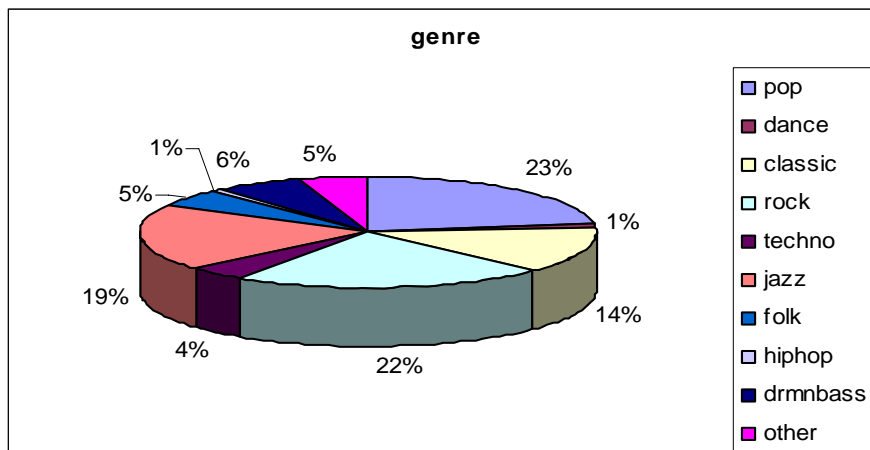


Figure 8: Pie chart representing the distribution of genres.

**Music behaviour: Q # 8**

Question # 8: How do you get in contact with the music that you buy?			
Ratings: scale 0-5		Sum	%
	Radio	149	26,5
	Friends	129	23
	Media	90	16
	Chance	94	16,7
	Internet	27	4,8
	Going out	73	13
	Total	562	100

Table 9: Distribution of the sources by which new music is discovered.

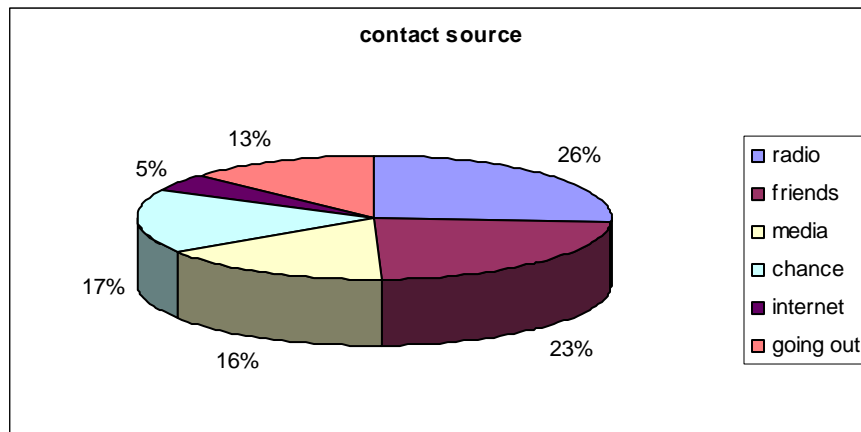


Figure 9: Pie chart representing the distribution of the sources by which new music is discovered.

**Music behaviour: Q # 9**

Question # 9: How do you search for music that you do not know?			
Ratings: scale 0-5		Sum	%
	Title	95	33,9
	Seller	54	19,3
	Internet	65	23,2
	Catalogue	25	8,9
	Playlist	24	8,6
	Other	17	6,1
	Total	280	100

Table 10: Distribution of search methods.

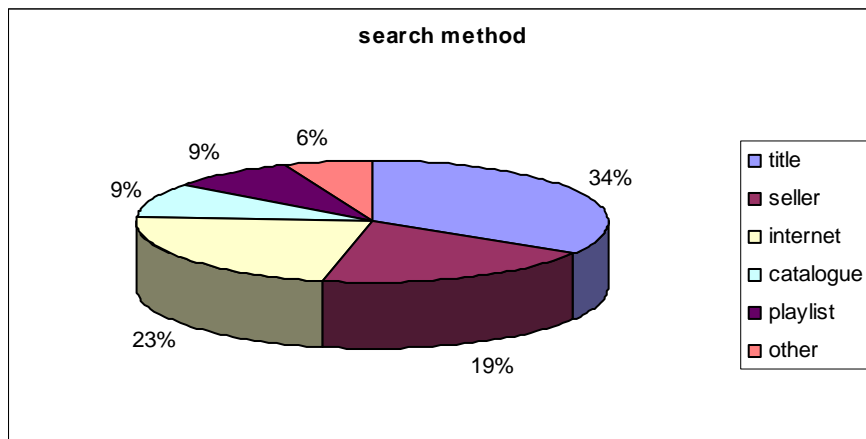


Figure 10: Pie chart representing the distribution of search methods.



**Music behaviour: Q # 10**

Question # 10: What kind of information do you use to find a piece of music?			
Ratings: scale 0-5		Sum	%
	Performer	169	25,8
	Title	146	22,3
	Genre	143	21,8
	Composer	104	15,9
	Label	40	6,1
	Year / period	30	4,6
	Instrument	23	3,5
	<b>Total</b>	<b>655</b>	<b>100</b>

Table 11: Distribution of the type of information used to find music.

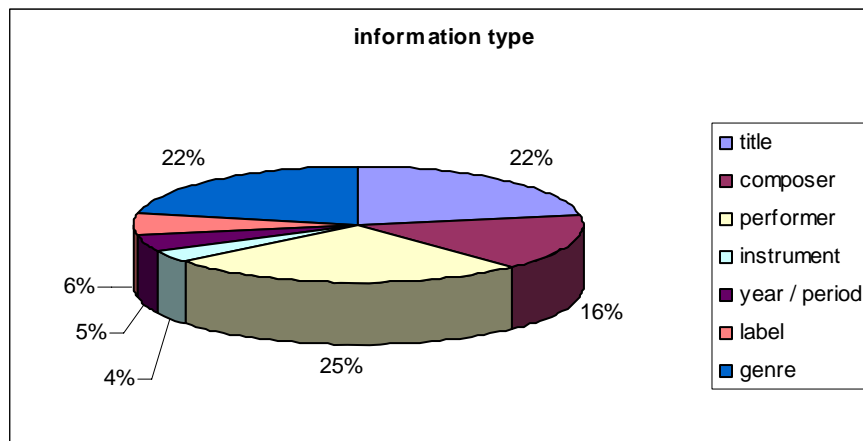


Figure 11: Pie chart representing the type of information used to find music.

**Music behaviour: Q # 11**

Question # 11: Say you would like to buy a CD with the 5 <sup>th</sup> Symphony of Beethoven, but you do not know the title or the composer. What kind of music description do you find suitable for making clear what you are looking for?		
Ratings: scale 0-5	Sum	%
Genre	147	38,7
Rhythm	87	22,9
Instrument	50	13,2
Pitch	48	12,6
Emotion	48	12,6
Total	380	100

Table 12: Distribution of suitable features to describe music.

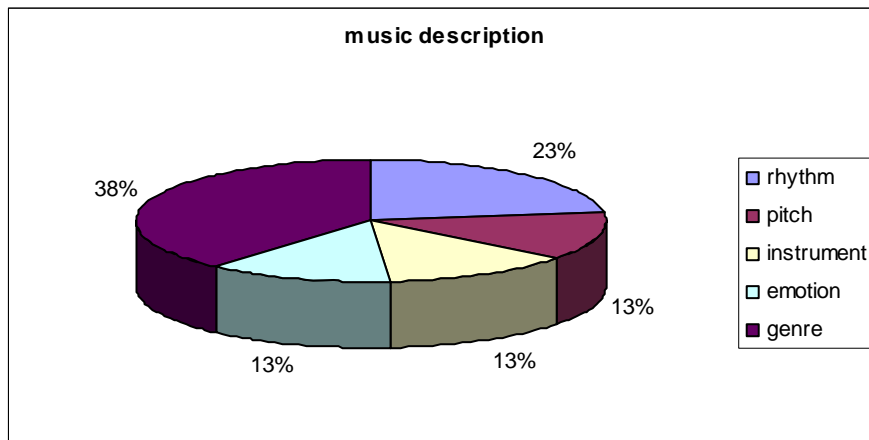


Figure 12: Pie chart representing suitable features to describe music.

Internet activities: Q # 12

Question # 12: How many hours per week on the average are you online?		
Minimum		1
Maximum		20
Mean		5

Table 13: Distribution of the hours per week spend online (average).

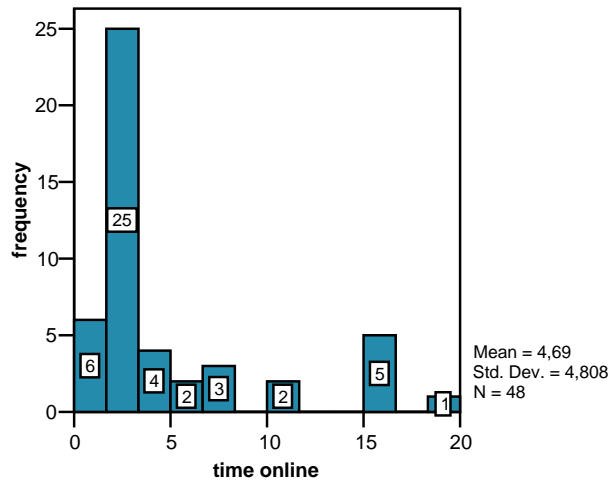


Figure 13: Histogram showing the hours per week spend online (average).

**Internet activities: Q # 13**

Question # 13: Give a rating to following Internet activities according to the degree of your practice.			
Ratings: scale 0-5		Sum	%
	Info	192	37,6
	Email	184	36,1
	Recreative	75	14,7
	Chat	50	9,8
	Buy	9	1,8
	Total	510	100

Table 14: Distribution of Internet activities.

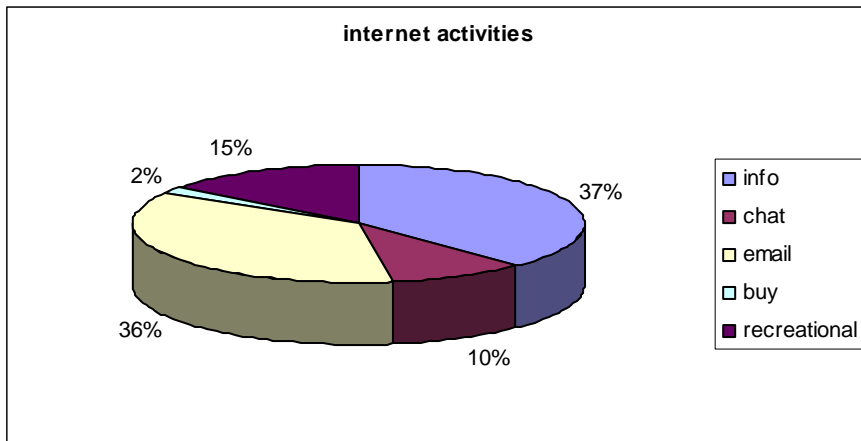


Figure 14: Pie chart representing the distribution of Internet activities.

Internet activities: Q # 14

Question # 14: Assume that following search methods are available. Give a rating according to the degree of what you think of their suitability for finding music using the Internet.		
Ratings: scale 0-5	Sum	%
Text	219	51,2
Example	92	21,5
Sing / hum	53	12,4
Score	49	11,4
Rhyhm	15	3,5
Total	428	100

Table 15: Distribution of suitability of search methods.

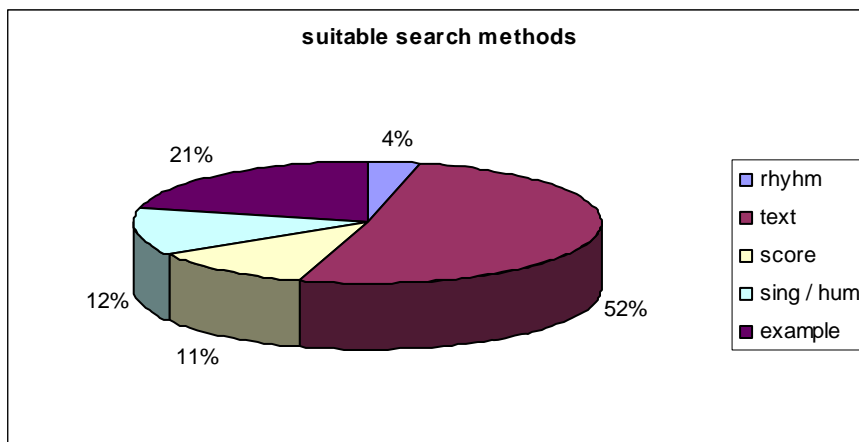


Figure 15: Pie chart representing suitable search methods using.

**Internet activities: Q # 15**

Question # 15: What type of information would you like to retrieve using an intelligent search system?			
Ratings: scale 0-5		Sum	%
	Title	222	28,8
	Composer	221	28,6
	Fragment	170	22,0
	Recording	84	10,9
	Score	75	9,7
	Total	772	100

Table 16: Distribution of suitable feedback information.

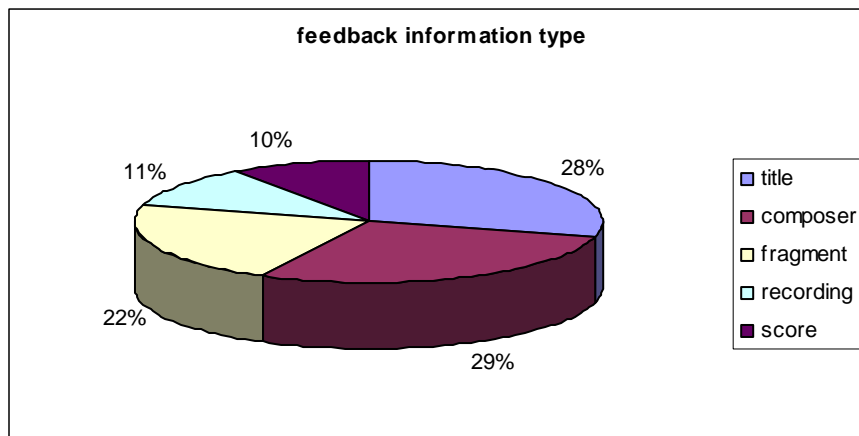


Figure 16: Pie chart representing suitable feedback information.

**Internet activities: Q # 16**

Question # 16: Do you download music from the Internet?		
	% yes	49,0
	% no	51,0

Table 17: Distribution of music downloading activity.

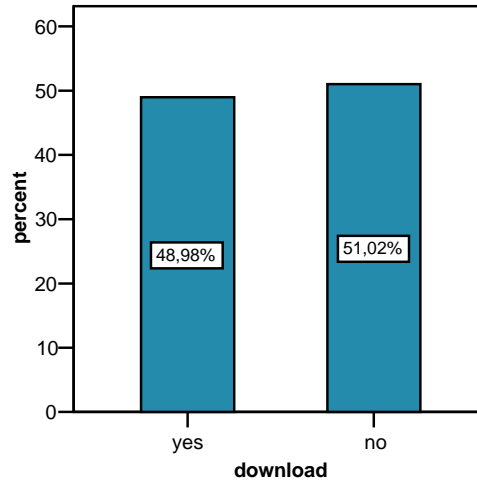


Figure 17: Bar chart representing the distribution of the music downloading activity.

**Internet activities: Q # 17**

Question # 17: Do you buy less CD's because of the Internet?		
	% yes	20,4
	% no	79,6

Table 18: Distribution of the decrease of CD purchase in shops.

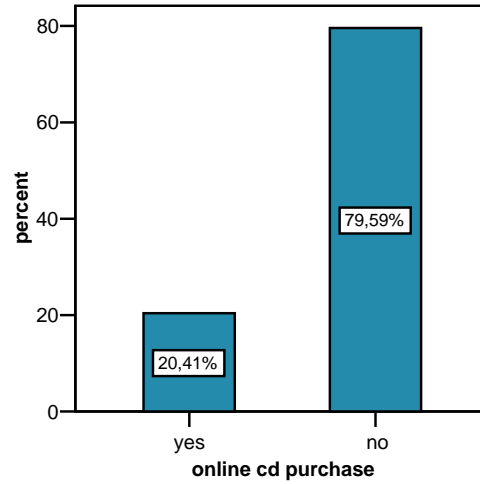


Figure 18: Bar chart showing the distribution of the decrease of CD purchase in shops.

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**Internet activities: Q # 18**

Question # 18: What is the main reason why you do not buy CD's online?			
Multiple choices from a fixed list		Count	%
	Unsafe	14	28,6
	Other	12	24,5
	Technical	11	22,4
	See	10	20,4
	Expensive	2	4,1
	<b>Total</b>	<b>49</b>	<b>100</b>
Other reasons given by the respondents are:			
	It is much more fun to wander around in a music store In a shop you discover things The charm of ferreting in drawers gets lost I miss the contact with the seller I do not need it I have no Internet connection I have no CD writer I have no VISA card When I buy music I want to hear it immediately		

Table 19: Distribution of reasons for not buying CD's online.

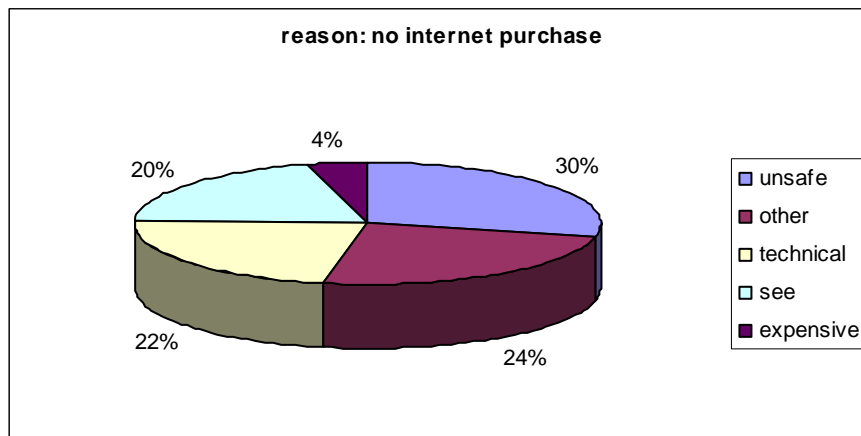


Figure 19: Pie chart representing the distribution of reasons for not buying CD's online.

## 1.2 User groups (4.3.4)

### Differences within gender: general search methods (Q#9)

	Ratings	0	1	2	3	4	5	SUM 4+5
Female	Title	26,3	15,8	15,8	18,4	21,1	2,6	23,7
	Explain	52,6	18,4	2,6	10,5	10,5	5,3	15,8
	Internet	57,9	7,9	5,3	13,2	13,2	2,6	15,8
	Catalogue	86,8	0,0	5,3	2,6	2,6	2,6	5,3
	Playlist	76,3	5,3	5,3	10,5	2,6	0,0	2,6
		0	1	2	3	4	5	SUM 4+5
Male	Title	36,4	0,0	18,2	18,2	18,2	9,1	27,3
	Explain	63,6	18,2	0,0	18,2	0,0	0,0	0,0
	Internet	63,6	0,0	0,0	9,1	0,0	27,3	27,3
	Catalogue	72,7	9,1	0,0	9,1	0,0	9,1	9,1
	Playlist	90,9	0,0	0,0	0,0	0,0	9,1	9,1

Table 20: Distribution of ratings of general search methods by women and men.

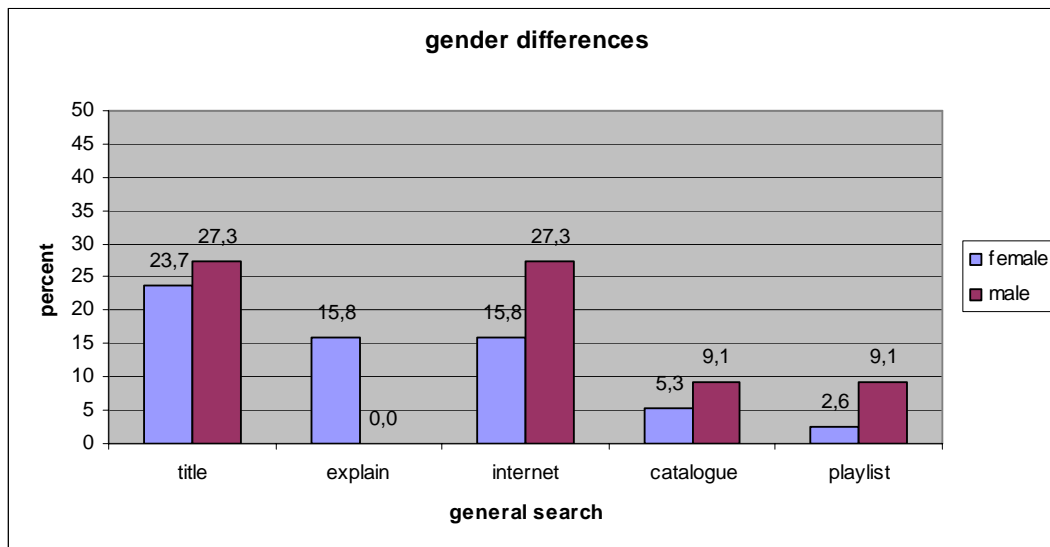


Figure 20: Comparison of general search methods calculated on the sum of the highest ratings (much and very much) for women and men.

Differences within gender: general search methods (Q#9)

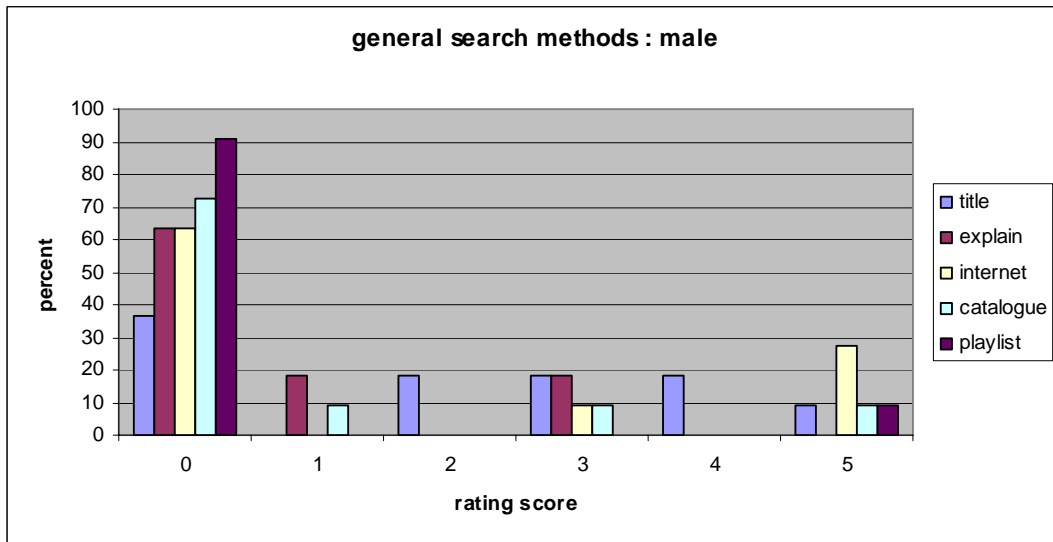
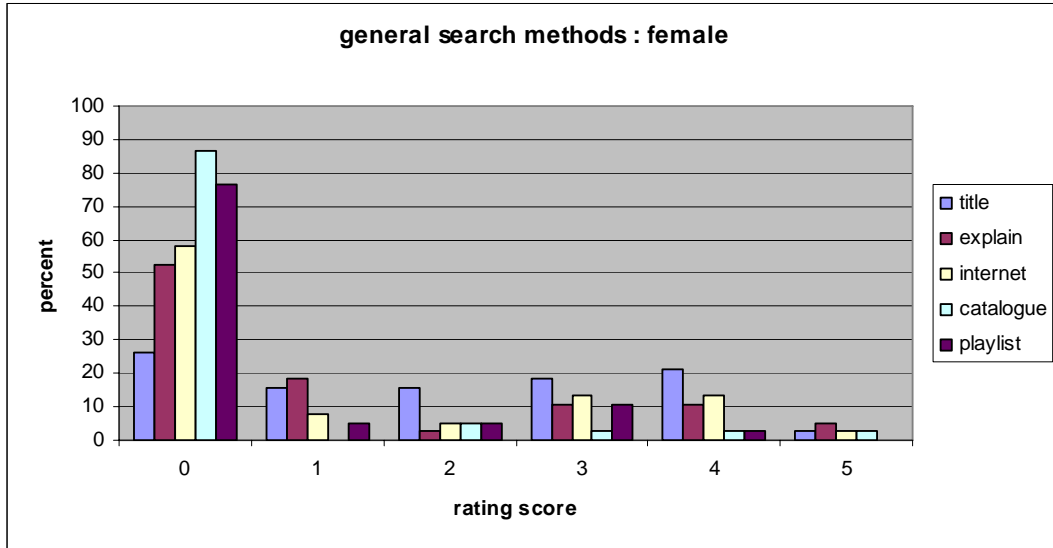


Figure 21: Clustered bar charts representing the distribution of ratings of general methods for searching music used by women (top) and men (bottom).

**Differences within gender: information type (Q#10)**

	Ratings	0	1	2	3	4	5	SUM 4+5
Female	Title	21,1	5,3	10,5	7,9	21,1	34,2	55,3
	Composer	39,5	7,9	13,2	15,8	7,9	15,8	23,7
	Performer	7,9	7,9	5,3	2,6	26,3	50,0	76,3
	Instrument	81,6	10,5	0,0	2,6	5,3	0,0	5,3
	Year - period	78,9	10,5	5,3	5,3	0,0	0,0	0,0
	Record label	73,7	2,6	13,2	7,9	2,6	0,0	2,6
	Genre	18,4	7,9	7,9	15,8	21,1	28,9	50,0
		0	1	2	3	4	5	Sum 4+5
Male	Title	9,1	0,0	9,1	45,5	18,2	18,2	36,4
	Composer	27,3	0,0	18,2	9,1	9,1	36,4	45,5
	Performer	27,3	0,0	18,2	18,2	9,1	27,3	36,4
	Instrument	63,6	18,2	0,0	18,2	0,0	0,0	0,0
	Year - period	54,5	9,1	9,1	9,1	0,0	18,2	18,2
	Record label	63,6	0,0	9,1	0,0	9,1	18,2	27,3
	Genre	27,3	0,0	9,1	9,1	9,1	45,5	54,5

Table 21: Distribution of ratings of types of information used for searching by women and men.

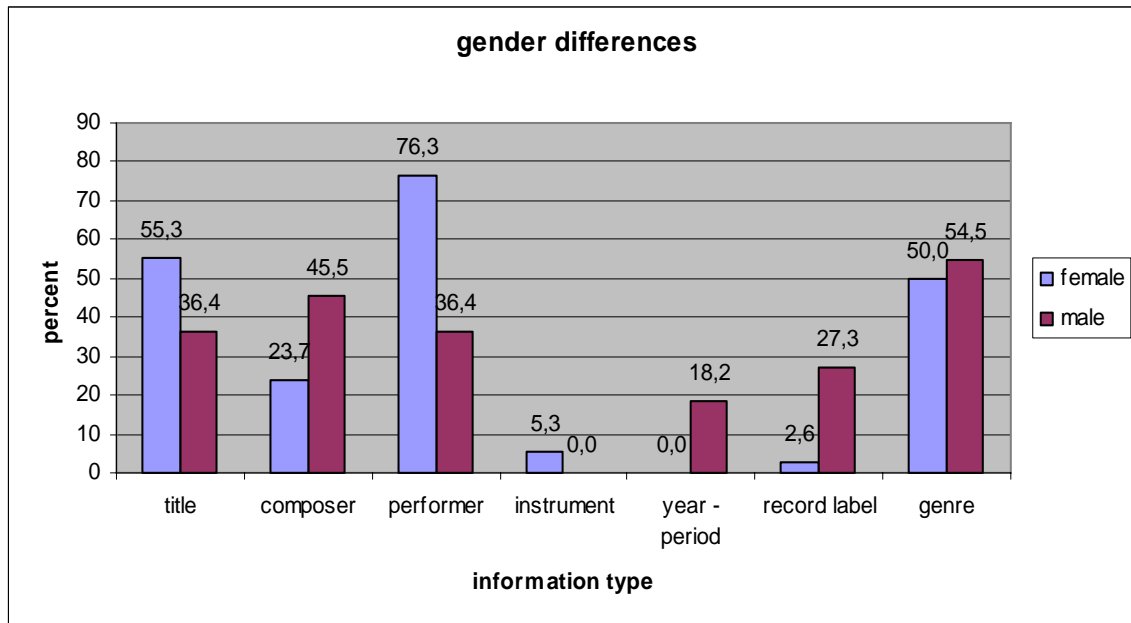


Figure 22: Comparison of types of information used for searching music calculated on the sum of the highest ratings (much and very much) for women and men.

Differences within gender: information type (Q#10)

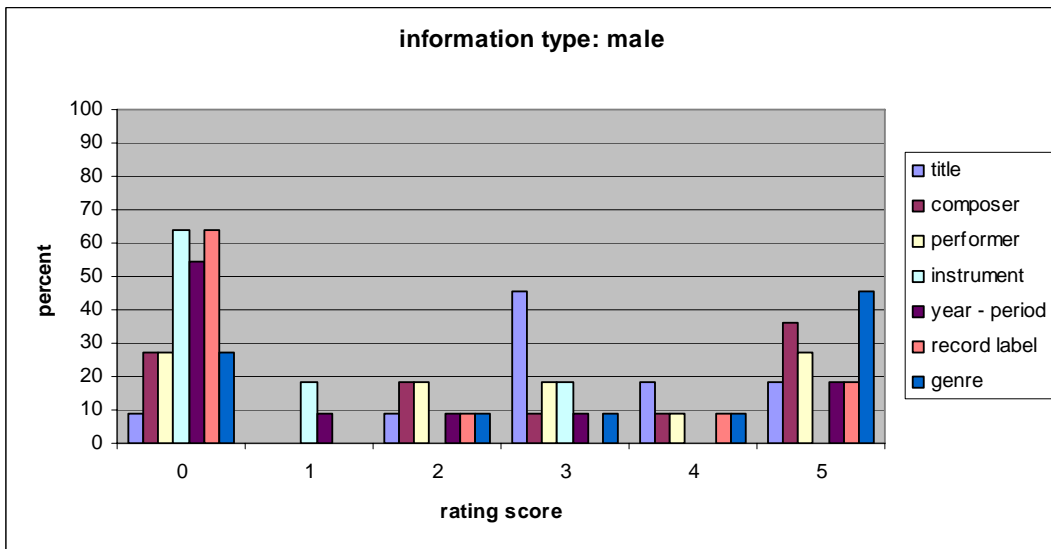
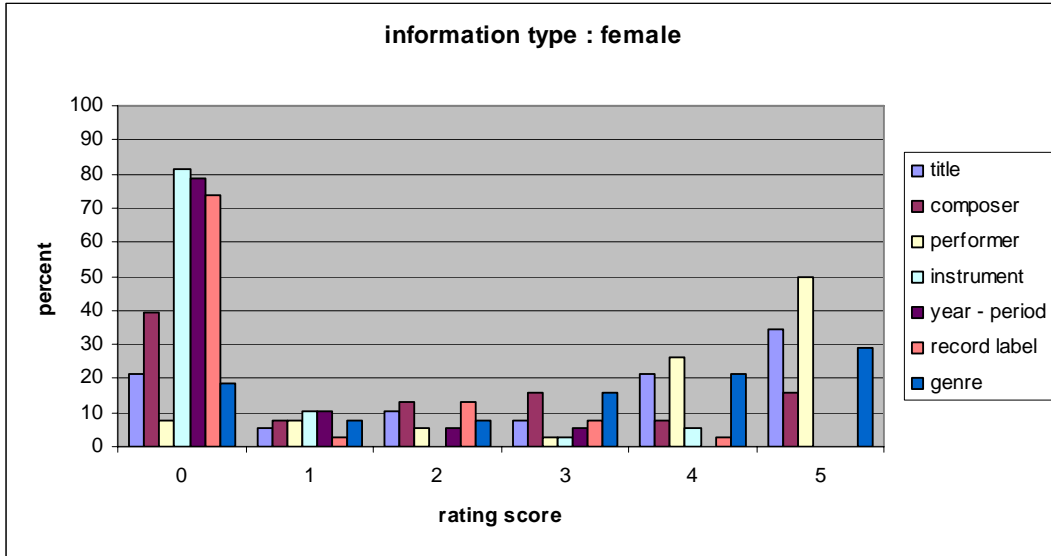


Figure 23: Clustered bar charts representing the distribution of ratings of types of information used for searching music by women (top) and men (bottom).

**Differences within gender: music description (Q#11)**

	Ratings	0	1	2	3	4	5	SUM 4+5
Female	Rhythm	39,5	7,9	15,8	13,2	10,5	13,2	23,7
	Pitch	71,1	10,5	0,0	7,9	7,9	2,6	10,5
	Instruments	60,5	5,3	7,9	15,8	7,9	2,6	10,5
	Emotion	63,2	10,5	10,5	10,5	2,6	2,6	5,3
	Genre	18,4	0,0	7,9	5,3	21,1	47,4	68,4
		0	1	2	3	4	5	SUM 4+5
Male	Rhythm	54,5	9,1	9,1	0,0	0,0	27,3	27,3
	Pitch	63,6	9,1	0,0	9,1	9,1	9,1	18,2
	Instruments	72,7	18,2	0,0	0,0	0,0	9,1	9,1
	Emotion	54,5	18,2	0,0	9,1	0,0	18,2	18,2
	Genre	54,5	9,1	9,1	9,1	18,2	0,0	18,2

Table 22: Distribution of ratings of musical features used for describing music by women and men.

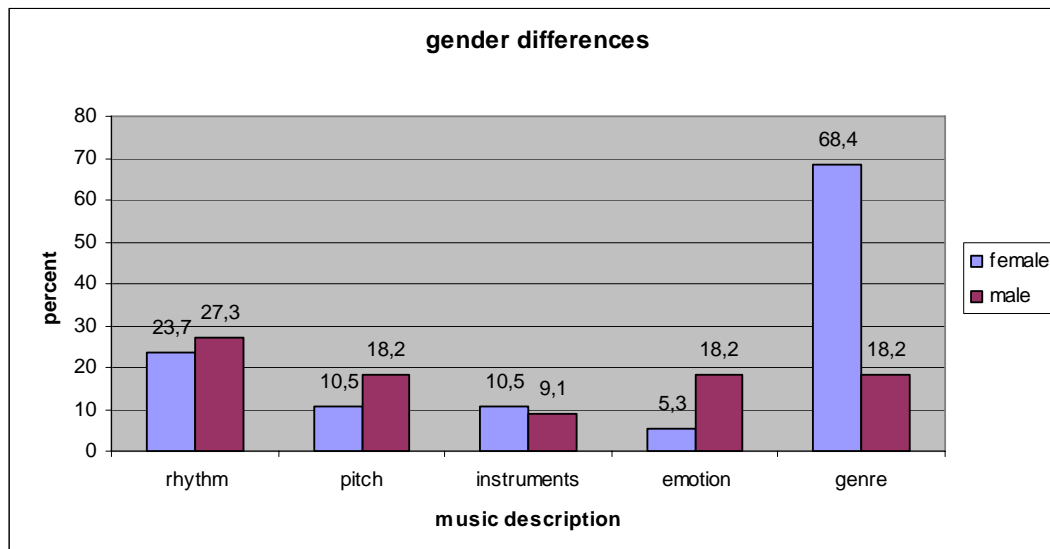


Figure 24: Comparison of musical features used for describing music calculated on the sum of the highest ratings (much and very much) for women and men.

Differences within gender: music description (Q#11)

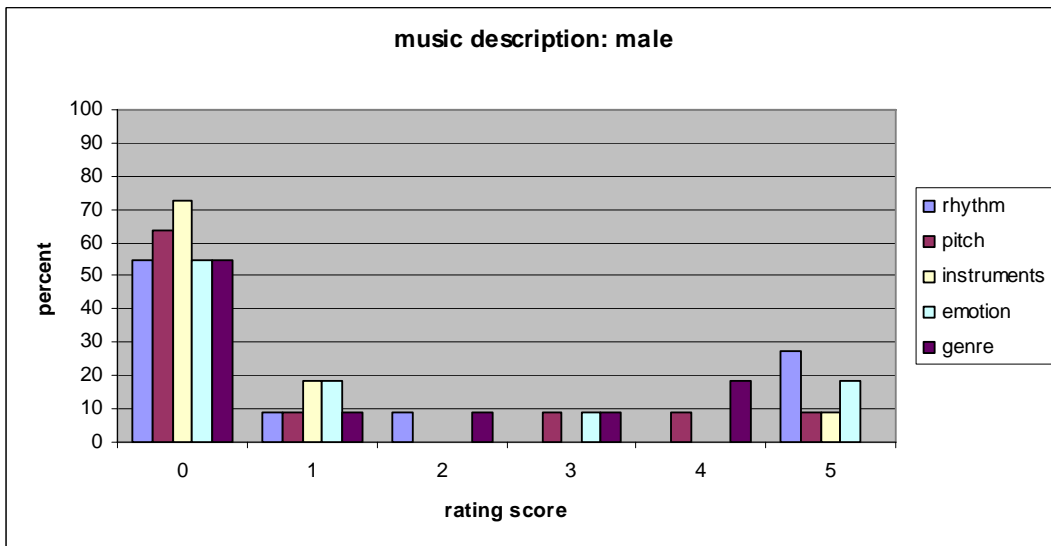
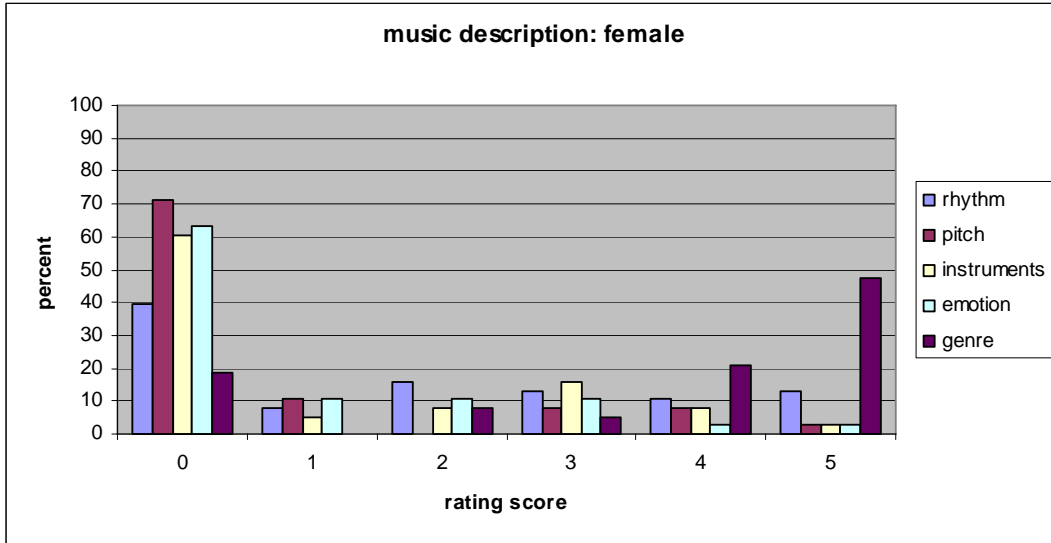


Figure 25: Clustered bar charts representing the distribution of ratings of musical features used for describing music by woman (top) and men (bottom).

**Differences within gender: Internet activities (Q#13)**

	Ratings	0	1	2	3	4	5	SUM 4+5
Female	Purposive	2,6	0,0	7,9	15,8	34,2	39,5	73,7
	Chat-messaging	68,4	7,9	7,9	5,3	2,6	7,9	10,5
	Email	7,9	5,3	5,3	13,2	18,4	50,0	68,4
	Online purchase	89,5	7,9	2,6	0,0	0,0	0,0	0,0
	Recreative	36,8	15,8	15,8	18,4	7,9	5,3	13,2
		0	1	2	3	4	5	SUM 4+5
Male	Purposive	0,0	0,0	9,1	45,5	9,1	36,4	45,5
	Chat-messaging	54,5	9,1	0,0	27,3	9,1	0,0	9,1
	Email	0,0	9,1	27,3	18,2	18,2	27,3	45,5
	Online purchase	90,9	0,0	0,0	0,0	9,1	0,0	9,1
	Recreative	36,4	18,2	18,2	18,2	9,1	0,0	9,1

Table 23: Distribution of ratings of Internet activities by women and men.

