

A Study on Sound Design to Improve Regional Image

—Focused on the Jeonju Area—

지역이미지 활성을 위한 사운드 디자인에 관한 연구

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요약 : 최근 사운드 디자인은 기업에서 제품에서부터 마케팅, 웹에 이르기까지 기업이미지를 고려한 기억에 남을 만한 경험의 멜로디를 디자인하여 사용하고 있고, 생활환경이나 공공시설 등 여러 분야에서도 사운드가 각 분야의 아이덴티티 확립에 필요한 요소로 사용되고 있다.

지방자치단체시대를 맞이하여 각 지자체에서는 지역 활성화를 위한 지역 아이덴티티의 확립에 지역의 정체성 확보와 지역의 잠재력, 자원을 활용한 지역개발에 많은 관심을 기울이고 있다. 또한 도시이미지 제고를 위해 지역이미지통합사업(CIP) 등 적극적인 사업을 추진하고 있다. 그러나 이러한 일련의 사업들은 시각적인 측면에 치우치거나 인식의 부족으로 인하여 아이덴티티 구축에 한계가 있다.

소리의 고장인 전주에 소리에 관련된 축제와 대회가 많이 개최되고 있으나, 정작 소리에 대한 아이덴티티가 없는 상황이다. 따라서 전주만의 특색 있는 소리의 조건을 제시하고 이를 통해 지역이미지 활성화를 위한 아이덴티티 구축에 필요한 요소로서 활용될 수 있도록 자료를 제공하는 것이 본 연구의 목적이다. 본 연구에서는 지역의 소리 이미지를 찾기 위한 소리 샘플은 지역민이 가장 선호하는 자연의 소리 중 한국의 아름다운 소리100을 사용하였다. 이중 선호 샘플을 추출하여 각 샘플에 대한 형용사이미지를 설문을 통해 요인 분석을 하였다. 분석 결과 전주지역의 특색 있는 소리이미지 요인으로는 조화, 강약, 대비, 문화성을 고려한 밝고, 경쾌하며, 편안한 소리 이미지를 도출할 수 있었다.

이는 지역이미지 활성화를 위한 아이덴티티 구축에 필요한 요소로서 활용될 수 있도록 자료를 제공하는 데 있다.

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Abstract : Recently, sound design is being made by corporations for the production as well as for marketing and web with consideration of image of productions and attributes to improve corporational image through the design of melody which would remain in users. And sound is becoming an important factor to establish the identity of each area such as life environment and public facilities.

At present, our local governments are promoting active business like as CIP to improve urban image but there is a limit to establish identity as the result of its partial focus on visual sense or insufficient recognition about it.

Jeonju, the place of sound, has many festivals and great meetings related with sound but it has not identity in the sense of sound. So the purpose of this study is to suggest the condition of sound which has the trait of Jeonju and to provide data for the trait to be used as a necessary element to establish identity in order to activate regional image. For the method of research, sampling Korean beautiful 100 sounds among the natural sounds of residents' most favorite as the samples of sound to search the sound of regional image. Selecting favorite samples among them and analyzed the factors through the questionnaire on the image of adjective in each sample. As the result of analysis, it has been shown that the factor of sound to reveal trait of Jeonju is the image of bright, delight, and cozy with consideration of harmony, dynamics, contrast, and culture. For this study is to provide data so it can be used to actively establish and identify the local image.

Key words : Sound design, Jeonju image, regional identity

1. Introduction

In recent, as the regions have progressed rapidly and the cities are competing each other with the age of local government, the urban image becomes importance more and more in the aspect of non-economic sense to assure identity of urban members as well as of economic sense to activate local economy. And also in the age of globalization which is represented as localization and globalization, establishing positive urban image for a specific region can be seen as a barometer of national competition as well as a strategy for existence.

Studies on regional image started in the middle of 1950s at first, and now they have broaden their area as in the section of study on marketing,

geography, landscape architecture, and design.

