

Extended Abstract

THE EFFECTS OF GUIDED IMAGERY & MUSIC ON ANXIETY

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This study examines the effects of guided imagery/music (GIM) and music only on anxiety. Subjects ($n = 49$) were assigned to either a guided imagery/music intervention (test group) or a music intervention (control group) to compare the effects of these interventions on anxiety symptoms, using a home-based audiotape program. Subjects completed self-reports of anxiety, using the state and trait portion of the State-Trait Anxiety Inventory and the Personal Stress Assessment. The study showed statistically significant findings. The findings support hypothesis 1, that subjects using the GIM intervention and music intervention would exhibit less state-anxiety over the course of the 3-week study. The change in the mean score for state-anxiety for the GIM intervention was 4.63 ($t = 1.81, p < 0.10$) and the change for the music intervention group was 5.31 ($t = 2.0, p < 0.10$). The changes in mean scores for the GIM intervention group and the music intervention group indicate a trend that future studies might confirm in terms of the reduction of state-anxiety over the course of the study. Trait-anxiety levels were reduced at statistically significant levels for both the GIM intervention group and the music group. The change in the mean score for trait-anxiety for the GIM group was 4.40 ($t = 3.48, p < 0.01$) and the change for the music group was 5.50 ($t = 3.05, p < 0.01$). The findings also show significant levels of change in Personal Stress Assessment (PSA) Scale for both the GIM intervention group and the music intervention group. Mean changes were 13.48 ($t = 2.43, p < 0.05$) for the GIM group and 16.43 ($t = 2.9, p < 0.05$) for the music group. Changes noted in the PSA subscales showed a positive change between the baseline and when the intervention ended for the emotional stress subscale for the GIM group, 5.94 ($t = 1.93, p < 0.10$). Both interventions groups showed a positive change in the scores for the physical stress subscale. Both these changes in the emotional and physical subscales indicate a trend that may be confirmed by future studies. Mean change for the GIM group was 4.35, ($t = 1.71, p < 0.10$) and the mean change for the music group was 6.31 ($t = 2.08, p < 0.10$). Both guided imagery/music and music can be beneficial interventions in the reduction of both state- and trait-anxiety. Subjects listened to the audiotape three times a week over a three-week period, assessing their anxiety level before listening to the audiotape on the first day of the week and then at the end of the session on the last day of the week, allowing for a total of nine listening sessions over the three weeks.

The study suggests that health care providers can offer both guided imagery/music and music as effective methods of relaxation and reduction of anxiety.

Figure 2 and Figure 3 (not included in this abstract due to space limitations) illustrate a steady downward linear trend in both state-and trait-anxiety levels from the baseline measure at the beginning of the week one to the end of week three in both intervention groups. Table IV represents the changes in the subject mean scores (SD) within interventions on psychometric measurements between the baseline and when the intervention ended and the findings support hypothesis 1, that subjects using the GIM intervention and music intervention would exhibit less state-anxiety over the course of the 3-week study. The findings in Table IV show significant levels of change in PSA for both the GIM intervention group and the music intervention group. Table V shows changes in subjects' mean scores (SD) on state-trait anxiety inventory within interventions by week. Subjects in the GIM intervention group showed a significant difference on the state-anxiety scores in weeks one and two.

In terms of the demographics for this study summarized in (Table VI) sixty-five subjects in total were recruited for the two groups: GIM ($n = 35$) and music ($n = 30$). Of the sixty-five who started the study, 49 successfully completed the four-week study. Several people did not complete all the data for weeks two and three. This resulted in thirty-one subjects in the GIM group and 18 in the music only group. There were no significant differences between the dropouts and those who completed the study on the demographic variables or on the pre-test measurements. The dropouts appear to be at random and there does not appear to be a trend or pattern associated with the individuals who withdrew from the study. The mean age of all the subjects who completed the study was 47 years old and the range of age was between 20 - 67 years old. Eighty-four percent of the sample size was female ($n = 41$) and 16% were male ($n = 8$). Eighty percent of the males and 75% of the females completed all or part of the study. In terms of the educational level of the subjects, 90% had a college degree or higher level of education and 10% had only a high school diploma or less. Of the forty-nine subjects, 47% were in partnerships (married or partnered) and 53% were single (single, divorced, widowed, separated). All (100%) of the subjects were Caucasian. Sixteen percent ($n = 8$) of the subjects were on prescriptive medications for anxiety and 27% ($n = 14$) were on antidepressant medications. Seven people (14%) were on both anxiety and antidepressant medications. Regarding psychotherapy, 53% ($n = 26$) of the subjects were in psychotherapy during the course of the study. In detailing the breakdown of these study subgroups, it is important to note that some subjects ($n = 16$) were using a combination of psychotherapy, pharmacotherapy, and/or herbal remedies. Of the 49 participants in the study, 23 of subjects were not in psychotherapy. In this group, only 1 was taking an anti-anxiety prescription, 3 were taking antidepressant prescriptions, 3 were taking herbal remedies for anxiety, and only