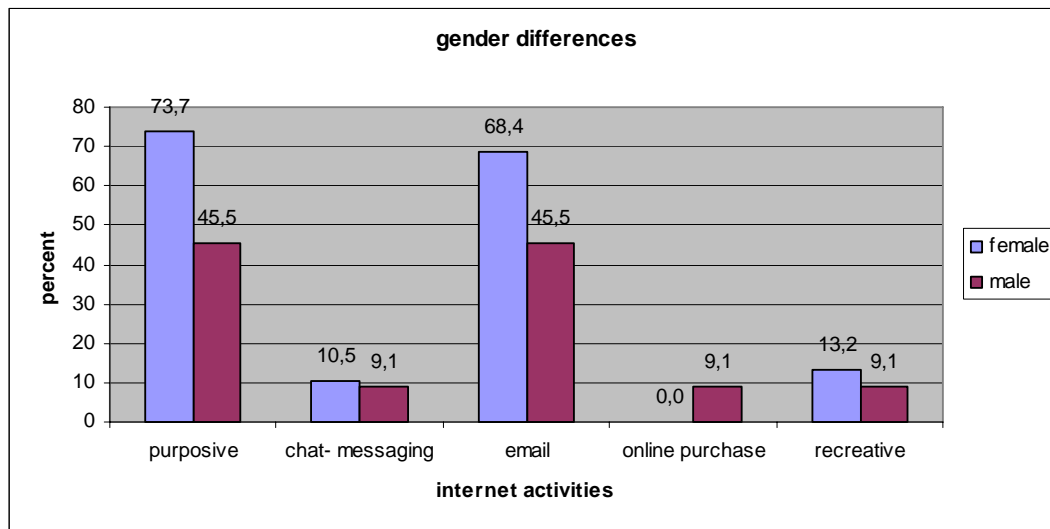


Figure 26: Comparison of Internet activities calculated on the sum of the highest ratings (much and very much) for women and men.



Differences within gender: Internet activities (Q#13)

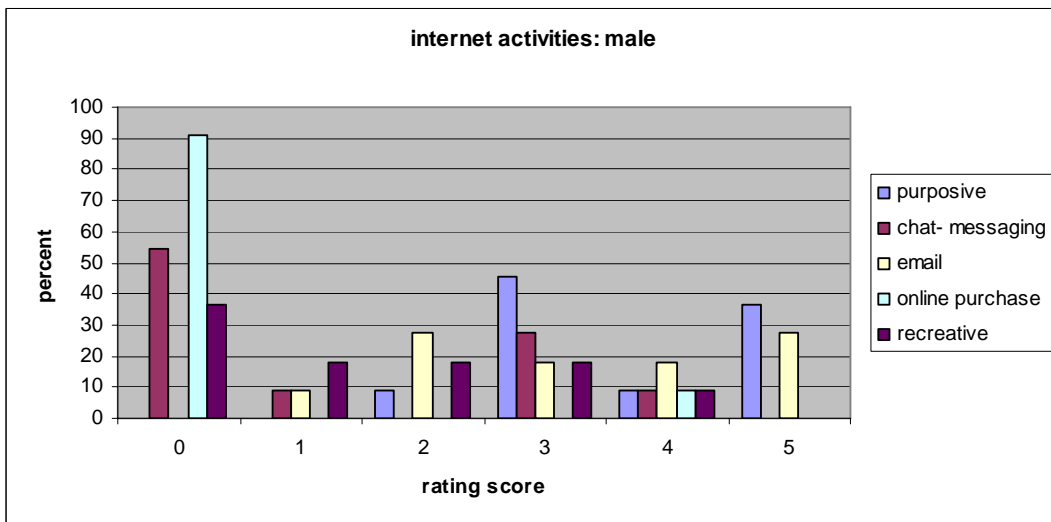
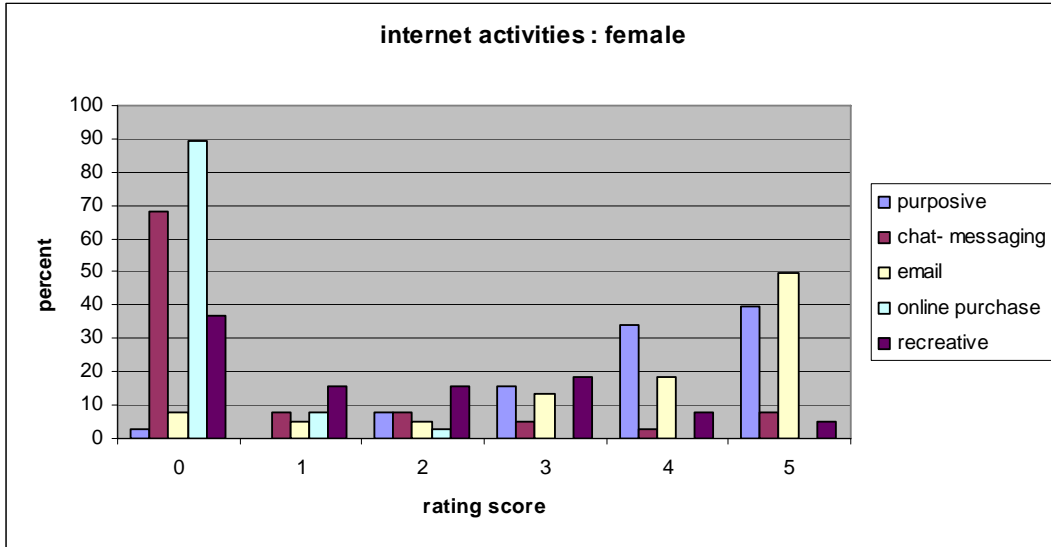


Figure 27: Clustered bar charts representing the distribution of ratings of Internet activities by women ( top) and men (bottom).

**Differences within gender: Internet search methods (Q#14)**

	Ratings	0	1	2	3	4	5	SUM 4+5
Female	Tap rhythm	81,6	10,5	2,6	2,6	2,6	0,0	2,6
	Text	2,6	0,0	0,0	7,9	15,8	73,7	89,5
	Score	63,2	7,9	7,9	13,2	5,3	2,6	7,9
	Sing	60,5	10,5	10,5	13,2	2,6	2,6	5,3
	Example	44,7	5,3	13,2	7,9	18,4	10,5	28,9
		0	1	2	3	4	5	SUM 4+5
Male	Tap rhythm	81,8	18,2	0,0	0,0	0,0	0,0	0,0
	Text	0,0	0,0	0,0	27,3	27,3	45,5	72,7
	Score	63,6	9,1	9,1	18,2	0,0	0,0	0,0
	Sing	63,6	0,0	18,2	0,0	0,0	18,2	18,2
	Example	36,4	0,0	27,3	18,2	0,0	18,2	18,2

Table 24: Distribution of ratings of suitable search methods by women and men.

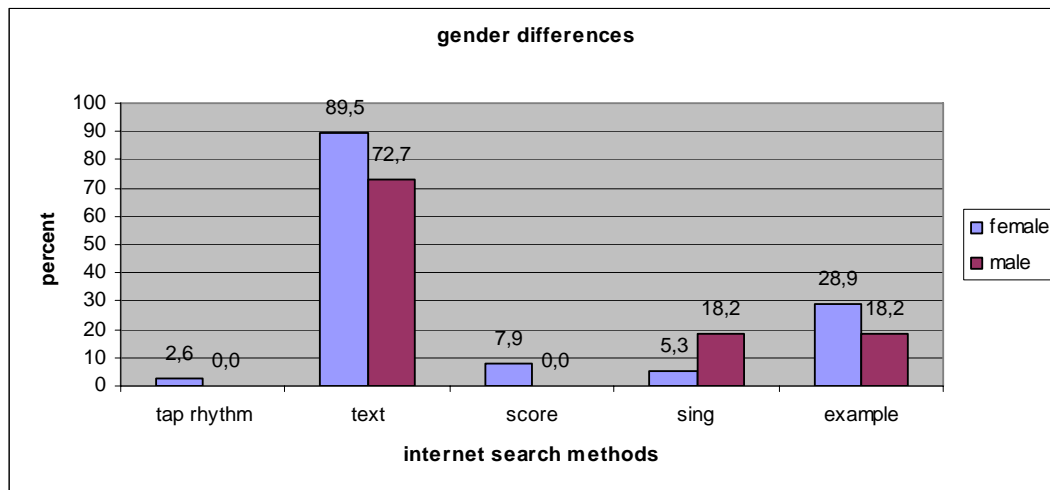


Figure 28: Comparison of suitable Internet search methods calculated on the sum of the highest ratings (much and very much) for women and men.

Differences within gender: Internet search method (Q#14)

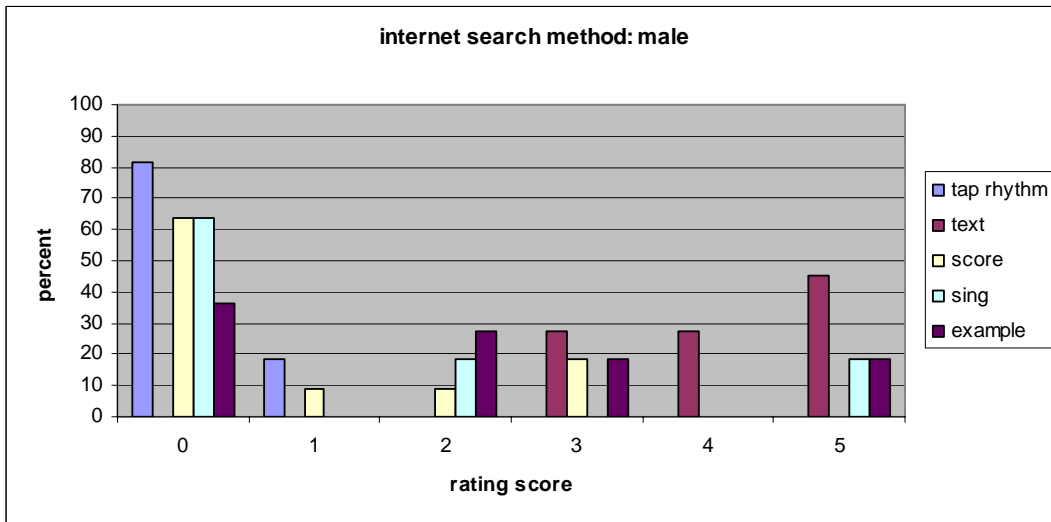
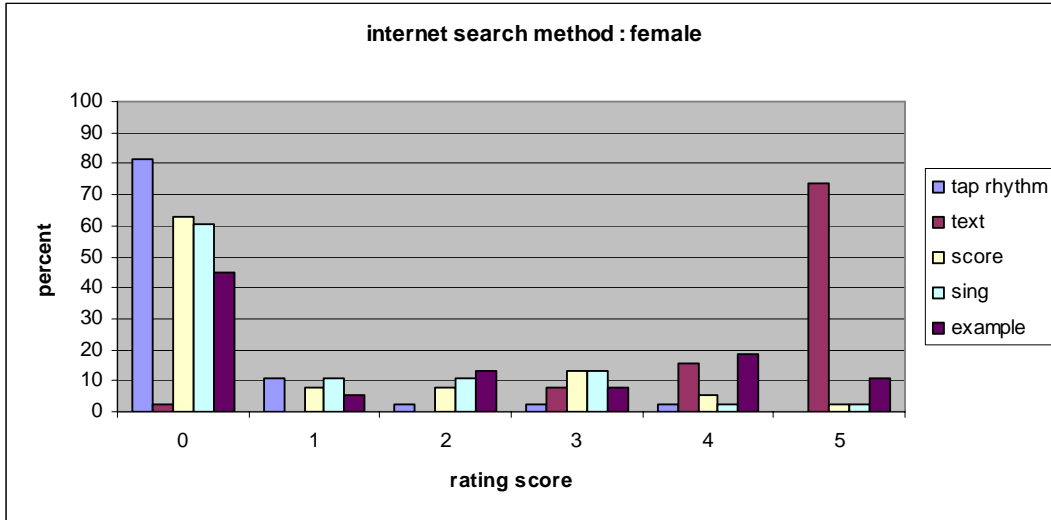


Figure 29: Clustered bar charts representing the distribution of ratings of suitable Internet search methods by women (top) and men (bottom).

**Differences within gender: Internet feedback (Q#15)**

	Ratings	0	1	2	3	4	5	SUM 4+5
Female	Title	5,3	0,0	0,0	0,0	18,4	76,3	94,7
	Performer- composer	7,9	0,0	0,0	0,0	10,5	81,6	92,1
	Example	13,2	2,6	10,5	15,8	10,5	47,4	57,9
	Recording information	39,5	13,2	15,8	5,3	15,8	10,5	26,3
	Score	47,4	13,2	7,9	15,8	0,0	15,8	15,8
		0	1	2	3	4	5	SUM 4+5
Male	Title	0,0	0,0	0,0	18,2	9,1	72,7	81,8
	Performer- composer	0,0	0,0	9,1	0,0	9,1	81,8	90,9
	Example	27,3	0,0	0,0	9,1	9,1	54,5	63,6
	Recording information	63,6	0,0	9,1	0,0	0,0	27,3	27,3
	Score	54,5	0,0	9,1	27,3	0,0	9,1	9,1

Table 25: Distribution of ratings of desired feedback information by women and men.

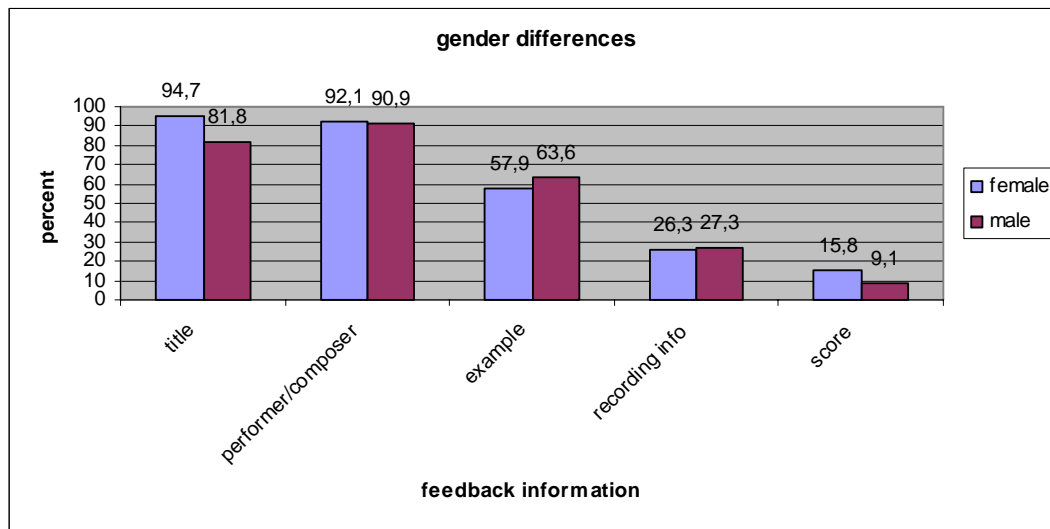


Figure 30: Comparison of desired feedback information calculated on the sum of the highest ratings (much and very much) for women and men.

Differences within gender: Internet feedback (Q#15)

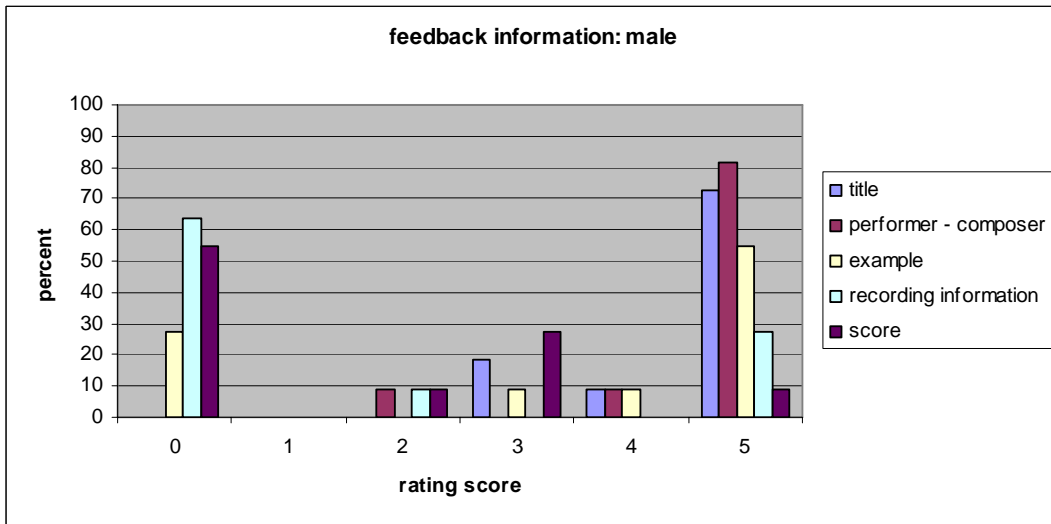
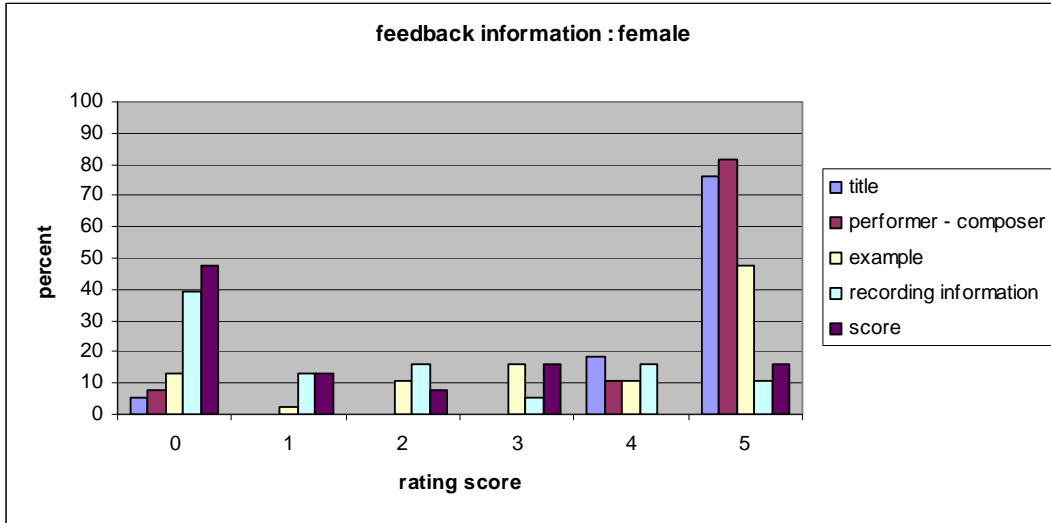


Figure 31: Clustered bar charts representing the distribution of ratings of desired feedback information by women (top) and men (bottom).

**Differences within expertise level: general search method (Q#9)**

	Ratings	0	1	2	3	4	5	SUM 4+5
Novice	Title	32,1	7,1	17,9	10,7	25,0	7,1	32,1
	Explain	57,1	17,9	0,0	17,9	7,1	0,0	7,1
	Internet	60,7	7,1	3,6	10,7	10,7	7,1	17,9
	Catalogue	82,1	3,6	3,6	0,0	3,6	7,1	10,7
	Playlist	75,0	3,6	3,6	10,7	3,6	3,6	7,1
		0	1	2	3	4	5	SUM 4+5
Expert	Title	23,8	19,0	14,3	28,6	14,3	0,0	14,3
	Explain	52,4	19,0	4,8	4,8	9,5	9,5	19,0
	Internet	57,1	4,8	4,8	14,3	9,5	9,5	19,0
	Catalogue	85,7	0,0	4,8	9,5	0,0	0,0	0,0
	Playlist	85,7	4,8	4,8	4,8	0,0	0,0	0,0

Table 26: Distribution of ratings of general methods for searching music by novices and experts.

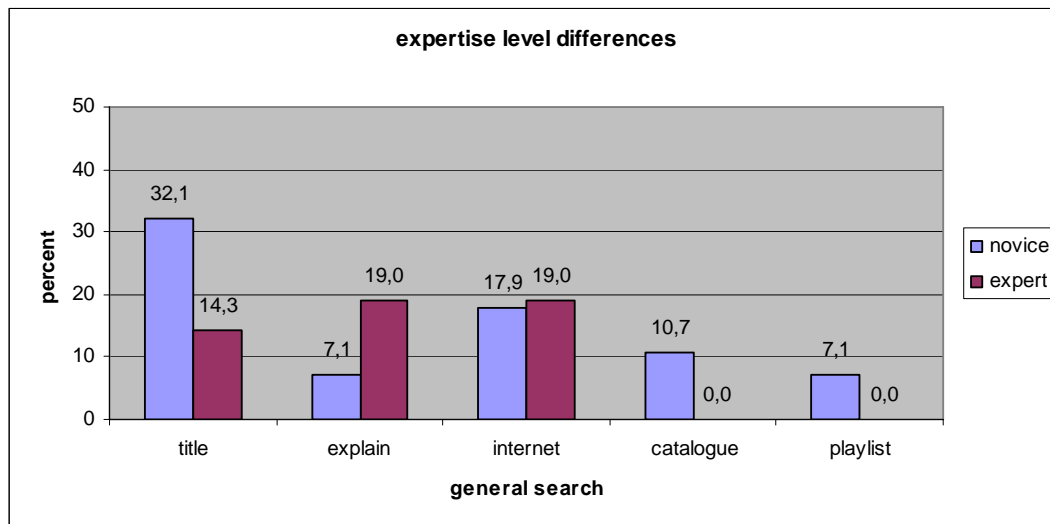


Figure 32: Comparison of general search methods calculated on the sum of the highest ratings (much and very much) for novices and experts.

Differences within expertise level: general search method (Q#9)

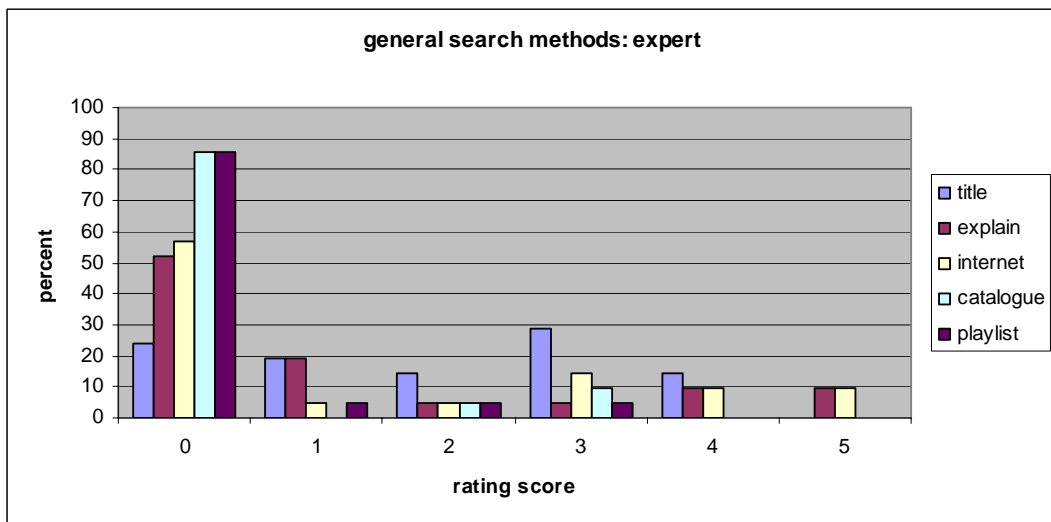
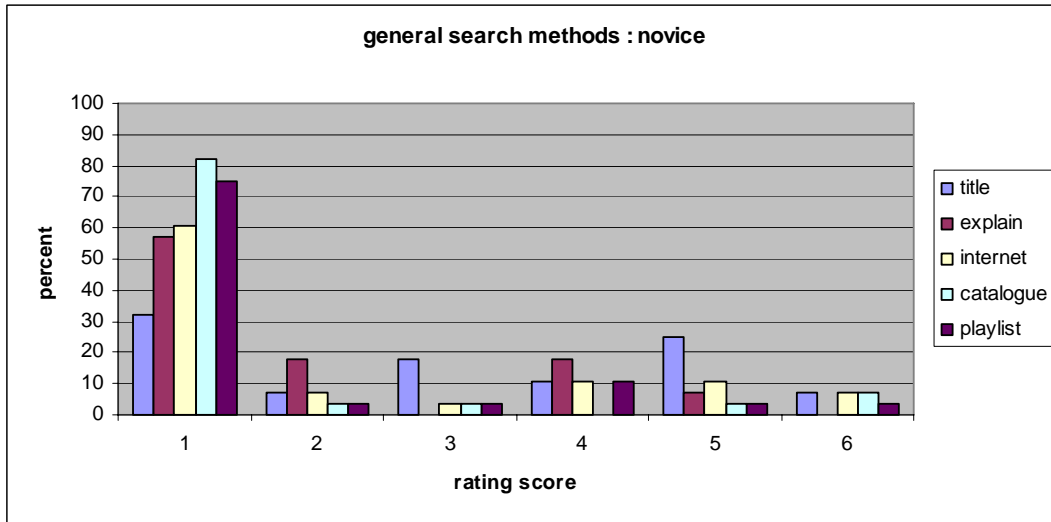


Figure 33: Clustered bar charts representing the distribution of ratings of general methods for searching music used by novices (top) and experts (bottom).

Differences within expertise level: information type (Q#10)

Ratings		0	1	2	3	4	5	SUM 4+5
Novice	Title	21,4	3,6	14,3	10,7	17,9	32,1	50,0
	Composer	46,4	7,1	14,3	10,7	3,6	17,9	21,4
	Performer	10,7	7,1	3,6	3,6	17,9	57,1	75,0
	Instrument	82,1	10,7	0,0	0,0	7,1	0,0	7,1
	Year - period	78,6	14,3	3,6	0,0	0,0	3,6	3,6
	Record label	71,4	0,0	7,1	10,7	7,1	3,6	10,7
	Genre	14,3	7,1	7,1	21,4	10,7	39,3	50,0
		0	1	2	3	4	5	SUM 4+5
Expert	Title	14,3	4,8	4,8	23,8	23,8	28,6	52,4
	Composer	23,8	4,8	14,3	19,0	14,3	23,8	38,1
	Performer	14,3	4,8	14,3	9,5	28,6	28,6	57,1
	Instrument	71,4	14,3	0,0	14,3	0,0	0,0	0,0
	Year - period	66,7	4,8	9,5	14,3	0,0	4,8	4,8
	Record label	71,4	4,8	19,0	0,0	0,0	4,8	4,8
	Genre	28,6	4,8	9,5	4,8	28,6	23,8	52,4

Table 27: Distribution of ratings of information used for searching music by novices and experts.

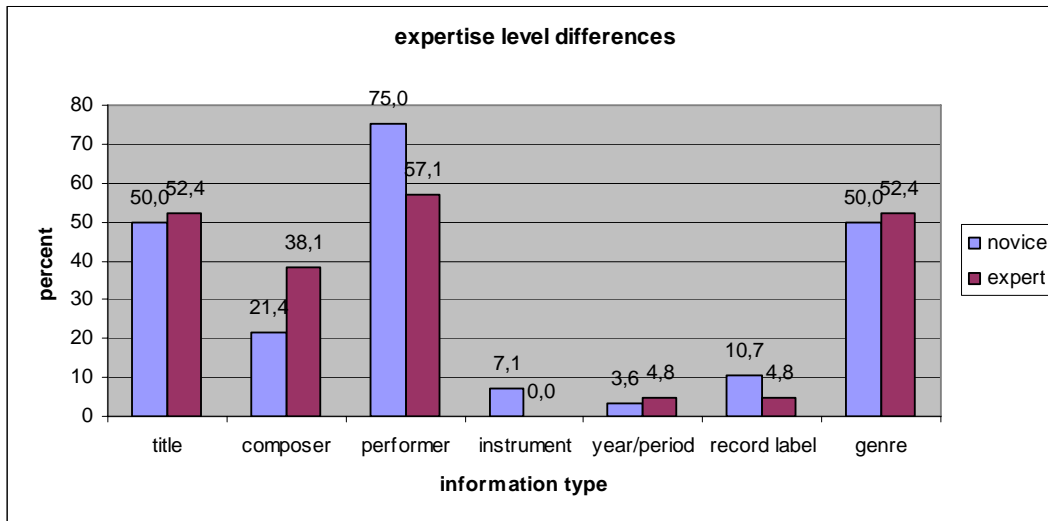


Figure 34: Comparison of information used for searching music calculated on the sum of the highest ratings (much and very much) for novices and experts.



Differences within expertise level: information type (Q#10)

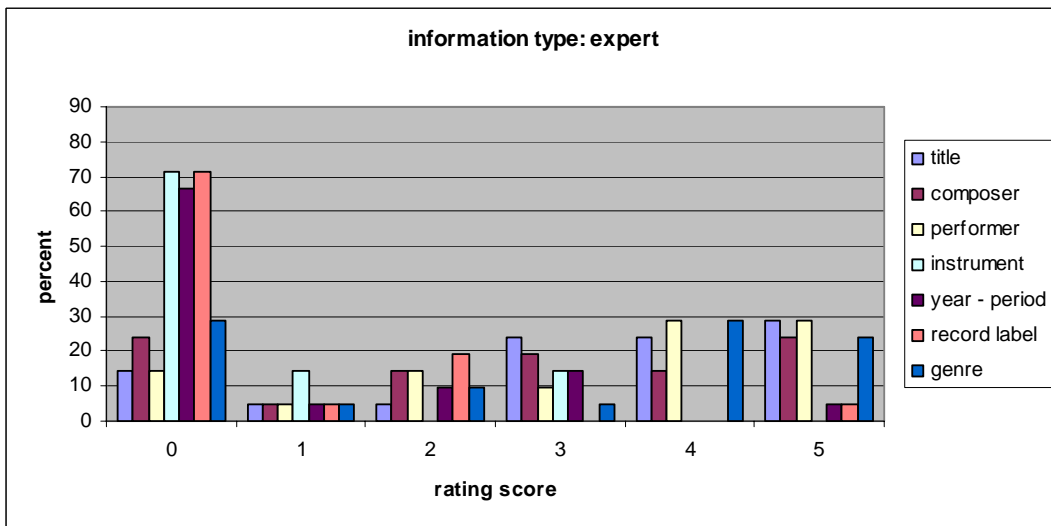
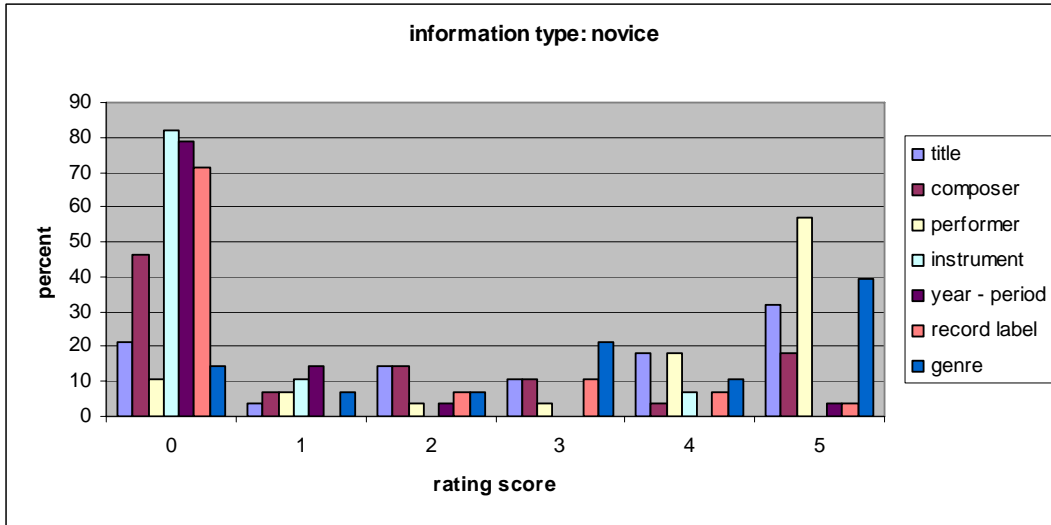


Figure 35: Clustered bar charts representing the distribution of ratings of information used for searching music by novices (top) and experts (bottom).

**Differences within expertise level: music description (Q#11)**

Ratings		0	1	2	3	4	5	SUM 4+5
Novice	Rhythm	50,0	7,1	14,3	7,1	3,6	17,9	21,4
	Pitch	75,0	10,7	0,0	7,1	7,1	0,0	7,1
	Instruments	64,3	7,1	10,7	3,6	7,1	7,1	14,3
	Emotion	53,6	14,3	7,1	14,3	3,6	7,1	10,7
	Genre	17,9	0,0	10,7	3,6	25,0	42,9	67,9
		0	1	2	3	4	5	SUM 4+5
Expert	Rhythm	33,3	9,5	14,3	14,3	14,3	14,3	28,6
	Pitch	61,9	9,5	0,0	9,5	9,5	9,5	19,0
	Instruments	61,9	9,5	0,0	23,8	4,8	0,0	4,8
	Emotion	71,4	9,5	9,5	4,8	0,0	4,8	4,8
	Genre	38,1	4,8	4,8	9,5	14,3	28,6	42,9

Table 28: Distribution of ratings of music features used for describing music by novices and experts.

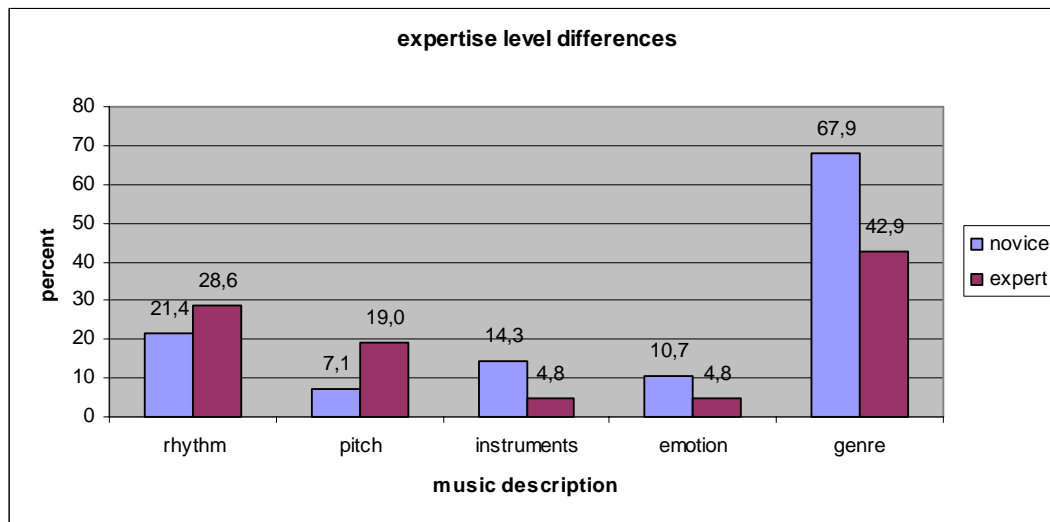


Figure 36: Comparison of music features used for describing music calculated on the sum of the highest ratings (much and very much) for novices and experts.

Differences within expertise level: music description (Q#11)

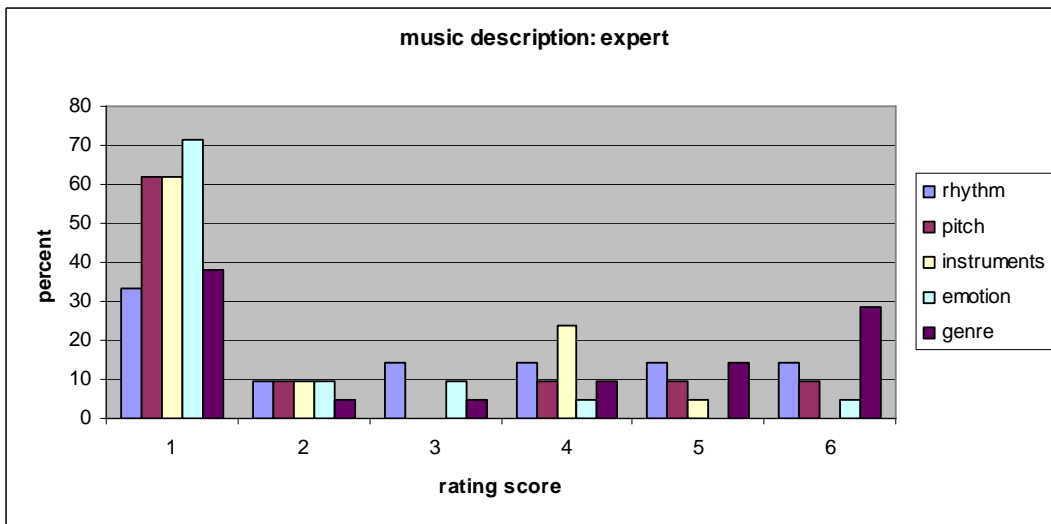
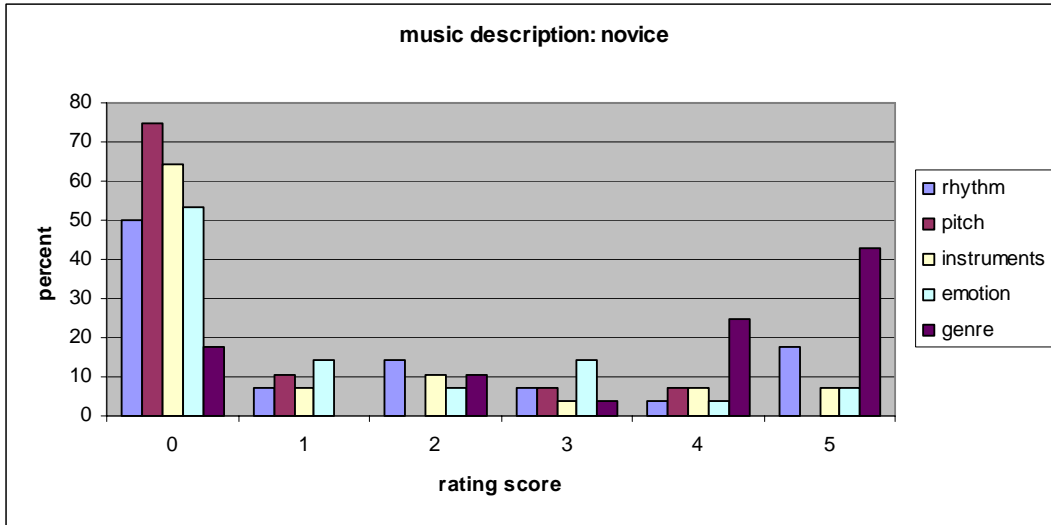


Figure 37: Clustered bar charts representing the distribution of ratings of music features used for describing music by women (top) and men (bottom).

**Differences within expertise level: Internet activities (Q#13)**

	Ratings	0	1	2	3	4	5	SUM 4+5
Novice	Purposive	3,6	0,0	10,7	21,4	25,0	39,3	64,3
	Chat-messaging	64,3	7,1	10,7	14,3	3,6	0,0	3,6
	Email	10,7	7,1	10,7	17,9	17,9	35,7	53,6
	Online purchase	85,7	7,1	3,6	0,0	3,6	0,0	3,6
	Recreative	28,6	14,3	17,9	21,4	14,3	3,6	17,9
		0	1	2	3	4	5	SUM 4+5
Expert	Purposive	0,0	0,0	4,8	23,8	33,3	38,1	71,4
	Chat-messaging	66,7	9,5	0,0	4,8	4,8	14,3	19,0
	Email	0,0	4,8	9,5	9,5	19,0	57,1	76,2
	Online purchase	95,2	4,8	0,0	0,0	0,0	0,0	0,0
	Recreative	47,6	19,0	14,3	14,3	0,0	4,8	4,8

Table 29: Distribution of ratings of Internet activities by novices and experts.

