English translation of "Physiological and Psychological Assessment of Relaxation Effects on Feeling Arts." *Japanese Journal of Health Behavioral Science*, 27, pp226-239, 2012

Physiological and Psychological Assessment of Relaxation Effects on "Feeling Arts" as a Healing Method

Takayuki Yoshioka[*] Yoshihiro Kitamura[**]
Shigeaki Hinohara[***] Eiko Chikamori[****]
Yoshichika Kawaguchi[*****]

[*]Kobe City College of Nursing
[**]Feeling Arts Academy
[***]St. Luke's International Hospital
[****]Obayashi Sacred Heart School
[*****]University of Occupational and Environmental Health

Key Words : art therapy, healing, relaxation, heart rate, state anxiety

ABSTRACT

Introduction: Feeling Arts (FA) is an integrative art created by Yoshihiro Kitamura, who combined paintings with illumination and music. By casting lights of various colors upon a huge canvas on which an abstract image is painted, dynamic changes of subtle shades are created on the painting. Another essential component of FA is the soothing music and/or songs played for the audience. The combination of painting, lights, and music is controlled in a delicate manner to produce a healing effect. FA is designed to invoke emotion in the audience. Each person's experience with FA is different, as it is a result of their own image with positive feelings. In this study, we examined the relaxation effects of exposure to FA exhibition on the basis of heart rate (HR) analysis and the State Trait Anxiety Inventory (STAI).

Methods: This study was conducted during two FA exhibitions for audiences of approximately 30 people in each case. Each exhibition lasted one hour and included six performances of FA (6 pieces of music) as well as short lectures and a discussion. The subjects, who agreed to participate in this study, were nine women (mean age, 39.9; range, 23-62 years) for the HR analysis and twenty-three women (mean age, 38.2; range, 22-69 years) for the STAI. In the HR analysis, the HR of each subject was continuously measured and recorded using a HR monitor during rest as well as during exposure to the FA exhibition. We compared the resting HR level and the HR levels during the six FA performances. In the STAI analysis, we compared the State Anxiety scores before and after exposure to the FA exhibition in connection with the Trait Anxiety.

Statistics: We used a one-way ANOVA and a Tukey's test for the HR analysis, and a Pearson product-moment correlation coefficient and a two-way mixed design ANOVA for the STAI analysis.

Results: In the HR analysis, all HR levels of the 6 FA performances in 6 out of 9 subjects, 5 HR levels in 3 subjects, and 4 HR levels in one subject were significantly lower than the resting HR level ($p<0.05$). In the STAI analysis, the mean score of State Anxiety after exposure to the FA exhibition was significantly lower than the mean score before the exposure, especially for the high Trait Anxiety group.

Conclusion: This study suggests that exposure to FA brings people relaxation from the physiological and psychological viewpoints.

I. Introduction

"Feeling Arts, (hereinafter referred to as FA) [1)2)3)]" is an integrative, experiential art created by a contemporary artist Yoshihiro Kitamura, who combined paintings with illumination and music. Under the themes such as earth, universe, life and celestial world, by casting lights of various colors with illumination controller upon a huge canvas on which an abstract image is painted, subtle shades are created on the painting, giving it a sense of movement. With soothing beautiful music or singing voice, there emerges healing space.

The audience is allowed to freely create and develop their own imagery or thoughts with varied sense of feelings such as deep emotion, comfort, and hope. In other words, it can be described as unified art form where a painting, lights, sounds, and humans interacting with one another. Late Yonezo Nakagawa, the first chairman of Japan Academy for Health Behavioral Science suggested calling the Art, "Healing Art FA".

FA's performances, including speeches [1)4)] were first presented in medical and welfare facilities in 1989, and after the Great Hansin Earthquake in 1995, the performances were actively given at temporary housing units or evacuation centers in the devastated area. Ever since, he has been continuously giving public exhibitions at facilities for the elderly; children's institutions; medical, welfare, and educational facilities (including hospices); and natural-disaster-affected areas at grass-roots level, which amounts to 100 times a year (900 times in total as of July, 2012). He also gave overseas performances at the facilities of the same kind, nearly 40 times in total in eleven countries, namely Germany, Bangladesh, Canada, Thailand, the United States, China, Indonesia, Kenya, Vietnam, Korea, and Pakistan.