In our country, the study about urban image is being made around local culture, local identity, and local vision, and especially local governments are developing CIP and integrated brand or image brand to improve urban image, and implementing event business to attract visitors. However these series of businesses have a limit for establishing identity as the result of partial focus on visual sense or the lack of recognition about it.

Jeonju, the place of sound, has many festivals and great meetings related with sound but it has not identity in the sense of sound. So the purpose of this study is to suggest the condition of sound which has the trait of Jeonju and to provide data for the trait to be used as a necessary element to

establish identity in order to activate regional image.

We can improve associated image with region through the sound of region's own and the urban identity with this can be seen as an important element to constitute urban competition as well as to influence urban image.

This study has suggested the concept of regional image and importance of sound through preceding theses and case studies, and for actual research using in design process, implement survey with the subjects of 40 numbers of adults in Jeonju having them listen to sounds. For sound samples, selecting Korean beautiful sounds 100 among the natural sounds of residents' most favorite.

Amongst these sounds, draw down the number of sounds to 33 by grouping them and again selected favorite sounds by questionnaire on them to analyze the factors through adjective image and suggested sound condition which was suitable to reveal the trait of Jeonju.

2. Theoretical review

2.1 Concept of regional image

It is difficult to define the concept of image clearly because it has been used differently in various sections for the purpose of their study. Generally, we can define image as 'the integration of belief, idea, and impression about a specific object by a person'(Kotler, 1980). Image is established by differentiated recognition about the content of stimuli when it is perceived through real experience what has been expected and implies overwhelming impression and stereotype, and it can be constructed without direct experience about

the subject(Gartner, 1993).

When consulting the object of image in the view of region, Boulding(1956) defined the regional image as 'the result of integrating personal subjective inner world and experiences toward a specific region', and Kotler(1986) defined it as 'a series of belief of a person or a group toward an object region'. And a regional image is established through incessant interaction between users and region's physical environment(Lynch, 1960). It is said that even though this regional image is seen differently as to the viewers owing to the different personal characteristics and special experience even in the same place, generally, the group of each person having similar cultural or social & economic trait get to share the same image. And also, the definition about the concept of regional image is differently suggested according to the study. Therefore it can be said that regional image is a personal subjective recognition and includes inner side of outer physical world as well as visual one. And also it said as the picture in mind generalized of psychological response. In other words, it can be said as the integration of expression of subjective knowledge, impression, imagination, and emotion existed in a person or a group.

2.2 The constructive range of regional image

When we replace the word, region, with city, it can be said that this image of city can be established in a series of extension on the base of various elements of integrated combination, history, and traditional ceremony which make up a society with tangible and intangible cultures of the residents.

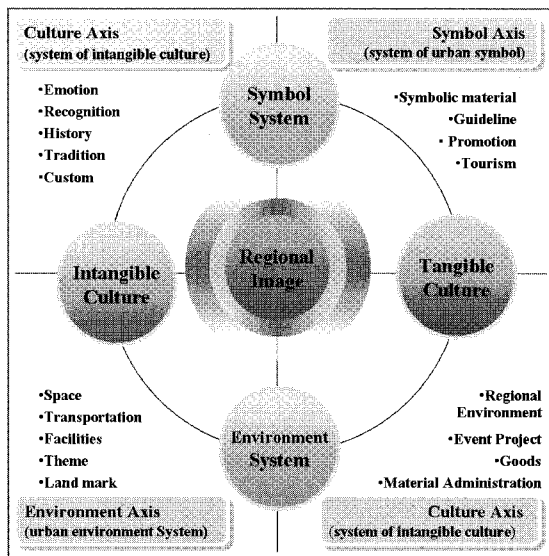


Fig.1 The constructive range of regional image

Regional image is made up with the tangible and intangible axis and the symbolic and environmental axis. The axis of symbolic tangible culture is a system of urban symbol and we can say symbolic material representative of the city, guideline, promotion, and tourism as the example, and for axis of symbolic intangible culture as a system of intangible culture, we can say regional emotion, recognition, history, tradition, and custom. The axis of environmental tangible culture is a system of tangible culture and we can say regional environment, event project, goods, and material administration as the example, and for axis of environmental intangible culture as a system of urban environment, we can say space, transportation, facilities, themes, and land mark.