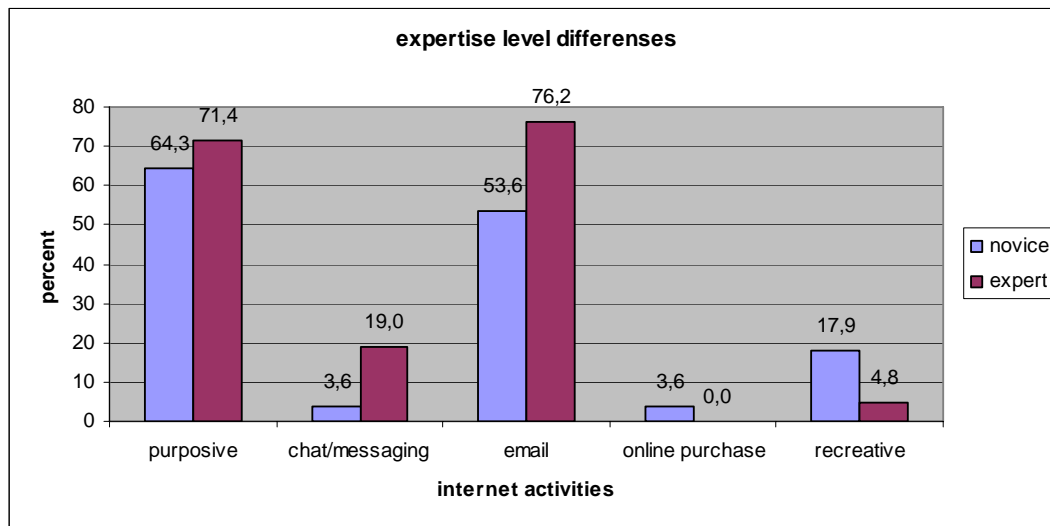


Figure 38: Comparison of Internet activities calculated on the sum of the highest ratings (much and very much) for novices and experts.

Differences within expertise level: Internet activities (Q#13)

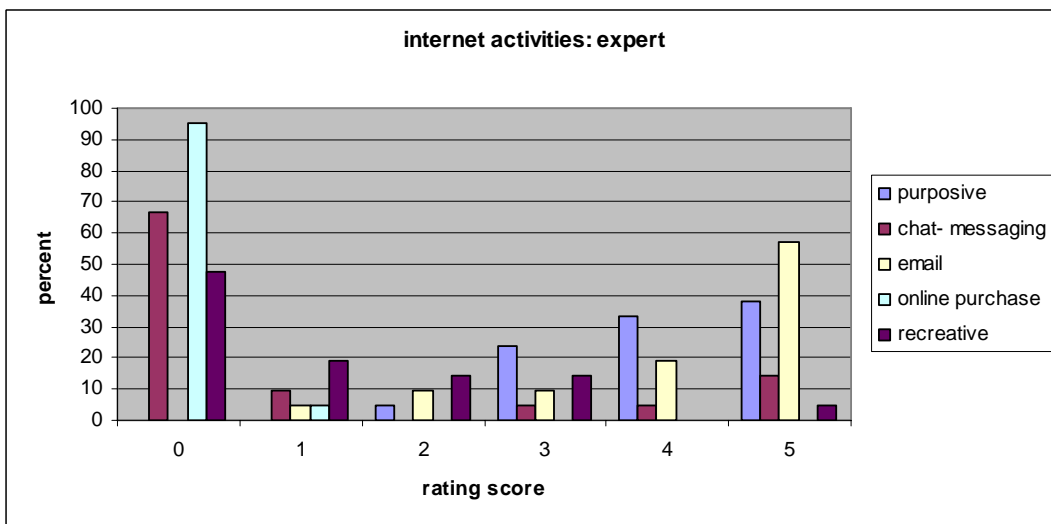
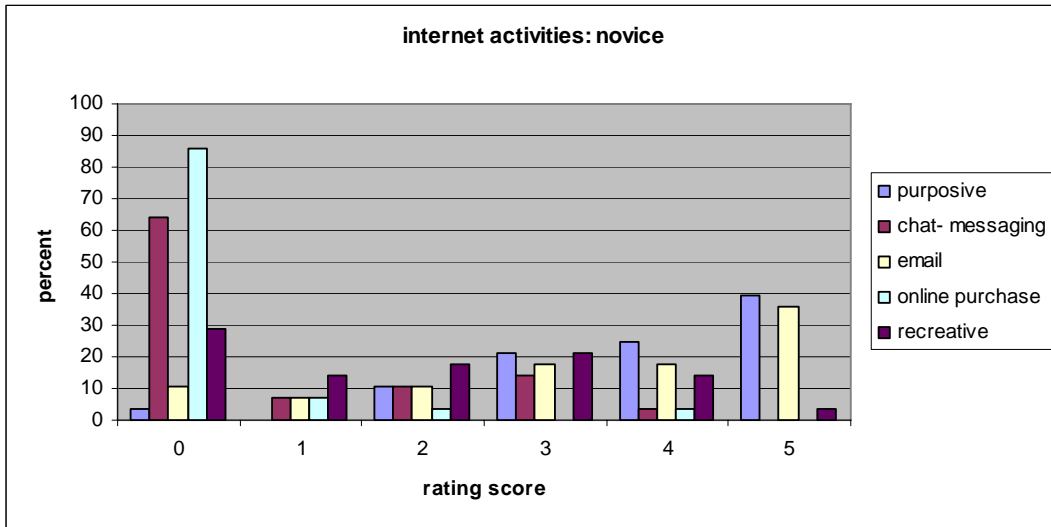


Figure 39: Clustered bar charts representing the distribution of ratings of Internet activities by novices (top) and experts (bottom).

**Differences within expertise level: Internet search method (Q#14)**

	Ratings	0	1	2	3	4	5	SUM 4+5
Novice	Tap rhythm	82,1	14,3	0,0	0,0	3,6	0,0	3,6
	Text	3,6	0,0	0,0	7,1	14,3	75,0	89,3
	Score	64,3	10,7	7,1	14,3	3,6	0,0	3,6
	Sing	60,7	10,7	10,7	10,7	0,0	7,1	7,1
	Example	46,4	0,0	17,9	10,7	14,3	10,7	25,0
		0	1	2	3	4	5	SUM 4+5
Expert	Tap rhythm	81,0	9,5	4,8	4,8	0,0	0,0	0,0
	Text	0,0	0,0	0,0	19,0	23,8	57,1	81,0
	Score	61,9	4,8	9,5	14,3	4,8	4,8	9,5
	Sing	61,9	4,8	14,3	9,5	4,8	4,8	9,5
	Example	38,1	9,5	14,3	9,5	14,3	14,3	28,6

Table 30: Distribution of ratings of suitable Internet search methods by novices and experts.

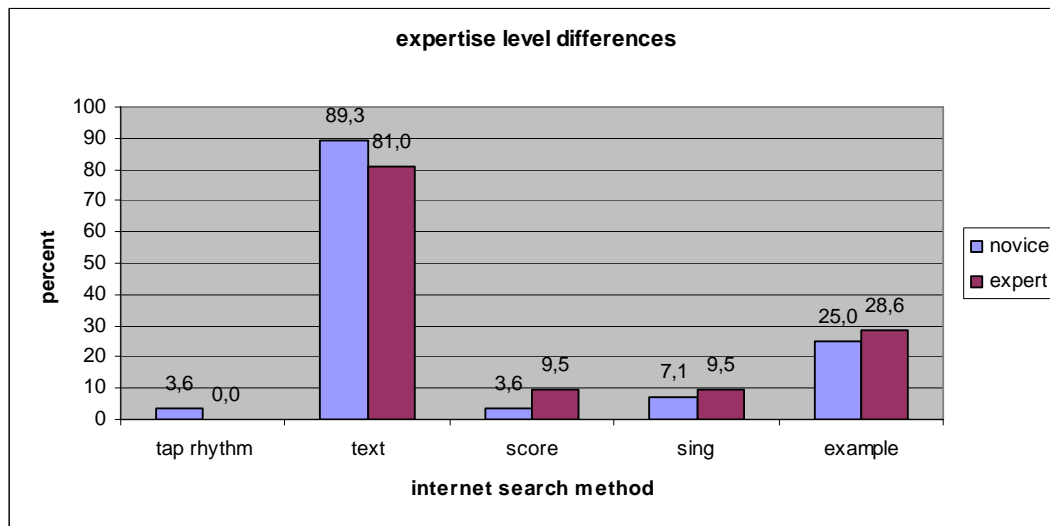


Figure 40: Comparison of suitable Internet search methods calculated on the sum of the highest ratings (much) and very much) for novices and experts.

Differences within expertise level: Internet search method (Q#14)

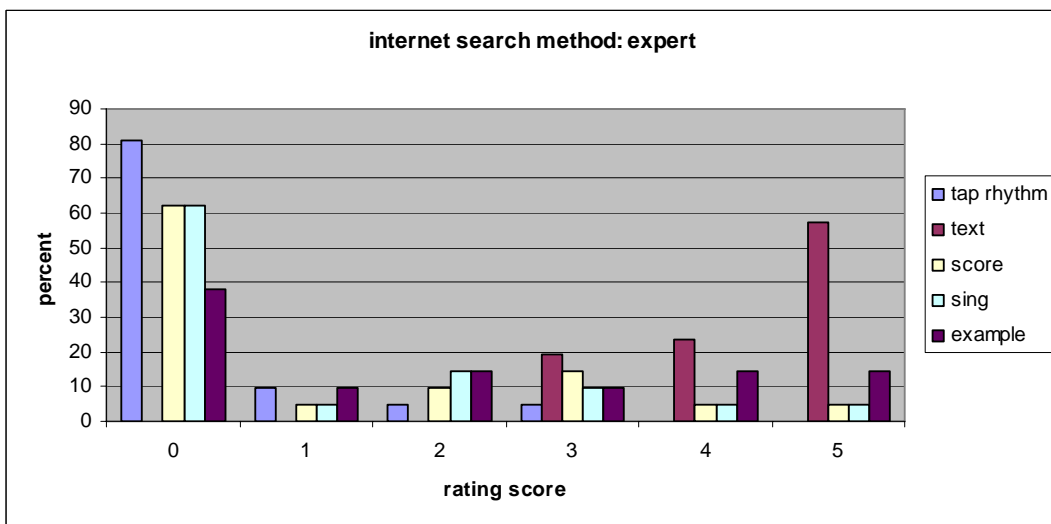
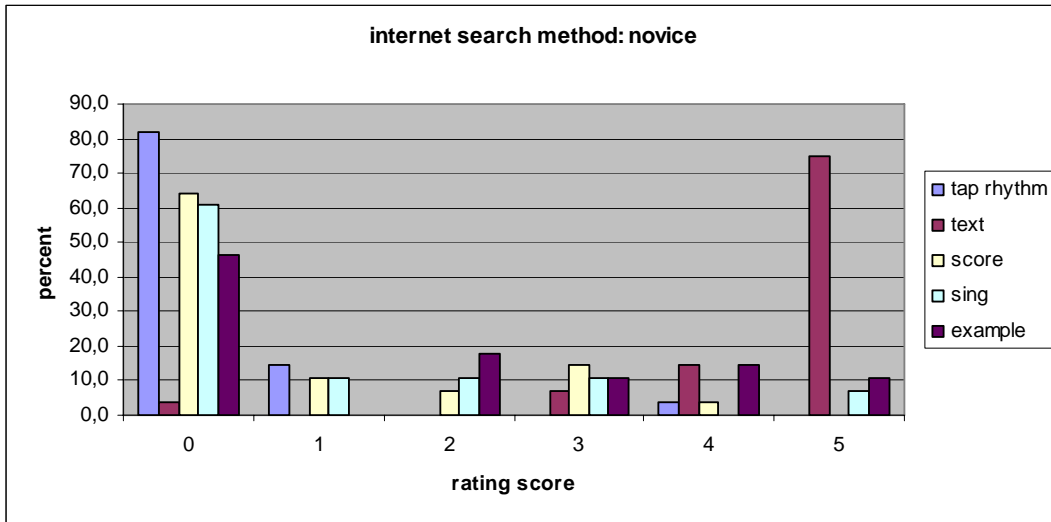


Figure 41: Clustered bar charts representing the distribution of ratings of suitable Internet search methods by novices (top) and experts (bottom).

**Differences within expertise level: Internet feedback (Q#15)**

Ratings		0	1	2	3	4	5	SUM 4+5
Novice	Title	3,6	0,0	0,0	3,6	14,3	78,6	92,9
	Performer - composer	3,6	0,0	3,6	0,0	0,0	92,9	92,9
	Example	17,9	3,6	10,7	17,9	7,1	42,9	50,0
	Recording information	50,0	10,7	7,1	3,6	17,9	10,7	28,6
	Score	60,7	7,1	7,1	21,4	0,0	3,6	3,6
		0	1	2	3	4	5	SUM 4+5
Expert	Title	4,8	0,0	0,0	4,8	19,0	71,4	90,5
	Performer - composer	9,5	0,0	0,0	0,0	23,8	66,7	90,5
	Example	14,3	0,0	4,8	9,5	14,3	57,1	71,4
	Recording information	38,1	9,5	23,8	4,8	4,8	19,0	23,8
	Score	33,3	14,3	9,5	14,3	0,0	28,6	28,6

Table 31: Distribution of ratings of desired feedback information by novices and experts.

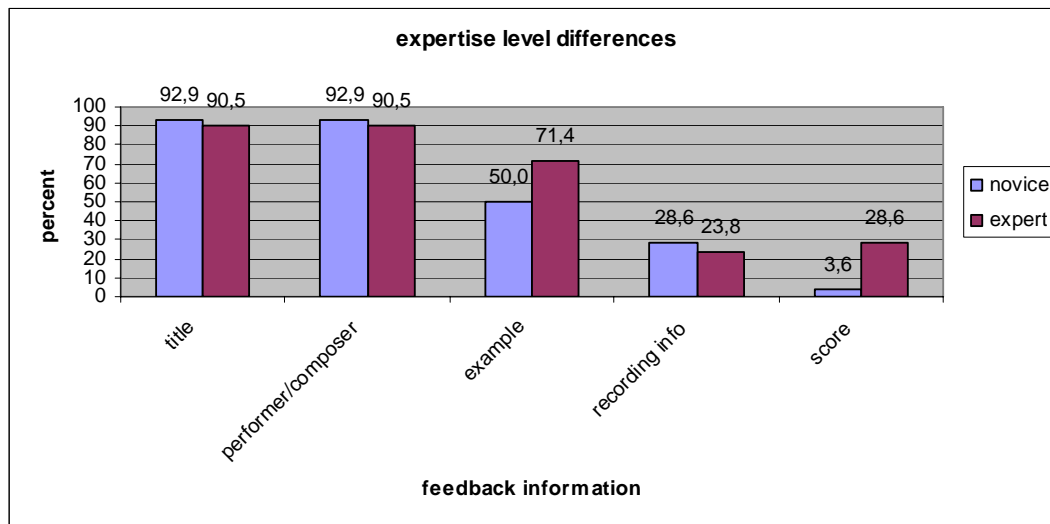


Figure 42: Comparison of desired feedback information calculated on the sum of the highest ratings (much and very much) for novices and experts.



Differences within expertise level: Internet feedback (Q#15)

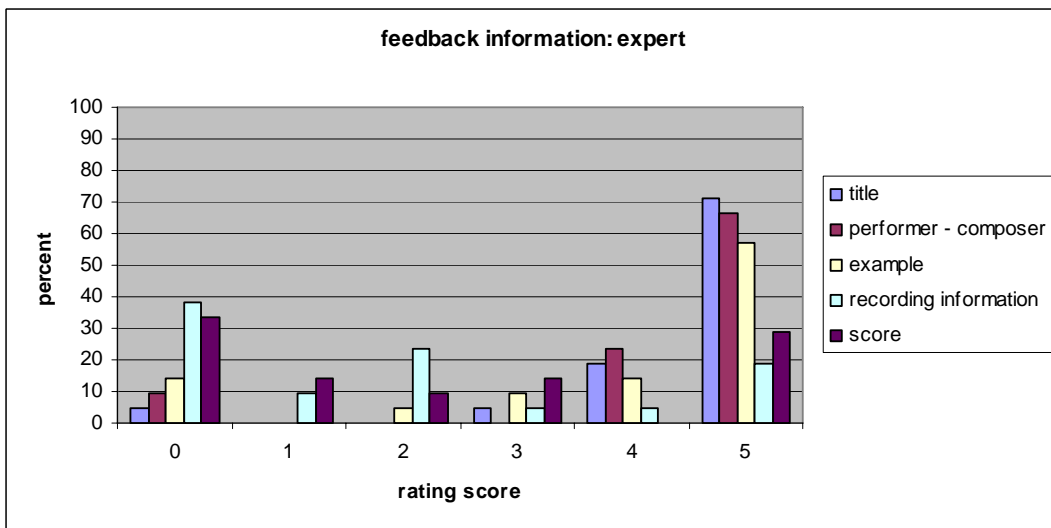
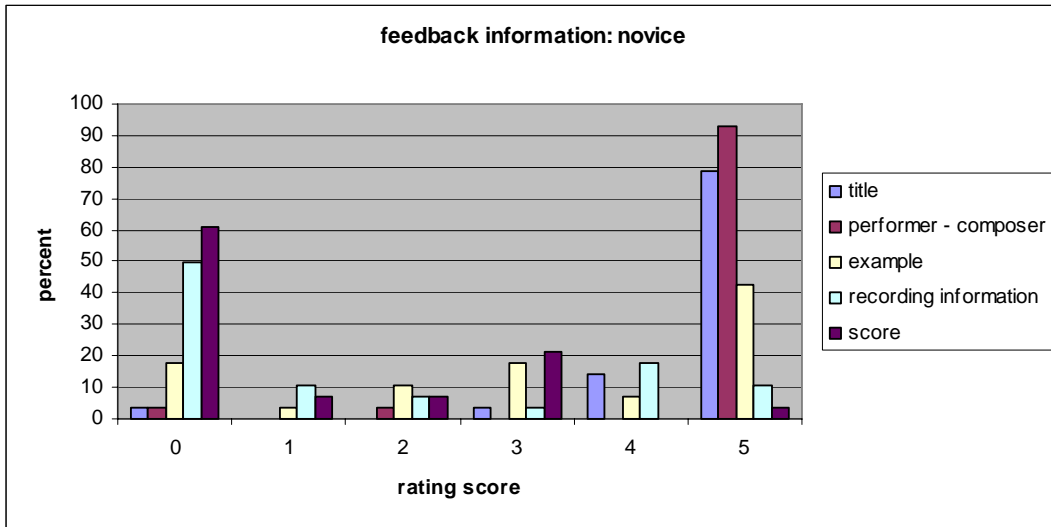


Figure 43: Clustered bar charts representing the distribution of ratings of desired feedback information by novices (top) and experts (bottom).

### 1.3 General aspects of the queries (4.4.9)

#### Beginning and length of the queries

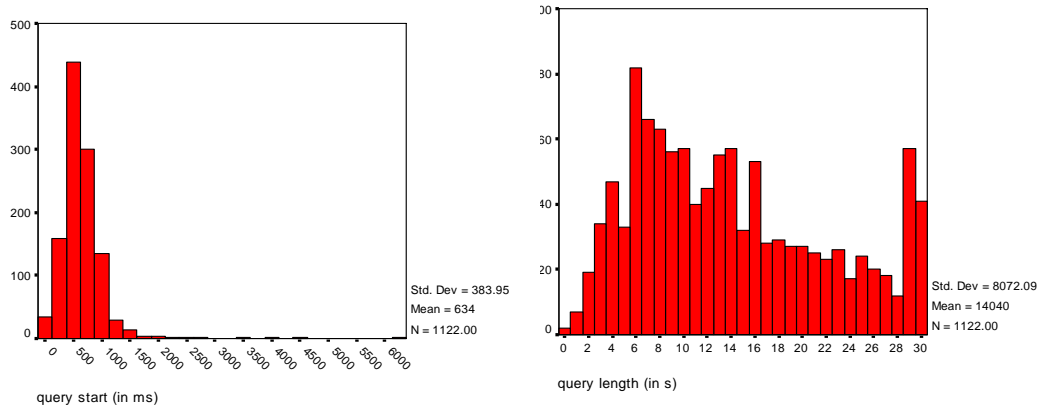


Figure 44: Distribution of the starting time of the queries after the start of the recording (left). Asymmetric distribution of the total length of the queries (right).

#### Number of segments, based on query methods

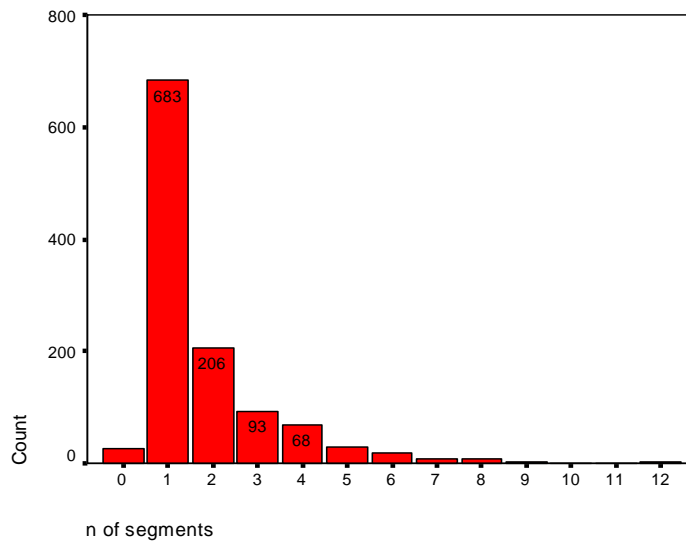


Figure 45: Distribution of the queries according to the number of segments.

## 1.4 Segment specific aspects of the queries (4.4.10)

### Length of the segments

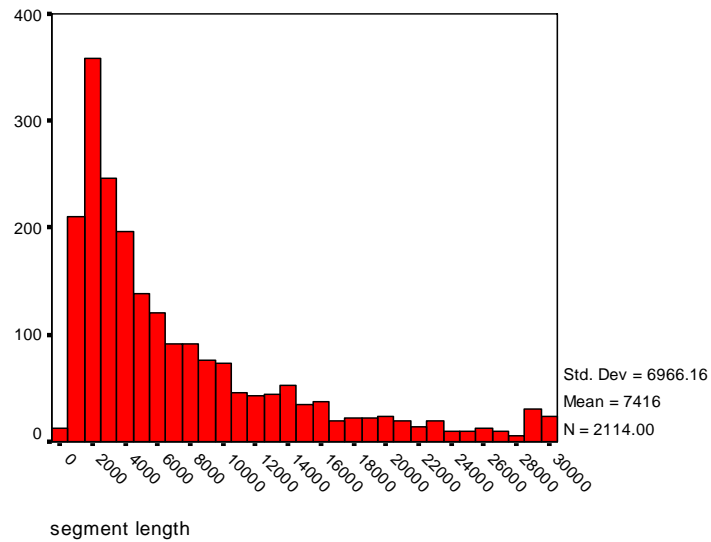


Figure 46: Distribution of the duration of the query segments with half of the segments being shorter than 8 seconds and three quarter shorter than 15 seconds.

Query method

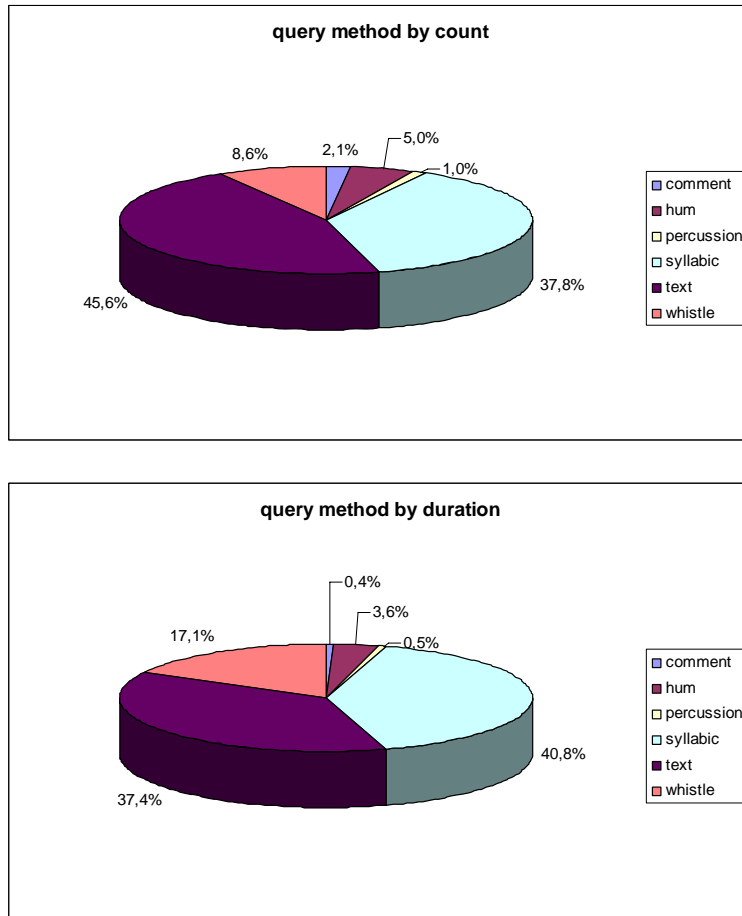


Figure 47: Pie charts showing the share of the different query types: textual, syllabic, whistled, hummed, percussive and comments. The top figure shows the types by count, the bottom figure by duration.

## Performance style

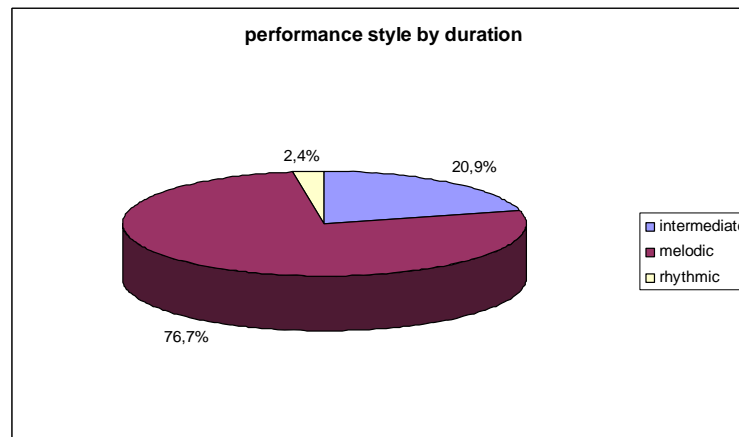
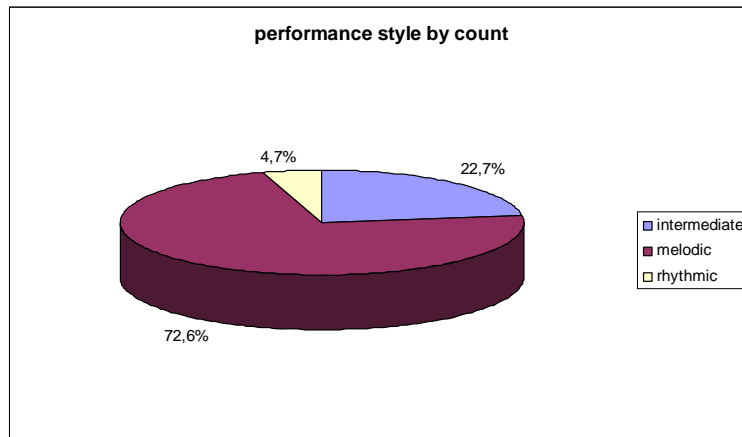


Figure 48: Pie charts showing the share of the performance styles: melodic, rhythmic and intermediate. The top figure shows the occurrence by count, the bottom figure by duration.

## 1.5 Analysis by subjects (4.4.12)

### Beginning, length and segmentation

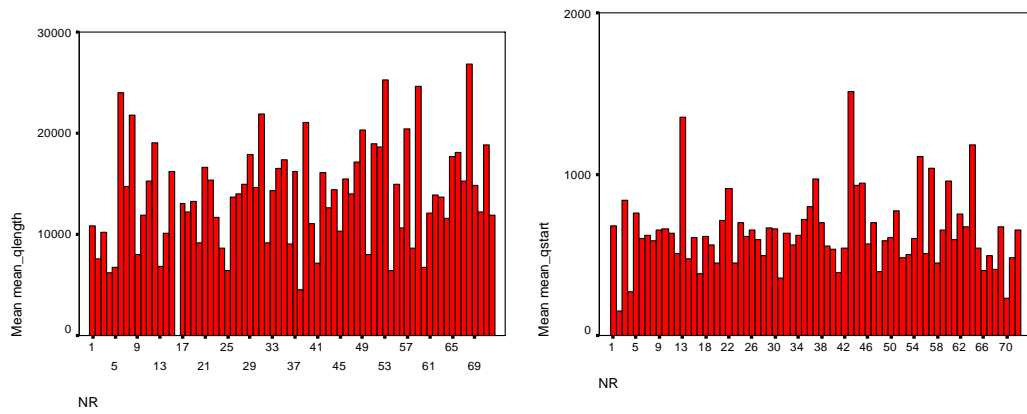


Figure 49: Average duration of queries per subject, the mean is situated around 14 seconds (left). Average query start time per subject, the mean is situated around 643 ms (right).

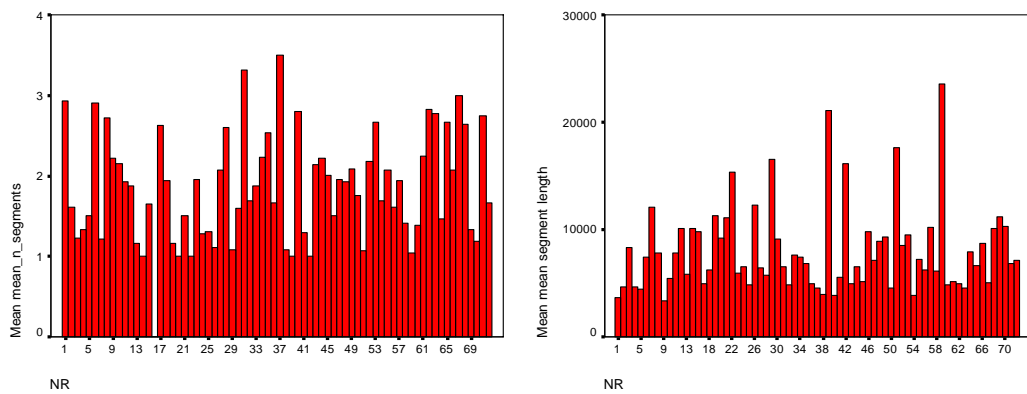


Figure 50: Average number of segments per subject, the mean is situated around 2 segments (left). Average segment length per subject, the mean situated around 8 seconds (right).

Query methods

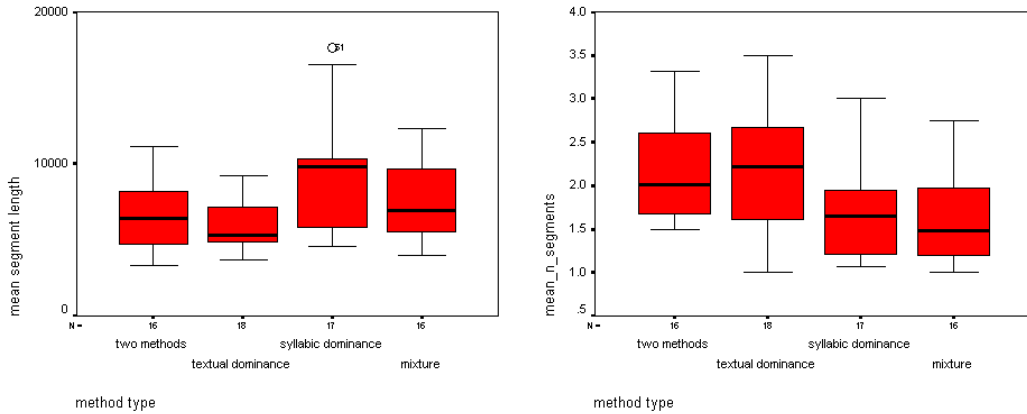


Figure 51: User categories according to the use of vocal query methods: according to the mean segment length (left) and to the mean number of segments (right).

Syllable structure by subject

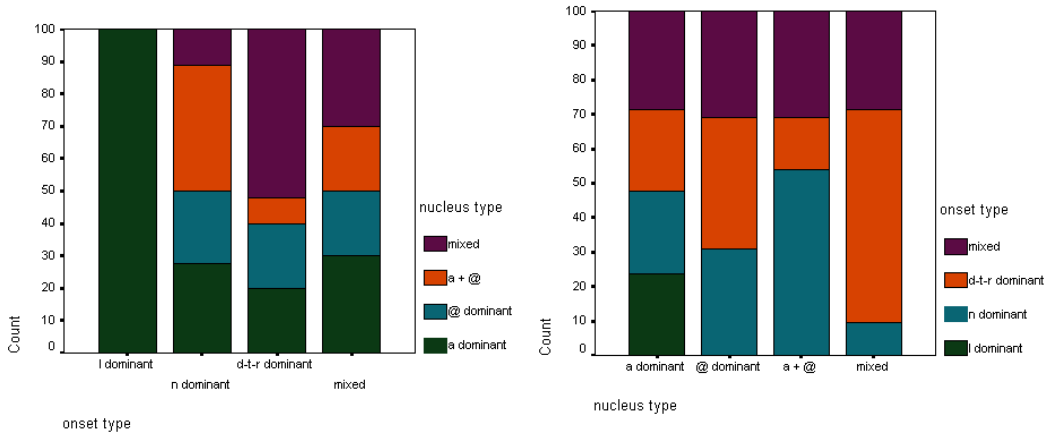


Figure 52: Interactions according to the use of syllable onsets and nuclei. Four users groups distinguished by onset preferences (left). Four user groups distinguished by nucleus preferences (right).

### 1.6 Stimuli related aspects (4.4.13)

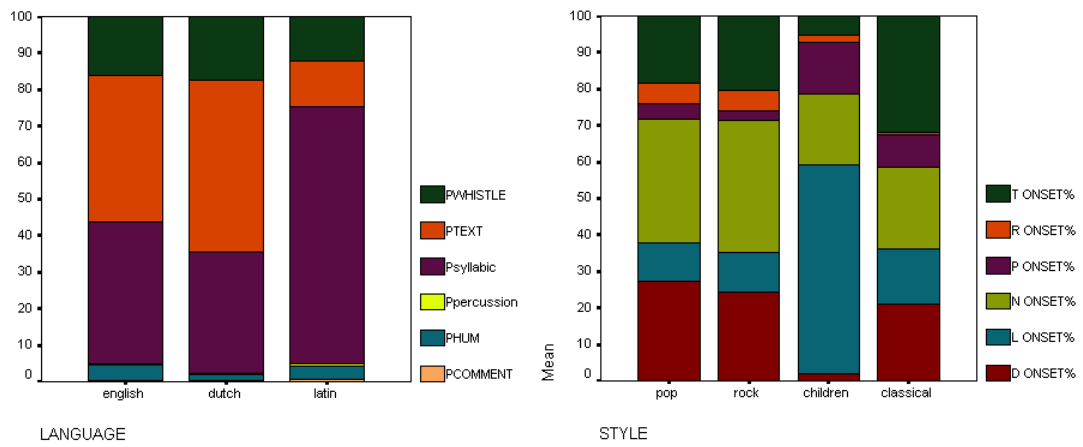


Figure 53: Relation between vocal query method and language of the song (left). Relative distribution of the six most common syllable onsets (right).



### 1.7 Effects of memory use (4.4.14)

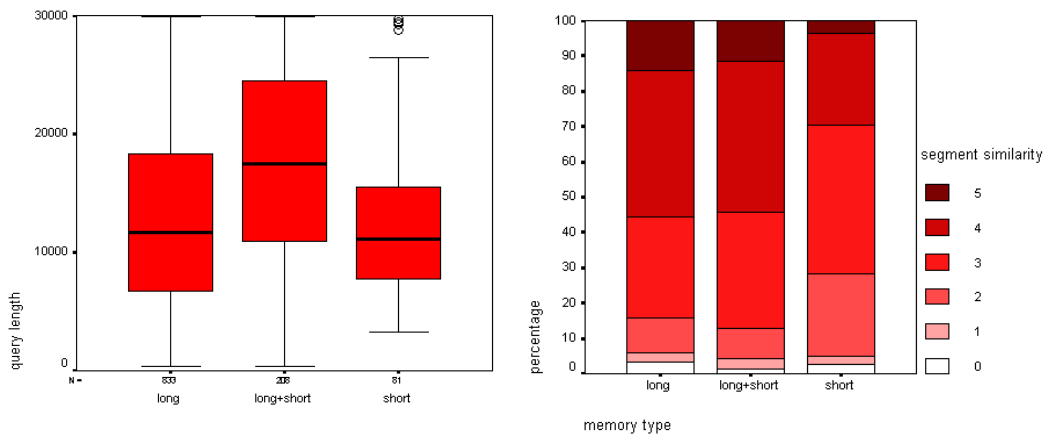


Figure 54: Effect of the three memory types on the query length (left). Distribution of the different similarity levels at the segment level within the three categories of memory (right).

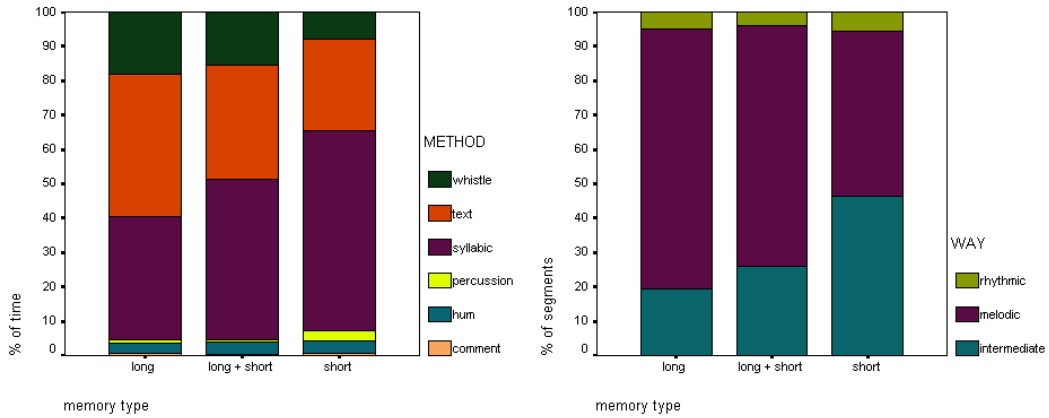


Figure 55: Change from textual dominance to syllabic dominance with a growing importance of short-term memory (left). Influence of memory type on performance style (right).



## **2 User Context (5)**



## 2.1 Survey design (5.3.2)

### Personal information

Q#Nr	Form (F#): variable	Type	Measurement
	F1: Surname	Open-ended	
	F1: First name	Open-ended	
	F1: Address	Open-ended	
	F1: Street Nr	Open-ended	
	F1: City	Open-ended	
	F1: ZIP Code	Open-ended	
	F1: Tel Nr	Open-ended	
	F1: Email	Open-ended	
	F1: Experiment participant	Forced choice	Yes/no
	F1: Contact	Forced choice	Normal post/email

Table 32: Survey design for personal information.

### Socio-demographic

Q#Nr	Form (F#): variable	Type	Measurement
1	F2: Year of birth	List selection	Birth year
2	F2: Place of birth	Open-ended	
3	F2: Occupation	Open-ended	
4	F2: Gender	Forced choice	Female/male
5	F2: Language	Forced choice	Dutch/other
	F2: Language other	Open-ended	
6	F3: Cultural background	Forced choice	Western/not western
7	F3: Culture country	List selection	Country/other
	F3: Culture country other	Open-ended	

Table 33: Survey design for questions 1 to 7.

### Internet activities

Q#Nr	Form (F#): variable	Type	Measurement
8	F4: Internet use	Forced choice	Yes/no
9	F4: Internet activities F4: Internet email F4: Internet chat F4: Internet play games F4: Internet download music F4: Internet watch movies F4: Internet information search F4: Internet other	Multiple choices	6 types + other
10	F4: Internet place F4: Internet at home F4: Internet at work /school F4: Internet other	Multiple choices	2 types + other
11	F4: Internet time general F4: Internet time music	List selection List selection	Num hours per week Num hours per week

Table 34: Survey design for questions 8 to 11.

### Music education

Q#Nr	Form (F#): variable	Type	Measurement
12	F5: Education F5: Education none F5: Education on my own F5: Education private lessons F5: Education music school F5: Education conservatory F5: Education university	Multiple choices	5 types + none
13	F5: Level F5: Level none F5: Level beginning F5: Level medium F5: Level high	Forced choice	4 categories

Table 35: Survey design for questions 12 and 13.

### Interaction with music

Q#Nr	Form (F#): variable	Type	Measurement
14	F5: Way	Forced choice	Listen/ listen and play
15	F5: Context	Forced choice	Amateur/professional

Table 36: Survey design for questions 14 and 15.

