

## Impact of Mobile Phone-based Music Intervention on Emotional Distress of Students

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**Abstract:** This research objective was to investigate the effect of mobile phone-based music intervention for managing emotional distress of students in public universities. The 60 participant's completed baseline evaluation prior to starting the music intervention and at 8, 12 and 16 weeks. Participant's completed a questionnaire measuring emotional distress, titled the Perceived Emotional Distress Inventory (PEDI). The statistical tool used for data analysis was within-and-between ANOVA. The finding showed no significant difference in the baseline assessment for emotional distress between the treatment group and the waitlisted control group,  $F(1.58) = 6.981$ ,  $p = 0.011$ ,  $\eta^2 = 0.107$ . The posttest assessment at 8th week revealed a significant decline of emotional distress among student's in the music group compared with those in the waitlisted control group,  $F(1.58) = 1880.265$ ,  $p = 0.000$ ,  $\eta^2 = 0.970$ . The assessment at 12th week further revealed a significant decline in emotional distress among student's in the music treatment group compared with those in the waitlisted control group,  $F(1.58) = 1736.797$ ,  $p = 0.000$ ,  $\eta^2 = 0.968$ . The assessment at 16th week further revealed a significant decline in emotional distress among student's in the music treatment group compared with those in the waitlisted control group,  $F(1.58) = 2674.364$ ,  $p = 0.000$ ,  $\eta^2 = 0.979$ . Music intervention is helpful in reducing and managing emotional distress among student's. Further studies are required to ascertain the efficacy of music therapy in managing emotional distress among university student's.

**Key words:** Music intervention, emotional distress, students and public universities, emotional distresses, music therapy, university

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### INTRODUCTION

Both young and older people are subjected to affliction in Nigeria because of environmental instability resulting in emotional distress (Omoaregba *et al.*, 2011). Davis and Srivastava (2003) asserted that affliction among human has continued to increase in the past decade. Currently, most people couples in Nigeria are in serious affliction and in some cases leading to the death of either the wife or husband (Okpara, 2013). American Psychological Association (2017) revealed that women and young people were surmounted by the distress of their environs and thereby needed emotional support. Cleary and Mechanic (1983) reported that the number of women consulting practitioners and a psychiatrist for therapeutic treatment has shown that women suffer emotional distress than men which may arise from their natural role. Gust *et al.* (2017) reported that people living with emotional distress were 58.4% at moderate, 20.8% at low while 20.8% were at high

emotional distress. Valerio *et al.* (2016) reported that 68.5% of females witness sleeping difficulty which suffers their daily activities. WHO. (2001) opined that mental illness is globally noticed at 20% yearly. Gold *et al.* (2004) noted that the most common mental illness among people were emotional distress, cognitive and behavioural problems. Li *et al.* (2009) and Shin *et al.* (2012) maintained that emotional distress was common among diabetic patients than non-diabetic people. However, despite these negative outcomes, there remains a gap between the emotional distress needs of last decade and the current environmental therapy available in curbing the increasing height of emotional distress among student's of public universities (Befler, 2008). To Hetrick *et al.* (2012) ways of treating emotional distress among people by therapists seem incomplete, irregular or inconsistency making emotional distress to last longer with people.

Thus, this ugly trend needs to be addressed, several scholars including Borczon *et al.* (2010) were of the view that helping individual with emotional distress demands

clinicians building a safe environment where therapeutic sessions can be informed. Teague *et al.* (2006) maintained that building safe in reducing mental illness of a patient is exposing the patient to creative art works like clay work, drawing, journaling among others with the application of music intervention. Juslin and Sloboda (2001) were of the opinion that music therapy has the strength of providing managerial measures for stress and distress individuals on how to eliminate their emotional problems. The study of Juslin and Sloboda (2001) reviewed that because of psychological attachment of music listeners, their emotional issues get resolved gradually as they continue in their music therapeutic exercise. Miell *et al.* (2005) asserted that music is an abstract representative of language without a particular position. Langer (1957) opined that music suggests psychological, physiological or emotional language as it solves individual emotional needs, social and socio-personal. By the way of the Rowell (1984) postulated three healing functions of music to include restoring both the soul and body to a state of equilibrium, arousing or soothing as needed, to temper excess or deficient emotion, creating the sensation of pleasure through movement and inducing catharsis that purges the soul of emotional conflict. It is on this background that the investigators were concerned in understanding possible therapeutic measures that can restore the state of man, especially, in building balance emotion among student's of public universities. The present study determined the effect of mobile phone-based music intervention in managing emotional distress among student's in public universities in Nigeria.