The impact of experiencing FA is described as follows:- FA inspires each audience to freely create and express his/her own imageries accompanied by subjective, positive feelings such as "deep emotion", "comfort" and "hope", all of which give healing effects[2) 5)].

From narrative therapeutic [6] point of view, FA is also effective in prompting an individual to externalize his/her hidden problem through free imagery creation, which leads them to re-write his/her story into better and more positive ones with pleasurable feelings.[5] Furthermore, although FA presentations normally take a style of workshop addressing to a group of people, the audience are allowed to envision and express individual images freely. They are able to share (resonate) their individual feelings and images while a group as a whole creates harmonious, synergetic atmosphere, which enhances the healing effects.[4] Physiological and psychological assessment of relaxation effects on FA, however, have never been examined. Therefore, the authors explored objective relaxation or anxiety-reducing effects of FA from the physiological and psychological aspects.

II. Methods

The study was conducted during the FA lecture meetings organized by Hoyogo Nursing Association as a part of the program, "*Machino Hoken Shitsu* (City's Nursing Room)". The event was held at the temporary housings in Kobe City and Akashi City (two sites). The analysis was made based on the surveys from the following (a) to (c) aspects. The subjects comprised of the local residents, medical specialists, and volunteer nursing school students who gave consent beforehand. The FA lecture meeting in Kobe was held in December 2001 and in Akashi in December 2002. The number of attendants at each event was approximately 30 people. The content of lecture meeting in Nishinomiya was, in most part, the "standard" FA lecture meeting in a form of a workshop as showed in Table 1. The performance in Akashi, although it included slightly different songs and colors, was mostly the same as the one in Nishinomiya.

(a) The State Trait Anxiety Inventory Test (hereinafter referred to as STAI test)

Using the STAI test form in Japanese (Form X), the attendants' Trait Anxiety and State Anxiety scores before exposure to FA were measured. Then after FA performances the Sate Anxiety score was re-measured in relation to Trait Anxiety. Of 26 attendants who gave consents (4 citizens, 14 nursing specialists, 8 nursing school students) 3 (2 citizens, 1 nursing specialist) did not give completed responses. Therefore, with the exception of these 3, analysis was made on 23 subjects (females aged 22 to 69 years old. Mean age: 38.2 years old. [Standard deviation (hereinafter referred to as SD): 14.4])

(b) Heart Rate Measurements (Hereinafter referred to as HR)

By using a portable HR monitor (Vantage NV, Polar Electro, Ltd. Finland), the HR of each subject was

continuously measured and recorded before exposure to FA while subjects sat at rest in chairs and during exposure to FA (also sitting in chairs). Comparison was made between HR level (Mean value of R-R intervals) at rest and during FA (6 songs. Subjects were sitting in chairs). Of the 10 attendances (7 nursing specialists, and 3 nursing students at Nishinomiya FA presentation) giving consent to HR monitoring, 1 nursing specialist was excluded due to some failure in the recording process, which left 9 subjects for the analysis (aged 22 to 69 years old, mean ages 39.9 [SD: 11.6]). All of the nine subjects were respondents of STAI test.

(c) Image - Feeling Survey

This study has been conducted for years whenever FA performance was given. After the performance, the audience was asked to write down whatever impression they had about the FA experience.

The questionnaire used for this study was composed of two parts: 1) asking the audience to freely write down their impression. (In this part, we check whether or not FA had evoked certain images)　2) asking the audience to rate the degree of positive feelings experienced such as "deep emotion", "comfort", and "hope" by selecting one of the four given options (Strong/ moderate/ minimal/ none). This questionnaire was distributed after the FA performances, and 4 out of 23 respondents of STAI test and 2 out of 9 having given consent to the HR test did not respond to this questionnaire.

Statistical Result of Data Analysis

In STAI test, we used Pearson product-moment correlation coefficient to analyze the relationship between Trait Anxiety score and pre/post exposure to FA State.