## Musical instruments

Q#Nr	Form (F#): variable	Type	Measurement
16	F6: Instrument F6: Instr. none F6: Instr. strings (bowed) F6: Instr. woodwind F6: Instr. brass F6: Instr. keyboard F6: Instr. strings (plucked) F6: Instr. percussion F6: Instr.electronic F6: Instr. strings (bowed) name F6: Instr. Woodwind name F6: Instr. Brass name F6: Instr. Keyboard name F6: Instr. strings (plucked) name F6: Instr. Percussion name F6: Instr.electronic name	Multiple choices         Open-ended Open-ended Open-ended Open-ended Open-ended Open-ended Open-ended	5 types + none + name

Table 37: Survey design for question 16.

## Singing and dancing skills

Q#Nr	Form (F#): variable	Type	Measurement
17	F6: Singing skills F6: Cannot sing F6: Bad singer F6: Average singer F6: Good voice F6: Active as singer F6: Sing genre	Forced choice      Open-ended	5 categories
18	F6: Dancing skills F6: Cannot dance F6: Bad dancer F6: Average dancer F6: Good dancer F6: Active as dancer F6: Dance genre	Forced choice      Open-ended	5 categories
19	F6: Physical movement	Forced choice	Yes/no

Table 38: Survey design for questions 17 to 19.

## Music activity

Q#Nr	Form (F#): variable	Type	Measurement
20	F7: Listen way F7: Listen more active F7: Listen as much act. as pass. F7: Listen more passive	Forced choice	3 types

Table 39: Survey design for question 20.

### Medium for listening to music

Q#Nr	Form (F#): variable	Type	Measurement
21	F7: Medium 1st choice F7: Medium 1 CD/Minidisc ... F7: Medium 1 radio F7: Medium 1 television F7: Medium 1 Internet	Forced choice	4 types
22	F7: medium 2nd choice F7: Medium 2 CD/Minidisc ... F7: Medium 2 radio F7: Medium 2 television F7: Medium 2 Internet	Forced choice	4 types

Table 40: Survey design for questions 21 and 22.

### Radio

Q#Nr	Form (F#): variable	Type	Measurement
23	F7:Radio stations F7:Radio None F7:Radio Radio 1 F7:Radio Radio 2 F7:Radio Klara F7:Radio Donna F7:Radio Studio Brussel F7:Radio Contact F7:Radio Qmusic F7:Radio Topradio F7:Radio Cdance F7:Radio Other	Multiple choices	9 types+none+other

Table 41: Survey design for question 23.



**Genre**

Q#Nr	Form (F#): variable	Type	Measurement
24	F8: Genre F8: Genre classical F8: Genre world/ethnic F8: Genre light/oldies F8: Genre pop F8: Genre rock/metal/noise F8: Genre jazz F8: Genre blues/soul/reggae F8: Genre folk/country F8: Genre rap/hip hop F8: Genre new age F8: Genre dance/house/techno F8: Genre soundtracks F8: Genre childrens songs F8: Genre other	Multiple choices	13 types + other
	F8: Genre classical example F8: Genre world/ethnic example F8: Genre light /oldies example F8: Genre pop example F8: Genre rock/metal/noise example F8: Genre jazz example F8: Genre blues/soul/reggae ex. F8: Genre folk/country example F8: Genre rap/hip hop example F8: Genre new age example F8: Genre dance/house/techno ex. F8: Genre soundtracks example F8: Genre childrens songs example	Open-ended Open-ended Open-ended Open-ended Open-ended Open-ended Open-ended Open-ended Open-ended Open-ended Open-ended Open-ended	
	F8: Genre classical subgenre F8: Genre world/ethnic subgenre F8: Genre light /oldies subgenre F8: Genre pop subgenre F8: Genre rock/metal/noise subg. F8: Genre jazz subgenre F8: Genre blues/soul/reggae subg. F8: Genre folk/country subgenre F8: Genre rap/hip hop subgenre F8: Genre new age F8: Genre dance/house/techno subg. F8: Genre soundtracks subgenre F8: Genre childrens songs subgenre F8: Genre other genre	Open-ended Open-ended Open-ended Open-ended Open-ended Open-ended Open-ended Open-ended Open-ended Open-ended Open-ended Open-ended Open-ended	

Table 42: Survey design for question 24.



## 2.2 Questions and findings (5.4)

### Response

Form	Entitling	Frequency	%
F1	About you	17	2.4
F2	General information	6	0.8
F3	Culture	2	0.3
F4	Internet	0	0.0
F5	Music education	4	0.6
F6	Music practice	6	0.8
F7	Music listening	13	1.8
F8	Music genres	7	1.0
F9	Music taste	133	18.7
F10	Favourites	523	73.6
Total		711	100

Table 45: Number of responses according to the number of forms.

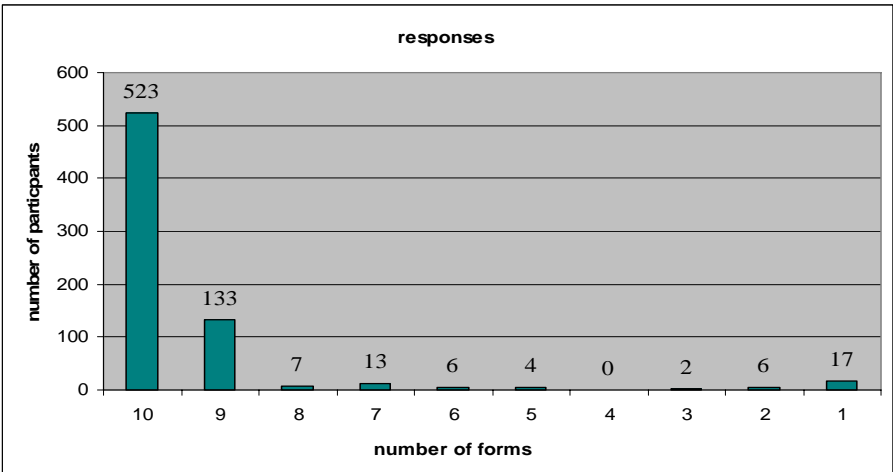


Figure 56: Bar chart representing the number of responses according to the number of forms.

## 2.3 General background (5.4.1)

### Socio-demographic: age, language, culture and country (Q#1, 5, 6, 2)

Age category	Frequency	%
12-17	35	5,3
18-24	260	39,2
25-34	203	30,6
25-44	76	11,5
45-54	61	9,2
55-64	23	3,5
65+	5	0,8
<b>Total</b>	<b>663</b>	<b>100</b>
<b>Language</b>		
Dutch	655	98,8
<b>Culture</b>		
Western	660	99,5
<b>Country</b>		
Other	44	6,6
Belgium	619	93,4
<b>Total</b>	<b>663</b>	<b>100</b>

Table 46: Summary of frequencies and percentages for socio-demographic variables.

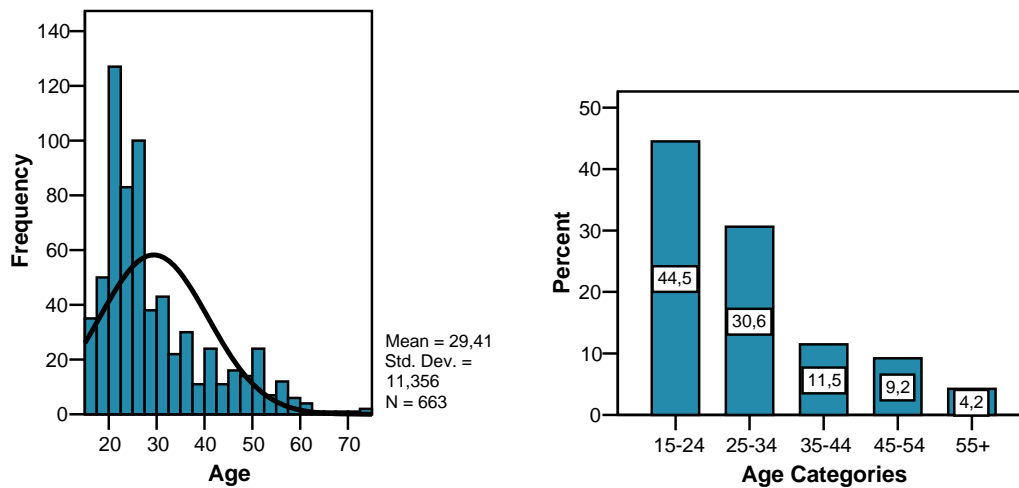


Figure 57: Histogram showing the age of the participants (left). Bar chart representing five age categories (right).

**Socio-demographic: gender (Q#4)**

Gender	Frequency	%
Female	293	44,2
Male	370	55,8
Total	663	100

Table 47: Summary of frequencies and percentages for gender.

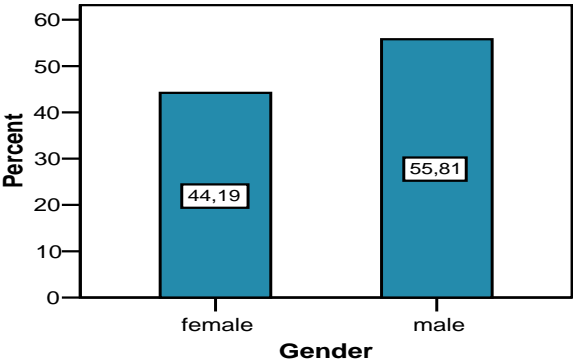


Figure 58: Bar chart representing the distribution of gender.

**Socio-demographic: occupation (Q#3)**

Occupation.	Frequency	%
Student	261	39,4
Administrative	114	17,2
Technical	52	7,8
Educational	61	9,2
Scientific	45	6,8
Management	40	6
Medical	16	2,4
Not specific	74	11,2
<b>Total</b>	<b>663</b>	<b>100</b>

Table 48: Distribution of occupational categories.

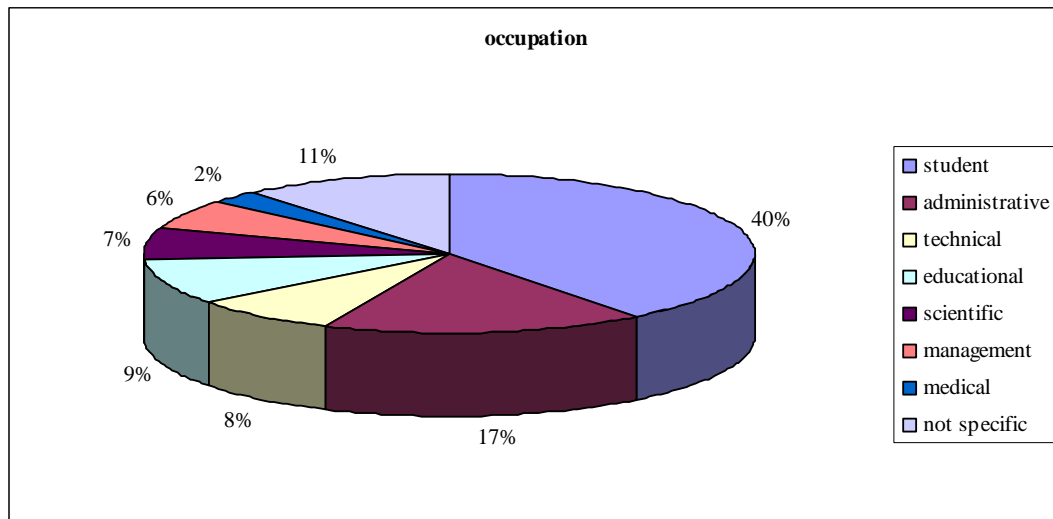


Figure 59: Pie chart representing the distribution of occupations in the dataset.

**Internet activities (Q#8 - 10)**

Internet use	Frequency	%
yes	614	92,6
<b>Internet activity</b>		
IntEmail	612	30,4
IntChat	221	11
IntGames	93	4,6
IntMusDwnl	242	12
IntMovieWatch	61	3
IntInfo	626	31,1
IntOther	155	7,7
<b>Total</b>	<b>2010</b>	<b>100</b>
<b>Num Internet activities</b>		
0	1	0,2
1	47	7,1
2	223	33,6
3	189	28,5
4	108	16,3
5	63	9,5
6	21	3,2
7	11	1,7
<b>Total</b>	<b>663</b>	<b>100</b>
<b>Internet place</b>		
Home	549	50,1
Work/School	425	38,8
Other	121	11,1
<b>Total</b>	<b>1095</b>	<b>100</b>

Table 49: Distribution of Internet activities.

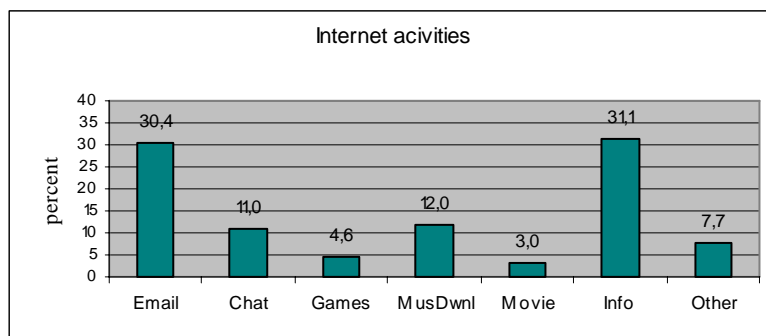


Figure 60: Bar chart representing Internet activities according to the 6 types plus other.

**Internet activities: time spend using Internet (Q#11)**

Internet time: general		
1-4h	213	32,1
5-9h	163	24,6
10-14h	140	21,1
15-19h	49	7,4
20-24h	49	7,4
25-29h	17	2,6
30h+	32	4,8
<b>Total</b>	<b>663</b>	<b>100</b>

Table 50: Distribution of the time spend using Internet.

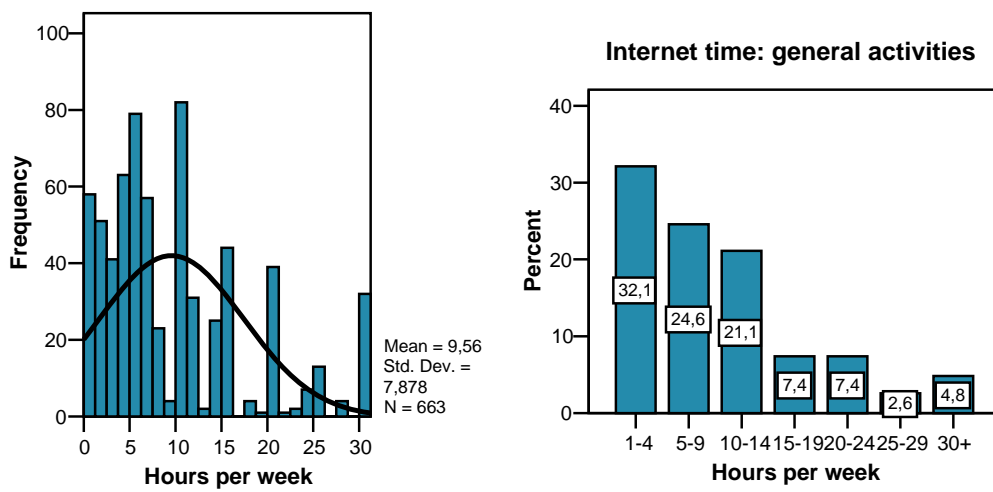


Figure 61: Histogram representing the Internet time spend on general activities (left). Bar chart showing percentages of subjects according to the seven categories of Internet time spend on general activities (right).



**Internet activities: Internet time spend on music (Q#11)**

Internet time: music		
1-4h	523	78,9
5-9h	86	13
10-14h	26	3,9
15-19h	7	1,1
20-24h	11	1,7
25-29h	0	0
30h+	10	1,5
<b>Total</b>	<b>663</b>	<b>100</b>

Table 51: Distribution of Internet time spend on music.

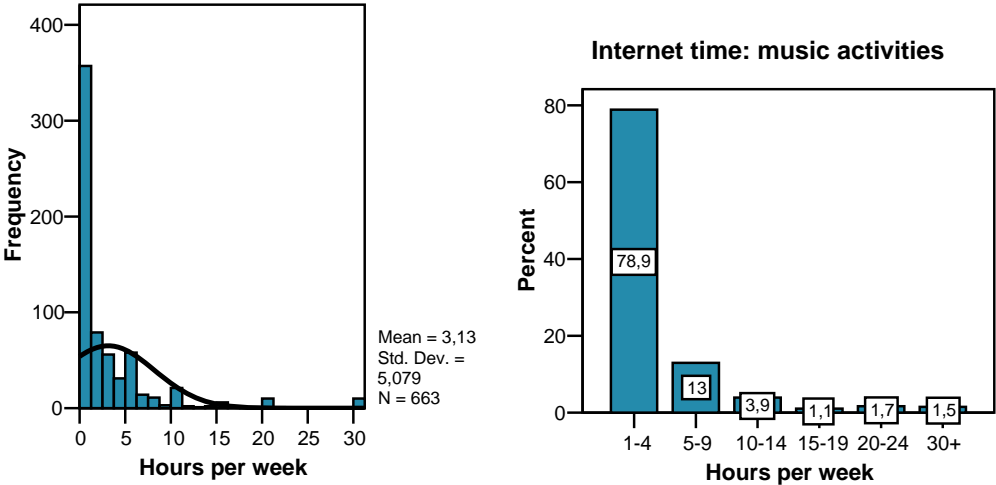


Figure 62: Histogram representing the internet time spend on music activities (left). Bar chart showing percentages of subjects according to seven categories of Internet time spend on music activities (right).

## 2.4 Music background (5.4.2)

### Music education (Q#12, 13)

Music education	Frequency	%
No	244	36,8
Yes	419	63,2
<b>Total</b>	<b>663</b>	<b>100</b>
EdAutod	153	26,6
EdPrivate	58	10,1
EdSchool	301	52,3
EdConservatory	41	7,1
EdUniversity	22	3,8
<b>Total</b>	<b>575</b>	<b>100</b>
<b>Num music education</b>		
0	244	36,8
1	296	44,6
2	93	14
3	27	4,1
4	3	0,5
<b>Total</b>	<b>663</b>	<b>100</b>
<b>Music level</b>		
None	242	36,5
Beginning	132	19,9
Medium	154	23,2
High	135	20,4
<b>Total</b>	<b>663</b>	<b>100</b>

Table 52: Distribution of music education.

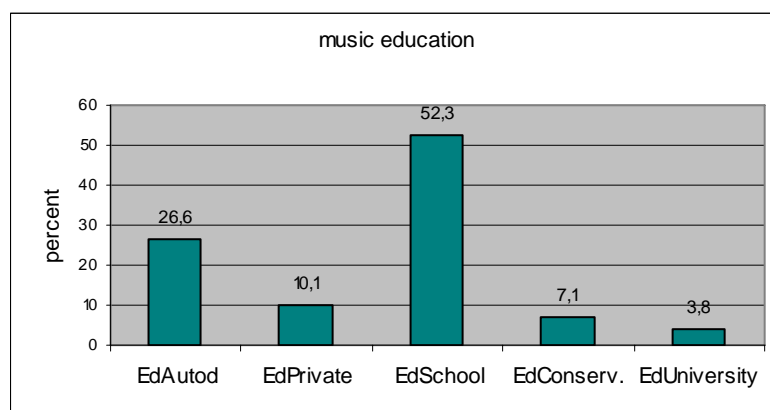


Figure 63: Bar chart representing music education for the 5 categories involved.

**Interaction with music (Q#14, 15)**

Music way	Frequency	%
Listen	327	49,3
Listen & play	336	50,7
<b>Total</b>	<b>663</b>	<b>100</b>
Music context		
Amateur	606	91,4
Professional	57	8,6
<b>Total</b>	<b>663</b>	<b>100</b>

Table 53: Distribution of the interaction with music.

**Musical instruments (Q#16)**

Musical instrument	Frequency	%
Not play	284	42,8
Play	379	57,2
<b>Total</b>	<b>663</b>	<b>100</b>
String Bowed	50	8
Woodwind	119	19
Brass	34	5,4
Keyboard	160	25,6
String Plucked	132	21,1
Percussion	65	10,4
Electronic	65	10,4
<b>Total</b>	<b>625</b>	<b>100</b>
<b>Num instruments</b>		
0	285	43
1	204	30,8
2	121	18,3
3	38	5,7
4	10	1,5
5	5	0,8
<b>Total</b>	<b>663</b>	<b>100</b>

Table 54: Distribution of musical instruments.

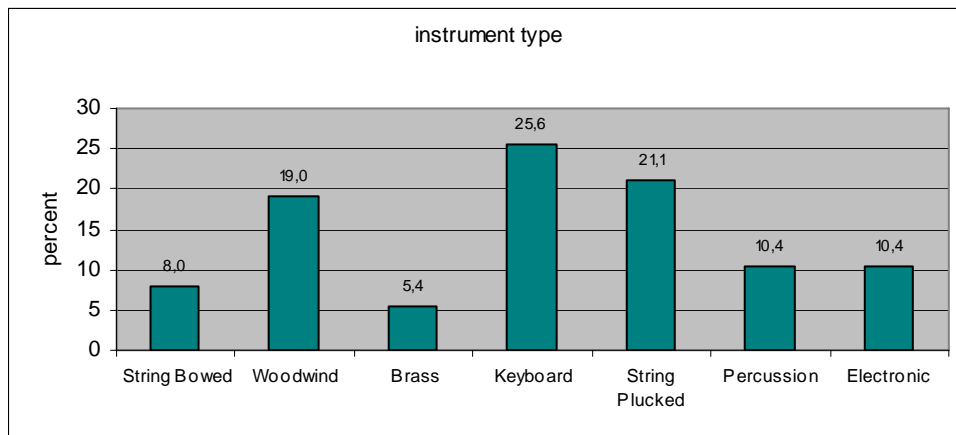


Figure 64: Bar charts representing distribution of instruments according to 7 instrument types.

**Singing and dancing skills (Q#17 - 19)**

Sing	Frequency	%
Cannot	133	20,1
Bad	138	20,8
Medium	251	37,9
Good	85	12,8
Very good	56	8,4
<b>Total</b>	<b>663</b>	<b>100</b>
<b>Dance</b>		
Cannot	91	13,7
Bad	108	16,3
Medium	296	44,6
Good	125	18,9
Very good	43	6,5
<b>Total</b>	<b>663</b>	<b>100</b>
<b>Move</b>		
Move	629	94,9
No move	34	5,1
<b>Total</b>	<b>663</b>	<b>100</b>

Table 55: Distributions of singing and dancing skills and movement.

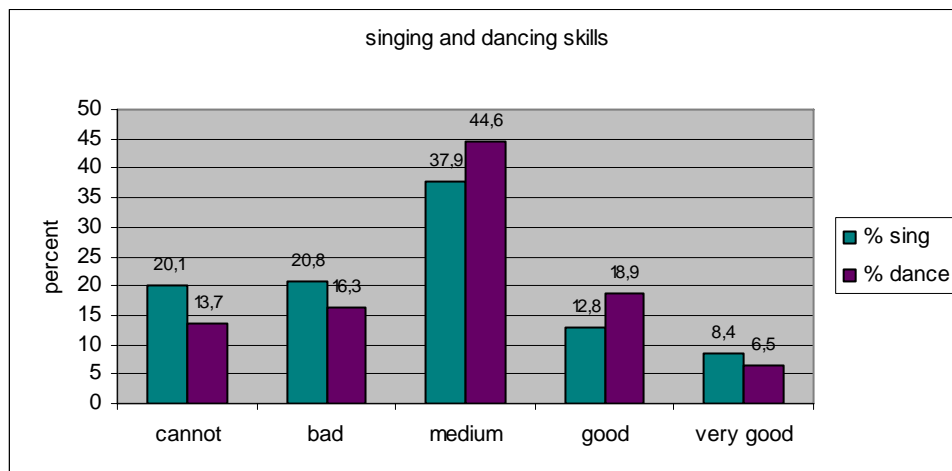


Figure 65: Clustered bars comparing distributions of singing and dancing skills.

**Music activity (Q#20)**

Listen	Frequency	%
Passively	164	24,7
Passively and actively	287	43,3
Actively	212	32
<b>Total</b>	<b>663</b>	<b>100</b>

Table 56: Distribution of music listening.

**Medium for listening to music (Q#21 - 23)**

Medium 1	Frequency	%
Cd/minidisk	419	63,2
Radio	210	31,7
Television	4	0,6
Internet	30	4,5
<b>Total</b>	<b>663</b>	<b>100</b>
<b>Medium 2</b>		
Cd/minidisk	205	30,9
Radio	312	47,1
Television	51	7,7
Internet	95	14,3
<b>Total</b>	<b>663</b>	<b>100</b>
<b>Radio</b>		
No Radio	30	2,1
Radio1	281	19,6
Radio2	90	6,3
Klara	226	15,7
Donna	139	9,7
StuBru	358	24,9
Contact	25	1,7
QMusic	123	8,6
TopRadio	28	2
CDance	19	1,3
RadOther	116	8,1
<b>Total</b>	<b>1435</b>	<b>100</b>
<b>Num radio</b>		
0	30	4,5
1	172	25,9
2	264	39,8
3	132	19,9
4	35	5,3
5	17	2,6
6	10	1,5
7	2	0,3
10	1	0,2
<b>Total</b>	<b>663</b>	<b>100</b>

Table 57: Distributions of preferred medium for listening to music and preferred radio stations.

2.5 Genre (5.4.3)

Genre representation (Q#24)

Genres	Frequency	%
Classical	372	12
World/ethnic	242	7,8
Light/oldies	218	7
Pop	402	13
Rock/metal/noise	333	10,8
Jazz	268	8,7
Blues	208	6,7
Folk/country	165	5,3
Rap/hip hop	161	5,2
New Age	62	2
Dance	221	7,1
Soundtrack	215	6,9
Children	45	1,5
Other	184	5,9
Total	3096	100

Table 58: Distribution of genre.

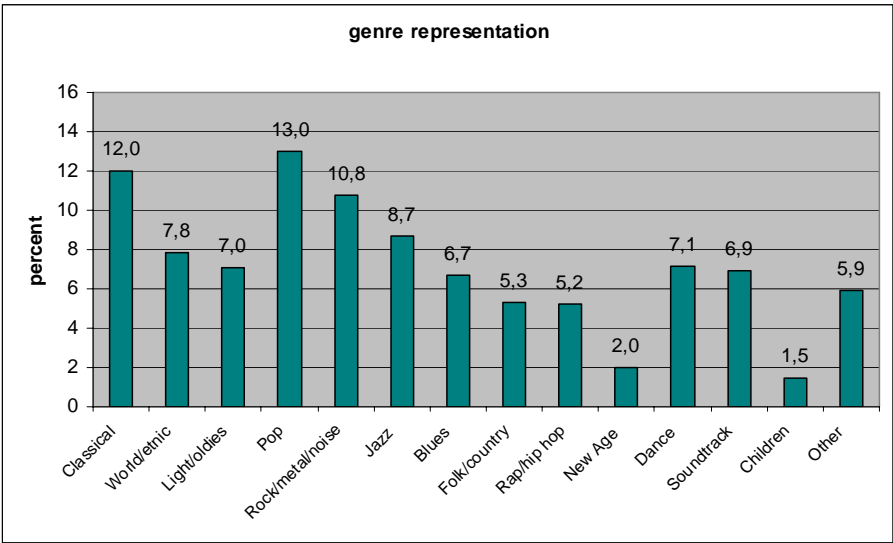


Figure 66: Bar chart representing distribution of genre classes.

**Breadth of taste**

Num genres	Frequency	%
1	53	8
2	88	13,3
3	99	14,9
4	115	17,3
5	88	13,3
6	77	11,6
7	56	8,4
8	28	4,2
9	25	3,8
10	18	2,7
11	9	1,4
12	4	0,6
13	2	0,3
14	1	0,2
<b>Total</b>	<b>663</b>	<b>100</b>
<b>Taste breadth</b>		
Narrow	355	53,5
Broad	308	46,5
<b>Total</b>	<b>663</b>	<b>100</b>

Table 59: Distribution of the number of genres participants listen to and the breadth of taste.

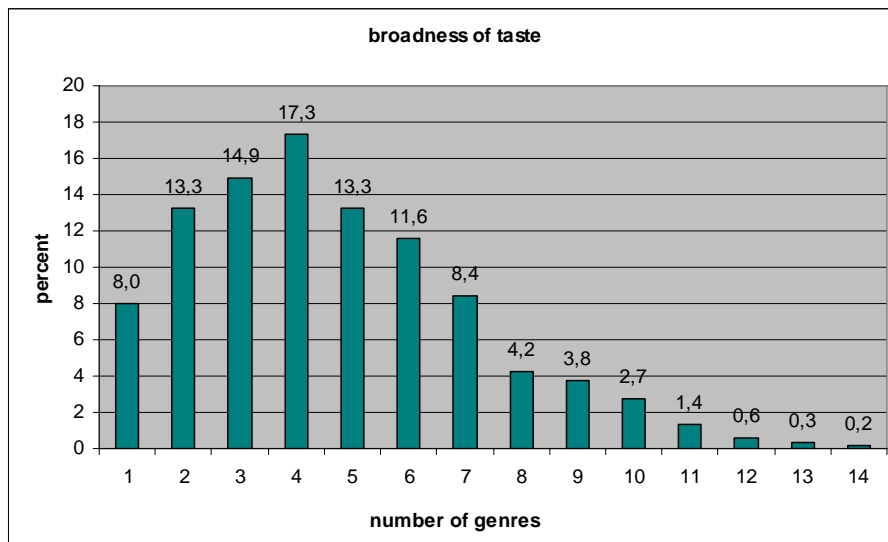


Figure 67: Bar chart representing the number of genres selected on the average.



## 2.6 Taste (5.4.4)

### Evolution of taste (Q#25)

	Counts					
Genre	taste 1-12	taste 12-18	taste 18-25	taste 25-35	taste 35-45	taste 45+
Classic	146	253	319	193	108	60
World	26	121	221	124	65	38
Light	161	143	160	92	52	27
Pop	414	457	392	201	79	38
Rock	67	369	315	126	41	17
Jazz	20	86	226	122	60	32
Blues	22	118	219	122	60	32
Folk	19	84	163	87	44	27
Rap	18	106	127	52	21	8
New Age	11	47	62	37	15	8
Dance	36	158	192	75	17	4
Soundtrack	60	120	181	80	29	15
Children	402	30	29	17	8	5
<b>total</b>	<b>1402</b>	<b>2092</b>	<b>2606</b>	<b>1328</b>	<b>599</b>	<b>311</b>
	%					
Genre	taste 1-12	taste 12-18	taste 18-25	taste 25-35	taste 35-45	taste 45+
Classic	10,4	12,1	12,2	14,5	18	19,3
World	1,9	5,8	8,5	9,3	10,9	12,2
Light	11,5	6,8	6,1	6,9	8,7	8,7
Pop	29,5	21,8	15	15,1	13,2	12,2
Rock	4,8	17,6	12,1	9,5	6,8	5,5
Jazz	1,4	4,1	8,7	9,2	10	10,3
Blues	1,6	5,6	8,4	9,2	10	10,3
Folk	1,4	4	6,3	6,6	7,3	8,7
Rap	1,3	5,1	4,9	3,9	3,5	2,6
New Age	0,8	2,2	2,4	2,8	2,5	2,6
Dance	2,6	7,6	7,4	5,6	2,8	1,3
Soundtrack	4,3	5,7	6,9	6	4,8	4,8
Children	28,7	1,4	1,1	1,3	1,3	1,6
<b>Total</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>

Table 60: Distribution of taste according to age categories in counts (top) and percentages (bottom).

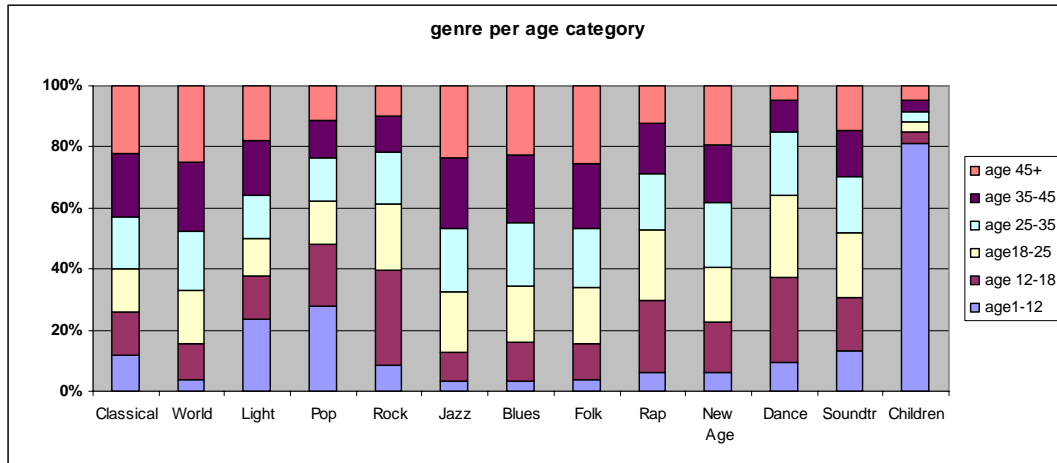


Figure 68: Representation of genres per age category.

Comparison between genre distributions

Genre	Form 8	Form 9
Classical	12	12,9
World/ethnic	7,8	7,1
Light/oldies	7	7,6
Pop	13	19
Rock/metal/noise	10,8	11,2
Jazz	8,7	6,5
Blues/soul/reggae	6,7	6,9
Folk/country	5,3	5,1
Rap/hip hop	5,2	4
New age	2	2,2
Dance/house/techno	7,1	5,8
Soundtracks	6,9	5,8
Childrens	1,5	5,9
Other	5,9	NA

Table 61: Comparison between genre distributions within form 8 (preferred genres) and form 9 (taste evolution).

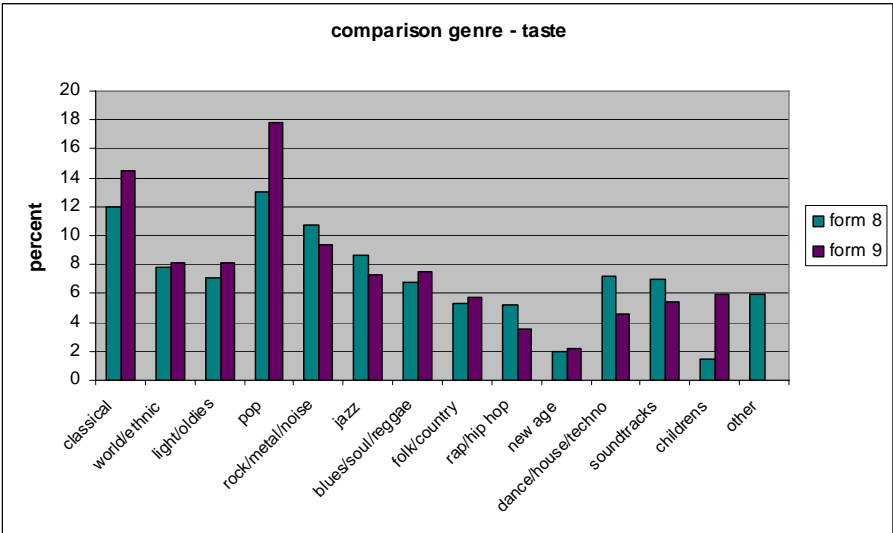


Figure 69: Comparison between the genre distribution for preferred genres and the sum of counts for taste.

## 2.7 Favourites (5.4.5)

### Titles of preferred music (Q#26)

Title	Num subjects	%
1	523	17,3
2	467	15,5
3	419	13,9
4	361	11,9
5	309	10,2
6	258	8,5
7	216	7,1
8	181	6
9	155	5,1
10	132	4,4
<b>Total titles</b>	<b>3021</b>	<b>100</b>

Table 62: Number and percentage of subjects according to the number of titles provided.

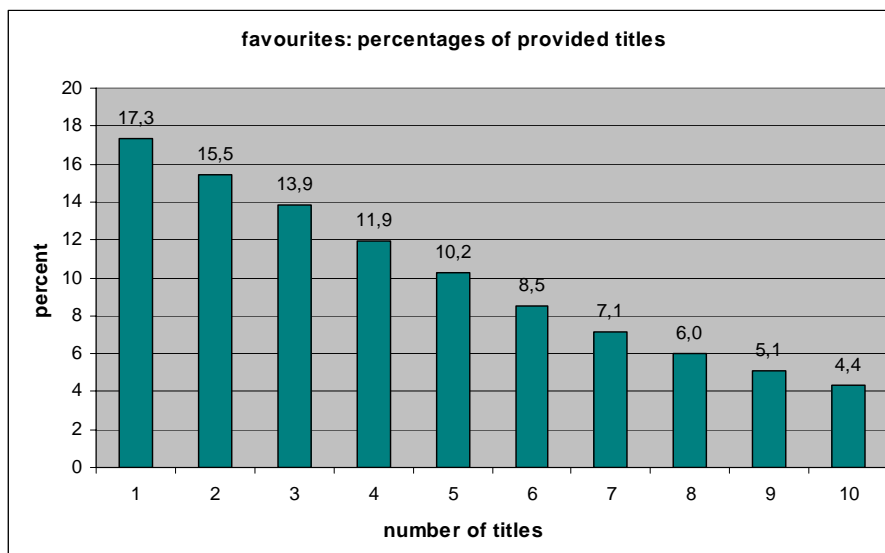


Figure 70: Bar chart representing the percentage of participants according to the number of favourite titles provided.

Preferred genres

Genre	Genre %	Favourites %	Favourites RE %
Classical	12,0	16,3	17,7
World/ethnic	7,8	3,5	5,3
Light/oldies	7,0	2,3	6,3
Pop	13,0	16,7	20,4
Rock/metal/noise	10,8	19,5	23,5
Jazz	8,7	4,1	4,6
Blues/soul/reggae	6,7	3,1	3,8
Folk/country	5,3	2,0	2,4
Rap/hip hop	5,2	3,1	3,6
New age	2,0	1,5	1,5
Dance/house/techno	7,1	4,4	5,4
Soundtracks	6,9	3,1	3,2
Children	1,5	0,4	0,4
Other	5,9	10,6	0,0
Variable		3,7	0,1
Not known		5,8	0,3
Electronic			1,4

Table 63: Comparison of genre distributions for genre, manually labelled favourites and relabelled favourites.

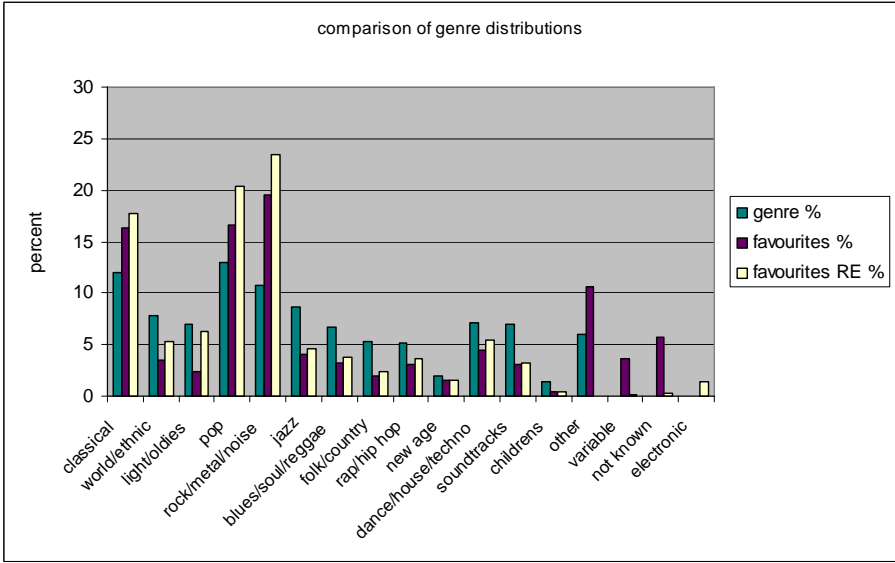


Figure 71: Bar chart representing comparison of genre distributions.

**Genre distributions per title**

10 favourites (N=523)		Freq. original	%	Freq. relabeled	%
1	Classic	119	22,8	125	23,9
2	World	14	2,7	19	3,6
3	Light	13	2,5	34	6,5
4	Pop	83	15,9	98	18,7
5	Rock	106	20,3	120	22,9
6	Jazz	26	5,0	26	5,0
7	Blues	18	3,4	19	3,6
8	Folk	13	2,5	16	3,1
9	Rap	16	3,1	16	3,1
10	New age	5	1,0	5	1,0
11	Dance	19	3,6	25	4,8
12	Soundtrack	8	1,5	8	1,5
13	Children	0	0,0	0	0,0
14	Other	56	10,7	0	0,0
15	Variable	14	2,7	1	0,2
16	Not known	13	2,5	4	0,8
17	Electronic	0	0,0	7	1,3
<b>Total</b>		523	100,0	523	100,0

Table 64: Genre distribution for 10 favourite titles.