Regional image can be said a sensuous recognition of people inside and outside about the area or the residents. This regional image is decided by the residents living there or the visitors coming from outside and it can be influenced by the promotion of local government in the way of

establishing its image using sensuous elements with which the people would perceive, with the presume that the image is not made up in a short time.

2.3 The process of establishing regional image

There is a series of process for us to grasp the reality of physical environment with which we see and experience in our daily life and to establish a kind of systematic image by delivering its meaning. That is to say, we establish the image of object in our memory through the process of perceiving and a series of cognition.

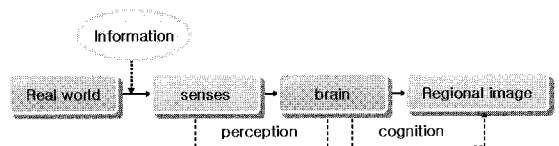


Fig. 2 The process of establishing regional image

When viewers see the object, the environment, the object gets to impact an initiate physical operation on the viewers and the viewers get to respond to the stimuli passively. We say that this step as a visual operation and then we get a recognition with connection of sensuous operation, the next step, according to the response of viewers and we say this as recognition process. Through this process, at last, we grasp the reality of the object and establish the image of the object. The recognition that is said in here is the concept including perception and also has meaning of all intellectual operation related with acceptance, installation, and operation of information, and in this intellectual operation, there are sensuous perception and memory study included.

3. The importance of the sound

The sound is the thing that the mechanic energy as vibration or friction is transmitted through air and we are incessantly receiving the stimuli from the sound through our ears.

As a way of emotional marketing through the sound, corporations, at present, are also designing sound or smell of goods not only the appearance of it. The various senses of 'invisible' things like as auditory sense, olfactory sense, and tactic sense have become important elements in design.

The sound can make the emotion of people different according to the melody or rhythm and provide various experiences of auditory sense to the users according to its height, speed, and dynamics.

As the stimuli on auditory sense is so strong that it is used as an instrument to improve identity of goods and this emotional aspect of auditory sense is considered much in develop various of goods.

The concrete cases are as followings.

1) Nokia : Nokiaman has used its own sound scale and changed its style from the sound of buzzer in 1998 to the soft sound of piano in 2005 so 41% of the people in the world can differentiate the brand of Nokia only with the melody of it.

2) Ipod : the clickwheel sound is made from the CDs when their setting is fallen in the shape of domino roll.

3) Kodak : they included sound artificially in camera so that it can be caught when the shutter is pressed.

4) Ford : this corporation has studied on the sound of car engine with the approach of Sensibility Ergonomics so as to find out the type

of car the people associate with when they are heard the sound according to the different engine, so that they controlled the engine sound of 'mustang' to close that of sports car trying to meet the need of users.

5) The sign sound at Gobe subway station in Japan : a composer of environmental music made specific sound at each subway station differently so made the persons with disables would catch the place they are in and considered the sound of harmony not to irritate the riders even when they are heard in double.

6) In the case of Japan, each local government brings out itself with formulating things like as 'outstanding place of sound', 'the landscape of sound valuable to keep' and makes its residents get interest in the issue of sound as well as using it as an element of tourism as they are introducing sound with stereoscopic aspect.

Therefore, the sound and human emotions are having close to inter relationship that we create suitable communication between us and the instrument or machine that is used by expressed with sound. And also, it is applying to enhancing regional images to acquaint Jeonju's cultural information and atmosphere further. With this there are need to gathering representative regional sounds and culture essentially.

