



## KEY POINT SUMMARY

### OBJECTIVES

This study compared three music therapy strategies (music listening, music composition, and Orff-based active engagement) by assessing the impact on physiological (heart rate, blood pressure, oxygen saturation, and pain) and psychosocial (anxiety) behaviors in hospitalized children.

### DESIGN IMPLICATIONS

This study begins to address the need for spaces within healthcare facilities that can support a multitude of non-pharmacological interventions aimed at improving quality of life for children who are hospitalized. These spaces would be especially important in areas where painful procedures are administered, and could help to increase patient and family satisfaction with the built environment.

## Impact of Music Therapy Interventions (Listening, Composition, Orff-Based) on the Physiological and Psychosocial Behaviors of Hospitalized Children: A Feasibility Study

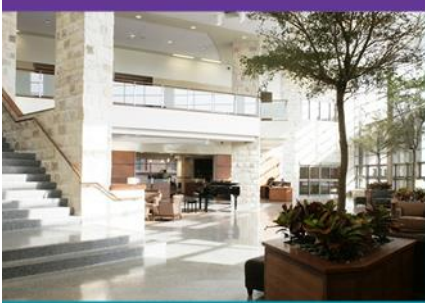
Colwell, C. M., Edwards, R., Hernandez, E., Brees, K.  
 2013 | *Journal of Pediatric Nursing*  
 Volume 28, Issue 3, Pages 249-257

### Key Concepts/Context

The hospital experience can impact the physical and mental health of a child. Prior research has shown that music therapy can have a positive effect on mood, anxiety, respiratory distress, and behavioral distress. And although listening to music is the most common form of music therapy, songwriting and physically making music have also been used as a positive coping strategy for children within a hospital environment.

### Methods

Participants for this study included 17 female and 15 male children, with greatly varied diagnosis and frequency of hospitalizations, between the ages of 6-17 from a pediatric ward in a large Midwest teaching hospital. Participants were divided into three groups with a matched sample for age and gender. They were given 45 minutes of individual music therapy with an overall theme of "All About Me" through either music listening with an iPod, music composition with a computer, or an Orff-based approach. A therapist was present in the room for each of the music therapy methods to ensure personal contact with the patient. A pediatric nurse recorded three physiological measures for each participant (heart rate, blood pressure, and oxygen saturation) both pretest and posttest. The investigator and therapists measured perceived pain using the Wong-Baker FACES Pain Rating Scale, and anxiety levels using the State-Trait Anxiety Inventory for Children (STAIC). Investigators also measured engagement with the chosen therapy through



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the coping-related behaviors of eye contact, facial affect, verbal interaction, and participation using time-sampling analysis of the given intervention. The level of engagement was then assessed using a one-way MANOVA for each of the coping-related behaviors.

### Findings

No significant effects were found on heart rate, blood pressure, or oxygen levels for any of the three music therapy methods, although slight changes were reported. Based upon the Faces Pain Rating Scale and the STAIC, participation in all three methods of music therapy led to a significant decrease in both pain and anxiety from pretest to posttest in this patient population. Investigators observed a high level of engagement with all three of the methods used to deliver music therapy. Combined, these findings suggest that each of the three music therapy methods can have a positive impact on reducing stress and anxiety in children who are hospitalized.

### Limitations

Most medical procedures have an impact on pain and anxiety levels in children. This study was done on an individual basis using the three music therapy methods as a bedside intervention, and would have been enhanced if the three methods had been compared during procedural support. Other study limitations are the small number of participants and the reading of the physiological behavior only during pretest and posttest instead of consecutively throughout the intervention.