9 favourites (N=467)		Freq. original	%	Freq. relabeled	%
1	Classic	75	16,1	82	17,6
2	World	8	1,7	15	3,2
3	Light	11	2,4	29	6,2
4	Pop	81	17,3	101	21,6
5	Rock	104	22,3	118	25,3
6	Jazz	17	3,6	20	4,3
7	Blues	19	4,1	21	4,5
8	Folk	11	2,4	12	2,6
9	Rap	13	2,8	15	3,2
10	New age	4	0,9	4	0,9
11	Dance	18	3,9	29	6,2
12	Soundtrack	11	2,4	11	2,4
13	Children	2	0,4	2	0,4
14	Other	57	12,2	0	0,0
15	Variable	15	3,2	0	0,0
16	Not known	21	4,5	0	0,0
17	Electronic	0	0,0	8	1,7
<b>Total</b>		467	100,0	467	100,0

Table 65: Genre distribution for 9 favourite titles.

8 favourites (N=419)		Freq. original	%	Freq. relabeled	%
1	Classic	74	17,7	80	19,1
2	World	13	3,1	22	5,3
3	Light	11	2,6	21	5,0
4	Pop	60	14,3	79	18,9
5	Rock	78	18,6	94	22,4
6	Jazz	26	6,2	28	6,7
7	Blues	14	3,3	17	4,1
8	Folk	10	2,4	10	2,4
9	Rap	15	3,6	16	3,8
10	New age	6	1,4	6	1,4
11	Dance	20	4,8	24	5,7
12	Soundtrack	13	3,1	16	3,8
13	Children	0	0,0	0	0,0
14	Other	43	10,3	0	0,0
15	Variable	14	3,3	1	0,2
16	Not known	22	5,3	1	0,2
17	Electronic			4	1,0
<b>Total</b>		419	100,0	419	100,0

Table 66: Genre distribution for 8 favourite titles.

7 favourites (N=361)		Freq. original	%	Freq. relabeled	%
1	Classic	66	18,3	69	19,1
2	World	15	4,2	19	5,3
3	Light	6	1,7	23	6,4
4	Pop	56	15,5	73	20,2
5	Rock	80	22,2	95	26,3
6	Jazz	12	3,3	14	3,9
7	Blues	11	3,0	12	3,3
8	Folk	6	1,7	9	2,5
9	Rap	12	3,3	14	3,9
10	New age	3	0,8	3	0,8
11	Dance	6	1,7	9	2,5
12	Soundtrack	12	3,3	13	3,6
13	Children	1	0,3	1	0,3
14	Other	37	10,2	0	0,0
15	Variable	13	3,6	0	0,0
16	Not known	25	6,9	1	0,3
17	Electronic			6	1,7
<b>Total</b>		361	100,0	361	100,0

Table 67: Genre distribution for 7 favourite titles.

6 favourites (N=309)		Freq. original	%	Freq. relabeled	%
1	Classic	43	13,9	47	15,2
2	World	10	3,2	17	5,5
3	Light	1	0,3	11	3,6
4	Pop	50	16,2	62	20,1
5	Rock	58	18,8	83	26,9
6	Jazz	14	4,5	16	5,2
7	Blues	5	1,6	6	1,9
8	Folk	6	1,9	6	1,9
9	Rap	11	3,6	15	4,9
10	New age	8	2,6	8	2,6
11	Dance	11	3,6	16	5,2
12	Soundtrack	16	5,2	16	5,2
13	Children	1	0,3	1	0,3
14	Other	36	11,7	0	0,0
15	Variable	14	4,5	0	0,0
16	Not known	25	8,1	0	0,0
17	Electronic			5	1,6
<b>Total</b>		<b>309</b>	<b>100,0</b>	<b>309</b>	<b>100,0</b>

Table 68: Genre distribution for 6 favourite titles.

5 favourites (N=258)		Freq. original	%	Freq. relabeled	%
1	Classic	35	13,6	40	15,5
2	World	12	4,7	17	6,6
3	Light	2	0,8	16	6,2
4	Pop	43	16,7	52	20,2
5	Rock	52	20,2	64	24,8
6	Jazz	11	4,3	12	4,7
7	Blues	6	2,3	7	2,7
8	Folk	7	2,7	10	3,9
9	Rap	7	2,7	7	2,7
10	New age	4	1,6	5	1,9
11	Dance	13	5,0	13	5,0
12	Soundtrack	3	1,2	3	1,2
13	Children	2	0,8	2	0,8
14	Other	39	15,1	0	0,0
15	Variable	7	2,7	1	0,4
16	Not known	15	5,8	2	0,8
17	Electronic			7	2,7
<b>Total</b>		<b>258</b>	<b>100,0</b>	<b>258</b>	<b>100,0</b>

Table 69: Genre distribution for 5 favourite titles.



4 favourites (N=216)		Freq. original	%	Freq. relabeled	%
1	Classic	34	15,7	36	16,7
2	World	10	4,6	12	5,6
3	Light	6	2,8	19	8,8
4	Pop	41	19,0	44	20,4
5	Rock	43	19,9	47	21,8
6	Jazz	6	2,8	8	3,7
7	Blues	6	2,8	9	4,2
8	Folk	5	2,3	5	2,3
9	Rap	4	1,9	8	3,7
10	New age	2	0,9	2	0,9
11	Dance	13	6,0	14	6,5
12	Soundtrack	6	2,8	6	2,8
13	Children	0	0,0	0	0,0
14	Other	25	11,6	0	0,0
15	Variable	8	3,7	1	0,5
16	Not known	7	3,2	0	0,0
17	Electronic			5	2,3
<b>Total</b>		216	100,0	216	100,0

Table 70: Genre distribution for 4 favourite titles.

3 favourites (N=181)		Freq. original	%	Freq. relabeled	%
1	Classic	33	18,2	35	19,3
2	World	8	4,4	9	5,0
3	Light	4	2,2	10	5,5
4	Pop	31	17,1	36	19,9
5	Rock	39	21,5	46	25,4
6	Jazz	4	2,2	4	2,2
7	Blues	12	6,6	13	7,2
8	Folk	2	1,1	3	1,7
9	Rap	5	2,8	5	2,8
10	New age	5	2,8	5	2,8
11	Dance	8	4,4	10	5,5
12	Soundtrack	4	2,2	4	2,2
13	Children	1	0,6	1	0,6
14	Other	12	6,6	0	0,0
15	Variable	3	1,7	0	0,0
16	Not known	10	5,5	0	0,0
17	Electronic			0	0,0
<b>Total</b>		181	100,0	181	100,0

Table 71: Genre distribution for 3 favourite titles.

2 favourites (N=155)		Freq. original	%	Freq. relabeled	%
1	Classic	21	13,5	23	14,8
2	World	7	4,5	13	8,4
3	Light	9	5,8	14	9,0
4	Pop	29	18,7	34	21,9
5	Rock	17	11,0	22	14,2
6	Jazz	8	5,2	11	7,1
7	Blues	3	1,9	4	2,6
8	Folk	2	1,3	2	1,3
9	Rap	6	3,9	6	3,9
10	New age	2	1,3	2	1,3
11	Dance	12	7,7	13	8,4
12	Soundtrack	6	3,9	6	3,9
13	Children	3	1,9	3	1,9
14	Other	13	8,4	0	0,0
15	Variable	9	5,8	0	0,0
16	Not known	8	5,2	2	1,3
17	Electronic			0	0,0
<b>Total</b>		155	100,0	155	100,0

Table 72: Genre distribution for 2 favourite titles.

1 favourite (N=132)		Freq. original	%	Freq. relabeled	%
1	Classic	17	12,9	21	15,9
2	World	3	2,3	6	4,5
3	Light	3	2,3	8	6,1
4	Pop	21	15,9	29	22,0
5	Rock	27	20,5	33	25,0
6	Jazz	5	3,8	5	3,8
7	Blues	3	2,3	5	3,8
8	Folk	2	1,5	3	2,3
9	Rap	4	3,0	5	3,8
10	New age	2	1,5	2	1,5
11	Dance	5	3,8	6	4,5
12	Soundtrack	7	5,3	7	5,3
13	Children	0	0,0	0	0,0
14	Other	12	9,1	0	0,0
15	Variable	7	5,3	0	0,0
16	Not known	14	10,6	0	0,0
17	Electronic			2	1,5
<b>Total</b>		132	100,0	132	100,0

Table 73: Genre distribution for 1 favourite title.

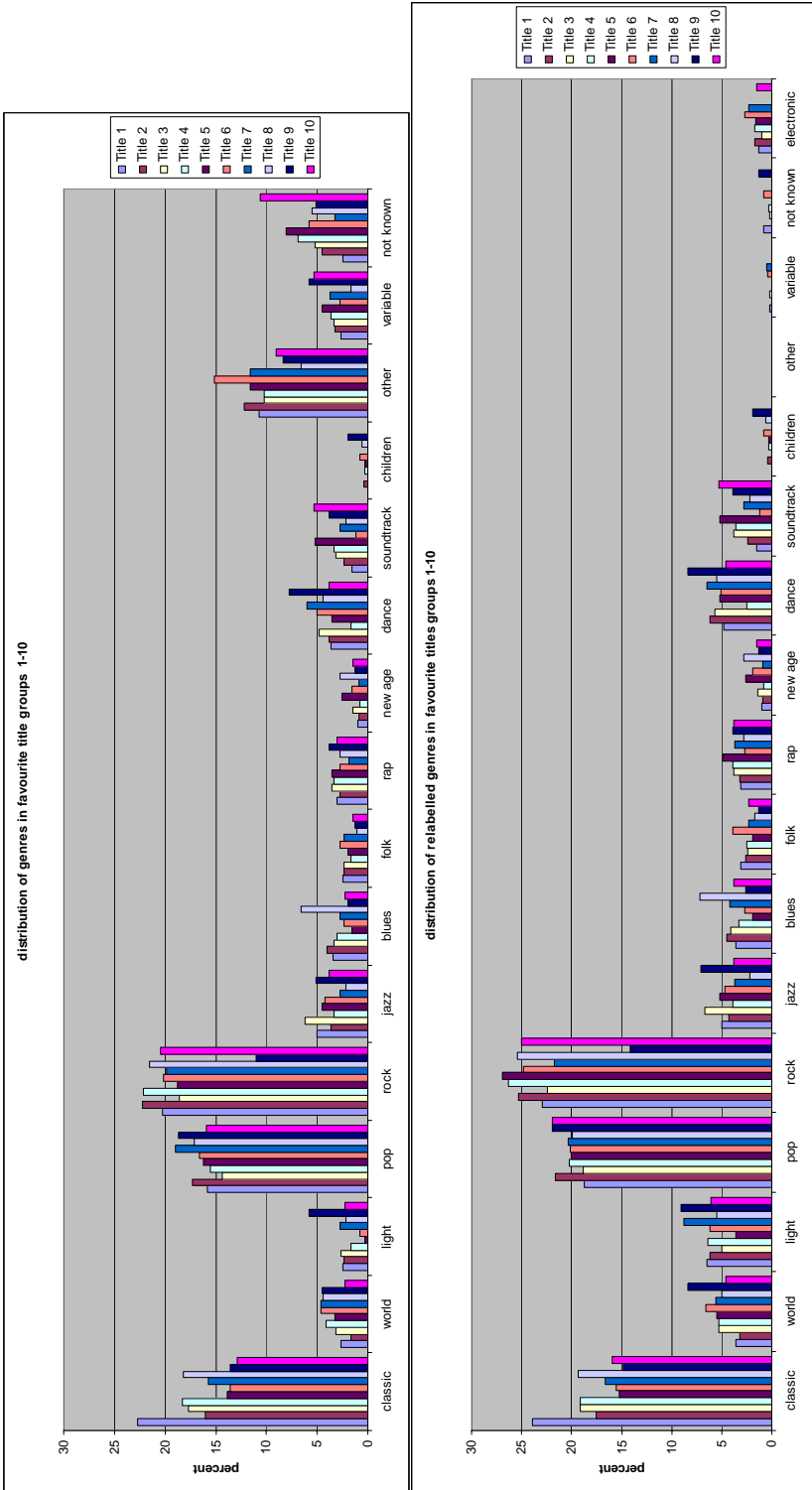


Figure 72: Clustered bars representing genre distribution for 10 favourite title groups.

### Distribution for each genre over the ten title groups

Title 1 represents the percentage for the average of a genre class for the group who provided 10 favourites, title 2 for 9 favourites, title 3 for 8, etc. The first series contains the values for the original labelling (OR) and the second holds the percentage after relabelling.

CLASSICAL	Classical OR %	Classical RE %
Title 1	22,8	23,9
Title 2	16,1	17,6
Title 3	17,7	19,1
Title 4	18,3	19,1
Title 5	13,9	15,2
Title 6	13,6	15,5
Title 7	15,7	16,7
Title 8	18,2	19,3
Title 9	13,5	14,8
Title 10	12,9	15,9

Table 74: Spread of the genre "classical" according to original labelling and relabelling.

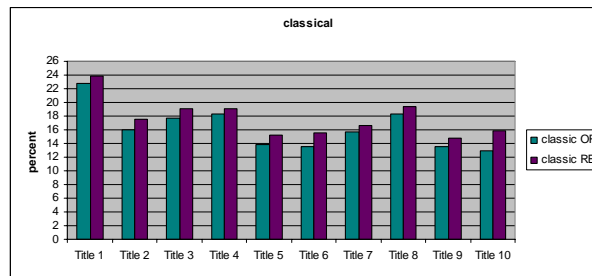


Figure 73: Clustered bar chart representing the spread of the genre "classical".

	WORLD/ETHNIC	World OR %	World RE %
Title 1		2,7	3,6
Title 2		1,7	3,2
Title 3		3,1	5,3
Title 4		4,2	5,3
Title 5		3,2	5,5
Title 6		4,7	6,6
Title 7		4,6	5,6
Title 8		4,4	5
Title 9		4,5	8,4
Title 10		2,3	4,5

Table 75: Spread of the genre "world/ethnic" according to original labelling and relabelling.

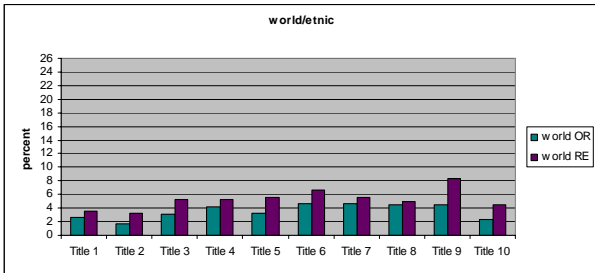


Figure 74: Clustered bar chart representing the spread of the genre "world/ethnic".

	LIGHT/OLDIES	Light OR %	Light RE %
Title 1		2,5	6,5
Title 2		2,4	6,2
Title 3		2,6	5
Title 4		1,7	6,4
Title 5		0,3	3,6
Title 6		0,8	6,2
Title 7		2,8	8,8
Title 8		2,2	5,5
Title 9		5,8	9
Title 10		2,3	6,1

Table 76: Spread of the genre "light/oldies" according to original labelling and relabelling.

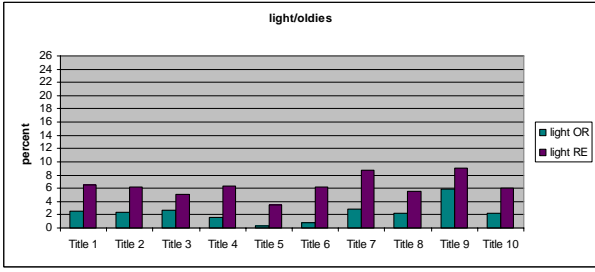


Figure 75: Clustered bar chart representing the spread of the genre "light/oldies".

POP	Pop OR %	Pop RE %
Title 1	15,9	18,7
Title 2	17,3	21,6
Title 3	14,3	18,9
Title 4	15,5	20,2
Title 5	16,2	20,1
Title 6	16,7	20,2
Title 7	19	20,4
Title 8	17,1	19,9
Title 9	18,7	21,9
Title 10	15,9	22

Table 77: Spread of the genre “pop” according to original labelling and relabelling.

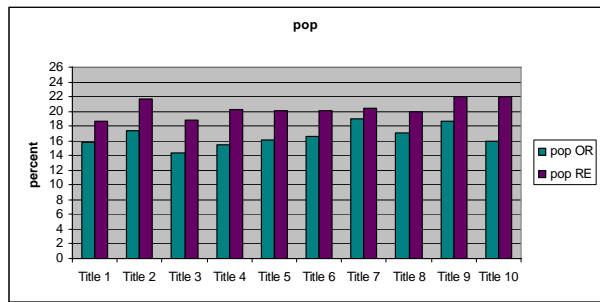


Figure 76: Clustered bar chart representing the spread of the genre “pop”.

ROCK/METAL/NOISE	Rock OR %	Rock RE %
Title 1	20,3	22,9
Title 2	22,3	25,3
Title 3	18,6	22,4
Title 4	22,2	26,3
Title 5	18,8	26,9
Title 6	20,2	24,8
Title 7	19,9	21,8
Title 8	21,5	25,4
Title 9	11	14,2
Title 10	20,5	25

Table 78: Spread of the genre “rock/metal/noise” according to original labelling and relabelling.

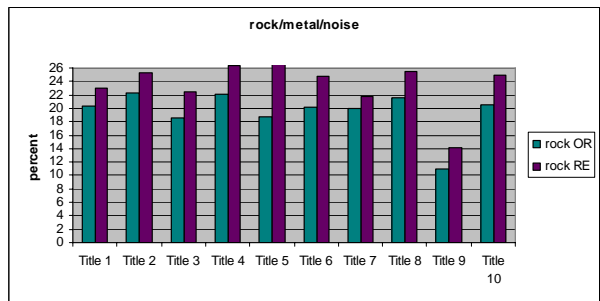


Figure 77: Clustered bar chart representing the spread of the genre “rock/metal/noise”.

JAZZ	% jazz OR	% jazz RE
Title 1	5	5
Title 2	3,6	4,3
Title 3	6,2	6,7
Title 4	3,3	3,9
Title 5	4,5	5,2
Title 6	4,3	4,7
Title 7	2,8	3,7
Title 8	2,2	2,2
Title 9	5,2	7,1
Title 10	3,8	3,8

Table 79: Spread of the genre "jazz" according to original labelling and relabelling.

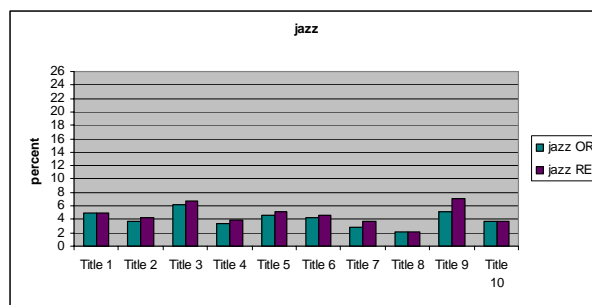


Figure 78: Clustered bar chart representing the spread of the genre "jazz".

BLUES	Blues OR %	Blues RE %
Title 1	3,4	3,6
Title 2	4,1	4,5
Title 3	3,3	4,1
Title 4	3	3,3
Title 5	1,6	1,9
Title 6	2,3	2,7
Title 7	2,8	4,2
Title 8	6,6	7,2
Title 9	1,9	2,6
Title 10	2,3	3,8

Table 80: Spread of the genre "blues" according to original labelling and relabelling.

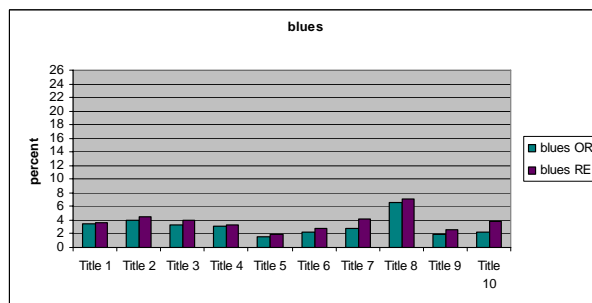


Figure 79: Clustered bar chart representing the spread of the genre "blues".

FOLK/COUNTRY	Folk OR %	Folk RE %
Title 1	2,5	3,1
Title 2	2,4	2,6
Title 3	2,4	2,4
Title 4	1,7	2,5
Title 5	1,9	1,9
Title 6	2,7	3,9
Title 7	2,3	2,3
Title 8	1,1	1,7
Title 9	1,3	1,3
Title 10	1,5	2,3

Table 81: Spread of the genre “folk/country” according to original labelling and relabelling.

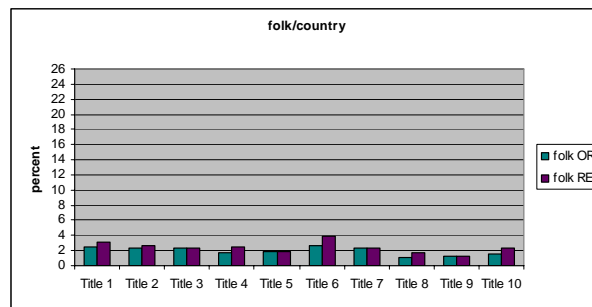


Figure 80: Clustered bar chart representing the spread of the genre “folk/country”.

RAP/HIP HOP	Rap OR %	Rap RE %
Title 1	3,1	3,1
Title 2	2,8	3,2
Title 3	3,6	3,8
Title 4	3,3	3,9
Title 5	3,6	4,9
Title 6	2,7	2,7
Title 7	1,9	3,7
Title 8	2,8	2,8
Title 9	3,9	3,9
Title 10	3	3,8

Table 82: Spread of the genre “rap/hip hop” according to original labelling and relabelling.

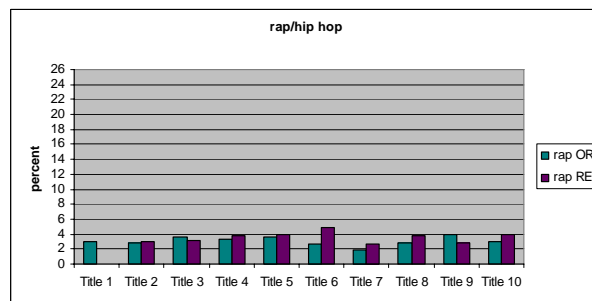


Figure 81: Clustered bar chart representing the spread of the genre “rap/hip hop”.



	NEW AGE	New age OR %	New age RE %
Title 1		1	1
Title 2		0,9	0,9
Title 3		1,4	1,4
Title 4		0,8	0,8
Title 5		2,6	2,6
Title 6		1,6	1,9
Title 7		0,9	0,9
Title 8		2,8	2,8
Title 9		1,3	1,3
Title 10		1,5	1,5

Table 83: Spread of the genre "new age" according to original labelling and relabelling.

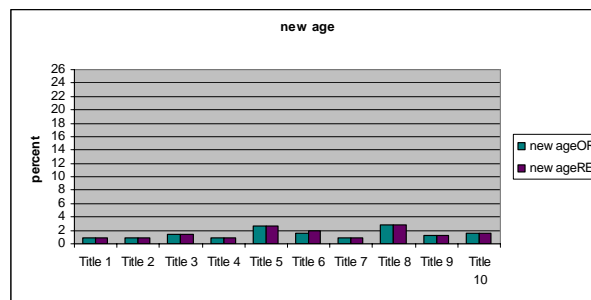


Figure 82: Clustered bar chart representing the spread of the genre "new age".

	DANCE/HOUSE/TECHNO	Dance OR %	Dance RE %
Title 1		3,6	4,8
Title 2		3,9	6,2
Title 3		4,8	5,7
Title 4		1,7	2,5
Title 5		3,6	4,9
Title 6		5,0	5,0
Title 7		6,0	6,5
Title 8		4,4	5,5
Title 9		7,7	7,7
Title 10		3,8	4,5

Table 84: Spread of the genre "dance/house/techno" according to original labelling and relabelling.

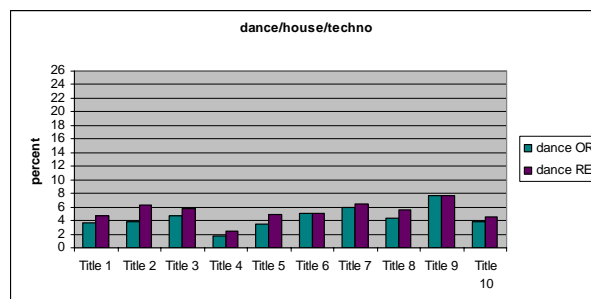


Figure 83: Clustered bar chart representing the spread of the genre "dance/house/techno".

SOUNDTRACKS	Soundtr.OR %	Soundtr.RE %
Title 1	1,5	1,5
Title 2	2,4	2,4
Title 3	3,1	3,8
Title 4	3,3	3,6
Title 5	5,2	5,2
Title 6	1,2	1,2
Title 7	2,8	2,8
Title 8	2,2	2,2
Title 9	4,5	4,5
Title 10	5,3	5,3

Table 85: Spread of “soundtrack” according to original labelling and relabelling.

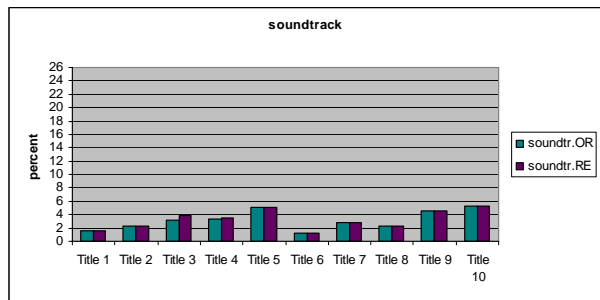


Figure 84: Clustered bar chart representing the spread of “soundtrack”.

CHILDRENS' MUSIC	Children OR %	Children RE %
Title 1	0	0
Title 2	0,4	0,4
Title 3	0	0
Title 4	0,3	0,3
Title 5	0,3	0,3
Title 6	0,8	0,8
Title 7	0	0
Title 8	0,6	0,6
Title 9	1,9	1,9
Title 10	0	0

Table 86: Spread of “childrens' music” according to original labelling and relabelling.

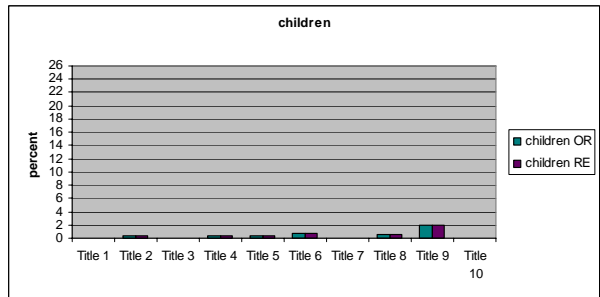


Figure 85: Clustered bar chart representing the spread of “childrens' music”.

OTHER	Other OR %	Other RE %
Title 1	10,7	0
Title 2	12,2	0
Title 3	10,3	0
Title 4	10,2	0
Title 5	11,7	0
Title 6	15,1	0
Title 7	11,6	0
Title 8	6,6	0
Title 9	8,4	0
Title 10	9,1	0

Table 87: Spread of "other" according to original labelling and relabelling.

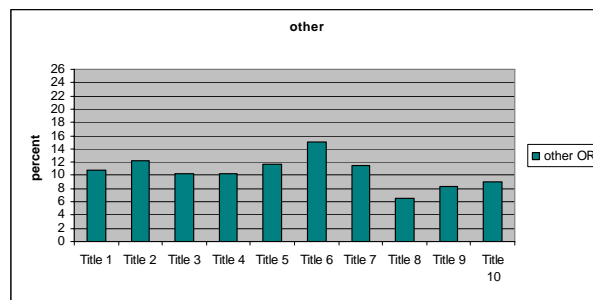


Figure 86: Clustered bar chart representing the spread of "other".

VARIABLE	Variable OR %	Variable RE %
Title 1	2,7	0,2
Title 2	3,2	0
Title 3	3,3	0,2
Title 4	3,6	0
Title 5	4,5	0
Title 6	2,7	0,4
Title 7	3,7	0,5
Title 8	1,7	0
Title 9	5,8	0
Title 10	5,3	0

Table 88: Spread of "variable" according to original labelling and relabelling.

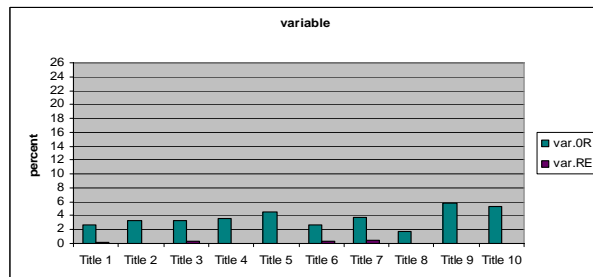


Figure 87: Clustered bar chart representing the spread of "variable".

	NOT KNOWN	Not known OR %	Not known RE %
Title 1		2,5	0,8
Title 2		4,5	0
Title 3		5,3	0,2
Title 4		6,9	0,3
Title 5		8,1	0
Title 6		5,8	0,8
Title 7		3,2	0
Title 8		5,5	0
Title 9		5,2	1,3
Title 10		10,6	0

Table 89: Spread of “not known” according to original labelling and relabelling.

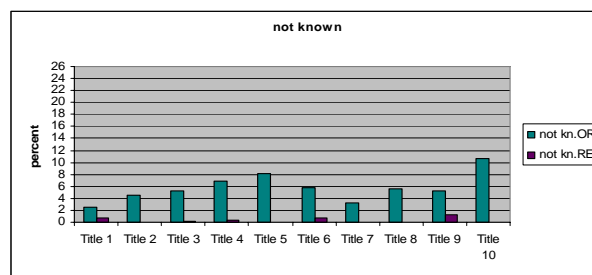


Figure 88: Clustered bar chart representing the spread of “not known”.

	ELECTRONIC	Electr. RE %
Title 1		1,3
Title 2		1,7
Title 3		1
Title 4		1,7
Title 5		1,6
Title 6		2,7
Title 7		2,3
Title 8		0
Title 9		0
Title 10		1,5

Table 90: Spread of the genre “electronic” according to relabelling.

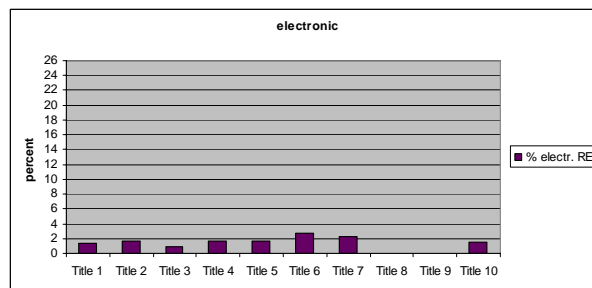


Figure 89: Clustered bar chart representing the spread of the genre “electronic”.

## 2.8 Qualities of favourite titles (5.4.6)

### Global annotation of affect

AFFECT	Very	Rather	Little	Not	Little	Rather	Very	Variable
Cheerful-Sad	16,9	14,6	10	9,4	13	13,2	9	13,9
Carefree-Anxious	15,3	14	12,2	17	16,1	9,5	5,5	10,4
Aggressive-Tender	7,2	9,5	11	16,3	13	15,6	16,1	11,4
Calm-Restless	9,8	10,8	11,2	13,1	14,8	16,4	11,1	12,8
Passionate-Restrained	24,5	23,1	21,8	14	5	2,8	2	6,9

Table 91: Percentages of the sums of ratings of the adjective pairs related to affect.

### Detailed: cheerful-sad

	Cheerful-Sad	Count	%
	Very	495	16,9
	Rather	429	14,6
	Little	295	10
	Not	276	9,4
	Little	381	13
	Rather	388	13,2
	Very	264	9
	Variable	409	13,9
	<b>Total</b>	<b>2937</b>	<b>100</b>

Table 92: Ratings of affect adjectives "cheerful-sad".

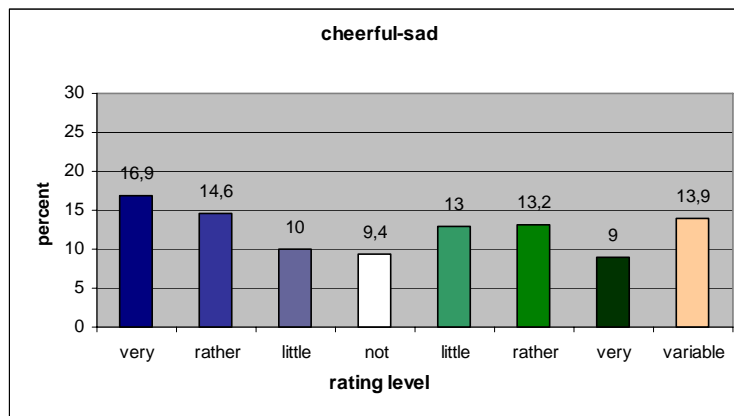


Figure 90: Bar chart representing ratings of affect adjectives "cheerful-sad".

**Detailed: carefree-anxious**

Carefree-Anxious	Count	%
Very	449	15,3
Rather	411	14
Little	359	12,2
Not	500	17
Little	473	16,1
Rather	278	9,5
Very	161	5,5
Variable	306	10,4
<b>Total</b>	<b>2937</b>	<b>100</b>

Table 93: Ratings of affect adjectives “carefree-anxious”.

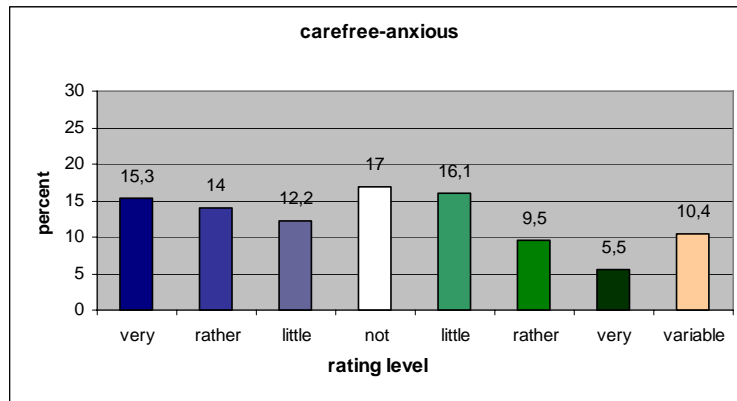


Figure 91: Bar chart representing ratings of affect adjectives “carefree-anxious”.

Detailed: aggressive-tender

Aggressive-Tender	Count	%
Very	210	7,2
Rather	280	9,5
Little	323	11
Not	478	16,3
Little	381	13
Rather	457	15,6
Very	473	16,1
Variable	335	11,4
Total	2937	100

Table 94: Ratings of affect adjectives "aggressive-tender".

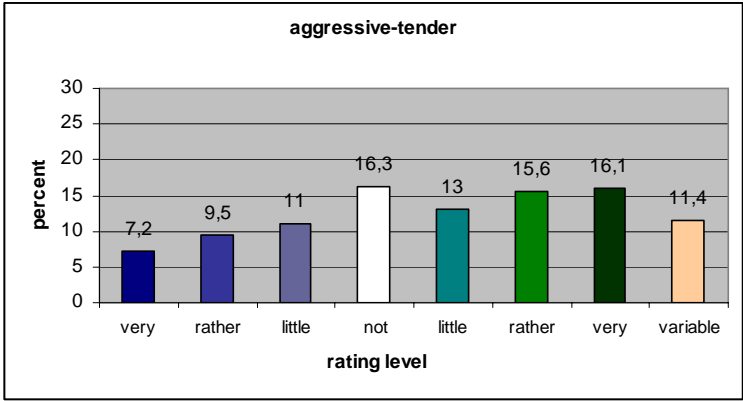


Figure 92: Bar chart representing ratings of affect adjectives "aggressive-tender".

**Detailed: calm-restless**

Calm-Restless	Count	%
Very	287	9,8
Rather	318	10,8
Little	329	11,2
Not	385	13,1
Little	435	14,8
Rather	482	16,4
Very	325	11,1
Variable	376	12,8
<b>Total</b>	<b>2937</b>	<b>100</b>

Table 95: Ratings of affect adjectives "calm-restless".

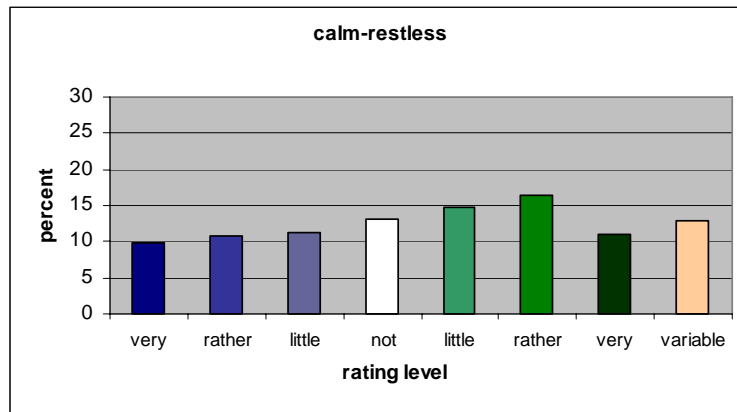


Figure 93: Bar chart representing ratings of affect adjectives "calm-restless".

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Detailed: passionate-restrained

Passionate-Restrained	Count	%
Very	721	24,5
Rather	678	23,1
Little	639	21,8
Not	410	14
Little	146	5
Rather	81	2,8
Very	60	2
Variable	202	6,9
Total	2937	100

Table 96: Ratings of affect adjectives "passionate-restrained".

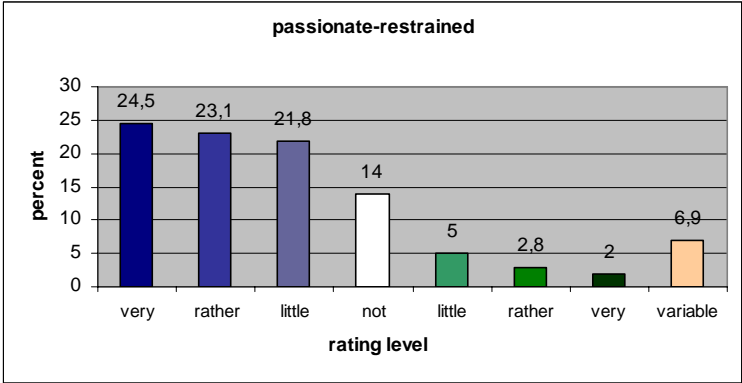


Figure 94: Bar chart representing ratings of affect adjectives "passionate-restrained".

**Global annotation of structure**

STRUCTURE	Very	Rather	Little	Not	Little	Rather	Very	Variable
Soft-Hard	14,3	15,3	15,4	10	12,9	9,6	6,5	15,9
Slow-Quick	8,8	12,1	13,7	10,1	15,8	12,2	7	20,3
Bright-Dull	15,4	19,4	16,7	11,2	11,6	9,8	5,3	10,7
Rough-Harmonious	2,3	4,7	8,3	12	15,2	25,6	20,6	11,3
Static-Dynamic	1,5	3,4	6,3	14,9	17,9	23,7	20,8	11,6

Table 97: Percentages of the sums of all ratings of the adjective pairs related to structure.

**Detailed: soft-hard**

Soft-Hard	Count	%
Very	420	14,3
Rather	449	15,3
Little	452	15,4
Not	295	10
Little	380	12,9
Rather	282	9,6
Very	191	6,5
Variable	468	15,9
<b>Total</b>	<b>2937</b>	<b>100</b>

Table 98: Ratings of structure adjectives "soft-hard".

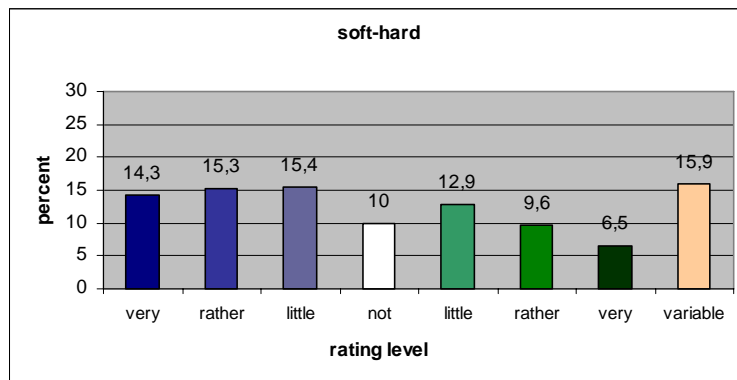


Figure 95: Bar chart representing ratings for structure adjectives "soft-hard".

