

國立清華大學 107 學年度碩士班考試入學試題

系所班組別：音樂學系甲組

考試科目 (代碼) : 英文 (7804)

共_4_頁, 第_1_頁 *請在【答案卷】作答

Directions (Read the following article and answer the questions).

Part 1:

Cardiovascular diseases have the highest death rates and will remain the primary cause of death in the world until 2020. Nearly 52% of deaths in the United States and 48% in Europe are related to these diseases. A large number of patients with coronary artery diseases, which do not respond to medical therapies have to undergo coronary artery bypass graft surgery (CABG). This common procedure has been done for about 35 years. The prevalence of CABG is 26.79% in North America, 0.72% in Asia, 17.94% in Western Europe and 18.14% in the rest of the world. In Iran, 60% of all open-heart surgeries are CABGs. Pain is defined as an unpleasant sensory and emotional experience probably associated with actual or potential tissue damage. Although pain is a predictable part of the postoperative experience, inadequate management of pain is common and can have profound effects. Unrelieved postoperative pain may result in clinical and psychological changes that increase morbidity, mortality, and costs and decrease the quality of life. Moreover, negative clinical outcomes resulting from ineffective postoperative pain management include deep vein thrombosis, pulmonary embolism, coronary ischemia, myocardial infarction, pneumonia, poor wound healing, insomnia, and demoralization. Moderate to severe postoperative pain is experienced by more than 80% of patients having surgery. Pain has also been reported as one of the primary sources of concern for cardiac surgery patients, and postoperative pain management is important owing to the increasing number of patients undergoing open heart surgery. Pain can be caused by incisions, intraoperative tissue retraction and dissection, multiple intravascular cannulations, chest tubes left after surgery, and multiple invasive procedures that patients undergo as part of their therapeutic processes. In one study, patients reported chest incision pain as a problem after CABG. Because of pain, patients cannot take deep breaths, cough, or start moving around as soon as they should, and this, delays their recovery. Associated with these complications are economic and medical implications, such as extended lengths of hospital stay and patient dissatisfaction with medical care. It is proposed that effective management of postoperative pain in patients who have undergone CABG can be an important factor in overall recovery. Music is an inexpensive, nonpharmacological, noninvasive nursing interaction that has no side effects and can be effective along with other methods. Although music effect

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mechanism in reducing the pain is not clear completely, increasing of Mio receptors on the cells surface and increasing of endorphins are suspected as the probable mechanisms in this context. In examining the effects of music on patients have undergone CABG, a number of studies have demonstrated decreases in postoperative pain, whereas Nilsson *et al.* found no difference in pain. There are limited numbers of published studies on the effect of music in pain reduction after open-heart surgery. In addition, music has a cultural implication and insufficient studies have been conducted in some countries. Meanwhile, the success of music therapy may be greatly enhanced by determining patient's preference, familiarity and cultural context . While some studies have demonstrated pain to decrease after music, others found music to be ineffective on pain. Many previous investigations have been limited in a way. For instance, some employed a small sample size, some evaluated different types of surgeries and anesthesia in one study, and some used a type of music not selected by patients. Moreover, while a systematic review recommended a minimum duration of 30 minutes for music therapy to be effective in clinical practice, a number of studies played music for less than 30 minutes. On the other hand, the constant presence of the researcher during the intervention might have affected patient's response. Therefore, considering the above mentioned facts and according to the cultural, social and economic differences, we tried to perform this study as well as we could. (Allred, K.D., Byers, J.F. & Sole, M.L., *Pain Manag. Nurs.* 11(1):15-25. (2010).)

1. What are the crucial factors to release the postoperative pain by music therapy? (Do not directly copy the sentences from the article.) 20%
2. A prescription of music therapy is a combination of music pieces that perform for a patient. According to the article, please give the prescription to a sixty-old Taiwanese man after heart surgery to ease his pain. (Do not directly copy the sentences from the article.) 20%
3. Please give a title within 20 words that fits the article well. (Do not directly copy the sentences from the article.) 10%

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Part 2:

Many of us listen to music while we work, thinking that it will help us to concentrate on the task at hand. And in fact, recent research has found that music can have beneficial effects on creativity. When it comes to other areas of performance, however, the impact of background music is more complicated. The assumption that listening to music when working is beneficial to output likely has its roots in the so-called “Mozart effect”, which gained wide media attention in the early 1990s. In addition, musicians could show the effect purely from imagining the music rather than actually listening to it. So researchers then suggested that the “Mozart effect” was not due to his music as such, but rather to people’s optimum levels of mood and arousal. And so it became the “mood and arousal effect.”

Unfortunately, the situations in which most mood and arousal effects are observed are slightly unrealistic. Do we really sit and listen to music, switch it off, and then engage in our work in silence? More likely is that we work with our favorite tunes playing in the background. How sound affects performance has been the topic of laboratory research for over 40 years, and is observed through a phenomenon called the irrelevant sound effect. Basically, this effect means that performance is poorer when a task is undertaken in the presence of background sound (irrelevant sound that you are ignoring), in comparison to quiet.

To study irrelevant sound effect, participants are asked to complete a simple task which requires them to recall a series of numbers or letters in the exact order in which they saw them – similar to trying to memorize a telephone number when you have no means to write it down. In general, people achieve this by rehearsing the items either aloud or under their breath. The tricky thing is being able to do this while ignoring any background noise. Two key characteristics of the irrelevant sound effect are required for its observation. First, the task must require the person to use their rehearsal abilities, and second, the sound must contain acoustical variation – for example, sounds such as “n, r, p” as opposed to “c, c, c”. Where the sound does not vary much acoustically, then performance of the task is much closer to that observed in quiet conditions. Interestingly, it does not matter whether the person likes the sound or not. Performance is equally as poor whether the background sound is music the person likes or dislikes.

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The irrelevant sound effect itself comes from attempting to process two sources of ordered information at the same time – one from the task and one from the sound. Unfortunately, only the former is required to successfully perform the serial recall task, and the effort expended in ensuring that irrelevant order information from the sound is not processed actually impedes this ability. (Nick Perham, *The Conversation*, (2017))

1. According to the article, please justify the statement, “The Mozart effect is an artifact.” (Do not directly copy the sentences from the article.) 20%
2. Some parents found that babies can sleep well under the noise of a vacuum cleaner. Is this phenomenon due to the irrelevant sound effect? Why? (Do not directly copy the sentences from the article.) 20%
3. Please give a title within 20 words that fits the article well. (Do not directly copy the sentences from the article.) 10%