With regard to Anxiety Score, in order to make comparison of pre/post exposure to FA State Anxiety Score of high-score Trait Anxiety group (herein after referred to as "High Anxiety" group) to "standard" group, we used Two-Way ANOVA analysis of variance (Mixed-effect models). For the analysis of simple main effect, we employed Bonferroni method. Also to convert the percentage difference into comparable figure, Fisher's exact test calculation was used.

As for HR, when comparing the average HR at rest with that of during exposure to FA (6 songs), we used one way factorial ANOVA and Turkey method for the multiple comparison.

Ethical Considerations

Before commencing the study, we distributed written briefings to the subjects to ask for their cooperation, and an oral explanation was provided when necessary to ensure that the participation in this study is purely on volunteer basis and that they have a total freedom of refusal. We also provided enough time for questions about the study and assured them the right to know the summary of the result.

Furthermore, when we asked the subjects for participation in STAI test, HR measurement, and Image Feeling survey, each subject was given a choice of test/s they would participate in considering the degree of their mental and physical stress. After the participants agreed to cooperation to the test, a written consent was drawn up whereby both the participants and researchers signed A Letter of Agreement kept by both parties until the end of the study. When referring to the subjects, we used code names (alphabets) in place of individual names and the study data was carefully handled to protect their personal information.

Table 1　FA lecture Meeting Contetnts (at the temporary housings in Nishinomiya City)

1. Brief introduction and lecture about FA by the Artist, Yoshihiro Kitamura (Artist)
2. FA DVD performance "Kimiwo Nosetet" (approx. 2 minutes)
3. FA DVD performance "Haruno Hizashi" (approx. 2.5 minutes)
4. Artist's lecture and sharing of the impression among the attendances. (approx. 4.5 minutes)
5. FA performance, using the original painting "Florence" (approx. 4.5 minutes)
6. Artist's lecture (approx. 2minutes)
7. FA performance, using the original painting "Kou jo no tsuki" (approx. 5.5 minutes)
8. Artist's lecture and sharing of the impression among the attendances. (approx. 5 minutes)
9. FA performance, using the original painting "Betsurehemu no Oka" (approx. 3 minutes)
10. Artist's lecture and sharing of the impression among the attendances. (approx. 6.5 minutes)
11. FA performance, using the original painting "Taikai" (approx. 5.5 minutes)
12. Artist's lecture and sharing of the impression among the attendances. (approx. 15 minutes)
(Total: approx. 1 hour)

- FA: Feeling Arts
- "xxx" indicates the name of the song used in each performance.
- FA peromance, using the oroginal paiting: Upon abstract paintings painted by the Artist with use of special kinds of inks, the Artist casts lights of various colors with illumination controller operated by himself.
- FA DVD performance: using FA DVD in which FA performance, using the original paintings are recorded, cast DVD image upon white screen by using a projector.

III. Results

1. STAI Test

Figure 1 shows the relationship between 23 subjects' Trait Anxiety and their pre -FA State Anxiety level. Although significant correlation between Trait Anxiety and pre-FA State Anxiety was recognized, ($r=0.853$, $p<0.001$), no relationship between Trait Anxiety score and post-FA State Anxiety was observed. Also it was discovered that the subjects with higher Trait Anxiety score showed greater decrease in State Anxiety score after exposure to FA.