Detailed: slow-quickly

Slow-Quickly	Count	%
Very	258	8,8
Rather	354	12,1
Little	402	13,7
Not	296	10,1
Little	465	15,8
Rather	359	12,2
Very	206	7
Variable	597	20,3
Total	2937	100

Table 99: Ratings of structure adjectives "slow-quickly".



Figure 96: Bar chart representing ratings of structure adjectives "slow-quickly".

**Detailed: bright-dull**

Bright-Dull	Count	%
Very	452	15,4
Rather	569	19,4
Little	490	16,7
Not	329	11,2
Little	340	11,6
Rather	287	9,8
Very	155	5,3
Variable	315	10,7
<b>Total</b>	<b>2937</b>	<b>100</b>

Table 100: Ratings of structure adjectives "bright-dull".

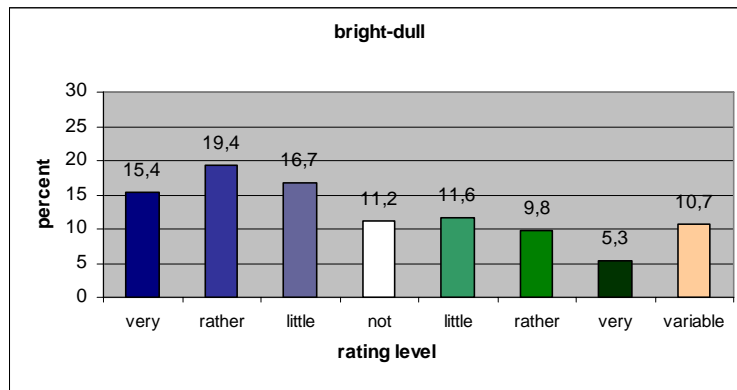


Figure 97: Bar chart representing ratings of structure adjectives "bright-dull".

Detailed: rough-harmonious

Rough-Harmonious	Count	%
Very	69	2,3
Rather	137	4,7
Little	244	8,3
Not	351	12
Little	447	15,2
Rather	752	25,6
Very	606	20,6
Variable	331	11,3
Total	2937	100

Table 101: Ratings of structure adjectives "rough-harmonious".

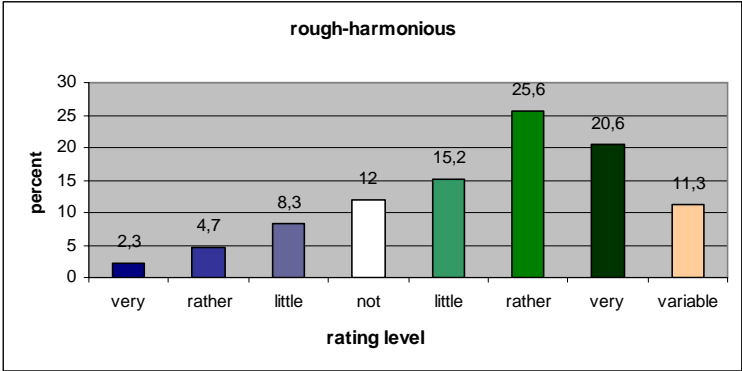


Figure 98: Bar chart representing ratings of structure adjectives "rough-harmonious".

**Detailed: static-dynamic**

Static-Dynamic	Count	%
Very	44	1,5
Rather	99	3,4
Little	184	6,3
Not	438	14,9
Little	526	17,9
Rather	695	23,7
Very	610	20,8
Variable	341	11,6
<b>Total</b>	<b>2937</b>	<b>100</b>

Table 102: Ratings of structure adjectives "static-dynamic".

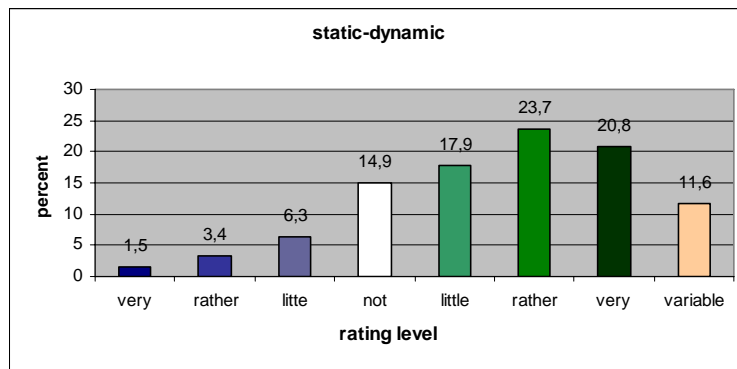


Figure 99: Bar chart representing ratings of structure "static-dynamic".

**Assessment according to broad genre categories**

**Affect ratings: cheerful-sad**

Cheerful-Sad	Classic %	Pop %	Roots %	Other %
Very	1,2	12,1	3,3	0,3
Rather	1,7	9,7	3	0,2
Little	1,8	6,2	2	0
Not	1,5	6,7	1,1	0
Little	2,2	8,9	1,8	0
Rather	2,5	9	1,7	0,1
Very	2,5	5,7	0,7	0
Variable	4,9	6,9	2	0,1

Table 103: Ratings of affect "cheerful-sad" according to genre classes.

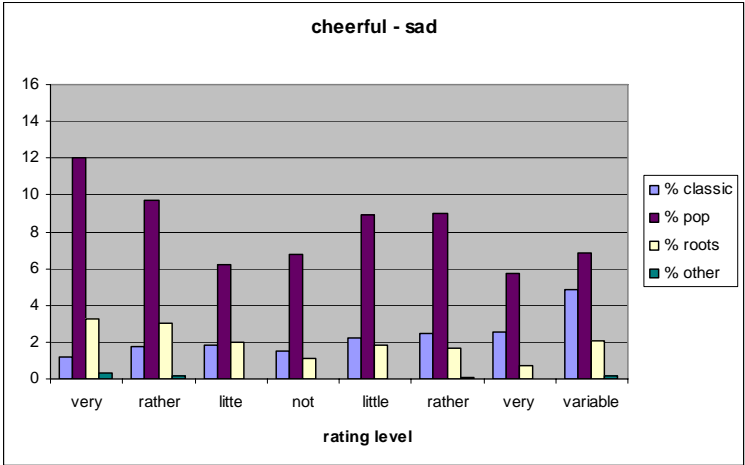


Figure 100: Clustered bar chart representing ratings of affect "cheerful-sad".

**Affect ratings: carefree-anxious**

Carefree-Anxious	Classic %	Pop %	Roots %	Other %
Very	1,3	10,6	3,2	0,2
Rather	2	8,7	3,1	0,2
Little	2,2	8	2	0
Not	2,6	11,6	2,7	0,1
Little	2,7	11,2	2,1	0
Rather	2,2	6,6	0,6	0
Very	1,5	3,5	0,5	0
Variable	3,8	4,9	1,6	0,2

Table 104: Ratings of affect "careless-anxious" according to genre classes.

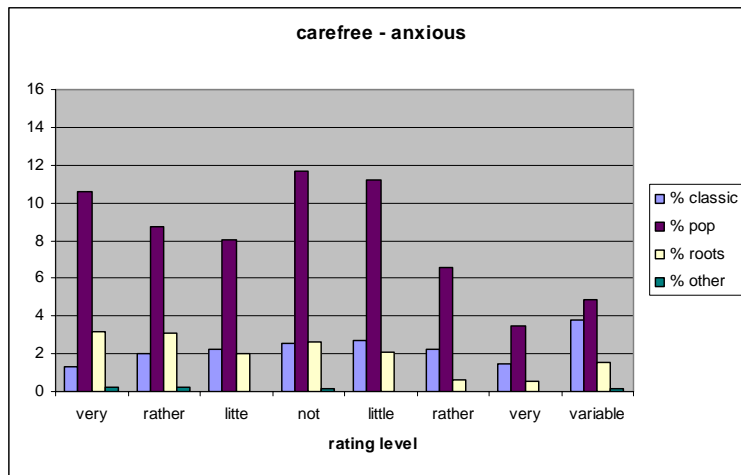


Figure 101: Clustered bar chart representing ratings of affect "carefree-anxious".



**Affect ratings: aggressive-tender**

Aggressive-Tender	Classic %	Pop %	Roots %	Other %
Very	0,4	6,2	0,4	0,1
Rather	1,1	7,4	1,1	0
Little	1,1	8,2	1,8	0
Not	2,9	10	3,1	0,3
Little	2,3	8,3	2,3	0
Rather	3,4	9,5	2,6	0,1
Very	3	9,8	3,1	0,1
Variable	4,2	5,7	1,3	0,1

Table 105: Ratings of affect "aggressive-tender" according to genre classes.

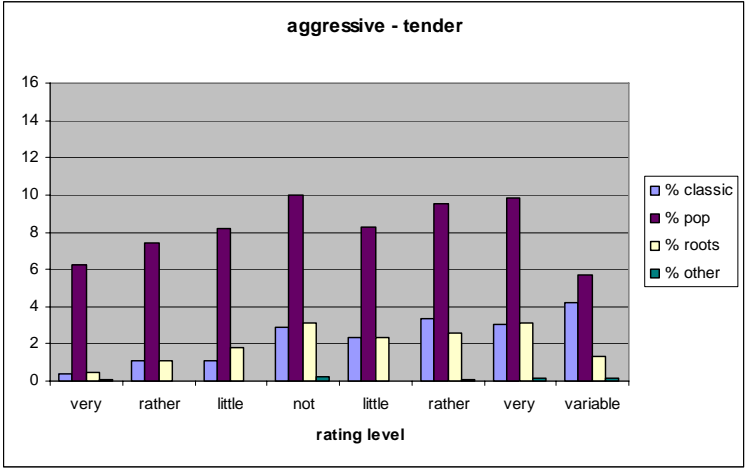


Figure 102: Clustered bar chart representing ratings of affect "aggressive-tender".

**Affect ratings: calm-restless**

Calm-Restless	Classic %	Pop %	Roots %	Other %
Very	2	5,8	1,8	0,1
Rather	2	6,8	2	0,1
Little	2	6,9	2,2	0,1
Not	1,4	9,1	2,3	0,2
Little	2,3	10,2	2,2	0
Rather	2,1	12,3	2	0
Very	1,7	8	1,3	0
Variable	4,8	6	1,8	0,2

Table 106: Ratings of affect "calm-restless" according to genre classes.

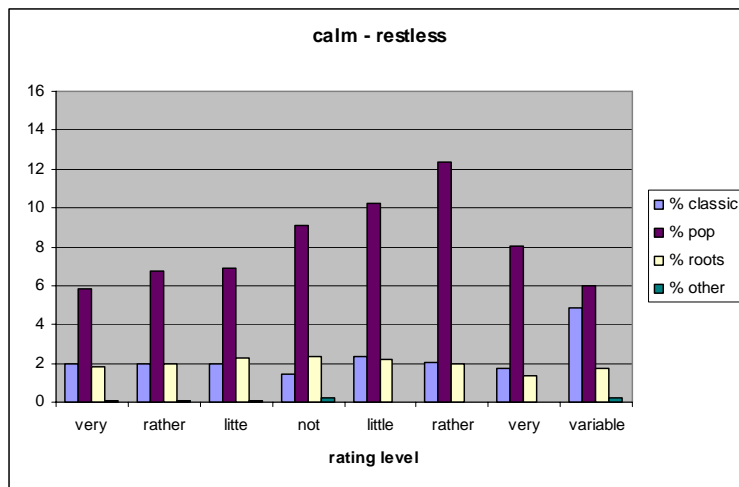


Figure 103: Clustered bar chart representing ratings of affect "calm-restless".

**Affect ratings: passionate-restrained**

Passionate-Restrained	Classic %	Pop %	Roots %	Other %
Very	5,2	14,6	4,6	0,1
Rather	4,7	13,9	4,4	0,1
Little	4,1	14,2	3,4	0
Not	1,5	10,3	1,7	0,4
Little	0,2	4,2	0,5	0
Rather	0,4	2,1	0,2	0
Very	0,1	1,7	0,2	0
Variable	2,1	4,1	0,5	0,1

Table 107: Ratings of affect "passionate-restrained" according to genre classes.

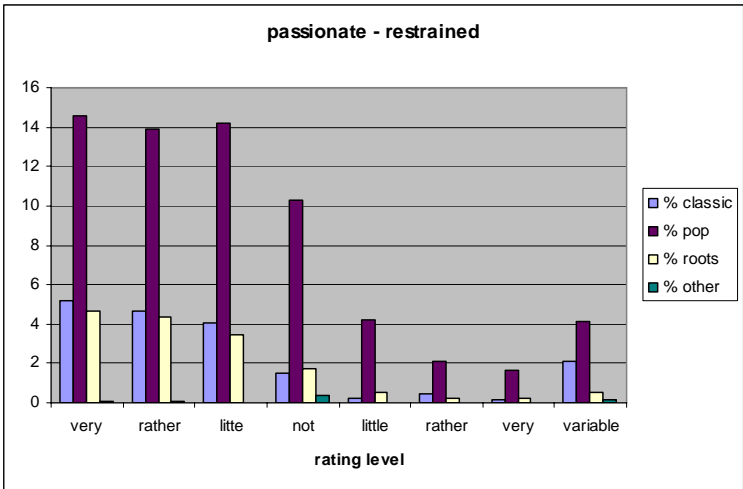


Figure 104: Clustered bar chart representing ratings of affect "passionate-restrained".

**Assessment according to broad genre categories**

**Structure ratings: soft-hard**

Soft-Hard	Classic %	Pop %	Roots %	Other %
Very	2	9,1	3	0,2
Rather	3,1	9,4	2,6	0,1
Little	3,2	9	3,2	0
Not	1,5	6,4	2	0,1
Little	1,3	9,8	1,7	0,1
Rather	0,7	8	0,7	0,1
Very	0,2	5,6	0,6	0
Variable	6,2	7,8	1,8	0,1

Table 108: Ratings of structure "soft-hard" according to genre classes.

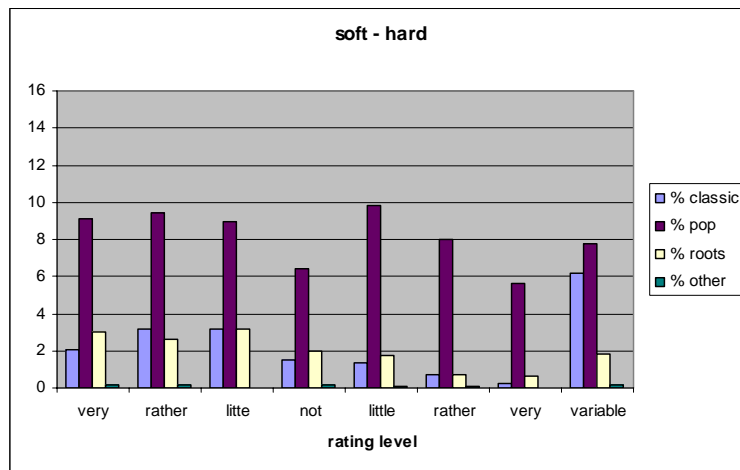


Figure 105: Clustered bar chart representing ratings of structure "soft-hard".

**Structure ratings: slow-quickly**

Slow-Quickly	Classic %	Pop %	Roots %	Other %
Very	1,2	5,8	1,7	0,1
Rather	2,3	7,9	1,8	0,1
Little	2,5	9	2,1	0,1
Not	1,3	7,3	1,4	0,1
Little	1,7	11,4	2,7	0
Rather	1	9,2	1,9	0,1
Very	0,3	5,5	1,2	0
Variable	8,2	9	3	0,2

Table 109: Ratings of structure “slow-quickly” according to genre classes.

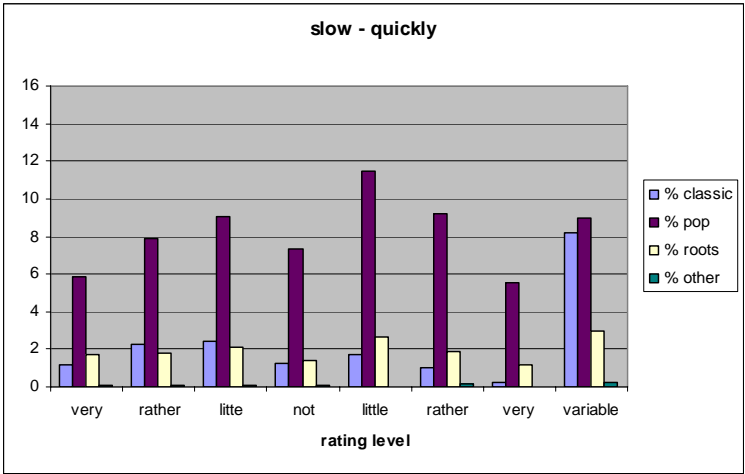


Figure 106: Clustered bar chart representing ratings of structure “slow-quickly”.

**Structure ratings: bright-dull**

Bright-Dull	Classic %	Pop %	Roots %	Other %
Very	2,5	9,5	3,2	0,2
Rather	3,6	11,7	3,8	0,2
Little	2,5	10,7	3,4	0,1
Not	0,9	8,6	1,7	0,1
Little	1,8	8,8	1	0,1
Rather	1,9	6,8	1	0
Very	0,7	4,2	0,4	0
Variable	4,4	4,9	1,3	0,1

Table 110: Ratings of structure "bright-dull" according to genre classes.

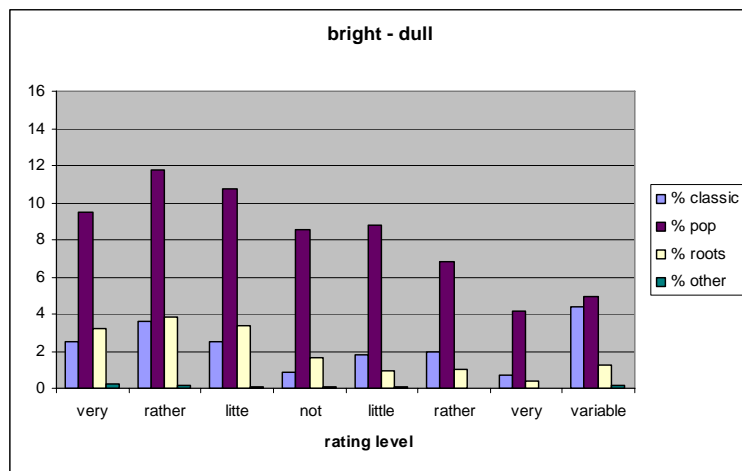


Figure 107: Clustered bar chart representing ratings of structure "bright-dull".

**Structure ratings: rough-harmonious**

	Rough-Harmonious	Classic %	Pop %	Roots %	Other %
Very		0,8	1,5	0,1	0
Rather		0,7	3,3	0,6	0
Little		1,2	5,7	1,3	0
Not		1,1	9,3	1,4	0,1
Little		1,5	11,3	2,3	0,1
Rather		4,9	15,8	4,7	0,2
Very		4,7	11,9	3,8	0,2
Variable		3,4	6,4	1,4	0,2

Table 111: Ratings of structure "rough-harmonious" according to genre classes.

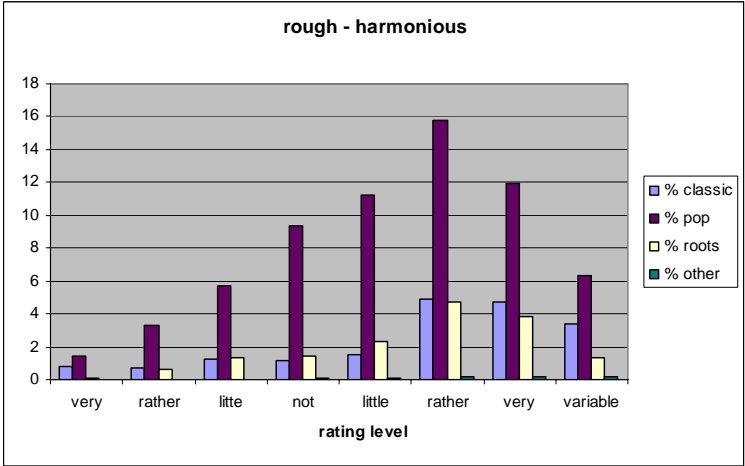


Figure 108: Clustered bar chart representing ratings of structure "rough-harmonious".

**Structure ratings: static-dynamic**

Static-Dynamic	Classic %	Pop %	Roots %	Other %
Very	0,4	1	0,1	0
Rather	0,7	2,3	0,3	0
Little	1,1	4,2	1	0
Not	1,6	11	2,1	0,2
Little	2,7	12	3,1	0,1
Rather	4,2	15,8	3,6	0,1
Very	4	12,8	3,9	0
Variable	3,6	6,2	1,6	0,2

Table 112: Ratings of structure “static-dynamic” according to genre classes.

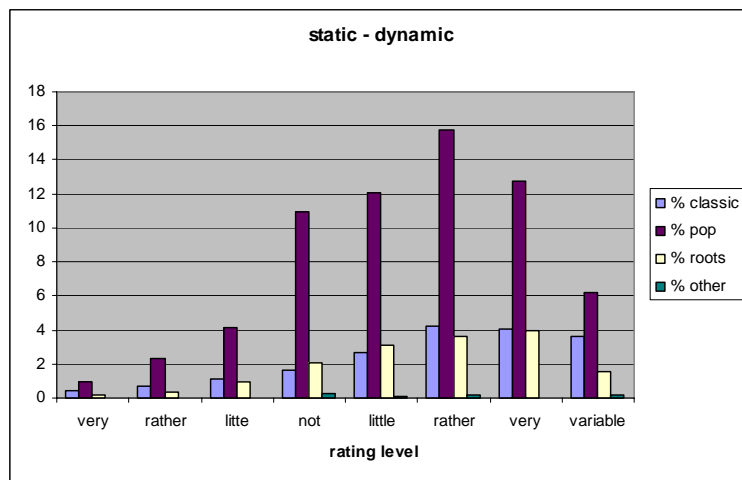


Figure 109: Clustered bar chart representing ratings of structure “static-dynamic”.



**Assessment: variable and undecided**

**Variability of affect**

	Cheerful-Sad	Careless-Anxious	Aggressive-Tender	Calm-Restless	Passionate-Restrained
% classic	24,6	19,2	21,3	24,4	10,5
% pop	24,9	17,7	20,7	21,7	14,9
% roots	28,2	21,6	18,3	24,4	7,5

Table 113: Variability ratings of affect adjectives according to genre classes.

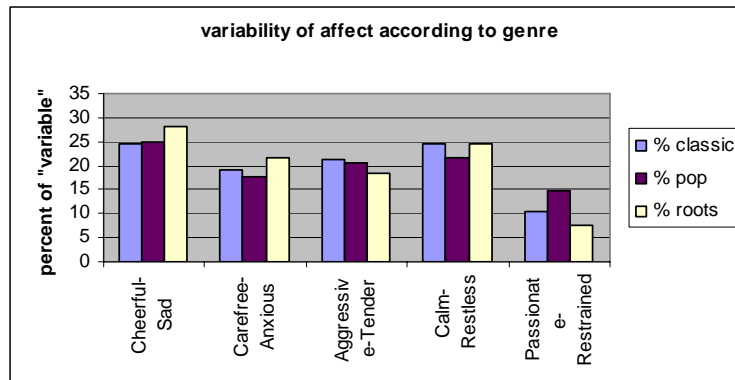


Figure 110: Clustered bar chart for ratings of affect variability.

**Variability of structure**

	Soft-Hard	Slow-Quickly	Bright-Dull	Rough-Harmonious	Static-Dynamic
% classic	23,9	31,8	17,2	13,1	14,1
% pop	22,8	26,1	14,3	18,6	18,2
% roots	20,5	33	14	15,2	17,4

Table 114: Variability ratings of structure adjectives according to genre classes.

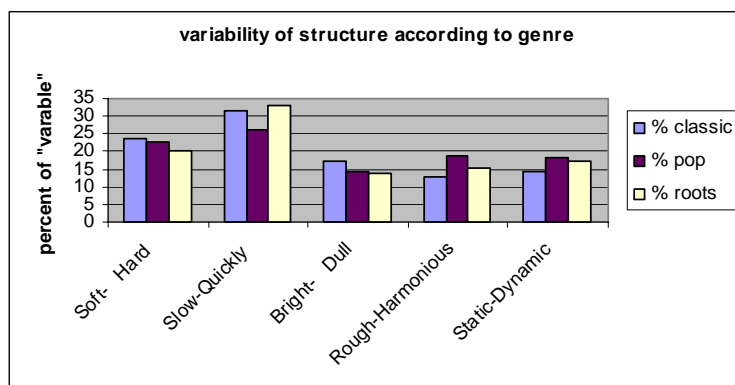


Figure 111: Clustered bar chart for ratings of structure variability.

**Assessment: variable and undecided**

**Undecided affect**

	Cheerful-Sad	Careless-Anxious	Aggressive-Tender	Calm-Restless	Passionate-Restrained
% classic	15,2	26,2	29	14,5	15,2
% pop	14,1	24,3	20,9	19,1	21,6
% roots	10,2	24,1	28,5	21,4	15,8

Table 115: Affect ratings of "undecided" according to genre categories.

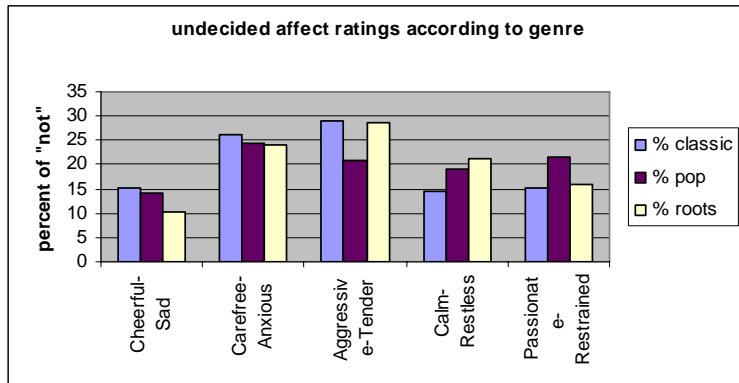


Figure 112: Affect ratings of "undecided" according to genre.

**Undecided structure**

	Soft-Hard	Slow-Quickly	Bright-Dull	Rough-Harmonious	Static-Dynamic
% classic	23,5	19,8	13,4	17,6	25,7
% pop	15,1	17,2	20,1	21,9	25,7
% roots	23,1	16,3	19,5	16,7	24,3

Table 116: Structure ratings of "undecided" according to genre categories.

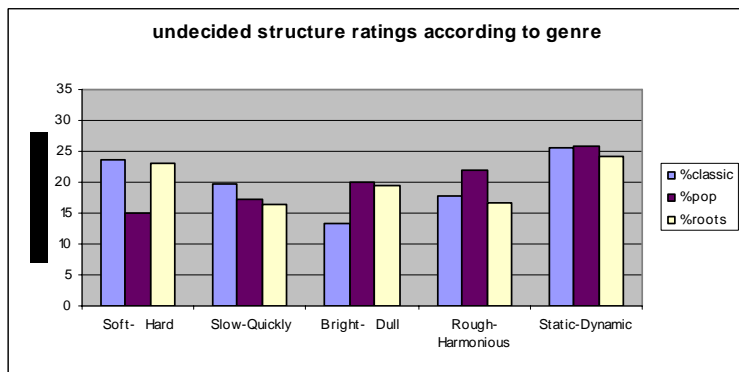


Figure 113: Structure ratings of "undecided" according to genre categories.

### **3 Discription of High Level Features (6)**



### 3.1 Design (6.3.3)

#### I Expression: Q # I.1 and Q # I.2

	<b>Q # I.1 What feeling emanates from this music?</b>	
	<b>Q # I.2 What effect has this music on you?</b>	

I.1 AFFECT	This music is:	From not to very	No opinion	Typical
Cheer	Cheerful	0 1 2 3 4	5	1
Sad	Sad	0 1 2 3 4	5	2
Care	Carefree	0 1 2 3 4	5	3
Anx	Anxious	0 1 2 3 4	5	4
Tend	Tender	0 1 2 3 4	5	5
Aggr	Aggressive	0 1 2 3 4	5	6
Pass	Passionate	0 1 2 3 4	5	7
Restr	Restrained	0 1 2 3 4	5	8
I.2 EXPERIENCE	This music is:	From not to very		
Anno	Annoying	0 1 2 3 4		
Plea	Pleasing	0 1 2 3 4		
Touch	Touching	0 1 2 3 4		
Indif	Leaves me indifferent	0 1 2 3 4		

Table 117: Overview of the design of the experiment for “expression”.

#### II Structure: Q # II.1 and Q # II.2

	<b>Q # II.1 How does this music sound?</b>	
	<b>Q # II.2 What is characteristic for this music?</b>	

II.1 SOUND	This music:	From very to not to very	Sounds:
SoHa	Sounds soft	-4 -3 -2 -1 0 1 2 3 4	Hard
ClDu	Sounds clear	-4 -3 -2 -1 0 1 2 3 4	Dull
RoHa	Sounds rough	-4 -3 -2 -1 0 1 2 3 4	Harmonious
VoCo	Sounds void	-4 -3 -2 -1 0 1 2 3 4	Compact
SloQu	Is slow	-4 -3 -2 -1 0 1 2 3 4	Is quick
FloStu	Is flowing	-4 -3 -2 -1 0 1 2 3 4	Is stuttering
DySta	Is dynamic	-4 -3 -2 -1 0 1 2 3 4	Is static
II.2 TYPICAL	This music:	Forced choice	
Tim	Is colourful	0	
Rhy	Has a complex rhythm	1	
Mel	Has a clear melody	2	
No	None of above is applicable	3	

Table 118: Overview of the design of the experiment for “structure”.

**III Activity: Q # III**

		<b>Q # III How do you respond to this music?</b>					
		From not to very					
Mov	To this music I start moving spontaneously	0	1	2	3	4	
Imi	I could imitate the melody	0	1	2	3	4	

Table 119: Overview of the design of the experiment for “activity”.

**IV Memory: Q # IV**

		<b>Q # IV How well do you know this music?</b>			
				Forced choice	
No	I do not know this piece of music and I am not familiar with the genre	0			
Style	I do not know this music but I am familiar with the genre	1			
Vague	I have heard this piece before	2			
Well	I have heard this piece a lot	3			

Table 120: Overview of the design of the experiment for “memory”.

**V Judgment: Q # V**

		<b>Q # V What is your personal opinion of this music?</b>									
		From very to not to very									
BeAw	I find this music beautiful	-4	-3	-2	-1	0	1	2	3	4	Awful
DiEa	I find this music difficult	-4	-3	-2	-1	0	1	2	3	4	Easy

Table 121: Overview of the design of the experiment for “judgment”.

### 3.2 Data exploration (6.4.1)

#### Distribution of expressive features: attribution of affect (I.1)

The representation of the global distribution of the annotation of affect features, is based on the frequencies for all fragments and all subjects (N=12640).

Rating	Cheerful		Sad	
	Frequency	%	Frequency	%
Not	3665	29,0	4241	33,6
Little	3207	25,4	3167	25,1
Moderate	2611	20,7	2757	21,8
Rather	2153	17,0	1825	14,4
Very much	891	7,0	533	4,2
No opinion	113	0,9	117	0,9
<b>Total</b>	<b>12640</b>	<b>100,0</b>	<b>12640</b>	<b>100,0</b>

Table 122: Affect: ratings of "cheerful" and "sad".

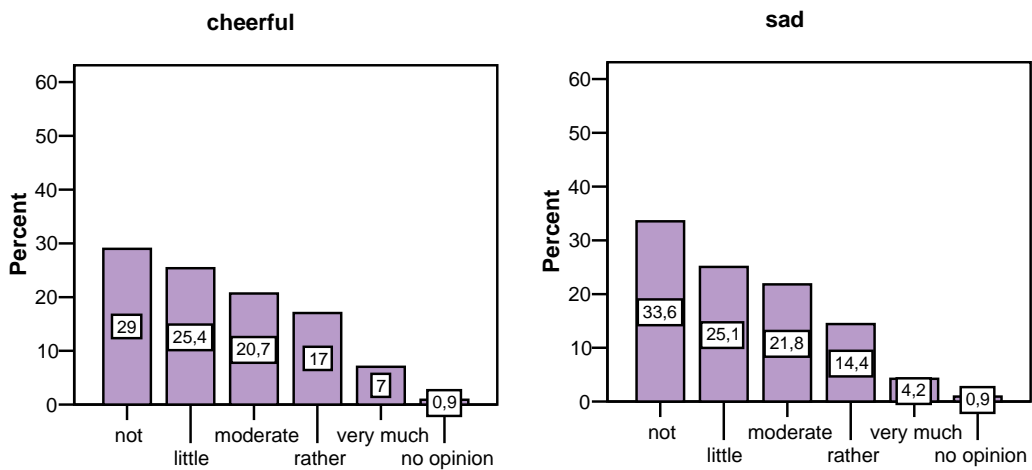


Figure 114: Affect: ratings of "cheerful" (left) and "sad" (right).

	Carefree		Anxious	
	Frequency	%	Frequency	%
Not	3583	28,3	5944	47,0
Little	2962	23,4	3271	25,9
Moderate	2641	20,9	2005	15,9
Rather	2235	17,7	1010	8,0
Very much	1046	8,3	281	2,2
No opinion	173	1,4	129	1,0
<b>Total</b>	<b>12640</b>	<b>100,0</b>	<b>12640</b>	<b>100,0</b>

Table 123: Affect: ratings of "carefree" and "anxious".

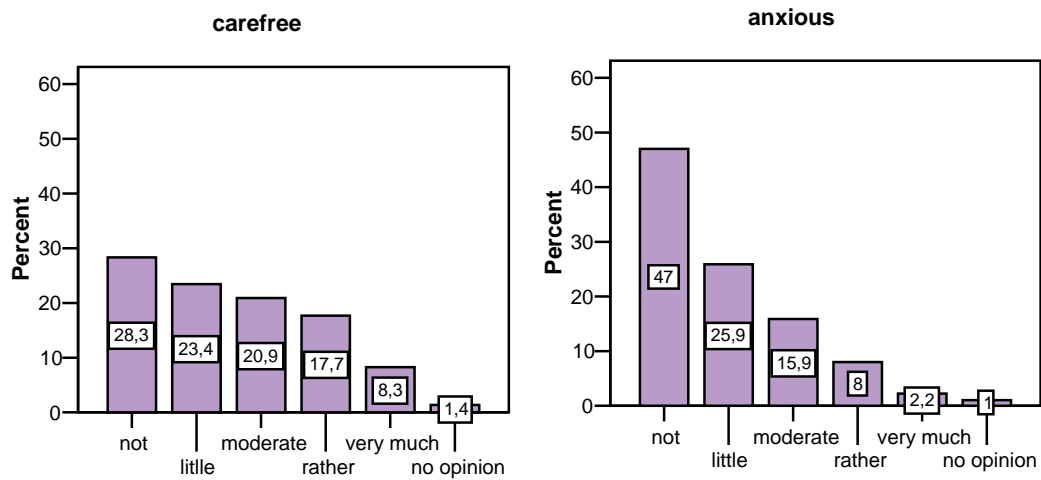


Figure 115: Affect: ratings of "carefree" (left) and "anxious" (right).



	Tender		Aggressive	
	Frequency	%	Frequency	%
Not	3662	29,0	7109	56,2
Little	2901	23,0	2479	19,6
Moderate	2818	22,3	1500	11,9
Rather	2389	18,9	989	7,8
Very much	790	6,3	504	4,0
No opinion	80	0,6	59	0,5
<b>Total</b>	<b>12640</b>	<b>100,0</b>	<b>12640</b>	<b>100,0</b>

Table 124: Affect: ratings of "tender" and "aggressive".

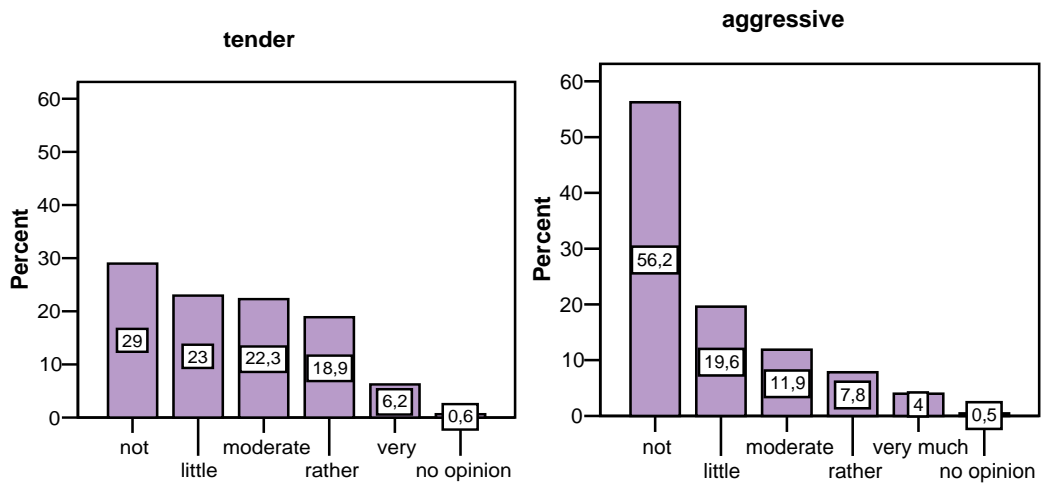


Figure 116: Affect: ratings of "tender" (left) and "aggressive" (right).

	Passionate		Restrained	
	Frequency	%	Frequency	%
Not	2272	18,0	6327	50,1
Little	3127	24,7	3183	25,2
Moderate	3629	28,7	1837	14,5
Rather	2707	21,4	965	7,6
Very much	833	6,6	253	2,0
No opinion	72	0,6	75	0,6
<b>Total</b>	<b>12640</b>	<b>100,0</b>	<b>12640</b>	<b>100,0</b>

Table 125: Affect: ratings of "passionate" and "restrained".

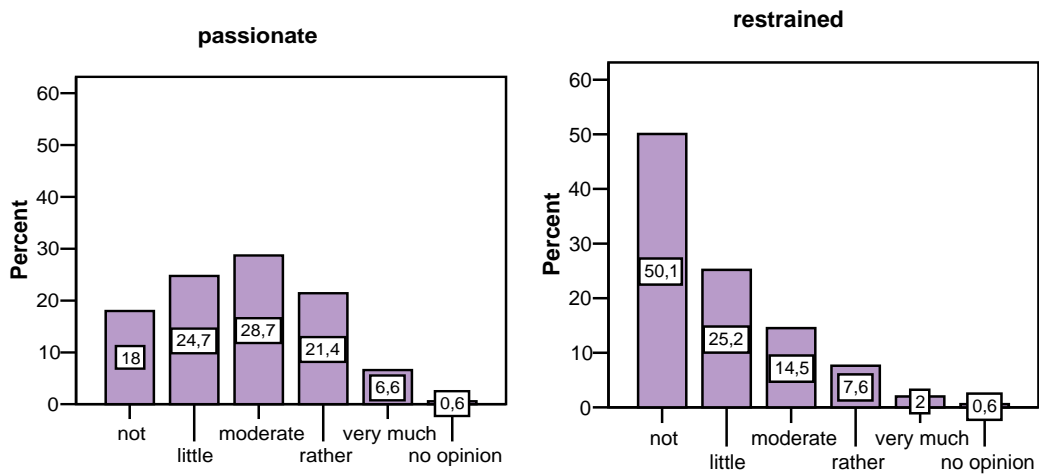


Figure 117: Affect: ratings of "passionate" (left) and "restrained" (right).

**Distribution of expressive features:  
the most typical affect (I.1)**

Most typical affect		
	Frequency	%
Cheerful	1769	14,0
Sad	1824	14,4
Carefree	2001	15,8
Anxious	916	7,2
Tender	2125	16,8
Sad	1153	9,1
Passionate	1816	14,4
Restrained	1036	8,2
<b>Total</b>	<b>12640</b>	<b>100,0</b>

Table 126: Annotation of the most typical affect.

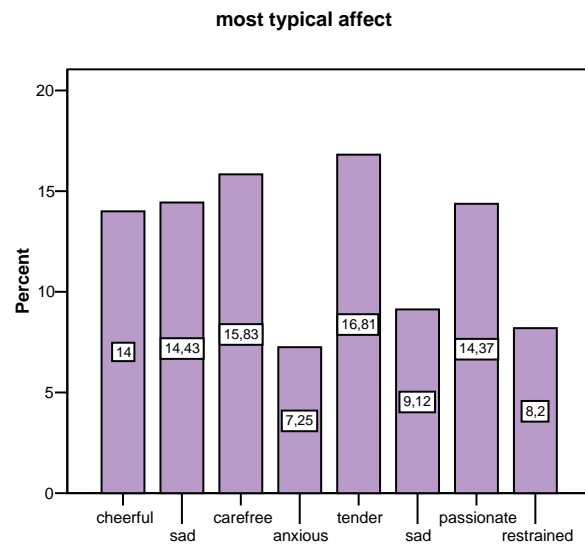


Figure 118: Global distribution of the most typical affect.

