

INTRODUCTION

Can the physical environment affect a patient's anxiety level in an acute care inpatient psychiatric setting? This question prompted this nursing staff to investigate environmental effects of the inpatient psychiatric unit on mood and anxiety levels of its patients.

A consistent recommendation in the literature addresses reducing the "institutional feel" of psychiatric units. Studies suggest a) creating window views of the outdoors whenever possible and b) incorporating artwork that is soothing yet not over-stimulating (1). Artwork can simulate a homelike feel, especially scenes involving nature, which have been demonstrated to reduce anxiety levels (1), and paint color in earth tones, which are often viewed as secure and comfortable (2). Research indicates that hues of green were tender, soothing, secure and comfortable to psychiatric subjects (1) and the use of natural woodwork creates a less-clinical, more welcoming feel (3).

This research study was designed to determine the effects of the physical environment on mood and anxiety levels of patients in an inpatient psychiatric setting by investigating participant responses about the color, design and artwork of the unit.

STUDY DESIGN and METHODS

- Study Design
 - prospective, qualitative and comparative
- IRB approved
- Study Period
 - **Phase I:** pre-renovation phase
April 2008 through August 2008
 - **Phase II:** post-renovation phase
September 2009 through April 2010
- Subject Inclusion Criteria
 - Admitted to and discharged from Adult Unit
 - 18 years of age or older
 - Voluntary status throughout hospitalization
- Data Analysis
 - Descriptive: means, standard deviation, frequency calculations
 - Inferential: chi squared goodness-of-fit and contingency table tests, two-tailed *t*-tests assuming unequal variance

RENOVATION PROJECT

Unit hallway prior to renovation



Dining room and unit hallway following renovation



- Renovations included:
- new flooring
 - earth tones paint color scheme
 - installation of artwork featuring nature scenes

