



Immediate effects of group-based wellness drumming on affective states in university students



Renée Mungas, MPA*, Michael J. Silverman, PhD, MT-BC

University of Minnesota, School of Music, 100 Ferguson Hall, 2016 Fourth Street South, Minneapolis, MN 55455, USA

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ABSTRACT

Researchers have found recreational music making to have positive impacts and that active music-making may have benefits that extend beyond passive music listening or receptive music-based interventions. The purpose of this study was to determine the immediate effects of a single 45-min group-based wellness drumming session on the affective states of university students. Participants ($N = 50$) were undergraduate and graduate university students from a variety of majors. Students in beginning classical guitar classes served as control participants. Experimental participants received a 45-min group-based wellness drumming protocol. The researchers utilized the Quick Mood Scale at pre- and posttest to assess a number of state affective components and collected qualitative data in the form of post-session comments to determine participants' perceptions of the wellness drumming intervention. Results indicated statistically significant between-group posttest differences for wide awake/drowsy, relaxed/anxious, cheerful/depressed, friendly/aggressive, and clear-headed/confused. In all affective variables, the experimental condition had higher posttest means than the control condition. General results of this controlled effectiveness study tended to support the use of group wellness drumming based on the specific wellness drumming protocol for university students. Implications for on-campus wellness programs, limitations of the study, and suggestions for future research are included.

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Literature review

In the past several decades, researchers have focused on consequences of exposure to prolonged and high levels of stress and identified it as a contributing factor in a number of physical and mental health concerns including suppression of the immune system, coronary heart disease, cancer, diabetes, and depression. Researchers focused specifically on the impact of stress among university and college students (UCS) identified physical and mental health outcomes below the level of those of their peers (Aselton, 2012; Stewart-Brown et al., 2000) and reported increasing prevalence rates of anxiety and depression (Stewart-Brown et al., 2000). Increased numbers of young adults are prescribed antidepressant medication due to the increased prevalence of mental health issues among UCS (Aselton, 2012). Exposure to a variety of stressors, such as those prevalent in UCS life, may contribute to increased vulnerability to stress among UCS (Steinhardt & Dolbier, 2008). In exploring

primary sources of stress, Aselton (2012) identified financial and career concerns as the most commonly reported sources. These findings are relevant given certain trends that will likely continue over the next several years, including financing higher education, rising tuition costs, and limited job growth associated with the recent economic recession (Guo, Wang, Johnson, & Diaz, 2011; Stewart-Brown et al., 2000).

Prolonged stress can negatively impact academic performance and achievement (Ahrberg, Dresler, Niedermaier, Steiger, & Genzel, 2012; Aselton, 2012; Wong, Cheung, & Tang, 2006). Researchers reported that under certain circumstances stress can operate as a distractor during the learning of material and thus may hinder memory and performance (Schwabe & Wolf, 2010). Additionally, researchers identified perceived stress as one of the primary factors in sleep quality, which potentially contributes to decreased functioning during day and decreased academic performance (Ahrberg et al., 2012). Among UCS, emotional health issues associated with stress may have a greater impact on participation in work, daily activities, and interpersonal relationships than physical health issues (Stewart-Brown et al., 2000).

Given the prevalence of stress, UCS report a variety of coping strategies, including talking to friends, physical activities, self-talk, deep breathing, journaling, using marijuana, and listening to music

* Corresponding author at: 64 Inner Drive, N-12, St. Paul, MN 55116, USA.
E-mail addresses: rmmungas@gmail.com (R. Mungas), silvermj@umn.edu (M.J. Silverman).

to help deal with their feelings (Aselton, 2012). Although some of these strategies may be considered *positive*, students are less likely to self-report use of *negative*, or maladaptive, coping strategies. Adoption of maladaptive coping strategies, such as reliance upon drugs and alcohol, can further contribute to stress vulnerability (Steinhardt & Dolbier, 2008) and negatively impact long-term health behaviors. According to the Health Belief Model (Champion & Skinner, 2008), individual beliefs surrounding health can play an important role in whether or not an individual ultimately chooses to alter current health behaviors or adopt new behaviors. Although a variety of relatively fixed factors – including age, gender, ethnicity, socioeconomic status, knowledge and personality – may impact these beliefs, there is a need to promote healthy lifestyle behaviors as early as possible in a young person's life to foster long-term physical health. As potential future leaders in fields of health, policy, and education, beliefs of UCS may impact the well-being of the public through future policies, education, workplace practices, or medical opinions that they create, implement, or enforce (Stewart-Brown et al., 2000). Thus, increased stress not only impacts the health and performance of UCS, but may affect their social interactions, their communities, and future public welfare. These influences warrant increased attention to on-campus stress-reduction strategies for UCS. Aselton (2012) highlighted a need for nonmedical approaches to addressing depression in UCS as an alternative to immediately starting medication, while Ahrberg et al. (2012) recommended identifying strategies that specifically reduce stress.