**Distribution of expressive features:  
attribution of experience (I.2)**

The representation of the global distribution of the annotation of experience features, is based on the frequencies for all fragments and all subjects (N=12640).

		Pleasing		Touching	
		Frequency	%	Frequency	%
Valid	Not	1945	15,4	4277	33,8
	Little	2791	22,1	3429	27,1
	Moderate	3424	27,1	2608	20,6
	Rather	2866	22,7	1615	12,8
	Very much	1614	12,8	711	5,6
Total		12640	100,0	12640	100,0

Table 127: Experience: ratings of "pleasing" and "touching".

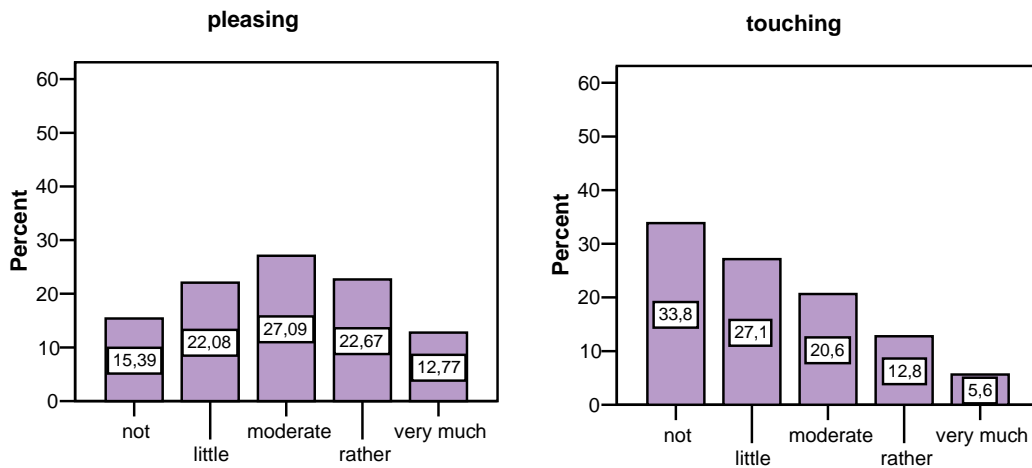


Figure 119: Experience: ratings of "pleasing" (left) and "touching" (right).

		Annoying		Indifferent	
		Frequency	%	Frequency	%
Valid	Not	8113	64,2	5367	42,5
	Little	2392	18,9	2548	20,2
	Moderate	1012	8,0	2171	17,2
	Rather	680	5,4	1535	12,1
	Very Much	443	3,5	1019	8,1
Total		12640	100,0	12640	100,0

Table 128: Experience: ratings of “annoying” and “indifferent”.

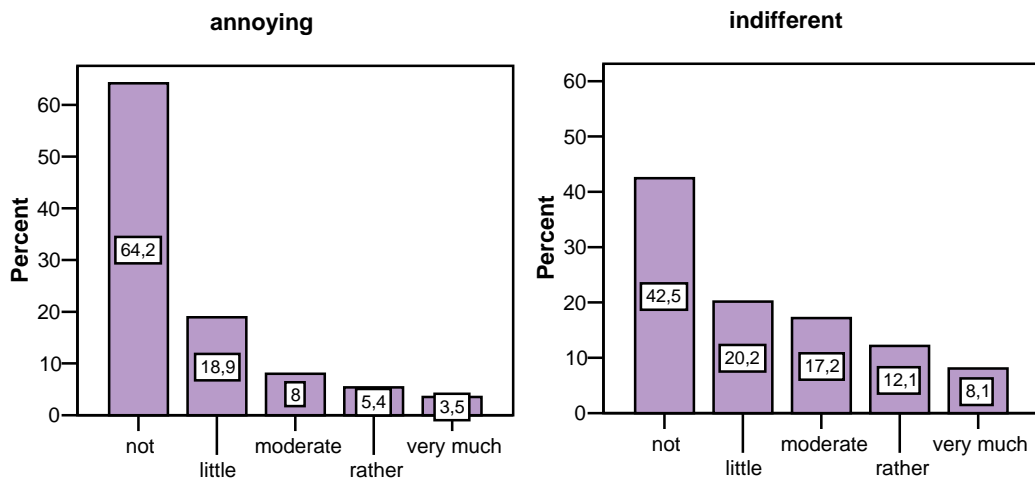


Figure 120: Experience: ratings of “annoying” (left) and “indifferent” (right).

**Distribution of structure features:  
perception of music characteristics (II.1)**

The representation of the global distribution of the annotation of structure features, is based on the frequencies for all fragments and all subjects (N=12640)

Soft-hard		
Rating	Frequency	%
-4	793	6,3
-3	2022	16,0
-2	2175	17,2
-1	1611	12,7
0	619	4,9
1	1738	13,8
2	1940	15,3
3	1252	9,9
4	490	3,9
Total	12640	100,0

Table 129: Structure: ratings of the adjective pair "soft-hard".

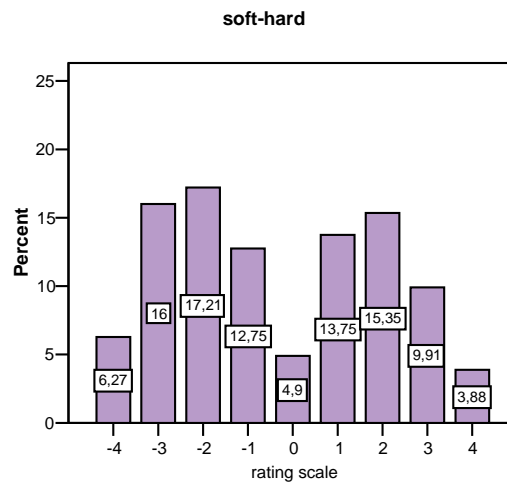


Figure 121: Structure: ratings of the adjective pair "soft-hard".

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Bright-dull		
Rating	Frequency	%
-4	760	6,0
-3	2560	20,3
-2	2783	22,0
-1	1226	9,7
0	693	5,5
1	1512	12,0
2	1895	15,0
3	910	7,2
4	301	2,4
<b>Total</b>	<b>12640</b>	<b>100,0</b>

Table 130: Structure: ratings of the adjective pair "bright-dull".

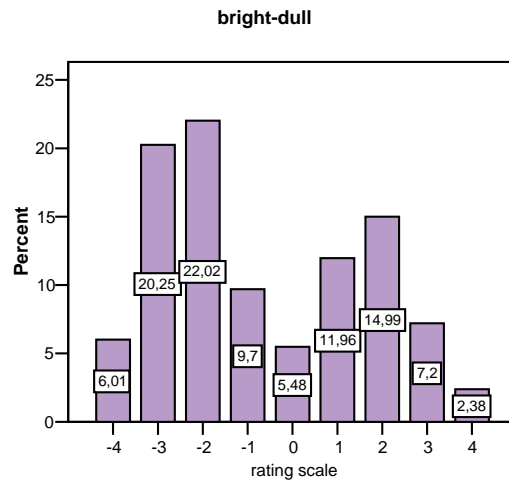


Figure 122: Structure: ratings of the adjective pair "bright-dull".

Rough-harmonious		
Rating	Frequency	%
-4	320	2,5
-3	906	7,2
-2	1509	11,9
-1	1375	10,9
0	693	5,5
1	1128	8,9
2	2710	21,4
3	2967	23,5
4	1032	8,2
<b>Total</b>	<b>12640</b>	<b>100,0</b>

Table 131: Structure: ratings of the adjective pair "rough-harmonious".

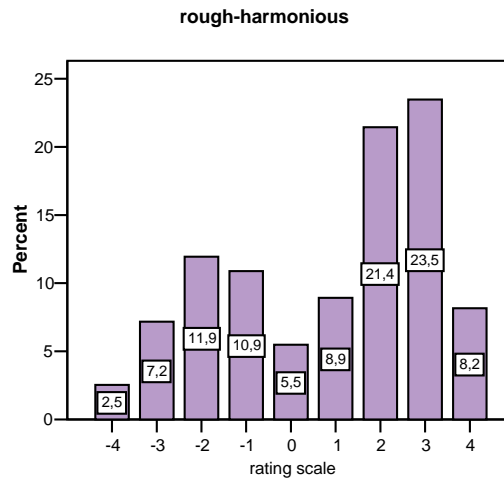


Figure 123: Structure: ratings of the adjective pair "rough-harmonious".

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Void-compact		
Rating	Frequency	%
-4	515	4,1
-3	1609	12,7
-2	2022	16,0
-1	1371	10,8
0	991	7,8
1	1376	10,9
2	2587	20,5
3	1626	12,9
4	543	4,3
<b>Total</b>	<b>12640</b>	<b>100,0</b>

Table 132: Structure: ratings of the adjective pair "void-compact".

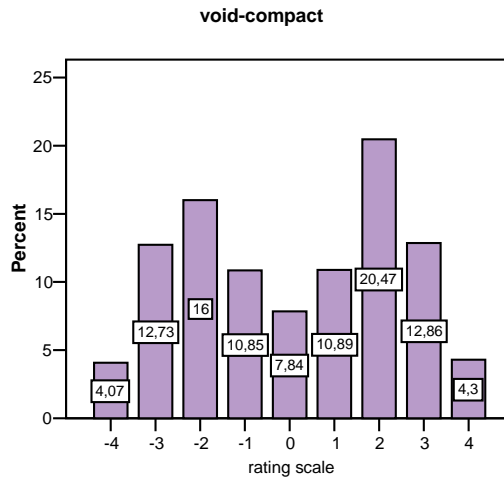


Figure 124: Structure: ratings of the adjective pair "void-compact".

Slow-quick		
Rating	Frequency	%
-4	706	5,6
-3	1901	15,0
-2	2078	16,4
-1	1473	11,7
0	550	4,4
1	1855	14,7
2	2336	18,5
3	1400	11,1
4	341	2,7
<b>Total</b>	<b>12640</b>	<b>100,0</b>

Table 133: Structure: ratings of the adjective pair “slow-quick”.

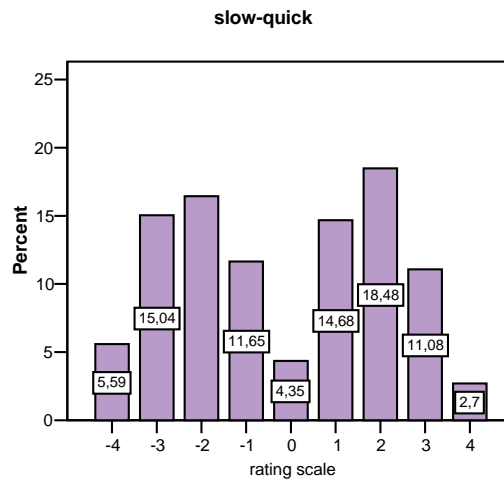


Figure 125: Structure: ratings of the adjective pair “slow-quick”.

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Flowing-stuttering		
Rating	Frequency	%
-4	954	7,5
-3	2878	22,8
-2	2545	20,1
-1	1060	8,4
0	510	4,0
1	1357	10,7
2	1835	14,5
3	1086	8,6
4	415	3,3
<b>Total</b>	<b>12640</b>	<b>100,0</b>

Table 134: Structure: ratings of the adjective pair “flowing-stuttering”.

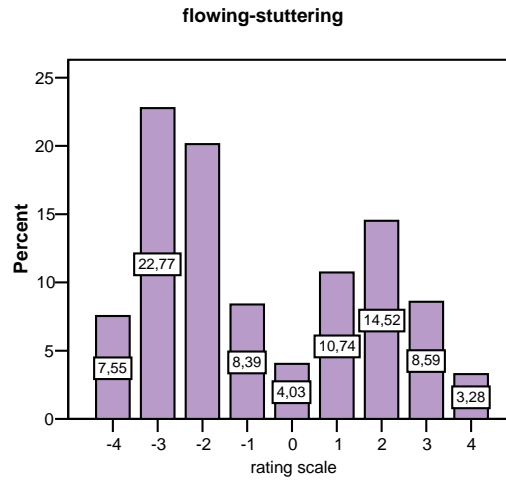


Figure 126: Structure: ratings of the adjective pair “flowing-stuttering”.

Dynamic-static		
Rating	Frequency	%
-4	1093	8,6
-3	2826	22,4
-2	3044	24,1
-1	1730	13,7
0	396	3,1
1	1058	8,4
2	1249	9,9
3	952	7,5
4	292	2,3
<b>Total</b>	<b>12640</b>	<b>100,0</b>

Table 135: Structure: ratings of the adjective pair “dynamic-static”.

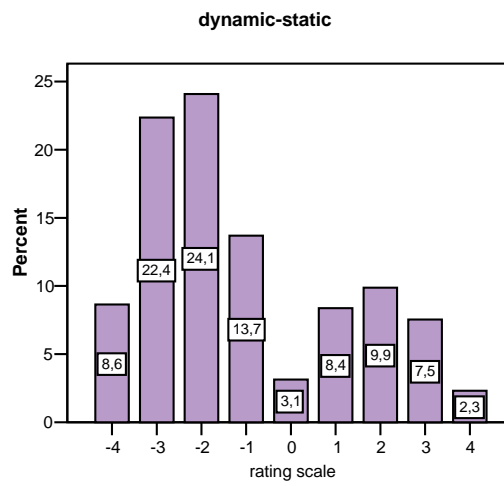


Figure 127: Structure: ratings of the adjective pair “dynamic-static”.

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### Distribution of structure features: characteristic structure features (II.2)

The representation of the distribution of the annotation of the most characteristic structure features is based on the frequencies for all fragments and all subjects (N=12640). Multiple choices were possible between “colourful”, “complex rhythm”, “melodious” and “none of those”.

Most typical structure features	Frequency	%
Colourful	2359	18,7
Complex rhythm	2343	18,5
Colourful + complex rhythm	966	7,6
Melodious	2276	18,0
Colourful + melodious	952	7,5
Compl. rhythm + melodious	912	7,2
Colourful + complex rhythm + melodious	377	3,0
None	2455	19,4
<b>Total</b>	<b>12640</b>	<b>100,0</b>

Table 136: Annotation of characteristic structure features.

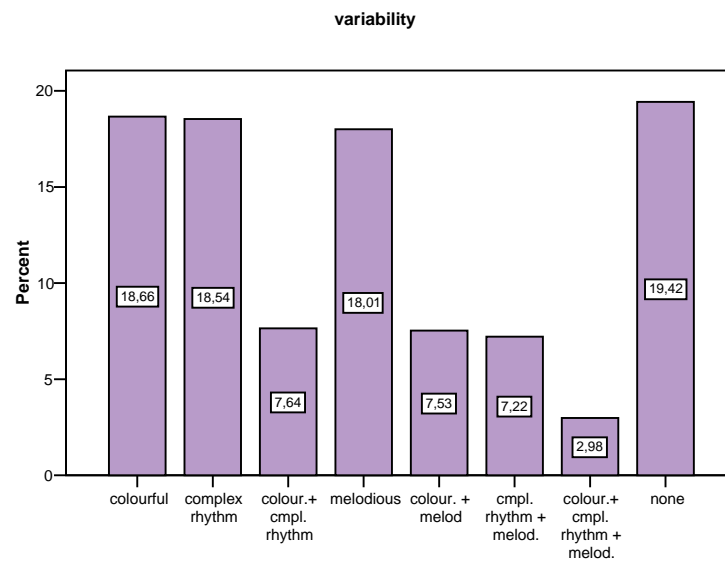


Figure 128: Global distribution of the annotation of characteristic structure features.

**Distribution of involved activity (III)**

The representation of the distribution of the annotation of activity features is based on the frequencies for all fragments and all subjects (N=12640).

	Move		Melody imitation	
	Frequency	%	Frequency	%
Not	4837	38,3	3195	25,3
Little	3468	27,4	2923	23,1
Moderate	2404	19,0	2801	22,2
Rather	1393	11,0	2281	18,0
Very much	538	4,3	1440	11,4
<b>Total</b>	<b>12640</b>	<b>100,0</b>	<b>12640</b>	<b>100,0</b>

Table 137: Activity: annotation of “movement” and “melody imitation”.

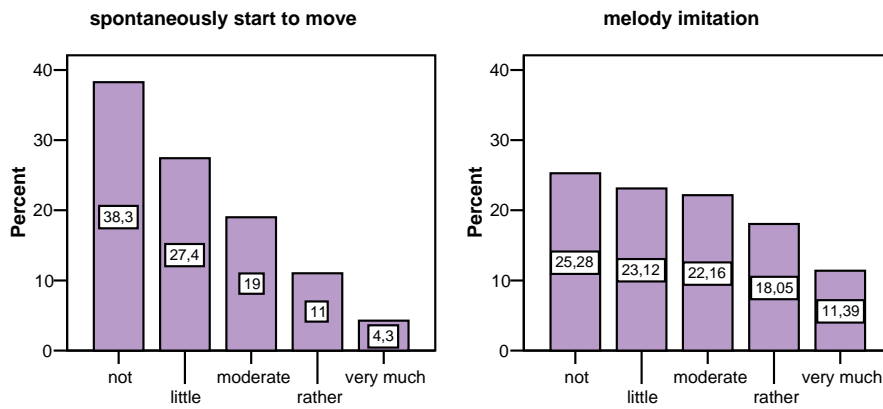


Figure 129: Activity: rating of “movement” (left) and “melody imitation (right).

### Distribution of memory (IV)

The representation of the distribution of the annotation of familiarity with the music excerpts is based on the frequencies for all fragments and all subjects (N=12640).

Memory		
	Frequency	%
Not known	2761	21,8
Style recognition	4333	34,3
Known vaguely	3134	24,8
Well known	2412	19,1
<b>Total</b>	<b>12640</b>	<b>100,0</b>

Table 138: Memory: annotation of familiarity with the music excerpts.

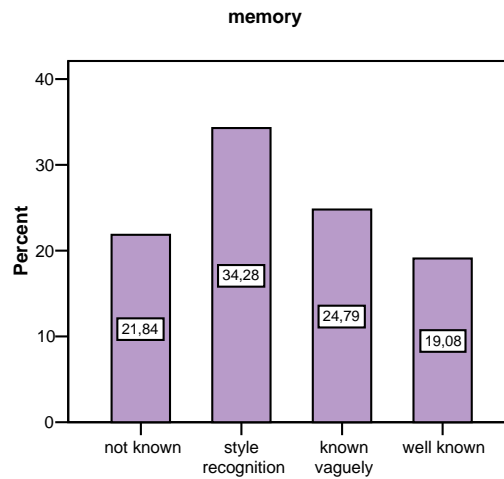


Figure 130: Memory: annotation of familiarity with the music excerpts.

### Distribution of judgment (V)

The representation of the distribution of the annotation of judgment features is based on the frequencies for all fragments and all subjects (N=12640).

Beautiful-awful		
	Frequency	%
-4	1768	14,0
-3	2945	23,3
-2	2633	20,8
-1	1905	15,1
0	641	5,1
1	650	5,1
2	702	5,6
3	719	5,7
4	677	5,4
<b>Total</b>	<b>12640</b>	<b>100,0</b>

Table 139: Judgment: ratings of the adjective pair "beautiful-awful".

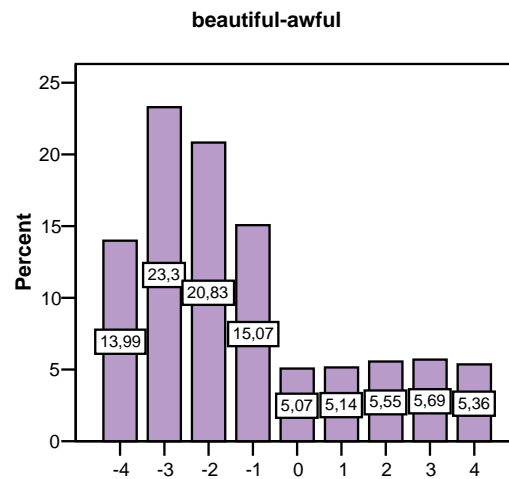


Figure 131: Judgment: ratings of the adjective pair "beautiful-awful".



Difficult-easy		
	Frequency	%
-4	299	2,4
-3	1120	8,9
-2	1443	11,4
-1	1760	13,9
0	839	6,6
1	1326	10,5
2	2049	16,2
3	2098	16,6
4	1706	13,5
<b>Total</b>	<b>12640</b>	<b>100,0</b>

Table 140: Judgment: ratings of the adjective pair “difficult-easy”.

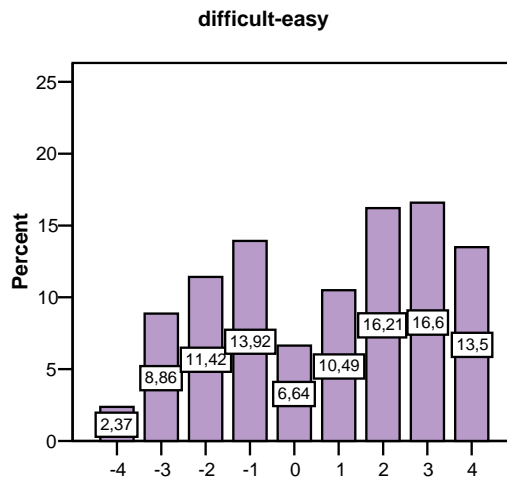


Figure 132: Judgment: ratings of the adjective pair “difficult-easy”.

### 3.3 Influence of subject related factors [(6.5.2) & (6.5.3)]

Tables below represent a summary of the Mann-Whitney test for each of the six categories (a-f) and for each of the adjectives and adjective pairs describing several measured structural and more subjective qualities of the 160 musical excerpts (the column code corresponds with the adjectives given in table 33 in volume one). The resultant values Z are given in those cases where a high significant effect was found.

Levels of significance: \* =  $P < 0,05$ , \*\* =  $P < 0,01$ , \*\*\* =  $P < 0,001$

	I.1 Affect							
Categories	Cheer	Sad	Carel	Anx	Tend	Aggr	Pass	Restr
(a) Gender								- 1,97*
(b) Expertise	-2,06*						-2,2*	
(c) Age							-2,33*	
(d) Taste								
(e) Classical								
(f) Musician	-2,22*							
(g) Familiarity	-9***	-5,81***	-3,70***	-5,11***	-18,45***	-7,69***	-18,13***	-17,6***

Table 141: Significant results obtained by Mann-Whitney tests for "affect".

	I.2 Experience			
Categories	Anno	Plea	Touch	Indif
(a) Gender				
(b) Expertise				
(c) Age				
(d) Taste		-2,32*		
(e) Classical				
(f) Musician				
(g) Familiarity	-28,71***	-36,31***	-28,15***	-28,51***

Table 142: Significant results obtained by Mann-Whitney tests for "experience".

	II.1 Sound						
Categories	SoHa	CIDu	RoHa	VoCo	SloQu	FloStu	DySta
(a) Gender			-2,27*				-2,16*
(b) Expertise		-2,06*					
(c) Age							-2,80**
(d) Taste							
(e) Classical							
(f) Musician		-2,62**					-1,98*
(g) Familiarity	-5,19***	-8,35***	-14,8***			-12,90***	-10,36***

Table 143: Significant results obtained by Mann-Whitney tests for "sound".

	II.2 Characteristic		
Categories	Tim	Rhy	Mel
(a) Gender			
(b) Expertise			
(c) Age			
(d) Taste			
(e) Classical			
(f) Musician			
(g) Familiarity	-9,75***	-7,54***	-10,47***

Table 144: Significant results obtained by Mann-Whitney tests for "characteristic structure features".

	III Activity	
Categories	Mov	Imi
(a) Gender		
(b) Expertise		-3,78***
(c) Age		
(d) Taste		
(e) Classical		
(f) Musician		-3,87***
(g) Familiarity	-24,46***	-36,31***

Table 145: Significant results obtained by Mann-Whitney tests for "activity".

	IV Memory	V Judgment	
Categories	Mem	BeAw	DiEa
(a) Gender		-2,03*	-2,87**
(b) Expertise			
(c) Age			
(d) Taste		-2,25*	
(e) Classical	-2,47*		
(f) Musician			
(g) Familiarity	/	-39,59***	-16,73***

Table 146: Significant results obtained by Mann-Whitney tests for "memory" and "judgment".

### 3.4 Relationships between perceived qualities (6.5.7)

#### Non-parametric correlations: Kendall's tau\_b

		Cheerful	Sad	Carefree	Anxious	Tender	Aggressive	Passionate	Restrained
Cheerful	Corr. Coeff.	1	-.321(**)	.565(**)	-.245(**)	0,004	0,01	.073(**)	-.017(*)
	Sig. (2-tailed)	.	0	0	0	0,594	0,189	0	0,027
	N	12527	12473	12389	12437	12466	12485	12483	12475
Sad	Corr. Coeff.	-.321(**)	1	-.258(**)	.306(**)	.397(**)	-.130(**)	.238(**)	0,009
	Sig. (2-tailed)	0	.	0	0	0	0	0	0,24
	N	12473	12523	12390	12434	12464	12486	12480	12468
Carefree	Corr. Coeff.	.565(**)	-.258(**)	1	-.287(**)	.061(**)	-.081(**)	-.039(**)	.045(**)
	Sig. (2-tailed)	0	0	.	0	0	0	0	0
	N	12389	12390	12467	12375	12407	12426	12418	12416
Anxious	Corr. Coeff.	-.245(**)	.306(**)	-.287(**)	1	-.054(**)	.368(**)	.132(**)	.179(**)
	Sig. (2-tailed)	0	0	0	.	0	0	0	0
	N	12437	12434	12375	12511	12464	12486	12475	12464
Tender	Corr. Coeff.	0,004	.397(**)	.061(**)	-.054(**)	1	-.389(**)	.321(**)	-.181(**)
	Sig. (2-tailed)	0,594	0	0	0	.	0	0	0
	N	12466	12464	12407	12464	12560	12523	12511	12500
Aggressive	Corr. Coeff.	0,01	-.130(**)	-.081(**)	.368(**)	-.389(**)	1	0,005	.249(**)
	Sig. (2-tailed)	0,189	0	0	0	0	.	0,533	0
	N	12485	12486	12426	12486	12523	12581	12531	12522
Passionate	Corr. Coeff.	.073(**)	.238(**)	-.039(**)	.132(**)	.321(**)	0,005	1	-.210(**)
	Sig. (2-tailed)	0	0	0	0	0	0,533	.	0
	N	12483	12480	12418	12475	12511	12531	12568	12510
Restrained	Corr. Coeff.	-.017(*)	0,009	.045(**)	.179(**)	-.181(**)	.249(**)	-.210(**)	1
	Sig. (2-tailed)	0,027	0,24	0	0	0	0	0	.
	N	12475	12468	12416	12464	12500	12522	12510	12565
Annoying	Corr. Coeff.	-.065(**)	-.055(**)	-.019(*)	.210(**)	-.271(**)	.355(**)	-.188(**)	.356(**)
	Sig. (2-tailed)	0	0	0,014	0	0	0	0	0
	N	12527	12523	12467	12511	12560	12581	12568	12565
Pleasing	Corr. Coeff.	.163(**)	.134(**)	.101(**)	-.090(**)	.390(**)	-.217(**)	.345(**)	-.276(**)
	Sig. (2-tailed)	0	0	0	0	0	0	0	0
	N	12527	12523	12467	12511	12560	12581	12568	12565
Touching	Corr. Coeff.	-0,009	.315(**)	-.050(**)	.047(**)	.467(**)	-.207(**)	.398(**)	-.260(**)
	Sig. (2-tailed)	0,238	0	0	0	0	0	0	0
	N	12527	12523	12467	12511	12560	12581	12568	12565
Indifferent	Corr. Coeff.	-.029(**)	-.085(**)	.058(**)	.035(**)	-.224(**)	.124(**)	-.288(**)	.302(**)
	Sig. (2-tailed)	0	0	0	0	0	0	0	0
	N	12527	12523	12467	12511	12560	12581	12568	12565
SoftHard	Corr. Coeff.	.101(**)	-.309(**)	-0,012	.131(**)	-.507(**)	.527(**)	-.087(**)	.133(**)
	Sig. (2-tailed)	0	0	0,085	0	0	0	0	0
	N	12527	12523	12467	12511	12560	12581	12568	12565
BrightDull	Corr. Coeff.	-.136(**)	-.048(**)	-.121(**)	.177(**)	-.283(**)	.269(**)	-.103(**)	.122(**)
	Sig. (2-tailed)	0	0	0	0	0	0	0	0
	N	12527	12523	12467	12511	12560	12581	12568	12565
RoughHarm.	Corr. Coeff.	.076(**)	.102(**)	.125(**)	-.216(**)	.326(**)	-.298(**)	.088(**)	-.148(**)
	Sig. (2-tailed)	0	0	0	0	0	0	0	0
	N	12527	12523	12467	12511	12560	12581	12568	12565
VoidComp.	Corr. Coeff.	.133(**)	-.248(**)	.050(**)	.046(**)	-.347(**)	.352(**)	-.043(**)	.065(**)
	Sig. (2-tailed)	0	0	0	0	0	0	0	0
	N	12527	12523	12467	12511	12560	12581	12568	12565
SlowQuick	Corr. Coeff.	.286(**)	-.366(**)	.150(**)	0,003	-.371(**)	.354(**)	-.063(**)	.055(**)
	Sig. (2-tailed)	0	0	0	0,695	0	0	0	0
	N	12527	12523	12467	12511	12560	12581	12568	12565
FlowingStutt.	Corr. Coeff.	.049(**)	-.206(**)	-0,002	.146(**)	-.392(**)	.384(**)	-.128(**)	.185(**)
	Sig. (2-tailed)	0	0	0,828	0	0	0	0	0
	N	12527	12523	12467	12511	12560	12581	12568	12565
DynStatic	Corr. Coeff.	-.318(**)	.216(**)	-.161(**)	.031(**)	.116(**)	-.175(**)	-.127(**)	.093(**)
	Sig. (2-tailed)	0	0	0	0	0	0	0	0
	N	12527	12523	12467	12511	12560	12581	12568	12565

Table 147: Kendall's tau\_b correlations for expressive and structure qualities.

DESCRIPTION OF HIGH LEVEL FEATURES

Annoying	Pleasing	Touching	Indifferent	SoftHard	BrightDull	Rough-Harm.	VoidComp.	SlowQuick	Flowing-Stuttering	Dynamic-Static
-.065(**)	.163(**)	-0.009	-.029(**)	.101(**)	-.136(**)	.076(**)	.133(**)	.286(**)	.049(**)	-.318(**)
0	0	0.238	0	0	0	0	0	0	0	0
12527	12527	12527	12527	12527	12527	12527	12527	12527	12527	12527
-.055(**)	.134(**)	.315(**)	-.085(**)	-.309(**)	-.048(**)	.102(**)	-.248(**)	-.366(**)	-.206(**)	.216(**)
0	0	0	0	0	0	0	0	0	0	0
12523	12523	12523	12523	12523	12523	12523	12523	12523	12523	12523
-.019(*)	.101(**)	-.050(**)	.058(**)	-0.012	-.121(**)	.125(**)	.050(**)	.150(**)	-0.002	-.161(**)
0.014	0	0	0	0.085	0	0	0	0	0.828	0
12467	12467	12467	12467	12467	12467	12467	12467	12467	12467	12467
.210(**)	-.090(**)	.047(**)	.035(**)	.131(**)	.177(**)	-.216(**)	.046(**)	0.003	.146(**)	.031(**)
0	0	0	0	0	0	0	0	0.695	0	0
12511	12511	12511	12511	12511	12511	12511	12511	12511	12511	12511
-.271(**)	.390(**)	.467(**)	-.224(**)	-.507(**)	-.283(**)	.326(**)	-.347(**)	-.371(**)	-.392(**)	.116(**)
0	0	0	0	0	0	0	0	0	0	0
12560	12560	12560	12560	12560	12560	12560	12560	12560	12560	12560
.355(**)	-.217(**)	-.207(**)	.124(**)	.527(**)	.269(**)	-.298(**)	.352(**)	.354(**)	.384(**)	-.175(**)
0	0	0	0	0	0	0	0	0	0	0
12581	12581	12581	12581	12581	12581	12581	12581	12581	12581	12581
-.188(**)	.345(**)	.398(**)	-.288(**)	-.087(**)	-.103(**)	.088(**)	-.043(**)	-.063(**)	-.128(**)	-.127(**)
0	0	0	0	0	0	0	0	0	0	0
12568	12568	12568	12568	12568	12568	12568	12568	12568	12568	12568
.356(**)	-.276(**)	-.260(**)	.302(**)	.133(**)	.122(**)	-.148(**)	.065(**)	.055(**)	.185(**)	.093(**)
0	0	0	0	0	0	0	0	0	0	0
12565	12565	12565	12565	12565	12565	12565	12565	12565	12565	12565
1	-.476(**)	-.344(**)	.409(**)	.264(**)	.214(**)	-.243(**)	.161(**)	.126(**)	.258(**)	.057(**)
0	0	0	0	0	0	0	0	0	0	0
12640	12640	12640	12640	12640	12640	12640	12640	12640	12640	12640
-.476(**)	1	.631(**)	-.438(**)	-.256(**)	-.239(**)	.257(**)	-.121(**)	-.092(**)	-.253(**)	-.120(**)
0	0	0	0	0	0	0	0	0	0	0
12640	12640	12640	12640	12640	12640	12640	12640	12640	12640	12640
-.344(**)	.631(**)	1	-.424(**)	-.300(**)	-.220(**)	.218(**)	-.191(**)	-.207(**)	-.286(**)	-.026(**)
0	0	0	0	0	0	0	0	0	0	0
12640	12640	12640	12640	12640	12640	12640	12640	12640	12640	12640
.409(**)	-.438(**)	-.424(**)	1	.130(**)	.156(**)	-.135(**)	.100(**)	.060(**)	.153(**)	.116(**)
0	0	0	0	0	0	0	0	0	0	0
12640	12640	12640	12640	12640	12640	12640	12640	12640	12640	12640
.264(**)	-.256(**)	-.300(**)	.130(**)	1	.304(**)	-.345(**)	.459(**)	.529(**)	.458(**)	-.243(**)
0	0	0	0	0	0	0	0	0	0	0
12640	12640	12640	12640	12640	12640	12640	12640	12640	12640	12640
.214(**)	-.239(**)	-.220(**)	.156(**)	.304(**)	1	-.300(**)	.280(**)	.128(**)	.323(**)	.053(**)
0	0	0	0	0	0	0	0	0	0	0
12640	12640	12640	12640	12640	12640	12640	12640	12640	12640	12640
-.243(**)	.257(**)	.218(**)	-.135(**)	-.345(**)	-.300(**)	1	-.170(**)	-.195(**)	-.390(**)	.109(**)
0	0	0	0	0	0	0	0	0	0	0
12640	12640	12640	12640	12640	12640	12640	12640	12640	12640	12640
.161(**)	-.121(**)	-.191(**)	.100(**)	.459(**)	.280(**)	-.170(**)	1	.377(**)	.335(**)	-.217(**)
0	0	0	0	0	0	0	0	0	0	0
12640	12640	12640	12640	12640	12640	12640	12640	12640	12640	12640
.126(**)	-.092(**)	-.207(**)	.060(**)	.529(**)	.128(**)	-.195(**)	.377(**)	1	.353(**)	-.429(**)
0	0	0	0	0	0	0	0	0	0	0
12640	12640	12640	12640	12640	12640	12640	12640	12640	12640	12640
.258(**)	-.253(**)	-.286(**)	.153(**)	.458(**)	.323(**)	-.390(**)	.335(**)	.353(**)	1	-.100(**)
0	0	0	0	0	0	0	0	0	0	0
12640	12640	12640	12640	12640	12640	12640	12640	12640	12640	12640
.057(**)	-.120(**)	-.026(**)	.116(**)	-.243(**)	.053(**)	.109(**)	-.217(**)	-.429(**)	-.100(**)	1
0	0	0	0	0	0	0	0	0	0	0
12640	12640	12640	12640	12640	12640	12640	12640	12640	12640	12640

\*\* Correlation is significant at the 0.01 level. (2-tailed). \* Correlation is significant at the 0.05 level (2-tailed).

## Pearson's correlatons

		Cheerful	Sad	Carefree	Anxious	Tender	Aggressive	Passionate	Restrained
Cheerful	Pears.Corr.	1	-.734(**)	.918(**)	-.628(**)	-.291(**)	-0,034	-.172(*)	-0,08
	Sig. (2-tail.)	.	0	0	0	0	0,672	0,03	0,317
Sad	Pears.Corr.	-.734(**)	1	-.634(**)	.201(*)	.754(**)	-.519(**)	.487(**)	-.397(**)
	Sig. (2-tail.)	0	.	0	0,011	0	0	0	0
Carefree	Pears.Corr.	.918(**)	-.634(**)	1	-.774(**)	-0,102	-.215(**)	-.305(**)	-0,021
	Sig. (2-tail.)	0	0	.	0	0,198	0,006	0	0,794
Anxious	Pears.Corr.	-.628(**)	.201(*)	-.774(**)	1	-.338(**)	.587(**)	.171(*)	.245(**)
	Sig. (2-tail.)	0	0,011	0	.	0	0	0,03	0,002
Tender	Pears.Corr.	-.291(**)	.754(**)	-0,102	-.338(**)	1	-.830(**)	.418(**)	-.586(**)
	Sig. (2-tail.)	0	0	0,198	0	.	0	0	0
Aggressive	Pears.Corr.	-0,034	-.519(**)	-.215(**)	.587(**)	-.830(**)	1	-.207(**)	.521(**)
	Sig. (2-tail.)	0,672	0	0,006	0	0	.	0,008	0
Passionate	Pears.Corr.	-.172(*)	.487(**)	-.305(**)	.171(*)	.418(**)	-.207(**)	1	-.690(**)
	Sig. (2-tail.)	0,03	0	0	0,03	0	0,008	.	0
Restrained	Pears.Corr.	-0,08	-.397(**)	-0,021	.245(**)	-.586(**)	.521(**)	-.690(**)	1
	Sig. (2-tail.)	0,317	0	0,794	0,002	0	0	0	.
Annoying	Pears.Corr.	-0,01	-.530(**)	-0,063	.354(**)	-.775(**)	.797(**)	-.531(**)	.752(**)
	Sig. (2-tail.)	0,901	0	0,432	0	0	0	0	0
Pleasing	Pears.Corr.	0,04	.514(**)	0,079	-.331(**)	.784(**)	-.702(**)	.610(**)	-.738(**)
	Sig. (2-tail.)	0,616	0	0,324	0	0	0	0	0
Touching	Pears.Corr.	-.374(**)	.816(**)	-.338(**)	0,009	.827(**)	-.620(**)	.696(**)	-.665(**)
	Sig. (2-tail.)	0	0	0	0,908	0	0	0	0
Indifferent	Pears.Corr.	.159(*)	-.591(**)	.203(**)	-0,021	-.653(**)	.477(**)	-.743(**)	.728(**)
	Sig. (2-tail.)	0,045	0	0,01	0,793	0	0	0	0
SoftHard	Pears.Corr.	.298(**)	-.718(**)	0,076	.338(**)	-.942(**)	.887(**)	-.256(**)	.466(**)
	Sig. (2-tail.)	0	0	0,342	0	0	0	0,001	0
BrightDull	Pears.Corr.	-.196(*)	-.331(**)	-.266(**)	.521(**)	-.695(**)	.740(**)	-.261(**)	.512(**)
	Sig. (2-tail.)	0,013	0	0,001	0	0	0	0,001	0
RoughHarm.	Pears.Corr.	0,093	.400(**)	.257(**)	-.598(**)	.770(**)	-.757(**)	.176(*)	-.497(**)
	Sig. (2-tail.)	0,241	0	0,001	0	0	0	0,026	0
VoidComp.	Pears.Corr.	.426(**)	-.753(**)	.219(**)	.173(*)	-.858(**)	.766(**)	-.251(**)	.330(**)
	Sig. (2-tail.)	0	0	0,005	0,029	0	0	0,001	0
SlowQuick	Pears.Corr.	.621(**)	-.838(**)	.403(**)	0,047	-.795(**)	.648(**)	-.246(**)	.297(**)
	Sig. (2-tail.)	0	0	0	0,553	0	0	0,002	0
FlowingStutt.	Pears.Corr.	.238(**)	-.694(**)	0,061	.331(**)	-.885(**)	.776(**)	-.364(**)	.555(**)
	Sig. (2-tail.)	0,002	0	0,443	0	0	0	0	0
DynStatic	Pears.Corr.	-.699(**)	.710(**)	-.488(**)	0,078	.542(**)	-.430(**)	-0,056	0,033
	Sig. (2-tail.)	0	0	0	0,327	0	0	0,484	0,68

Table 148: Pearson's correlations for expressive and structure qualities.