4. The experiment and its result

4.1 Basic survey

Identify the inclination of sound image about Jeonju in the basic experiment on the base of theoretical concept, implement survey by

classifying the item of relation between Jeonju image and the sound as 10 with the subjects of residents in Jeonju. The numbers of subjects were 40 and the items were following these;

- Jeonju image at present,
- Jeonju image afterwards,
- The identity of Jeonju image,
- Experiential element in Jeonju,
- Convenient element in Jeonju,
- Self-confidence in traditional culture,
- The competitive power with other cities,
- Preference of sound,
- Interrelation between sound and city landscape
- The need to sound of Jeonju.

As the result of survey, it has been shown that the most frequent image when as soon as thinking about Jeonju is gallant, tasty, and romantic with showing 45% and then calm and peaceful city with 25%. As the identity of Jeonju image, the most frequent answer is traditional culture and it is the food of Jeonju(bibim-bab) and the traditional narrative song(Pansori).

Therefore when considering the general Jeonju image, they are having self-confidence in

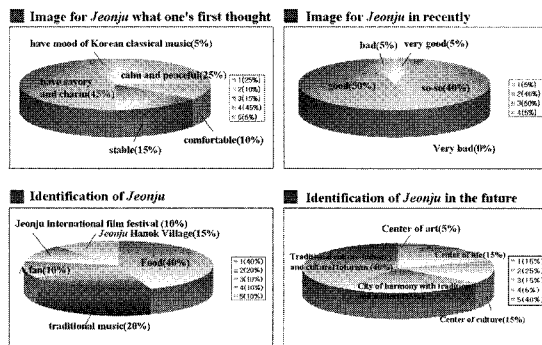


Fig. 3 The result of survey

traditional culture and hope their city to be traditional cultural industry and tourism & culture based city having balance between tradition and modernity.

In the section of assessment in sound, it has been shown that the most favorite sound is natural one with showing 70% and then the second is the sound of cozy and fit to landscape. Their need to get trait sound of Jeonju is above 60% and this result shows that it would influence the Jeonju image afterwards.

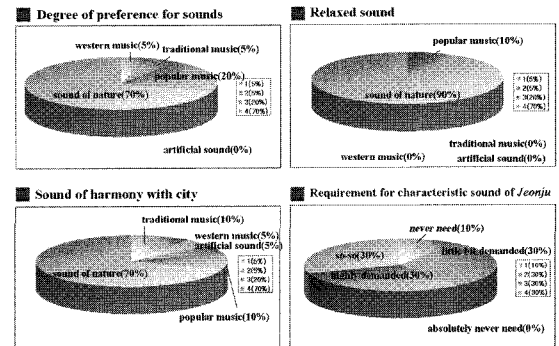


Fig. 4 The result of survey

When integrating the result of basic survey, we can see that it is the image of traditional culture as for the most frequent image about Jeonju, and it is the natural sound as for the most favorite one with which the residents have self-confidence about their traditional culture so it shows that they need a sound which represents their trait.

4.2 Process of experiment

In this experiment, sampling Korean beautiful 100 of sounds were designated by the ministry of environment as the samples of natural sounds.

This Korean beautiful sounds 100 is the Korean representative sound with beauty and it was made

by the ministry of environment in 1999 with receiving over 400 beautiful sounds from all over the people and then selecting with the assistance of the experts in sound and image in order to disclose and make propaganda widely.

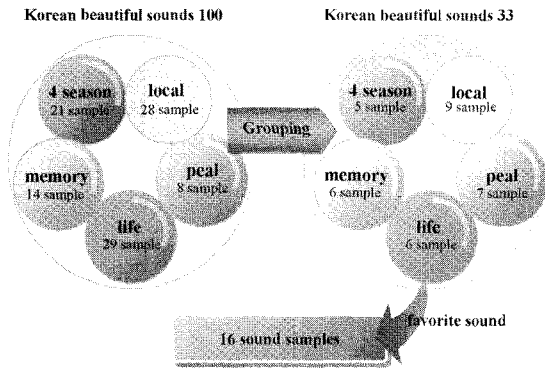


Fig. 5 Sampling 16 sounds from 100 sounds

Gathering 33 sound samples by grouping Korean beautiful sounds 100 and then selected 16 sound samples through the survey about favorite sound. The selected sound samples are as followings.

