Lighting Design Offering Joy in Clinics for Nurses that Experience High Burnout Rates

Amani Khan | ENVD 6389 | Environmental Design Studio I | Dr. Sharran Parkinson | Spring 2021

Abstract

Joy might not be the first thing that comes to one’s mind when speaking about work environments. However, it can make a difference if designers consider it in workplace design. Literature has suggested that the physical environment plays a role in stress in healthcare settings (Andrade & Devlin, 2015). This author’s research considers joy as a construct it relating to well-being and burnout within the healthcare setting. Thus, this paper explores the barriers of nurses’ joy at work.

"Design is about all meeting people's needs including physical and psychological" (Norman, 2005). Furthermore, design can help to reduce stress and burnout for nurses (Chaudhary & Mahood, 2007). Specifically, empirical evidence implicated lighting as an influence on nurses’ performance. (2003). The study examined the impact of lighting on nurses’ professional relationships at work (Boyce, 2003). The three primary parameters to consider in hospital lighting design are 1) light level, 2) color rendering index, 3) color temperature, and 4) natural lighting. Joseph, 2006. (Joseph, 2006) this study examined the impact of lighting design using HCL on registered nurses to increase the levels of joy and low burnout.

Research Questions

Two main questions emerged which were addressed in this study: 1) Can lighting design offer joy for nurses in clinics who experience high rates of burnout? 2) What design solutions can be implemented to increase the levels of joy and low burnout symptoms by colors and lighting design?

Introduction

Joy might not be the first thing that comes to one’s mind when speaking about work environments. However, it can make a difference if designers consider it in workplace design. Literature has suggested that the physical environment plays a role in stress in healthcare settings (Andrade & Devlin, 2015). This author’s research considers joy as a construct it relating to well-being and burnout within the healthcare setting. Thus, this paper explores the barriers of nurses’ joy at work.

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Theoretical Framework

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Methodology

The literature review was conducted to find the recent information about the effect of lighting design in the hospital environment that effects joy for nurses who experience a high rate of burnout. Moreover, it evaluates how joy is related to the opposite of burnout, how nurses who were experiencing burnout provided a list of patient care, and how a lack of joy might be an underlying stress contributing to burnout in the nursing shortage. Questions included: 1) Is there a relationship between the physical environment and burnout? 2) Does lighting as a built environment feature, and light color design improve burnout? 3) How can designs improve joy through light and color using Maslow’s and Conservation of resources, and theory, such as theories on habituation, to apply it to the research problem?

Context of Study

For the design project, an existing Covenant Medical Group Network Clinic was selected and modified through the evidence from the literature and analysis conducted by the researcher with an aim of offering joy to nurses that experience a high rate of burnout through lighting design. The design solution will be presented in a table with details on each section in each study. In this case, the effectiveness of proposed solutions will not be investigated empirically. Thus, the proposed design solutions will serve as the hypothesis for future research.

Design Criteria

Problem Solution Details

Lighting Healthcare

Lighting Design

The nurse station has a wall to the interior view, limited daylighting with very high ceiling.

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Design strategies that may help in building resilience against burnout. Such as provide more support, self-care wellness programs, stress management, and so on.
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Design Solutions based on Design Criteria

**Lighting**

This study has: 1) the proposed design based on the most current floor plan, which has only one story, 2) the proposed design and possible design modifications based on the findings of this study. In this part, conflict issues found in the literature and possible design modifications based on the findings of this study.

Conflict issues found in the literature, due to the lack of robust evidence, the proposed design solutions do not have sufficient empirical support. The proposed design can serve as a hypothesis for future investigations. Also, the Institute for Healthcare Improvement in their white paper IHI have drawn a framework for improving joy in work, they have mentioned that there is no single validated measure of joy in work.

**References**

To solve this issue of lighting design, the proposed design for the nurses’ workstations removes the extra wall, the barrier covering the sunlit. Moreover, installing glass curtain walls from floor to ceiling instead of just a window will allow more sunlight in the space. The nurse’s station located in the hallway, currently has a minimal natural light source that is not human-centric. The proposed design replaced the drywall partitions (facing the window) with a glass partition and replaces the exterior window with a large curtain wall to allow more sunlight to enter the space, the ceiling is lowered, and skylights are added to the to the interior corridor (nurses’ station area) replacing the harsh fluorescents tube lighting and providing natural downlights from human-centric lighting. This study has several limitations, the proposed design is based on the most recent evidence that exists in the literature, due to the lack of robust evidence, the proposed design solutions do not have sufficient empirical support. The proposed design can serve as a hypothesis for future investigations. Also, the Institute for Healthcare Improvement in their white paper IHI Framework for Improving Joy in Work, they have mentioned that there is no single validated measure of joy in work.