

Sitting Comfort: The Impact of Different Chairs on Anxiety

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Note: This paper was prepared for Psychology 110, taught by Dr. Kathy Ryan.

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### Abstract

This study examined the extent to which different chairs influence anxiety. Participants included five males and fifteen females. Participants were asked to fill out the State-Trait Anxiety Inventory for Adults (Spielberger, 1983). Statistical testing indicated that participants sitting in the comfortable chair were more anxious than the ones sitting in the uncomfortable chair.

Running head: SITTING COMFORT: THE IMPACT

### Sitting Comfort: The Impact of Different Chairs on Anxiety

Kutash and Northrop (2007) studied the comfort of family members in the ICU waiting room. They found that no matter the situation, waiting rooms are stressful for the patients and their families, and it is the nursing staff's job to comfort both. From this emotional distress many family members judged the waiting room furniture as "uncomfortable" and only talked about it in a negative context. From this study we have learned that there is a direct relationship between a person's emotional state and how that person perceives the physical state he or she is in, such as sitting in a chair. Is this relationship true in reverse as well? Can the way a person perceives his or her present physical state (such as sitting in a chair) affect his or her emotional state? This is the question that the present study sought to answer.

Corlett (2006) studied how different seat structures and desk environments can affect the spinal cord, spinal disc, and various muscles, resulting in back pain. He found that not only workplace furniture but also school furniture can have serious medical consequences. Back pain has serious emotional consequences on top of the physical distress. So, he concluded that it is important to pay attention to seat structure.

De Looze (2003) researched whether objective measures, such as the type of chair, are related to subjective feelings of comfort and discomfort. The study researched posture, movement, muscle activity, spinal load, and pressure and their effects on perceived comfort. De Looze concluded that pressure had the clearest association with the comfort.

Knight and Noyes (1999) were interested in the design of school furniture and how it could affect children's behavior. The on-task productive behavior was expected to be altered between the two groups based on the chair they sat in: the "Chair 2000" versus the "old furniture." The "Chair 2000" was a polypropylene seat with a flexible back, raised sides, and a

Running head: SITTING COMFORT: THE IMPACT

sloping seat. The “old furniture” was a flat seat with a discrete separate back which required the child to sit up straight. Knight and Noyes tested a class of twenty-one nine- and ten-year-olds (thirteen boys and eight girls) who attended a local primary education school. They concluded that the results were not definitive, due to limited participants and lesson types. Despite this, they suggested that a 2% increase in frequency of on-task behavior was notable in the “Chair 2000.” They believed this was partly explained by the fact that on-task behavior levels were fairly high to begin with.

The present study was conducted to see whether there would be direct association between sitting in a comfortable chair and stress level. Based on past research, it is hypothesized that the level of physical comfort will be significantly greater in the comfortable chair. As a result of this higher level of physical comfort, it is suspected that there will be a lower level of state anxiety.

## Method

### *Participants*

Five males and fifteen females volunteered to respond to a questionnaire used for this study. All questionnaires were complete and were used in the study.

### *Materials*

The State-Trait Anxiety Inventory for Adults (STAI) was used (Spielberger, 1983). The STAI is a twenty-question questionnaire to measure how anxious participants said they were at a given moment. All twenty questions were answered on a four-point scale from one (Not at all) to four (Very much so). The questionnaire asked questions such as “I feel comfortable,” “I am

Running head: SITTING COMFORT: THE IMPACT

relaxed,” and “I feel calm.” The alpha coefficient for college students was .91 (males) and .93 (females). The Cronbach’s alpha for the State Anxiety scale was .94 in the current study.

### *Procedure*

Participants were brought into a room individually. Participants were seated in either an uncomfortable chair (See Figure 1) or a comfortable chair (See Figure 2) and asked to complete the STAI. They were then thanked for participating and then debriefed.

### Results

Results showed that participants in the comfortable chair ( $M=34.45$ ) did not report significantly lower state anxiety than those in the uncomfortable chair ( $M=29.50$ ) ( $t(17) = -.93$ ,  $p=.37$ ).

### Discussion

This study suggested that the level of physical comfort of the participants was not influenced by the comfortableness of the chair they sat in. It was hypothesized that a chair with hard and rigid features would bring a higher level of anxiety than a chair with smoother, more cushioned features, which seemingly would lower anxiety. Each participant was seated in either the comfortable chair or uncomfortable chair for a short period of time and asked to fill out a survey on his or her current state of anxiety. Contrary to the hypothesis, results showed that the participants who were seated in the comfortable chair were not significantly more anxious than those in the uncomfortable chair. Similar experiments such as Corlett’s study on how varied seat structures affect back pain and De Looze’s study on whether objective measures affect sitting

Running head: SITTING COMFORT: THE IMPACT

comfort and discomfort demonstrated influences of furniture comfort on overall comfortableness.

Based on the results of the current study, implications can be made about the relationship between anxiety and chairs. Though the results of the experiment did not support the original hypothesis, conclusions can still be drawn from this experiment. There were minor differences in the levels of discomfort in the participants. Every participant sat at the same desk regardless of what chair he or she was seated in. The comfortable chair was lower to the ground, which means the participants may have had to lean forward in an uncomfortable way to use the desk. This may have been one of the several possible reasons why the experiment resulted the way it did. This experiment was cleverly designed in the sense that none of the participants knew exactly what they were being monitored for. A standardized procedure was used for every participant. The experiment, however, did contain some weaknesses that may have affected the results. Due to the time constraint of about two or three minutes, participants may not have had enough time to become anxious. There was also the bad combination of the comfortable chair with the high desk. Both of these may have been factors leading to the unexpected results.

This experiment was important because it contributed to the overall research of anxiety in people due to the physical qualities of furniture. For future research, this study could be conducted again with a few changes. The desk or chair height could be regulated so that it is not a factor in the anxiety of the participants. If possible, longer periods of time could be provided for participants so they would be able to better assess their general state of anxiety.

## References

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**Figure 1**

Uncomfortable chair participants were asked to sit in

**Figure 2**

Comfortable chair participants were asked to sit in