- 1) Sound of skylarks in a barley field,
- 2) The sound of sweeping fallen leaves with the bush clover-broom,
- 3) The sound of robust cicadas,
- 4) The sound of burning bean chaff,
- 5) The sound of organ,
- 6) The sound of bebop,
- 7) The sound of fulling cloth,
- 8) The sound of wind-bell in the fall wind,
- 9) The sound of cricket to find out its mate,
- 10) The sound of plowing field,
- 11) The sound of weaving fabric on a loom,
- 12) The sound of thunder,
- 13) The sound of ox,
- 14) The sound of flailing beans,
- 15) The sound of chicken,

16) The sound of frog.

For experiment, select sound of adjectives through reviewing sound-related literature and thesis, made grouping the words synonym and unsuitable to the experiment with assistance of expert in design, and then finally made 22 items and experimented with the following process.

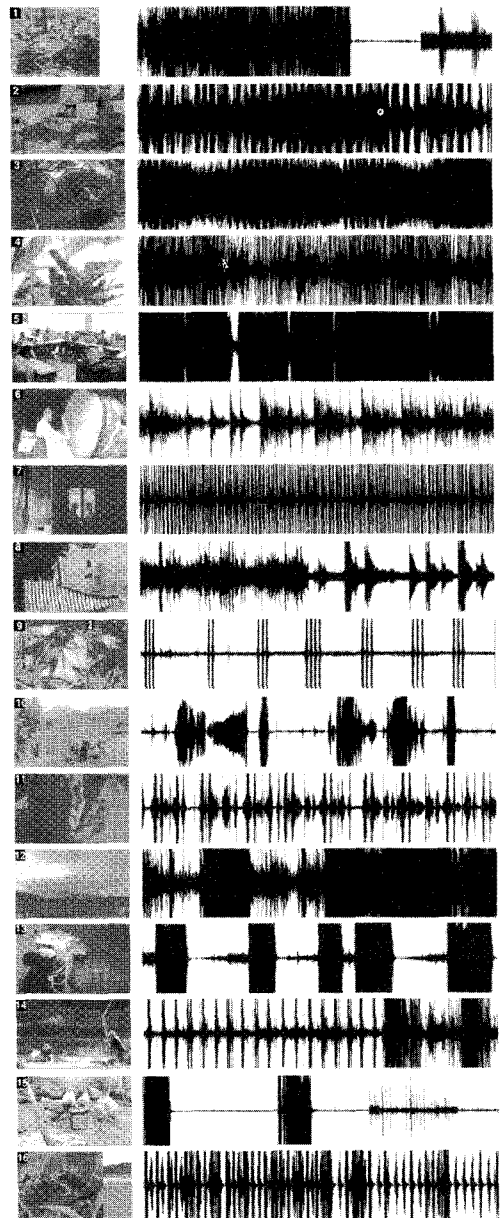


Fig. 6 Sample images with sound wave

For the survey, implemented questionnaire of 16 sound samples and 23 adjectives with the scale of 7 score and then analyzed it with factors by SPSS(factor Analysis). The subjects were 40 adults living in Jeonju. The periods were from June 1st to July 10th 2007.

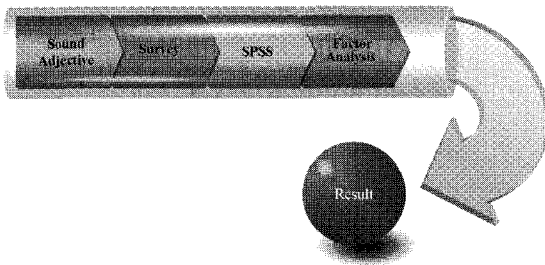


Fig. 7 Experimental process

Table. 1 adjective Items

Adjective language for auditory sense	
tough	soft
complex	simple
weak	strong
traditional	modern
unstable	stable
dark	bright
quiet	exciting
general	peculiar
unattractive	beautiful
split	unified
heavy	light
not having rhythm	having rhythm
uncomfortable	comfortable
feminine	masculine
slow	fast
sad	pleasant
shallow	deep
disorder	order
noisy	silent
cold	warm
urbane	local
unfavorite	favorite
Non-fit to Jeonju image	fit to Jeonju image

4.3 Result

As followings by calculating factor-loading through analyzing factor of result value on the 16 sound samples and 23 adjectives.