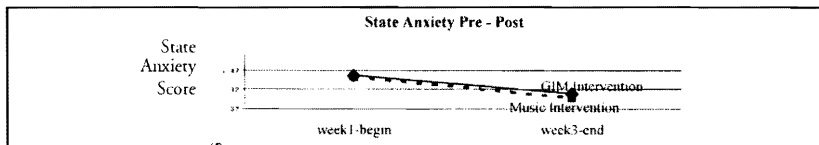


Figure 2. State-anxiety pre-post.

Table IV
Changes in Subject Mean Scores (SD) Within Interventions on Psychometric Measurements Between The Baseline And When The Intervention Ended

Measure	GIM <i>n</i> = 31		Music <i>n</i> = 18	
	Mean	Change	Mean	Change
Anxiety Inventory				
State	4.63	(14.03)+	5.31	(11.23)+
Trait	4.40	(6.92)**	5.50	(7.66)**
PSA	13.48	(30.87)*	16.43	(23.97)*
Diet	1.27	(7.39)	0.90	(5.37)
Emotional	5.94	(17.10)+	4.28	(17.32)
Environmental	0.13	(3.24)	0.89	(2.21)
Physical	4.35	(14.20)+	6.31	(12.85)+
Chemical	-.34	(9.39)	.44	(2.33)
Holmes-Rahe	33.55	(74.67)*	31.39	(74.05)+

+*p* < 0.10, **p* < 0.05, ***p* < 0.01

Table V
Changes In Subjects Mean Scores (SD) On State-Trait Anxiety Inventory Within Interventions By Week

Measures by Week	GIM		Music	
	Mean	Change	Mean	Change
Week 1	<i>n</i> = 31		<i>n</i> = 18	
State	6.90	(11.14)**	0.58	(10.57)
Trait	2.52	(6.48)*	1.33	(5.12)
Week 2	<i>n</i> = 30		<i>n</i> = 17	
State	6.63	(10.14)**	4.25	(8.89)+
Trait	2.10	(3.30)**	2.47	(4.46)*
Week 3	<i>n</i> = 31		<i>n</i> = 18	
State	1.03	(15.65)	0.72	(13.11)
Trait	1.72	(4.67)+	0.56	(4.95)

+*p* < 0.10, **p* < 0.05, ***p* < 0.01

Table VI
Demographics of Sample

	No.	(%)
Total number of subjects	49	(100)
Sex (female)	41	(84)
(male)	8	(16)
Age Range (Mean = 47 years)		
20-49	25	(51)
50-67	24	(49)
Education		
Less than high school	0	(0)
High school diploma	5	(10)
Undergraduate degree	23	(47)
Master's degree	10	(20)
Doctoral degree	2	(4)
Other	9	(18)
Relationship		
Single	14	(27)
Married	20	(41)
Separated	2	(4)
Divorced	9	(18)
Widowed	1	(2)
Partnership	3	(6)
Ethnic		
Caucasian	49	(100)
Therapy Status		
Psychotherapy	26	(53)*
Anxiety Pharmacotherapy	8	(16)*
Antidepressant Pharmacotherapy	14	(27)*
Herbal Remedy for Anxiety	4	(8)*
Herbal Remedy for Depression	4	(8)*

* Overlap due to subjects using combination of therapies.

I was taking a herbal remedy for depression. There were a total of 38 subjects who were not taking any medications or herbal remedies for anxiety and 33 participants who were not taking any medications or herbal remedies for depression. Of the subjects in the study, 17 were not in psychotherapy or on any drugs/herbals used to treat anxiety or depression. Of the subjects in the study 20 were not in psychotherapy or on prescription drugs. Regarding the dropout population in the study, of the 16 subjects who dropped out of the study at some time prior to completion of the study, 1 subject was taking an antidepressant prescriptive drug, 2 were using herbal remedies for anxiety, 4 were on herbal remedies for depression, and 6 were in psychotherapy. For subjects in the study who were using psycho-pharmaceutical drugs or herbal supplementation for anxiety or depression, no significance was found in the state- or trait-anxiety for the pre-test scores. It is interesting to note that those subjects who were in psychotherapy and taking prescription medications at the beginning of the study were still experiencing anxiety even though they were being treated for

anxiety through one of these medically accepted treatments for anxiety/depression. This may indicate the need to explore alternative therapies such as guided imagery and music to assist in the treatment of anxiety.

The results of this study indicate that both the state- and trait-anxiety levels were reduced for the GIM intervention group and the music intervention group as illustrated in Tables IV and V.

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