Role of sensory environment in stress reactivity: Implications for pathological anxiety

1. Potential participants will be sourced from undergraduate psychology courses at Texas State University- San Marcos. Approximately 40 male and female participants, having an average age range of 18-22, in generally good health will be recruited. Participants will only be excluded if they have significant visual or auditory impairment. If participants do have either of the excluding conditions, an alternative assignment will be provided in the form of a short essay (1-2 pages)summarizing a peer-reviewed, published article on a psychological experiment in stress reactivity.
2. Participants will be recruited via announcements made in several undergraduate psychology courses at Texas State University – San Marcos. Voluntary participation will commence only after informed consent has been given by completion of the consent form. Consent will be solicited and obtained in the graduate laboratory of the Psychology building, where only the researcher and the participant will be present. Information will be provided regarding the risks and nature of participation in the study. Consent will be documented on the signed consent form (attached).
3. Participants will be randomly assigned to one of two conditions. Condition 1 will be set in a chaotic environment – a room with unpleasant sensory stimuli (e.g., fluorescent lighting, visual crowding, clutter, obnoxious sounds). Condition 2 will be set in a restorative environment – a room with ambient/relaxing sensory stimuli (e.g., natural lighting, window to outside, clean and open built environment, indoor plants). The experiment will be conducted in the afternoon and participants will be instructed not to consume caffeine for at least 3 hours prior to arrival. Before being introduced to the variable environment, participants will complete informed consent in an adjacent room. Then, participants will be led into and allowed to acclimate to the environment for at least 10 minutes. Baseline blood pressure will be assessed over this period of 10 minutes, during which time participants will begin to complete demographic and health questionnaires and instruments including the Positive and Negative Affect Schedule (PANAS), Cook-Medley Hostility Scale (Ho), and State-trait Anxiety Inventory (STAI). Then, participants will be engaged in the stressor task of an impossible word search puzzle, that is, a word search that cannot be solved. Immediately following this, reactivity will be measured by a second blood pressure assessment over a period of 10-15 minutes and a second assessment of affect using the PANAS. Additionally, self-reports will be administered to determine how pleasant/unpleasant the environment was as well as how much distress was felt during the task. Recovery blood pressure will be assessed a third time for a period of 10 minutes. The final readings will be followed by debriefing.
4. No physical or social demands beyond what is to be expected in day-to-day life will be placed on participants; so, the potential risks are exclusively psychological in nature. It is possible that participants may experience psychological distress a) simply by being present in the chaotic sensory environment in one condition of the experiment, or b) by engaging in the stressful task. The likelihood of any significant, lasting, or latent distress caused by participation is low because the sample will consist of undergraduate students who are accustomed to performing stressful intellectual tasks. Furthermore, the likelihood that the chaotic environment alone will be significantly distressing beyond a temporary disruption in affect is low.
5. Procedures for minimizing potential risks include debriefing regarding the true purpose of the experimental procedures as well as instructions for contacting mental health treatment facilities, including contact information.
6. Potential benefits to be gained by participants in this research are a) an increased understanding of the effects of environment on emotion and physiology, and b) a notion of what the sensory elements are in a restorative environment, which may improve well being even during stressful situations. The anticipated results of this research may benefit society in general by indicating that restorative sensory environments significantly reduce cardiovascular and psychological reactivity to stress. The knowledge gained from this study may have implications for the design and maintenance of healthcare, corporate, educational, military, and home environments. Improvements in these sensory environments may facilitate health and well-being in society in general by affecting areas including but not limited to patient recovery from illness, reduced risk for burnout and physical occupational hazards, reduced operating costs for corporations (e.g., illness absenteeism, insurance premiums for jobs with high risk of stress-related illnesses), improved performance in schools, and decreased risk for the development of pathological anxiety in those at high risk for combat stress reaction, posttraumatic stress disorder, generalized anxiety disorder, etc.
7. The only compensation offered to the participants will be extra credit. The grade equivalent of this extra credit will be determined by the instructor, but generally will not exceed 2% of the total value of the course grade. Alternatives to providing extra credit will be determined by the instructor.
8. The anticipated benefits to the participants, as members of society, far outweigh the risks as they are global and stable, whereas the risks are local and temporary.
9. The Psychology building of Texas State University will be the site used to conduct this research, so approval from the Psychology Department is understood.
10. This proposal is for a thesis that will satisfy the thesis requirement for my program of study as a graduate student in Health Psychology on the research track. My advising faculty member is Dr. Alexander Nagurney. Other committee members include Dr. Ty Schepis and Dr. Natalie Ceballos. All are faculty of the Psychology Department of Texas State University- San Marcos.
11. Documentation of approval for this thesis by the advising faculty member is attached.
12. This proposal has not been reviewed or approved by another IRB.
13. Individuals who will have access to the raw data of this study, whether they be published or unpublished, during and after completion are limited to Dr. Alexander Nagurney and me.