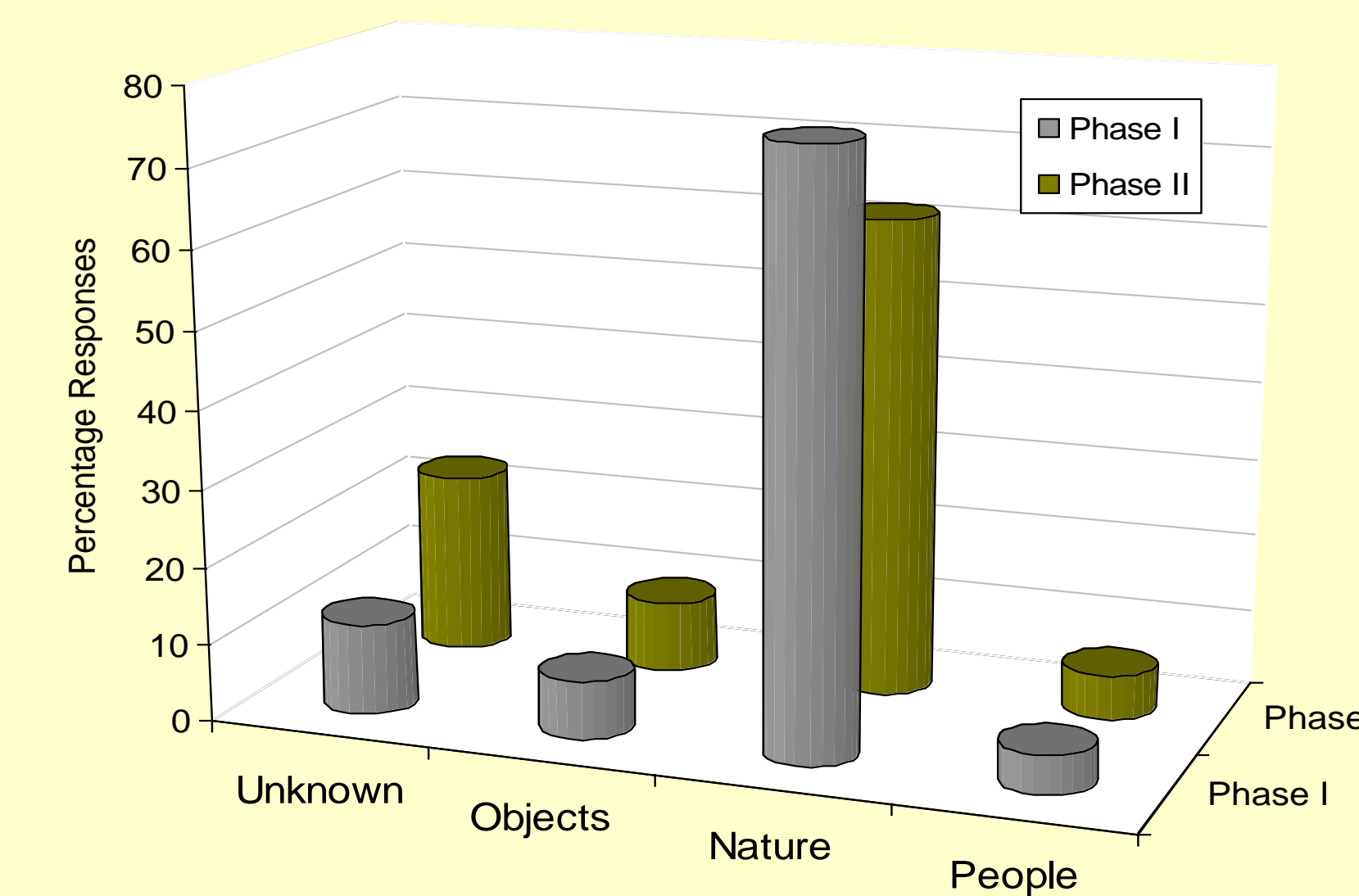
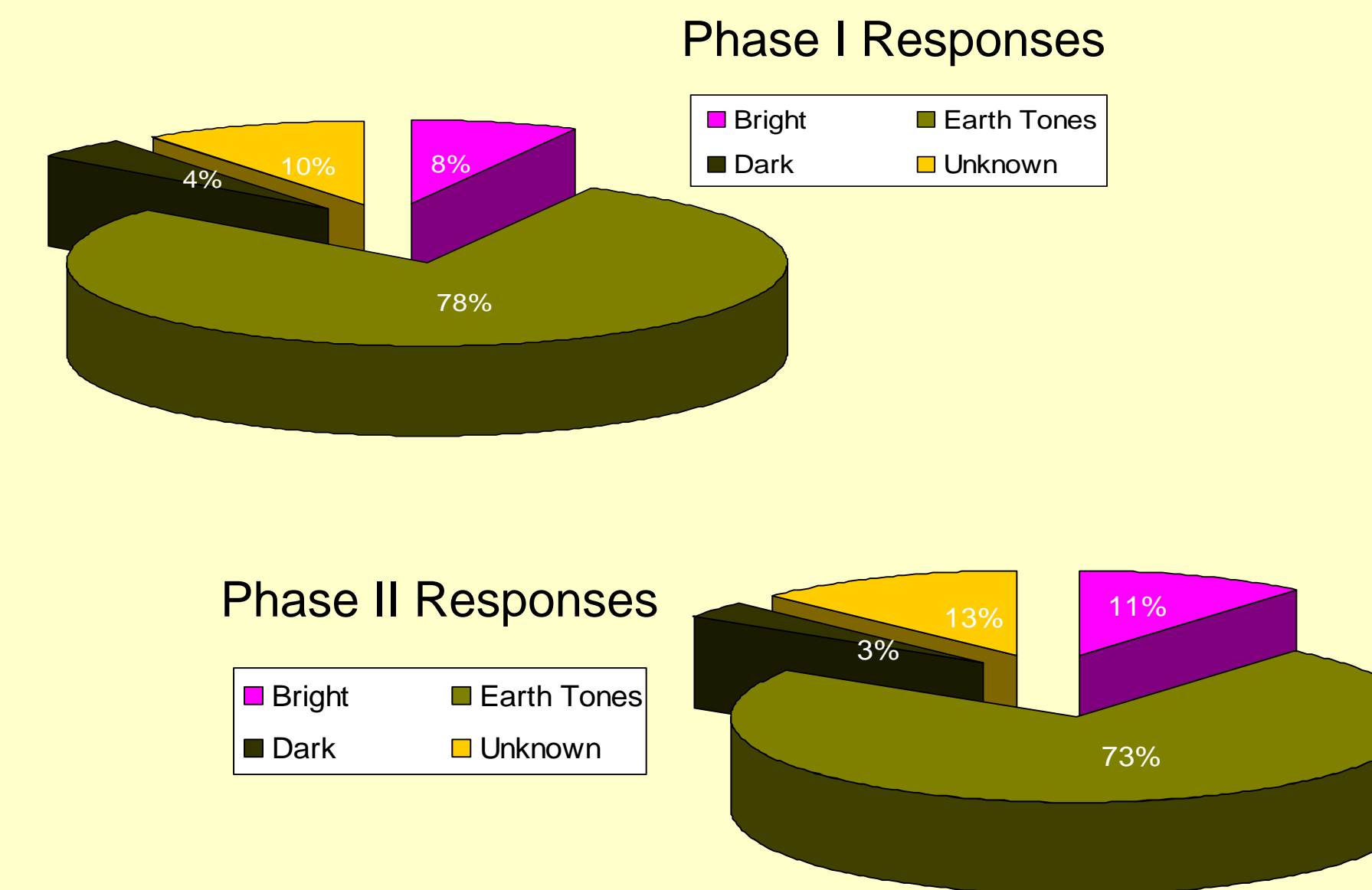
SUBJECT DEMOGRAPHICS