DESCRIPTION OF HIGH LEVEL FEATURES

Annoying	Pleasing	Touching	Indifferent	SoftHard	BrightDull	Rough-Harm.	Void-Compact	SlowQuick	Flowing-Stuttering	Dynamic-Static
-0,01	0,04	-,374(**)	,159(*)	,298(**)	-,196(*)	0,093	,426(**)	,621(**)	,238(**)	-,699(**)
0,901	0,616	0	0,045	0	0,013	0,241	0	0	0,002	0
-,530(**)	,514(**)	,816(**)	-,591(**)	-,718(**)	-,331(**)	,400(**)	-,753(**)	-,838(**)	-,694(**)	,710(**)
0	0	0	0	0	0	0	0	0	0	0
-,0063	0,079	-,338(**)	,203(**)	0,076	-,266(**)	,257(**)	,219(**)	,403(**)	0,061	-,488(**)
0,432	0,324	0	0,01	0,342	0,001	0,001	0,005	0	0,443	0
,354(**)	-,331(**)	0,009	-,021	,338(**)	,521(**)	-,598(**)	,173(*)	0,047	,331(**)	0,078
0	0	0,908	0,793	0	0	0	0,029	0,553	0	0,327
-,775(**)	,784(**)	,827(**)	-,653(**)	-,942(**)	-,695(**)	,770(**)	-,858(**)	-,795(**)	-,885(**)	,542(**)
0	0	0	0	0	0	0	0	0	0	0
,797(**)	-,702(**)	-,620(**)	,477(**)	,887(**)	,740(**)	-,757(**)	,766(**)	,648(**)	,776(**)	-,430(**)
0	0	0	0	0	0	0	0	0	0	0
-,531(**)	,610(**)	,696(**)	-,743(**)	-,256(**)	-,261(**)	,176(*)	-,251(**)	-,246(**)	-,364(**)	-0,056
0	0	0	0	0,001	0,001	0,026	0,001	0,002	0	0,484
,752(**)	-,738(**)	-,665(**)	,728(**)	,466(**)	,512(**)	-,497(**)	,330(**)	,297(**)	,555(**)	0,033
0	0	0	0	0	0	0	0	0	0	0,68
1	-,921(**)	-,801(**)	,777(**)	,756(**)	,699(**)	-,704(**)	,604(**)	,509(**)	,722(**)	-,215(**)
.	0	0	0	0	0	0	0	0	0	0,006
-,921(**)	1	,861(**)	-,873(**)	-,701(**)	-,707(**)	,703(**)	-,561(**)	-,447(**)	-,708(**)	0,128
0	.	0	0	0	0	0	0	0	0	0,108
-,801(**)	,861(**)	1	-,888(**)	-,737(**)	-,593(**)	,574(**)	-,696(**)	-,665(**)	-,742(**)	,407(**)
0	0	.	0	0	0	0	0	0	0	0
,777(**)	-,873(**)	-,888(**)	1	,548(**)	,526(**)	-,413(**)	,485(**)	,413(**)	,549(**)	-0,127
0	0	0	.	0	0	0	0	0	0	0,11
,756(**)	-,701(**)	-,737(**)	,548(**)	1	,661(**)	-,730(**)	,903(**)	,823(**)	,857(**)	-,618(**)
0	0	0	0	.	0	0	0	0	0	0
,699(**)	-,707(**)	-,593(**)	,526(**)	,661(**)	1	-,725(**)	,645(**)	,370(**)	,651(**)	-,157(*)
0	0	0	0	0	.	0	0	0	0	0,047
-,704(**)	,703(**)	,574(**)	-,413(**)	-,730(**)	-,725(**)	1	-,561(**)	-,502(**)	-,832(**)	,315(**)
0	0	0	0	0	0	.	0	0	0	0
,604(**)	-,561(**)	-,696(**)	,485(**)	,903(**)	,645(**)	-,561(**)	1	,825(**)	,805(**)	-,682(**)
0	0	0	0	0	0	0	.	0	0	0
,509(**)	-,447(**)	-,665(**)	,413(**)	,823(**)	,370(**)	-,502(**)	,825(**)	1	,738(**)	-,878(**)
0	0	0	0	0	0	0	0	.	0	0
,722(**)	-,708(**)	-,742(**)	,549(**)	,857(**)	,651(**)	-,832(**)	,805(**)	,738(**)	1	-,503(**)
0	0	0	0	0	0	0	0	0	.	0
-,215(**)	0,128	,407(**)	-0,127	-,618(**)	-,157(*)	,315(**)	-,682(**)	-,878(**)	-,503(**)	1
0,006	0,108	0	0,11	0	0,047	0	0	0	0	.

\*\* Correlation is significant at the 0.01 level. (2-tailed).\* Correlation is significant at the 0.05 level (2-tailed).





## **4 Three applications (7)**



### Application 1: user interface taxonomy (7.1)

The screenshots below are taken from the MAMI-prototype of a user-oriented interface in the advanced search mode.

#### Standard information

File Window Help

unnamed1

## Advanced search

Standard info | Melody and harmony | Timing and rhythm | Loudness | Timbre | Subjective

Piece info

Piece title

Performer(s)

Composer(s)

Author(s)

Lyrics

Language

Genre   
Electronic dance

Performance type   
solist

Year of composition  +/-

Year of publication  +/-

Piece duration

Track number

Album info

Album title

Catalog number

Record label

MAMI music search prototype

Figure 133: Screenshot of the user interface for standard information.

## Melody

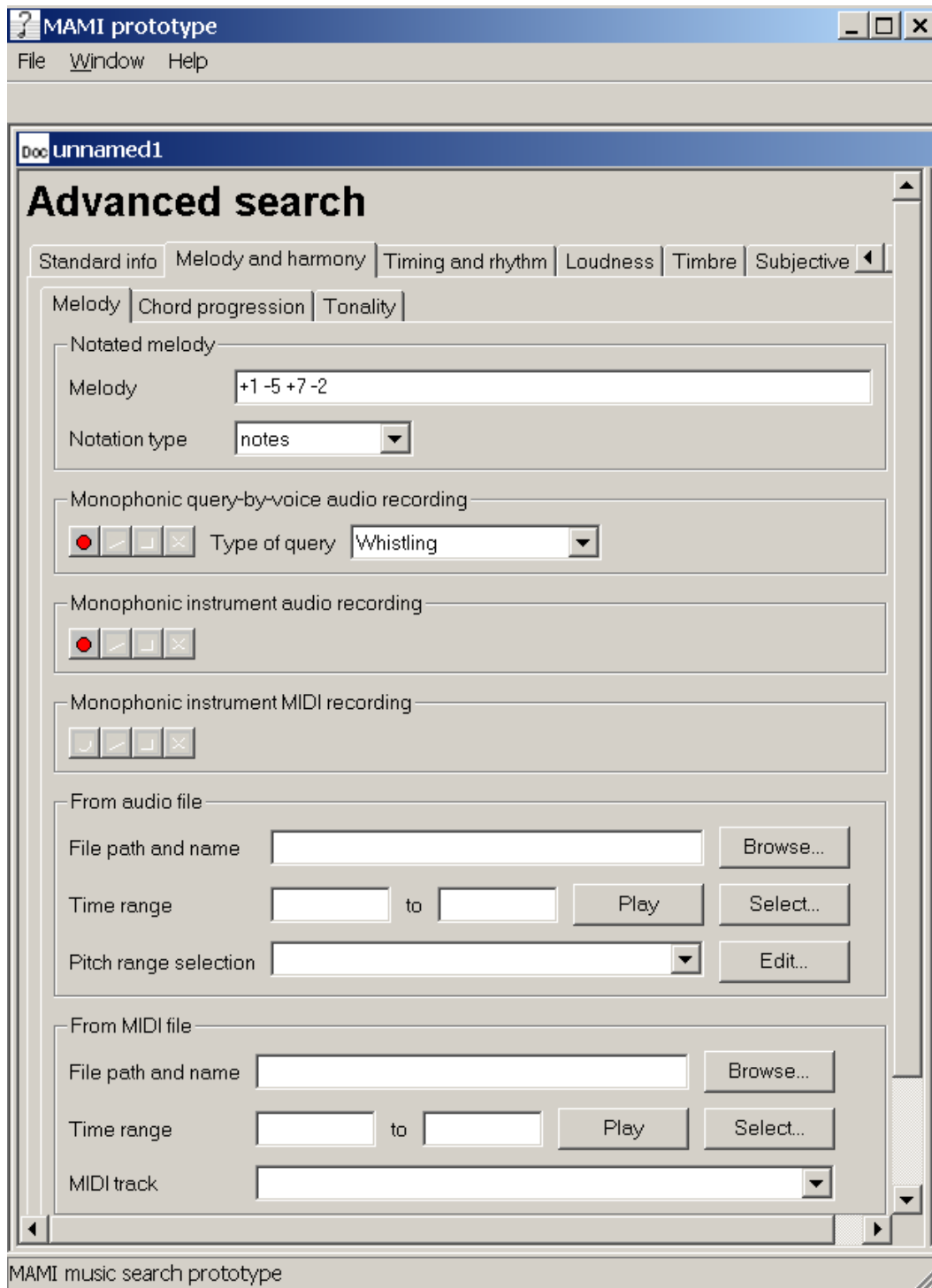


Figure 134: Screenshot of the user interface for melody.

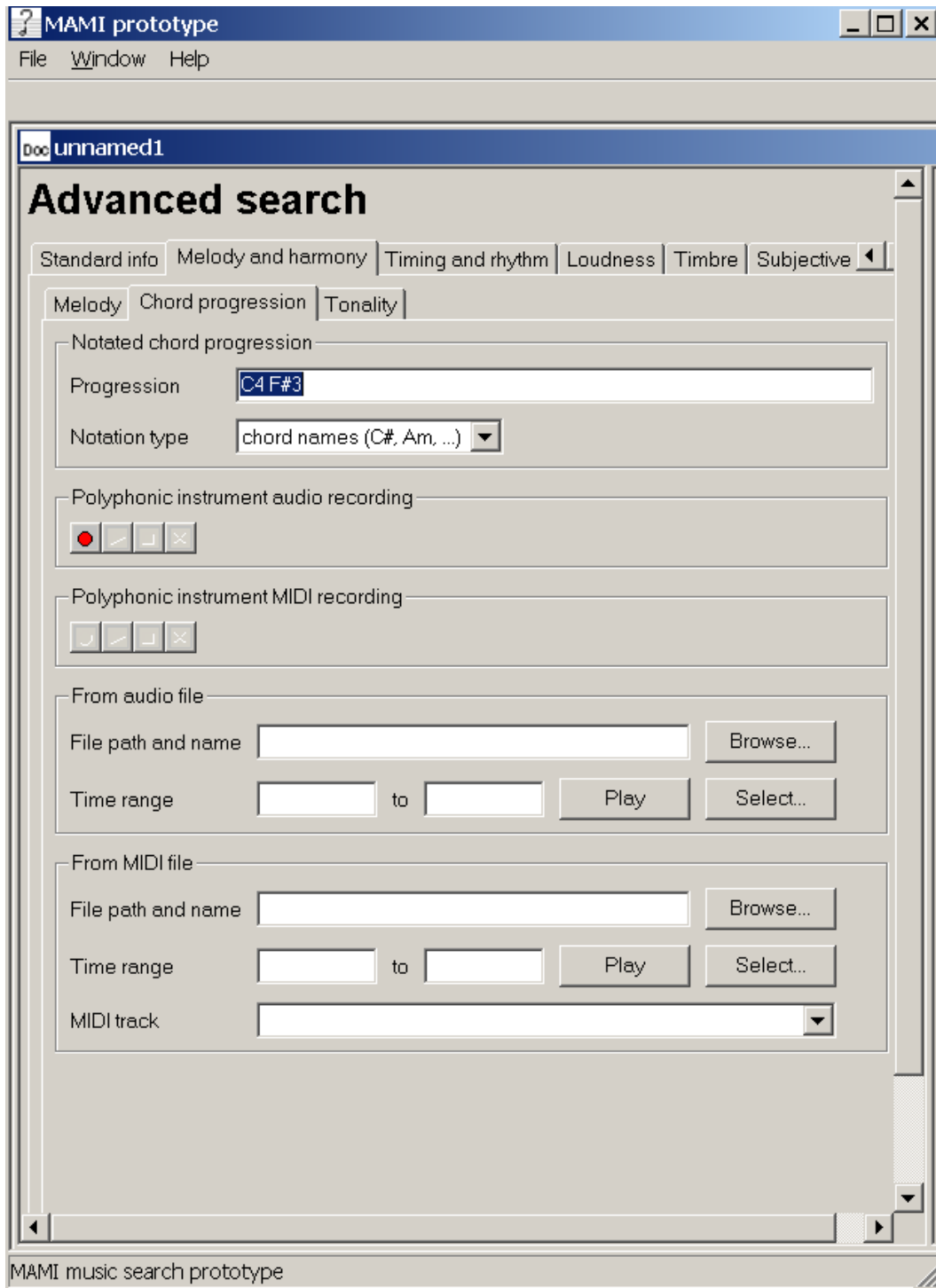
**Harmony: chord progression**

Figure 135: Screenshot of the user interface for chord progression.

## Tonality

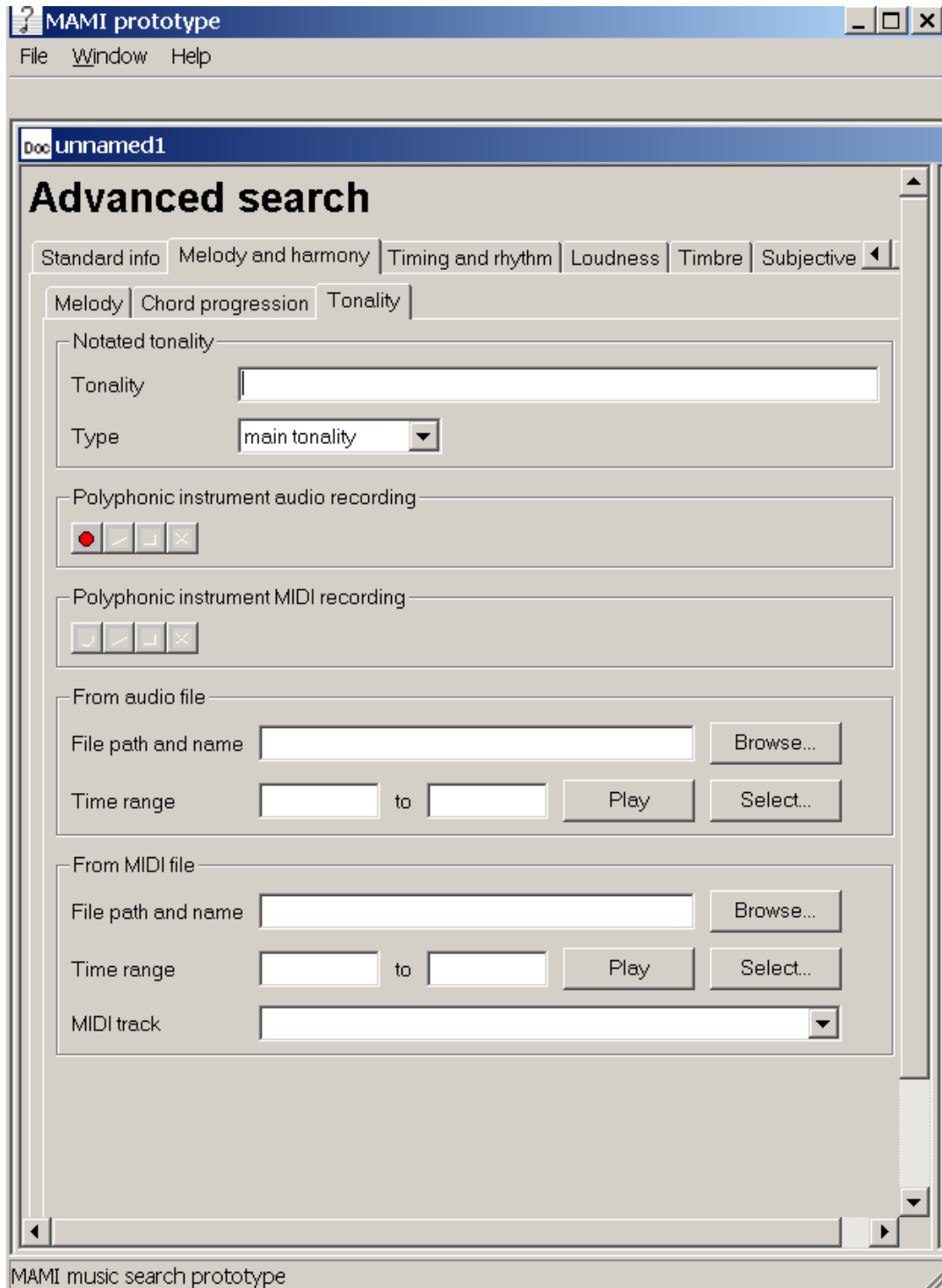


Figure 136: Screenshot of the user interface for tonality.

## Timing and rhythm: tempo

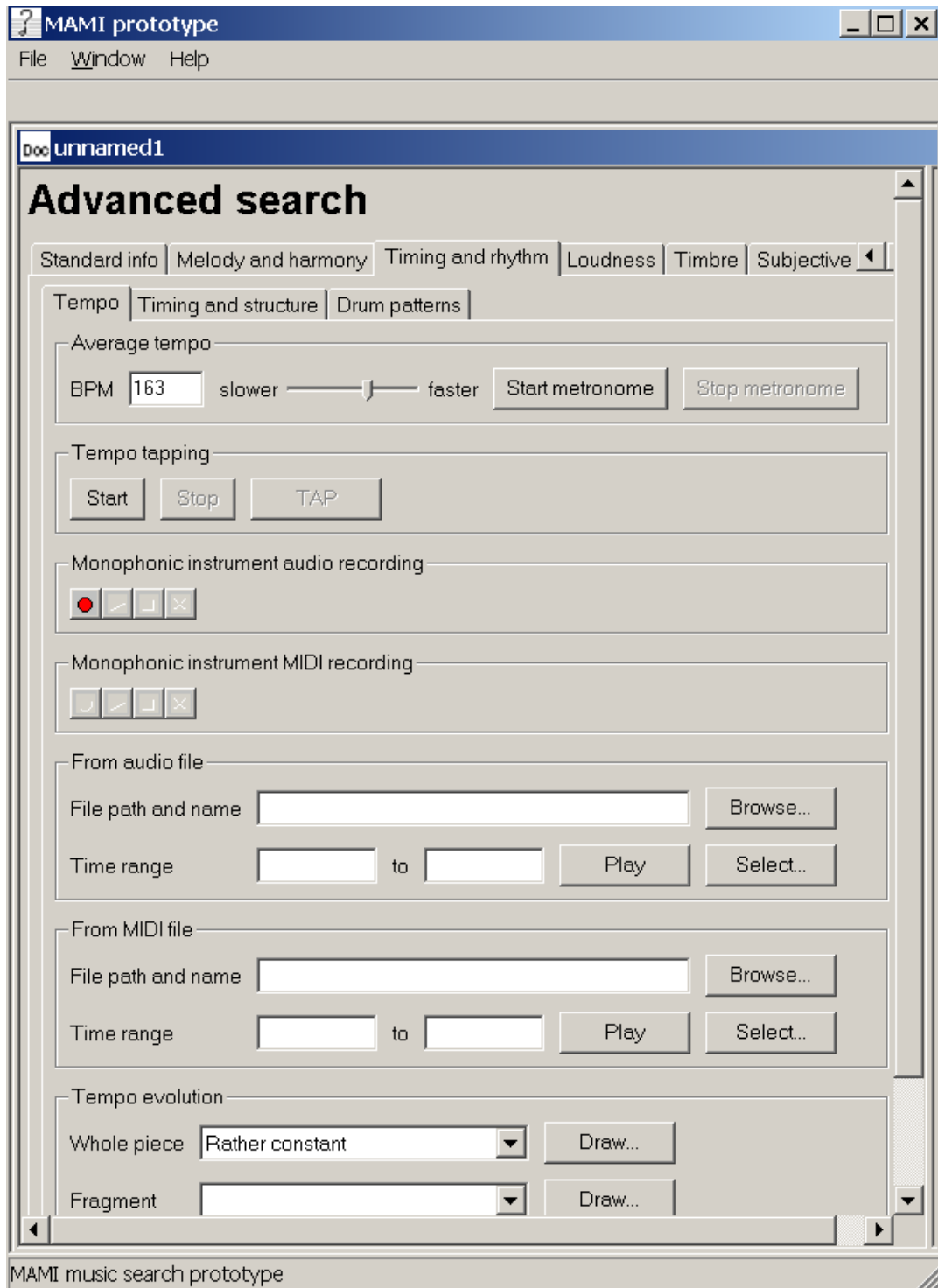


Figure 137: Screenshot of the user interface for tempo.

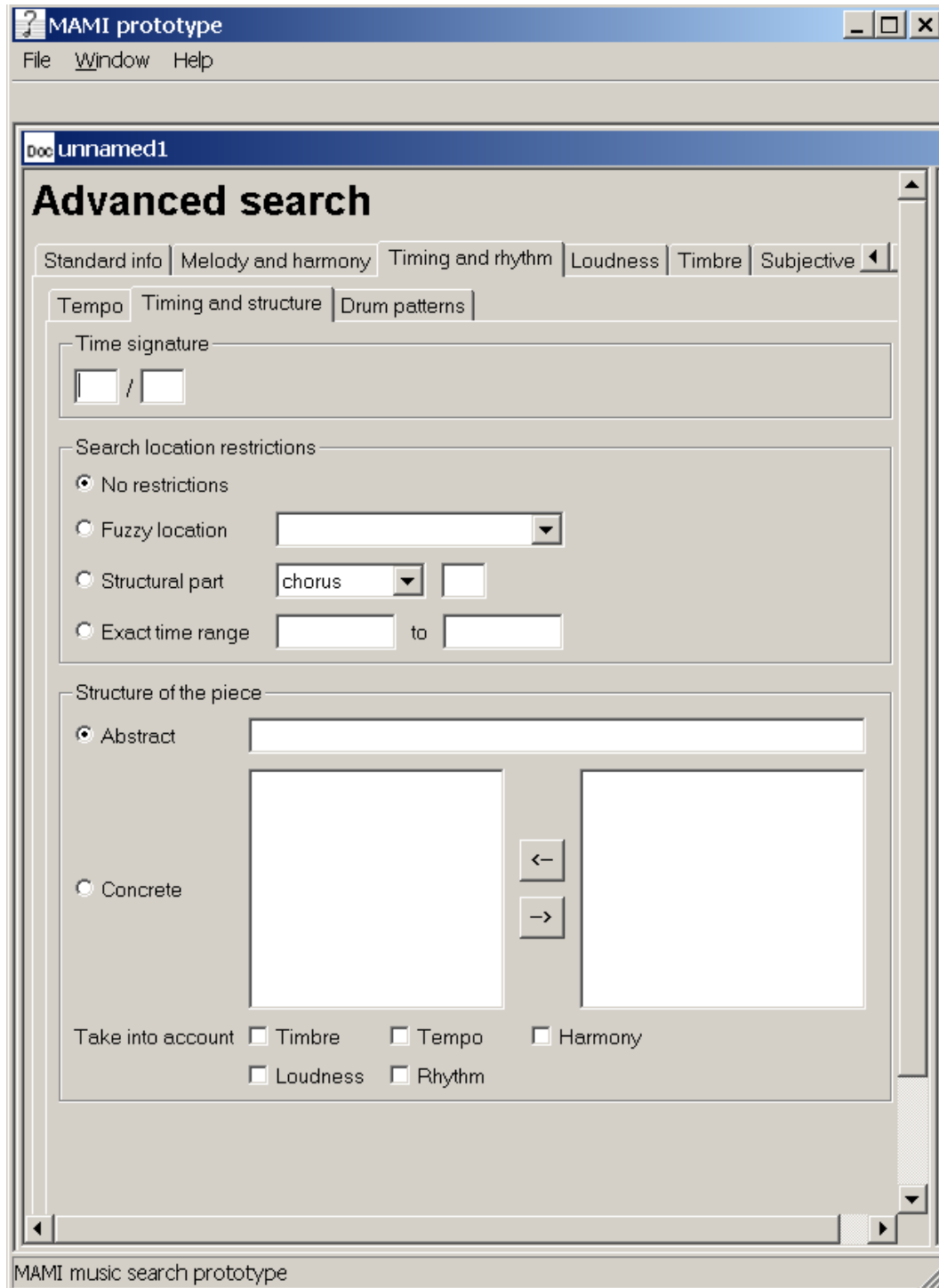
**Timing and rhythm: structure**

Figure 138: Screenshot of the user interface for structure.



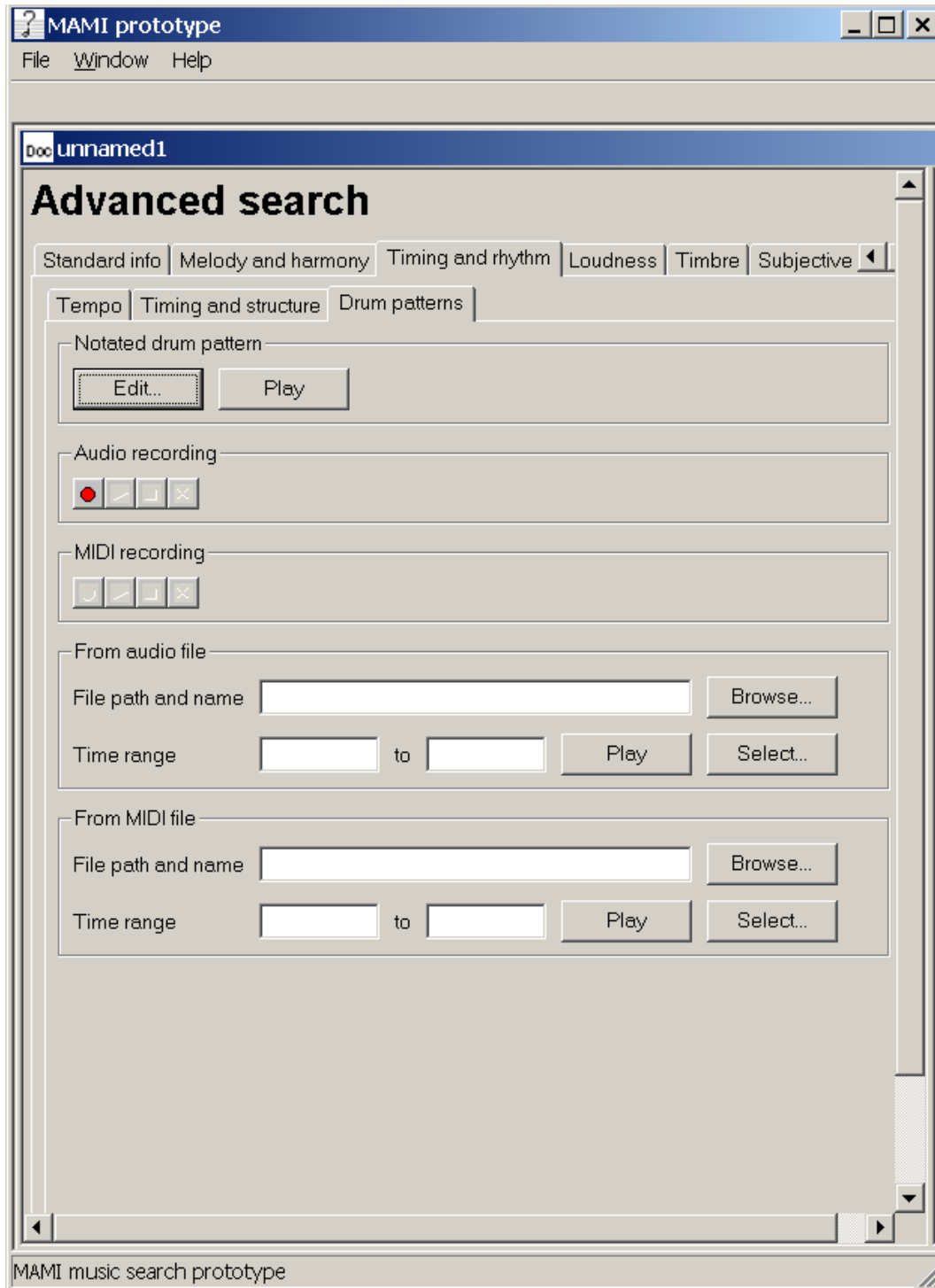
**Timing and rhythm: drum patterns**

Figure 139: Screenshot of the user interface for drum patterns.

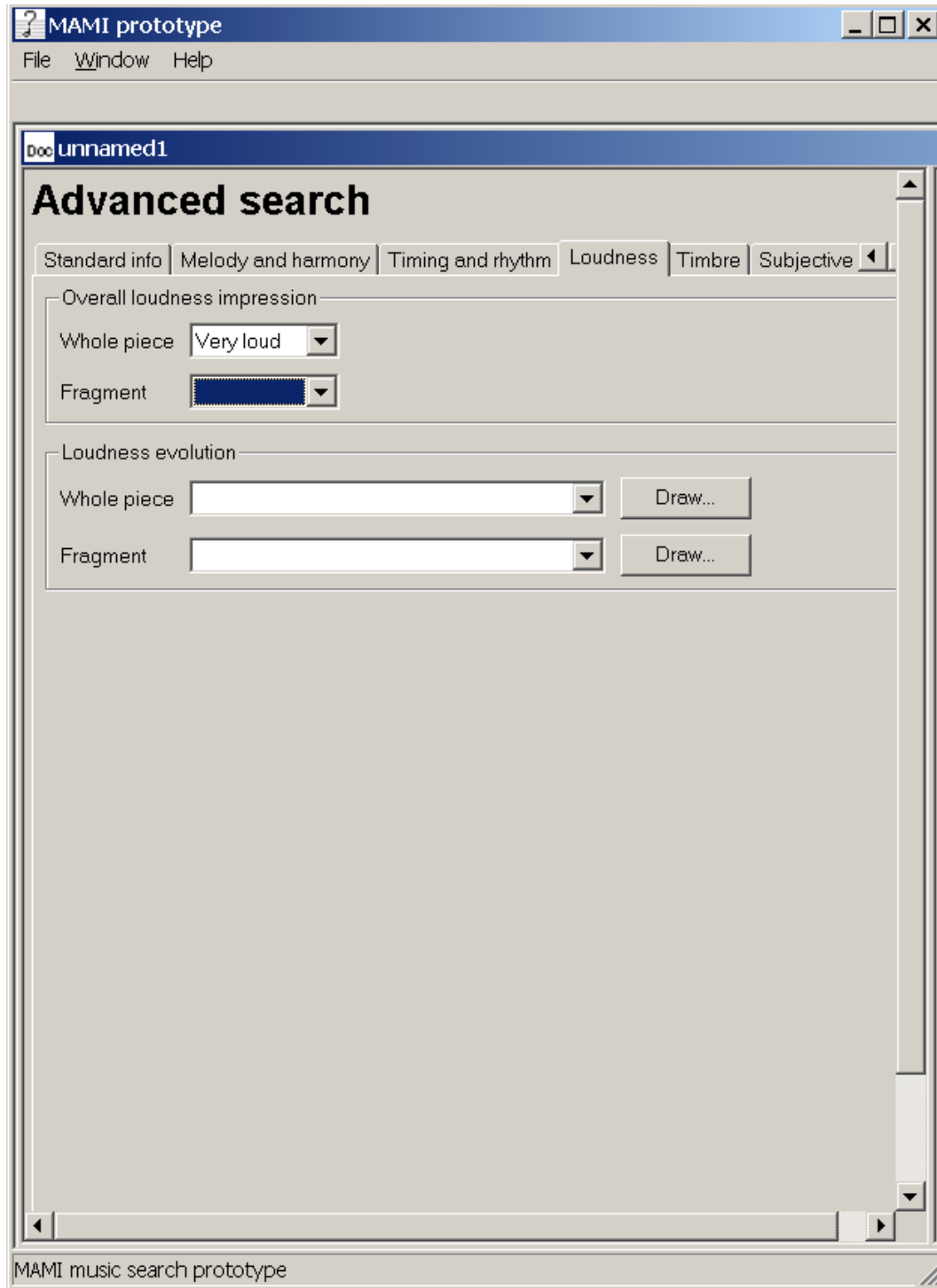
**Loudness**

Figure 140: Screenshot of the user interface for loudness.

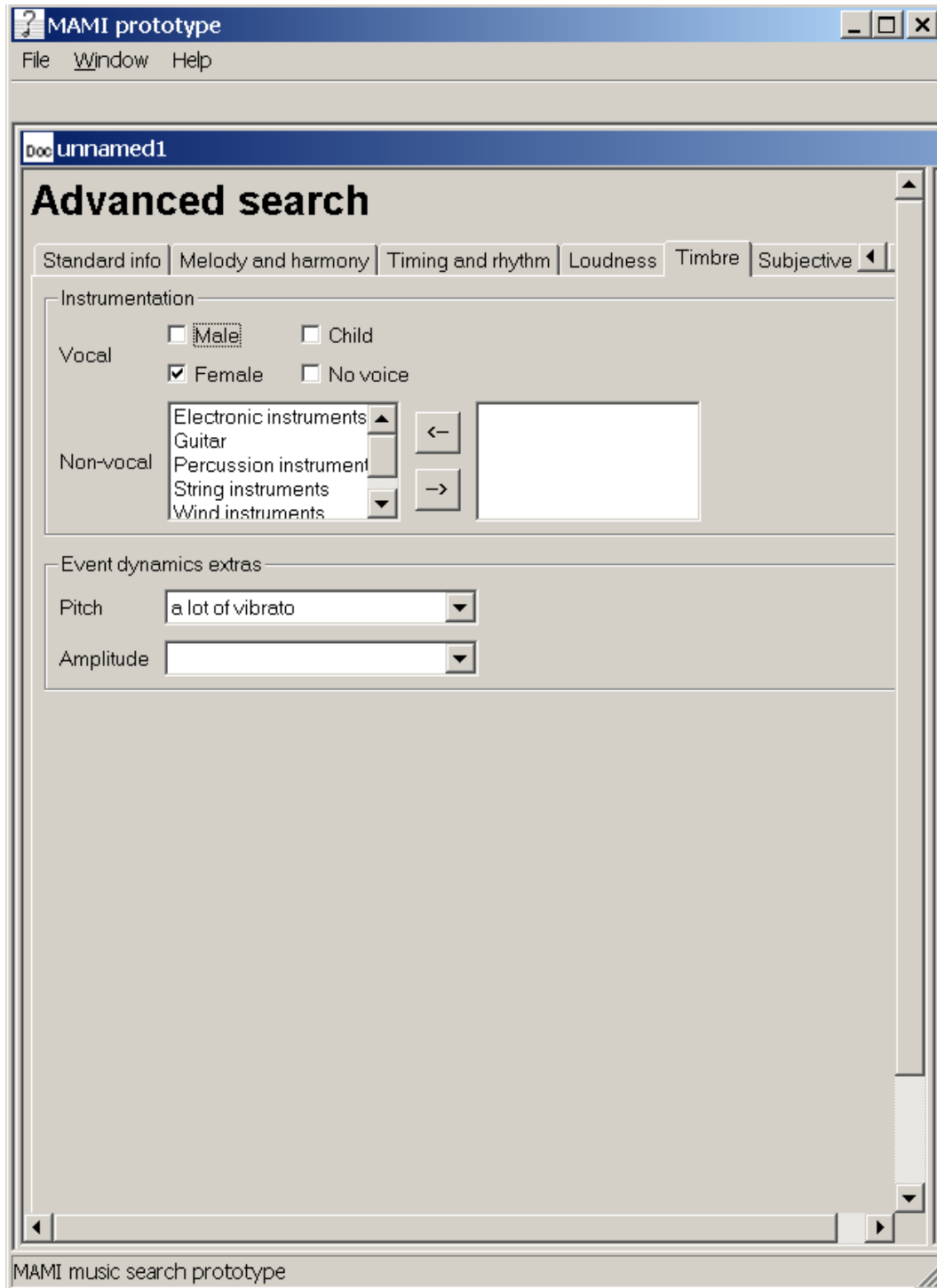
**Timbre**

Figure 141: Screenshot of the user interface for timbre.

## Expression

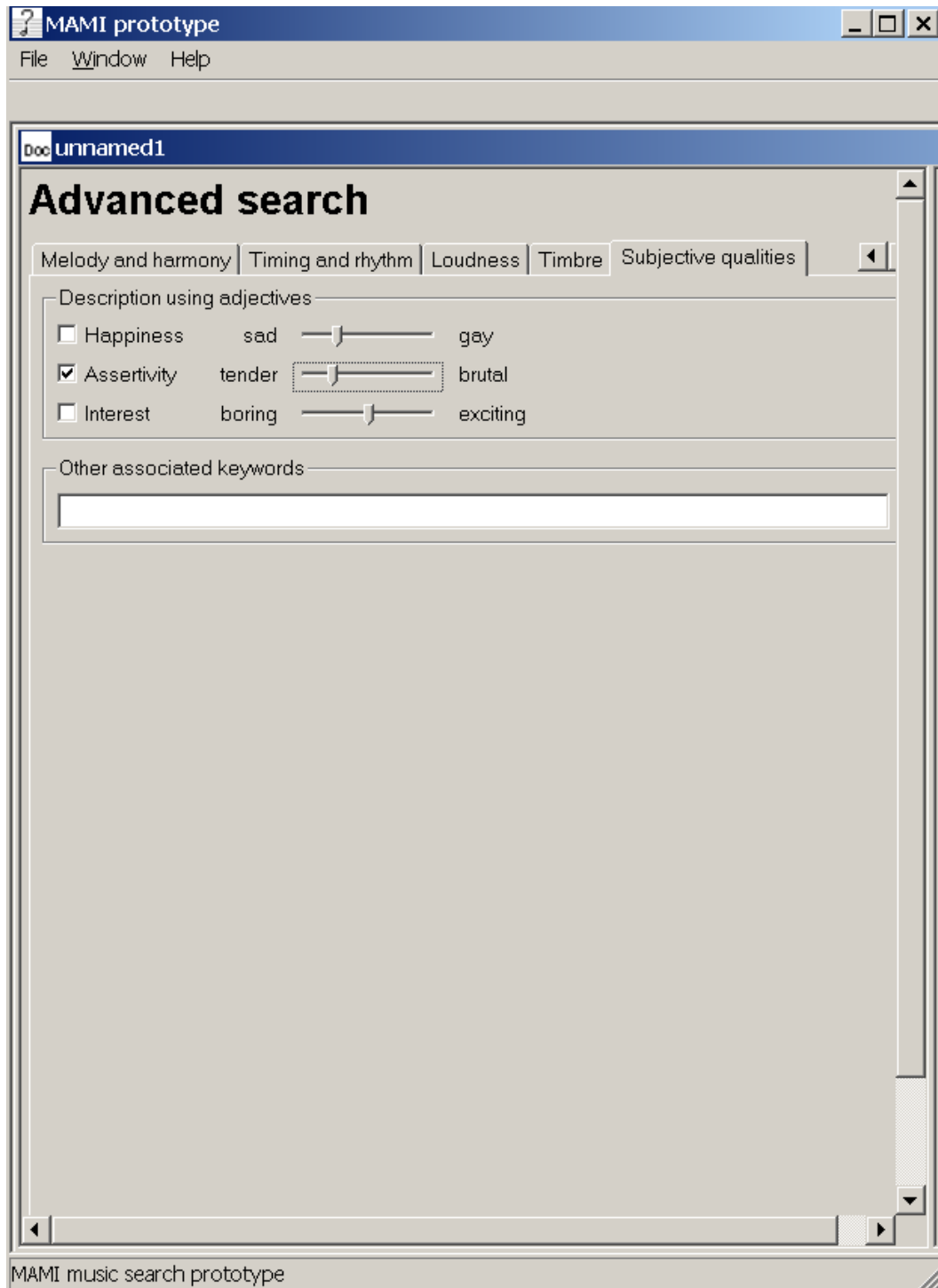


Figure 142: Screenshot of the user interface for expression.

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