**MATERIALS AND METHODS**

The study used a group randomized controlled trial design. The study protocol was approved by the Faculty of Education Research Ethics Committee, University of Nigeria, Nsukka. The study was carried out in South-East, Nigeria. The study participant's were student's in public universities. The 60 eligible participant's who accepted providing informed consent were included in the study. The 60 eligible participant's were randomized into one of two study groups, music intervention group (n = 30) and waitlist control group (n = 30) using computer-generated random numbers. Participant's completed a questionnaire measuring emotional distress, titled perceived emotional distress inventory (Moscoso *et al.*, 1999) at baseline, 8, 12 and 16 weeks of the intervention. The study protocol was described to all study participant's. After completing the pre-test evaluation, the participant's were exposed to

16 weeks music intervention sessions which were delivered via. WhatsApp. The study participant's were asked to partake in the group intervention session twice weekly. Each music session lasted for 75 min. All waitlisted participant's were scheduled to commence the music intervention sessions at a later date. The statistical tool used for data analysis was within-and-between ANOVA. Data were normally distributed and there were no missing data. All analyses were conducted using SPSS computer Software, Version 22.0 (IBM Corp. NY, United States).

**RESULTS AND DISCUSSION**

The study participant's were (35) in the treatment group (15 males, 20 females) and (35) waitlisted control group (15 males, 20 females). Table 1 shows the descriptive statistics for emotional distress across the groups.

As shown in Table 2 of the finding, there was no significant difference in the baseline assessment for emotional distress between the treatment group and the waitlisted control group,  $F(1.58) = 6.981, p = 0.011, n^2 = 107$ . The participant's assessment at the 8th week showed a significant reduction of emotional distress among university student's in the music intervention group compared with those in the waitlisted control group  $F(1.58) = 1880.265, p = 0.000, n^2 = 0.970$ . Furthermore, assessment at the 12th week showed a significant reduction in emotional distress among university student's in the music intervention group compared with those in the waitlisted control group  $F(1.58) = 1736.797, p = 0.000, n^2 = 0.968$ . At the 16th week, assessment of participant's showed a further significant

Table 1: Descriptive statistics

Groups	Baseline	Week 8	Week 12	Week 16
<b>Treatment groups</b>				
Mean	39.77	7.33	6.63	5.67
N	30.00	30.00	30.00	30.00
SD	1.81	2.60	2.49	2.04
SEM	0.33	0.48	0.46	0.37
<b>Waitlisted control group</b>				
M	38.33	37.60	37.40	34.33
N	30.00	30.00	30.00	30.00
SD	2.35	2.80	3.18	2.25
SEM	43.00	0.51	0.58	0.41
<b>Total</b>				
M	39.05	22.47	22.02	20.00
N	60.00	60.00	60.00	60.00
SD	2.20	15.49	15.77	14.61
SEM	0.28	2.00	2.03	1.89

M = Mean, N = Number of respondents, SD = Standard Deviation, SEM = Standard Error Mean

Table 2: ANOVA table on the effect of mobile phone-based music intervention for managing emotional distress students

Groups	Sum of squares	df	Mean square	F-values	Sig.	Eta squared
Baseline * Group between groups (combined)	30.817	1	30.817	6.981	0.011	0.107
Within groups	256.033	58	4.414			
Total	286.850	59				
Week 8 * Group between groups (combined)	13741.067	1	13741.067	1880.265	0.000	0.970
Within groups	423.867	58	7.308			
Total	14164.933	59				
Week 12 * Group between groups (combined)	14198.817	1	14198.817	1736.797	0.000	0.968
Within groups	474.167	58	8.175			
Total	14672.983	59				
Week 16 * Group between groups (combined)	12326.667	1	12326.667	2674.364	0.000	0.979
Within groups	267.333	58	4.609			
Total	12594.000	59				

reduction in emotional distress among university student's in the music intervention group compared with those in the waitlisted control group  $F(1,58) = 2674.364, p = 0.000, \eta^2 = 0.979$ .

The study investigated the effect of mobile phone-based music intervention in managing emotional distress among students of public universities in Nigeria. The study found that mobile phone-based music intervention was an effective means of restoring an individual's emotional distress. Lundqvist *et al.* (2009) found that music therapy is a potent elicitor of instant emotions. Ezegebe *et al.* (2018) noted that music could afford individual sense of self-control over emotional distress. Layman *et al.* found that music therapy can be used in treating severe emotional distress and other mental illness of impulsivity and lack of self-regulatory. Teague *et al.* (2006) reported that music intervention has positive effects on the emotional state of individuals. Teague *et al.* (2006) also found that music therapy provides a decrease in an individual's emotional distress at a marginally significant. Coffman and Adamek found that people who found joy involving social and music making were more balanced emotionally than those who were not involved. Robb (1996) found emotional balance was not only achieved through music intervention but even through the various techniques on song-writing. Montello and Coons (1998) reported that music-making and listening are all healthy ways of building emotional balance. Porter *et al.* (2017) found that music intervention is an effective means of reducing mental issues in both young and old people.

### CONCLUSION

This study investigated mobile phone-based music intervention for emotional distress management among students in public universities. The music intervention brought about a significant decline in emotional distress level of the recipients compared to participants in a

waitlisted control group. Thus, we concluded that mobile phone-based music intervention help individuals, especially, student's of public universities to effectively manage emotional distress. To that end, further studies are needed to ascertain how student's of public and private universities can manage their emotional distress using music intervention.