SCREEN TABLE

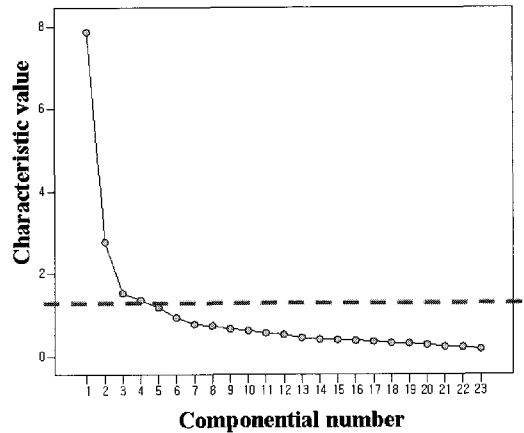


Fig. 8 Screen table for 23 sound samples

When analyzing the factor, as in the screen table, the factor amount(fig.8), can be explained that it is 4 having Eigen value more than one and it has 58.8% of total attribution rate showing more than average explanation ability.

When explaining the organization for each analyzed factor, the attribution ratio of the first factor is 24.1% and presents high attribution ratio with 10 items like as ‘unstable/stable’, ‘unattractive/beautiful’, ‘split/unified’ ‘having rhythm/ not having rhythm’, ‘uncomfortable/comfortable’, ‘shallow/deep’, ‘disorder/order’ ‘cold/warm’, ‘unfavorite/favorite’, ‘non-fit to Jeonju image/fit to Jeonju image’.

When consulting the second factor, its attribution ratio is 4.9% and presents high attribution ratio with 4 items like as ‘powerful/faint’ ‘quiet/exciting’ ‘slow/fast’ ‘sad/pleasant’.

When consulting the third factor, its attribution

Table. 2 Analyzing the factor

Auditory Adjective	Factor1	Factor2	Factor3	Factor4
unstable/stable	0.61561	-0.43643	0.308728	0.037996
unattractive/beautiful	0.630446	-0.08579	0.35574	0.182559
split/unified	0.713582	-0.2201	0.220438	0.08879
not having rhythm/ having rhythm	0.61985	0.171718	0.153989	0.080352
uncomfortable/ comfortable	0.673555	-0.30382	0.39305	0.162222
shallow/deep	0.71242	-0.0441	-0.1472	-0.20218
disorder/order	0.681306	-0.02722	0.158696	0.066823
cold/warm	0.555414	-0.19916	0.32108	0.194644
uncomfortable/ comfortable	0.789261	-0.03901	0.138408	0.056477
non-fit to Jeonju image /fit to Jeonju image	0.704607	0.016484	0.089065	0.206561
disorder/order	-0.04083	0.681708	-0.39848	-0.01434
quiet/exciting	0.09431	0.764891	0.187394	-0.05331
slow/fast	-0.10251	0.768642	-0.11267	0.002965
sad/pleasant	0.373528	0.587923	0.381516	-0.10816
dark/bright	0.366334	-0.0115	0.744144	0.003858
heavy/light	0.093087	-0.0415	0.808627	0.028671
urbane/local	0.297066	-0.17506	0.303911	0.688118

ratio is 13% and present high attribution ratio with 2 items like as 'dark/ bright', 'heavy/light'. Last, when consulting the fourth factor, its attribution ratio is 6.7% and represents high attribution ratio with the item like as 'urbane/local'.