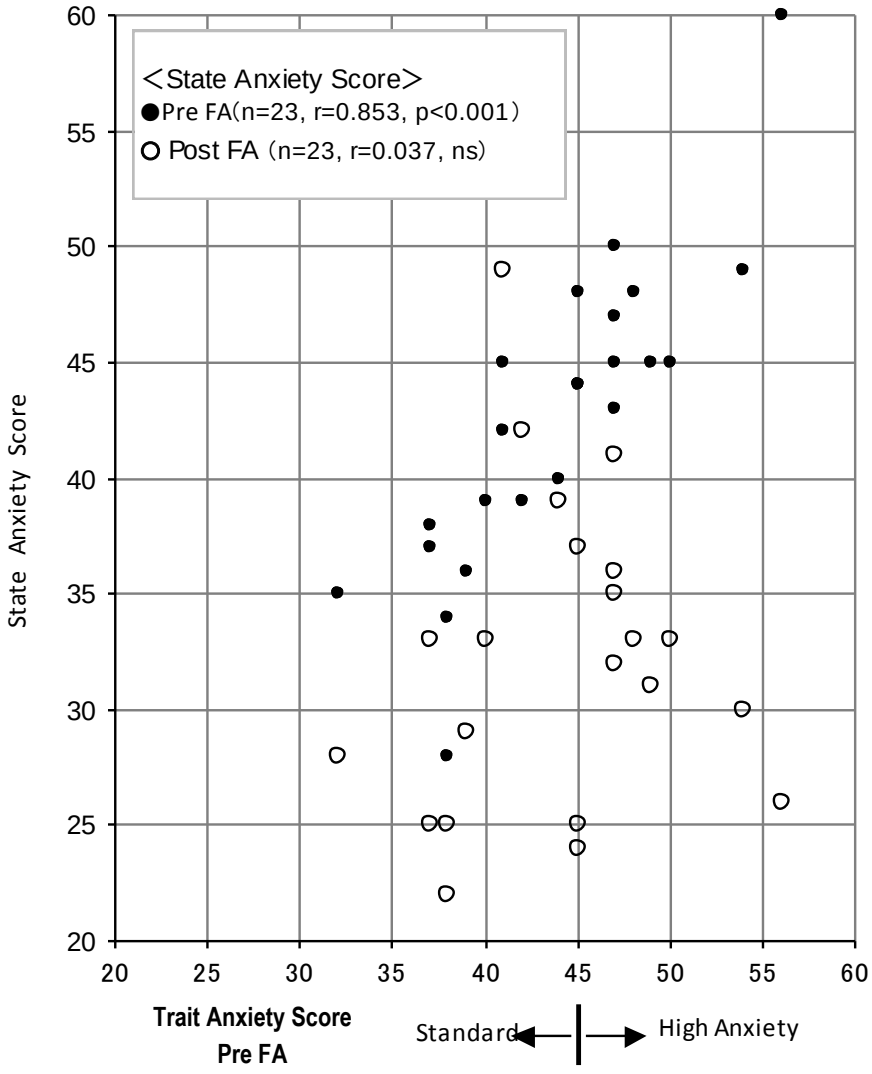

Figure 1 Relationship between Trait Anxiety Score and Pre/Post FA State Anxiety Score

For average Japanese women, a person with 45 points and higher Trait Anxiety score is clinically considered to be the criterion of "high anxiety"[7]. Therefore, of 23 subjects, those with 45 points and higher Trait Anxiety score were considered as "high anxiety" group (12 subjects) and those with less than 45 points, as

"standard" group (11 subjects). A comparison was made between State Anxiety score of "high anxiety" group and "standard" group before and after exposure to FA.

Table 2 shows Mean value of "Total" Trait Anxiety score of subjects, and that of "high anxiety" group and "standard" group, and also Mean value of State Anxiety score of pre/post-FA. By using Two-way ANOVA analysis of variance, simple main effect ($F[1,21]=41.92$, $P<0.001$) of FA performances was recognized in State Anxiety score. It was also recognized that the Mean score before exposure to FA was 42.7[6.5] while Mean score after exposure to FA indicated significantly lower figure of 32.9[7.3].

Furthermore, alternating influence between FA performances and Traits Anxiety score were recognized ($F[1,21]=16.43$, $p<0.001$).

Therefore, with the use of simple main-effect analysis, simple main effect ($F[1,21]=55.42$, $p<0.001$) of FA performance became obvious in the "high anxiety" group. Mean value of State Anxiety score before exposure to FA was 47.3 [4.4] and that after exposure to FA was significantly lower at 31.9[4.9]. However, in "standard" group, simple main effect of FA performance was not observed. Mean value of State Anxiety score before exposure to FA was 37.5[4.3] and after exposure to FA was 34.0[9.1]. Before exposure to FA, the "high anxiety" group had significantly higher State Anxiety score than the "standard" group ($P<0.001$), however after exposure to FA, there was no significant difference in State Anxiety score between the two groups.