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### REFERENCES

- American Psychological Association, 2017. Stress in America: Coping with Change. 10th Edn., American Psychological Association, Washington, D.C., USA.,
- Befler, M.L., 2008. Child and adolescent mental disorders: The magnitude of the problem across the globe. *J. Child Psychol. Psychiatry*, 49: 226-236.
- Borczone, R.M., P. Jampel and G.S. Langdon, 2010. Music Therapy with Adult Survivors of Trauma. In: *Music Therapy and Trauma: Bridging Theory and Clinical Practice*, Stewart, K. (Ed.). Satchnote Press, New York, USA., pp: 39-57.
- Cleary, P.D. and D. Mechanic, 1983. Sex differences in psychological distress among married people. *J. Health Soc. Behav.*, 24: 111-121.
- Davis, M.P. and M. Srivastava, 2003. Demographics, assessment and management of pain in the elderly. *Drugs Aging*, 20: 23-57.
- Ezegebe, B.N., M.O. Ede, C. Eseadi, O.O. Nwaubani and I.N. Akaneme *et al.*, 2018. Effect of music therapy combined with cognitive restructuring therapy on emotional distress in a sample of Nigerian married couples. *Med.*, 97: 1-7.

- Gold, C., M. Voracek and T. Wigram, 2004. Effects of music therapy for children and adolescents with psychopathology: A meta-analysis. *J. Child Psychol. Psychiatry*, 45: 1054-1063.
- Gust, D.A., R. Gvetadze, M. Furtado, M. Makanga and V. Akelo *et al.*, 2017. Factors associated with psychological distress among young women in Kisumu, Kenya. *Intl. J. Women Health*, 9: 255-264.
- Hetrick, S.E., J.E. McKenzie, G.R. Cox, M.B. Simmons and S.N. Merry, 2012. Newer generation antidepressants for depressive disorders in children and adolescents. *Cochrane Database Syst. Rev.*, 1: 1-153.
- Juslin, P.N. and J.N. Sloboda, 2001. *Handbook of Music and Emotion: Theory, Research and Application*. Oxford University Press, New York, USA.,.
- Langer, S.K., 1957. *Philosophy in a New Key*. 3rd Edn., Harvard University Press, Massachusetts, USA., ISBN:9780674665002.,
- Li, C., E.S. Ford, G. Zhao, T.W. Strine and S. Dhingra *et al.*, 2009. Association between diagnosed diabetes and serious psychological distress among US adults: The behavioral risk factor surveillance system, 2007. *Intl. J. Public Health*, 54: 43-51.
- Lundqvist, L.O., F. Carlsson, P. Hilmersson and P.N. Juslin, 2009. Emotional responses to music: Experience, expression and physiology. *Psychol. Music*, 37: 61-90.
- Miell, D., R.A.R. MacDonald and D.J. Hargreaves, 2005. *Musical Communication*. Oxford University Press, Oxford, England, UK., Pages: 423.
- Montello, L. and E.E. Coons, 1998. Effects of active versus passive group music therapy on preadolescents with emotional, learning and behavioral disorders. *J. Music Ther.*, 35: 49-67.
- Moscoso, M., D. McCreary, P. Goldenfarb, M. Knapp and J. Rohr, 1999. Construction of an inventory to measure emotional distress in cancer patients. *Psychooncol.*, 8: S53-S53.
- Okpara, B.A., 2013. *Qualitative study of Nigerian couples in the United States: Examining emotional reactivity and the concept of differentiation of self*. Ph.D Thesis, University of Akron, Akron, Ohio, USA.
- Omoaregba, J.O., B.O. James, A.O. Lawani and O. Morakinyo, 2011. Psychosocial characteristics of female infertility in a tertiary health institution in Nigeria. *Ann. Afr. Med.*, 10: 19-24.
- Porter, S., T. McConnell, K. McLaughlin, F. Lynn and C. Cardwell *et al.*, 2017. Music therapy for children and adolescents with behavioural and emotional problems: A randomised controlled trial. *J. Child Psychol. Psychiatry*, 58: 586-594.
- Robb, S.L., 1996. Techniques in song writing: Restoring emotional and physical well being in adolescents who have been traumatically injured. *Music Ther. Perspect.*, 14: 30-37.
- Rowell, L., 1984. *Thinking about Music: An Introduction to the Philosophy of Music*. The University of Massachusetts Press, Amherst, Massachusetts, USA., Pages: 261.
- Shin, J.K., Y.L. Chiu, S. Choi, S. Cho and H. Bang, 2012. Serious psychological distress, health risk behaviors and diabetes care among adults with type 2 diabetes: The California health interview survey 2007. *Diabetes Res. Clin. Pract.*, 95: 406-414.
- Teague, A.K., N.D. Hahna and C.H. McKimney, 2006. Group music therapy with women who have experienced intimate partner violence. *Music Ther. Perspect.*, 24: 80-86.
- Valerio, T.D., M.J. Kim and K. Sexton-Radek, 2016. Association of stress, general health and alcohol use with poor sleep quality among US college students. *Am. J. Health Educ.*, 47: 17-23.
- WHO., 2001. *Mental health: Strengthening our response*. World Health Organization, Geneva, Switzerland. <https://www.who.int/news-room/fact-sheets/detail/mental-health-strengthening-our-response>