Successful techniques used in stress management programs have included relaxation techniques, cognitive-behavioral therapy, social support, and psychoeducation (Deckro et al., 2002; Steinhardt & Dolbier, 2008). Researchers also found that people's health and wellbeing directly relate to how well they connect with others and allow support during stressful situations. Individuals who create meaningful connections with others are more likely to think in empowering ways, work through difficult situations, and take responsibility (Steinhardt & Dolbier, 2008). Wellness-based music therapy and music-based interventions, which can utilize relaxation (Knight & Rickard, 2001; Pelletier, 2004), cognitive behavioral therapy (Cheek, Bradley, Parr, & Lan, 2003; Gallagher & Steele, 2002; Hendricks, 2001; Hilliard, 2001; Kerr, Walsh, & Marshall, 2001) and psychoeducational approaches (Silverman, 2009; Sundar, 2006), have received growing attention in recent years for their ability to positively impact a variety of therapeutic health, educational, and social outcomes (Bittman et al., 2001; Bittman, Bruhn, Stevens, Westengard, & Umbach, 2003; Ghetti, Hama, & Woolrich, 2008; Hirokawa & Ohira, 2003; Kuhn, 2002; Levitin, 2013; Pelletier, 2004; Wachi et al., 2007). In a meta-analysis concerning the use of music therapy to reduce stress, Pelletier (2004) reported positive effects of music assisted relaxation techniques on stress and arousal reduction in diverse settings, including university and occupational settings. Although individual interventions appeared to be more effective, Pelletier noted that music also effectively decreased stress in group-based settings. In addition to reducing stress, music can have a potential influence on affective states (Bittman et al., 2001, 2003; Thaut, 2005). Thaut (2005) noted the influence of affective states on learning behaviors such as attention, perception, memory, executive function, and physical response, possibly supporting the role of music to impact mood in academic environments.

Researchers have also explored the use of recreational music making (RMM) to impact positive changes in psychological, emotional, and social outcomes in non-therapeutic settings (Bittman et al., 2001, 2003, 2004; MacMillan, Maschi, & Tseng, 2012; Wachi et al., 2007). Bittman and colleagues (2004) defined RMM as “enjoyable, accessible, and fulfilling group music-based activities that unite people of all ages regardless of their challenges, backgrounds, ethnicity, culture, ability or prior experience”

Table 1
Demographic descriptive statistics.

	Experimental group			Control group		
	<i>M</i>	<i>SD</i>	<i>n</i>	<i>M</i>	<i>SD</i>	<i>n</i>
Age	20.82	3.28	17	21.48	8.16	33
Credits	28.64	19.61	17	25.18	35.68	33
Years music	12.44	6.08	17	7.79	6.04	33

(p. 6). Although specific outcomes rely on the components of a particular music making protocol, Bittman et al. (2004) listed potential benefits of RMM relevant to stress reduction in an academic setting, such as exercise, social support, spirituality, intellectual stimulation, heightened understanding, and enhanced capacity to cope with life's challenges. Researchers have associated numerous psychosocial benefits with group music-making including decreased feelings of isolation, increased social support, improved self-identity (Bittman et al., 2003, 2004; Ghetti et al., 2008) and increased feelings of connectedness, sense of community, and empowerment (MacMillan et al., 2012). Thus, group-based music making interventions for wellness, such as RMM, may present unique socio-emotional benefits that individualized receptive music interventions may not. Finally, the structure and motivation of group-based music making may result in sustained adaptation of positive behaviors. For example, group-based music making has been implemented in corporate wellness programs specifically for its potential in motivating engagement and increasing adherence (Ghetti et al., 2008; Winger & Pargman, 2003).

Continued research on the effects of RMM, in both therapeutic and non-therapeutic settings, may contribute to a more sophisticated understanding of how the unique benefits of RMM can potentially impact stress and affective states of UCS. In an effort to determine whether a role potentially exists for RMM as part of on-campus stress reduction programs, the purpose of this study was to determine the immediate effects of a group-based wellness drumming protocol on affective states in university students in a controlled effectiveness study. The guiding research question was as follows: Can participation in a group-based wellness drumming session immediately improve affective states of university students?

Method

Research participants

Participants were a convenient sample of undergraduate and graduate university students from a variety of majors. The researchers recruited experimental participants from various music therapy classes and via word of mouth. The researchers located students from two beginning group classical guitar classes for the control condition. These students were undergraduates who were learning how to play the Ode to Joy melody on the first two strings of the guitar during their classes. In an attempt to have a manageable group size for the group-based wellness drumming intervention, the researchers offered two sessions of group-based wellness drumming during the evening on two different days. Participants were required to be able to read and write in English. In an attempt to make the study as inclusive as possible, there were no additional inclusion or exclusion criteria. All participants volunteered to participate and signed consent forms at the onset of each condition to participate in the single-session study. There were no between-group differences in age or accumulated credits (all $p > .05$), but experimental participants had significantly more years of playing a musical instrument or singing, $F(1, 48) = 6.63, p = .013$, partial $\eta^2 = .121$. Table 1 depicts descriptive statistics of participant

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