Table 2 STAI Score of Pre/Post FA: "High Anxiety" Group and "Standard" Group

Trait Anxiety Score Standard : Lower than 44 High Anxiety : 45 or more	**Trait Anxiety Score** **Pre FA** Mean [SD]	**State Anxiety Score** **Pre FA** Mean [SD]		**State Anxiety Score** **Post FA** Mean [SD]
Total (n=23)	43.9 [5.7]	42.7 [6.5]	*	32.9 [7.3]
High Anxiety (n=12)	48.3 [3.4]	47.3 [4.4]	*	31.9 [4.9]
Standard (n=11)	39.0 [3.0]	37.5 [4.3]	*	34.0 [9.1]

FA : Feeling Arts, STAI : The State Trait Anxiety Inventory * $p<0.001$

19 subjects out of 23 subjects taking the STAI test responded to the Image-Feeling survey. 73.7% of them answered that FA inspired them to envision certain images.

Feelings commented by the subjects were as follows:

The degree of feeling "deep emotion" - "strong" made up 21.0% and "moderate" made up 73.7%, totaling

94.7 %. Among those respondents who mentioned that they felt "comfort" - 73.7% felt "strongly" and 21.0% felt "moderately", both of which amount to 94.7%. And among those stating that they felt "hope" - 26.3% felt "strongly" and 52.6% felt "moderately", which add up to 78.9%. No significant differences were indicated between the "high anxiety" group and "standard" group in the Image-Feeling survey result.

2. Heart Rate

Table 3 shows the HR level of 9 subjects while at rest and during the exposure to FA (A~I). As reference, Figure 2 depicts subject C's HR change over time while at rest and during the exposure to FA.

Table 3 HR level of 9 Subjects (A~I) while at Rest and During the Exposure to FA (6 songs) (Mean value of R-R interval of 100 beats)

Subject	Age	at Rest	Kimi wo Nosete	Haru noHizashi	Florence	Kojo no Tsuki	Betsurehemu no Oka	Taikai	p < 0.05
A	35	86.6	85.6	83.8 *	80.4 *	83.9 *	82.3 *	80.2 *	5
B	44	71.7	69.7 *	70.3 *	71.5	70.3 *	69.8 *	68.3 *	5
C	29	83.0	75.0 *	75.7 *	76.1 *	76.2 *	79.7 *	74.2 *	6
D	29	75.1	72.9 *	73.5 *	67.5 *	72.0 *	70.2 *	69.3 *	6
E	62	86.5	83.7 *	82.0 *	80.3 *	79.2 *	84.1 *	80.3 *	6
F	41	77.0	68.6 *	71.2 *	68.8 *	69.2 *	67.1 *	67.6 *	6
G	23	76.0	77.7	75.6	67.7 *	66.7 *	68.7 *	71.0 *	4
H	45	89.7	88.8	88.0 *	81.4 *	82.0 *	81.5 *	77.0 *	5
I	51	73.5	65.3 *	65.5 *	65.4 *	61.4 *	60.9 *	62.6 *	6

*the Songs to which the subjects show lower HR level than that at Rest ($p < 0.05$)
FA: Feeling Arts