When analyzing the results on the base of above, in the case of the first factor, the plus aspect of sound can be summarized as 'harmony' in general. In the case of the second factor, it can be summarized as 'powerful and faint' in general towards 4 factors. In the case of the third factor, it can be summarized as 'contrast' and in the case of the fourth factors, it can be summarized as local 'culture' towards on thing.

Using excel program for the average value to find out the inclination of adjectives applied in factor analysis among sound samples. As the result of presenting it with graph, in the sounds of 3)The sound of robust cicadas, 5)The sound of organ,

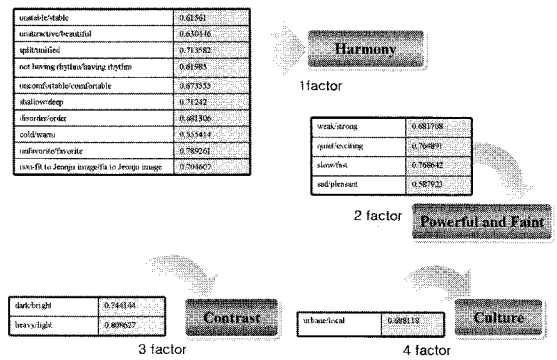


Fig. 9 Representative adjective words for sound image

6)The sound of bebop, 7)The sound of fulling cloth, and 9)The sound of cricket to find out its mate, there are clustered 'bright', 'delight', and 'cozy' image with many plus elements of adjective, and in the sounds of 2)The sound of sweeping fallen leaves with the bush clover-broom, 4)The sound of burning bean chaff, and 12)The sound of thunder, there are clustered 'tough' and 'noisy' image with many plus elements of adjective.

When integrating the sound image of Jeonju on the base of the result of study, it can be summarized as harmony, powerful and faint, contrast, and culture in the aspect of factors.

As the result of analyzing the amount, it has been shown that the plus elements of adjective are bright, delight, and cozy image, and the minus elements are tough and noisy image.

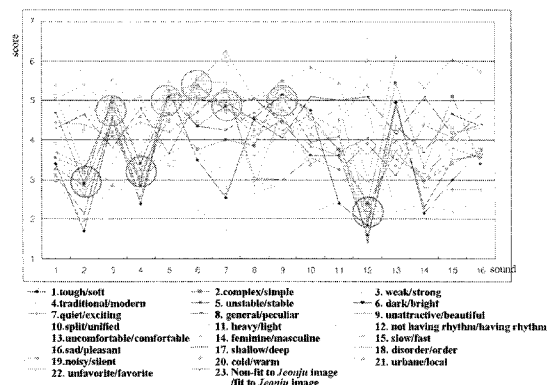


Fig. 10 The result of analyzing the amount

5. Conclusion

The purpose of this study is to find out the sound trait of Jeonju's own having differentiation and origination contrast to other regions to improve image of Jeonju.

In the basic survey, find that Jeonju has strong urban image with peaceful and quiet and traditional culture and the most favorite sound with which the residents in Jeonju, with self-confidence in traditional culture, is the natural sound and so could see that they need the trait sound of Jeonju. With this result, get the conclusion to have influence on Jeonju image afterwards.

Through actual research about the sound, find out the image elements for Jeonju, like as bright, delight, and cozy sound image with consideration of balance, powerful and faint, contrast, and culture. This can be seen as congruent with the trait of region of Jeonju having peaceful and quiet image with traditional culture.

In this regard, considering of sound image for culture based to regional circumstances applying various way of improving regional identity.

6. The limitations of the research and future research

The Korean beautiful 100 sounds were made from the real sites with direct recording. Therefore there was some difference between the sound recorded in the sites and the sound which was frequently heard from media so it made somewhat influence on the psychological and experiential emotion

during survey. Therefore, suggest that the studies afterwards would construct emotional model by contrasting and analyzing sound samples between the sound directly recorded in the real sites and the artificial sound in the media for the nature one.

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