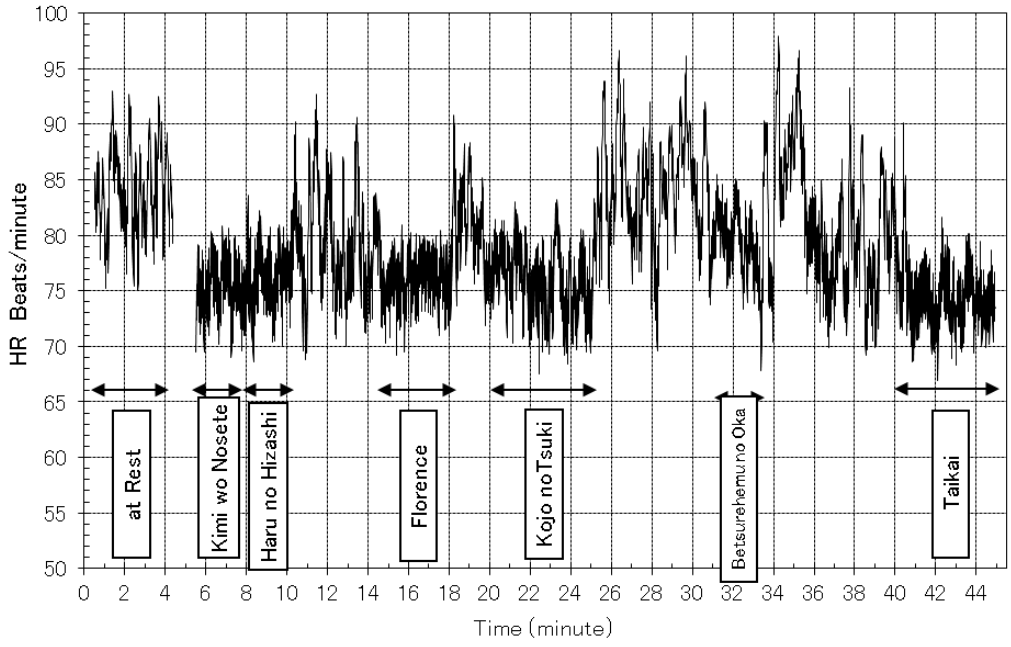

Figure 2 subject C's HR Change over Time at Rest and during Exposure to FA

We made a relative comparison of HR level during each song (6 songs in total) of FA.
5 (C, D, E, F, I) out of 9 subjects recorded significantly lower HR level in all 6 songs played during FA than while at rest ($P<0.05$). 3 of them (A, B, H) had significantly lower HR level during 5 songs (of 6 songs). Subject G had significantly lower HR level during 4 songs than while at rest. Subject G showed a little higher HR during one song, however, the differences were not significant.

We also made comparisons of subjects' HR on each song. The song to which subject manifested lower HR level is as follows:
For subjects B, D, H, "*Taikai* (Big Ocean)", for subject E, "*Koujou no Tsuki* (The Moon over the Dilapidated Castle)", for subject A, "*Taikai* (Big Ocean), and "Florence", for subject I, "*Betsurehemu no Oka* (Bethlehem Hill)" and *"Koujou noTsuki* (The Moon over the Dilapidated Castle)". ($p<0.05$).

On the contrary, the songs to which subject manifested significantly higher HR level is as follows:
For subject A, and G, "*Kimi wo Nosete* (With You in My Car)", for subject B, "Florence", for subject C, "*Betsurehemu no Oka* (Bethlehem Hill)", for subject F "*Haru no Hizashi* (Spring Sunshine)", for subject E "*Betsurehemu no Oka* (Bethlehem Hill)", and "*Kimi wo Nosete* (With You in My Car)", ($P<0.05$). As such, the songs which induced higher or lower HR in subjects depended on each subject.

Table 4 is the results of STAI test and Image-Feeling survey of 9 subjects that took the HR test.

Six subjects (B, C, D, F, H, I) out of 9 who took the HR test were "high anxiety" group with Trait Anxiety score of 45 points or higher. 7 subjects (A, B, C, D, E, H, I) showed much lower State Anxiety figures (decreasing 10 points or higher) after exposure to FA. In particular, subject I showed 34 point- decrease, and subject C, 20 point-decrease. As for F and G, almost no difference in their State Anxiety score was observed between before and after exposure to FA.

Seven subjects (A, B, C, E, F, G, I) out of 9 who gave consent to the HR test also responded to the Image-Feeling survey and commented on some kind of "imageries" they envisioned during the FA in the questionnaire.

In "Feeling" survey, 4 subjects (B, C, E, G) showed positive responses, stating they felt "deep emotion", "comfort" and "hope" although the degree of those feelings varies from "strong" to "moderate". Subject E, in particular, commented that he/she felt all three feelings very strongly. A, F, and I showed positive responses in general, although as for the feeling of "hope" or "deep emotion", they indicated slightly negative response stating that these feelings were not very strong.

Table 4　Results of STAI test - and Image-Feeling Survey of 9 Subjects that took HR test

Subject	Trait Anxiety Score	State Anxiety Score		Image-Feeling Survey Results			
		Pre FA	Post FA	Imagery	Deep Emotion	Comfort	Hope
A	37	38	25	(+)	3	1	1
B	49	45	31	(+)	1	1	2
C	45	44	24	(+)	2	1	1
D	47	45	32	NA	NA	NA	NA
E	38	34	22	(+)	1	1	1
F	47	43	41	(+)	2	2	3
G	44	40	39	(+)	2	1	2
H	48	48	33	NA	NA	NA	NA
I	56	60	26	(+)	2	1	3

STAI : The State Trait Anxiety Inventory Test

FA : Feeling Arts

NA: Not Applicable

Degree of Feelings

1. Strong
2. Moderaate
3. Minimal
4. None

IV. Discussion

1. STAI Test

In this study, Mean value of 23 subjects' State Anxiety score before exposure to FA was 42.7 points and 32.9 points after exposure to FA, which was significantly lower ($p<0.001$). This result clearly indicates that in relatively small-group workshops, FA performances gives audience stress-decreasing effect from psychological point of view. The average Trait Anxiety score of 23 subjects was as high as 43.9 in general, however, the impact of FA experience over State Anxiety score varies depending on the subjects' Trait Anxiety score.

We made comparison of pre/post exposure to FA State Anxiety score between "high anxiety" group scoring 45 points and higher with the "standard" group.

"High anxiety" group's State Anxiety score before exposure to FA was 47.3 points, and after exposure to FA, 31.9 points, which is significantly lower ($p<0.001$) by 15 points. On the other hand, in "standard" group there was almost no significant difference in Anxiety State score between before and after exposure to FA.

The above data clarified that the experience of FA performance gives higher anxiety-reduction effect over those who normally have High Anxiety score. 19 of 23 subjects that took STAI test responded to Image-Feeling questionnaires. The results indicated that 73.7% of respondents envisioned certain imageries during exposure to FA. By FA performance, 94.7 % of respondents felt positive sentiments such as "comfort" and "deep emotion, and 78.9% felt "hope". From this, in general, FA performance had healing effect from a subjective point of view as well. In previous research[5)] conducted to 1,394 subjects, 56.1 % envisioned certain imageries during FA, 80.8 % felt "comfort", 70.9%, "deep emotion", and 49.9%, " hope". This previous research includes FA performances held in college classes and academic society meetings among various events, where the subjects were from different social groups and the type of performances ranged from workshops to fine art exhibitions, etc. Comparing with the results of the previous study, subjective healing effect in this study results was relatively higher in general, presumably because the subject had higher Trait Anxiety score and that this workshop was held for relatively small group.

2. Heart Rate

From the analytical data of this HR level measurement; 5 out of 9 subjects showed significantly lower HR level during all six songs of FA performance than while at rest($p<0.05$); three of them had lower HR during 5 songs; and one of them had lower HR during four songs. ($p<0.05$) Generally, HR is closely related to the functions of a sympathetic nerve system and when one is at rest, a parasympathetic nerve system is activated which lowers the HR level. It is also known that even when sitting still, if one is in a relaxed state, there will be a lower HR level than during normal resting time. In other words, the result of this study clearly demonstrates that during FA performance, the audience's parasympathetic nerve system is more activated than while at rest, causing relaxation state from a physiological point of view.

Comparison of HR of the subjects to individual song demonstrates that the songs to which the subjects show lower or higher HR level differ depending on the individual. This result suggests that certain songs or colors, which activate a parasympathetic nerve system leading to stress reduction during exposure to FA varies depending on the individual subject. This endorses that empirically suggested comments made in the past by medical and/or welfare specialists that FA performance provide deep personal healing effect although it seems like a group therapy.

Next, we would like to look at the 7 subjects out of 9 that took HR measurement and Image-Feeling survey

as a case study. 5 subjects (A, B, C, E, I) showed much lower State Anxiety score after exposure to FA (by 12-34 points). Their HR level during 5 or 6 songs indicated significantly lower score and they also gave positive responses in the Image-Feeling survey in general. In these cases from physiological, psychological, and subjective point of view, healing effect was obviously manifested. Although in the case of subject F, there were no significant differences between State Anxiety score before and after exposure to FA (43→41 points) Yet, F's response in Image-Feeling survey was not positive. The HR levels during all six songs, however, were significantly lower than while at rest.

In the case of subject G, State Anxiety score before and after exposure to FA indicated almost the same score (40→39 points). Although G's HR level during 4 out of 6 songs indicated lower score, the Image-Feeling survey questionnaire showed that G was inspired to have some "imageries", and felt "strong" "comfort" and "moderate" "deep emotion" and "hope". From these two cases, it was discovered that in some cases FA has physiological or subjective healing effects even if there's no psychological healing effect.

V. Conclusion

This study revealed the following points concerning FA's healing effect:

1) From a psychological viewpoint, FA has anxiety-decreasing effect.
2) FA has greater anxiety-decreasing effect over people who normally feel stronger anxiety.
3) From physiological viewpoint, FA has relaxation effect.
4) During FA performance, the song or color which has stronger physiological-relaxing effect differs greatly depending on the individual.
5) At the individual level, FA has physiological or subjective healing effects in some cases even if there's no psychological healing effect.

This study is a part of research funded by Kobe Nursing College's Joint Research Fund Subsidies for fiscal years 2001 and 2002. A part of the study was presented at 17th Japan Academy for Healing Health Behavioral Science Society Conference.

Acknowledgements

We would like to express our deepest appreciation to all the people who cooperated in this study. We would also like to thank the personnel concerned with "*Machino Hokenshitsu*" project organized by Hyogo Nursing

Association for their cooperation in conducting this study. Furthermore, we would like to thank the graduates of Kobe City College of Nursing (students then), Michiko Kurauchi, and Miki Tanaka for their hard-working support in filing and analyzing the data collected for this study.

References

1) Feeling Arts official web site, http://www.e-feelingarts.net/ Nov. 11, 2011

2) Yoshihiro Kitamura: Art and medical treatment: "Feeling Arts as healing art". *Japanese Journal of Health Behavioral Science Health* 16: pp104-115, 2001.

3) Yoshihiro Kitamura, Takayuki Yoshioka and Yasushi Ikawa: Feeling Arts as material for universal healing. *International Journal of Experimental, Clinical and Behavioural Gerontology*, *Abstracts, 17th World Congress of the International Association of Gerontology (Vancouver, Canada)*, 47(suppl. 1): 514, 2001

4) Yoshihiro Kitamura, and Takayuki Yoshioka, *Iyashi to Kansei no Geijutsu Feeling Arts (*Art of Healing and Sensitivity: Feeling Arts) in "*Mega Toraeta Joho ga Kokoro ni Ataeru Eikyo (Impact of Visual Information over Emotion)"*, Tsutomu Sugawara, Hajime Daitoh, and Yoshihide Nakai eds. Renaissance Kyoto 21, Series of the five senses IV" Office M, Nagano, pp45-81, 2009

5) Yoshihiro Kitamura, and Takayuki Yoshioka: Narrative and art on health and medicine: "Feeling Arts" as a Narrative Therapy", *Japanese Journal of Health Behavioral Science*, 22, pp77-91, 2007

6). Mitsuki Niregi: Theory and practice of narrative therapy, *Japanese Journal of Health Behavioral Science*, 20, pp47-56, 2005.

7) The original was written by Charles Donald Spielberger. Eds. Tadanobu Mizuguchi, Junko Shimonaka, and Katsuharu Nakasato. *Nihonban STAI Jotai Tokusei Fuan Kensa Shiyou Tebiki (*Japanese *version of STAI State Anxiety and Traits Anxiety Test Guide)* Sankyobo Publishing Co. Ltd. Kyoto Japan, 1998