Subject Demographics	Phase I n=120	Phase II n=120	Statistic	p Value*
Gender (n)			$\chi^2=6.02$	0.014
female	52	71		
male	68	49		
Age (yrs)			$t=0.237$	0.789
Mean	39.88	40.27		
Range	18 to 65	18 to 66		
Self-Described Anxious (n)			$\chi^2=3.92$	0.27
Yes	93	98		
No	26	18		
Indecisive	1	2		
No Answer	0	2		

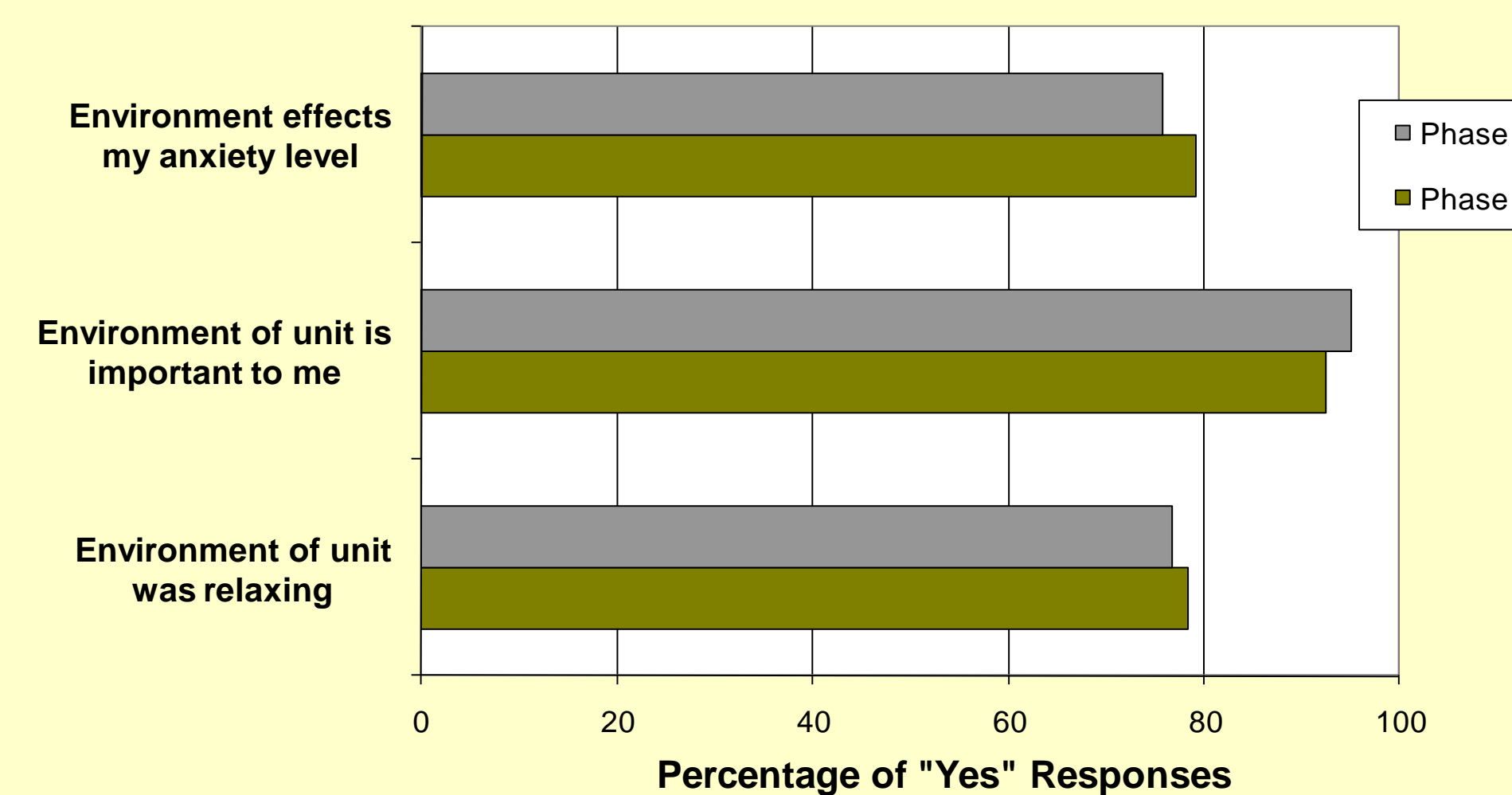
*Calculated at 95% confidence

- More females than males participated in Phase II of the study, thus there was a significant difference in gender distribution between phases
- Ages of subjects in the two study phases were comparable, i.e., mean age and age range
- Most subjects that volunteered for the study did not consider themselves to be anxious persons

COLOR & ARTWORK PREFERENCES

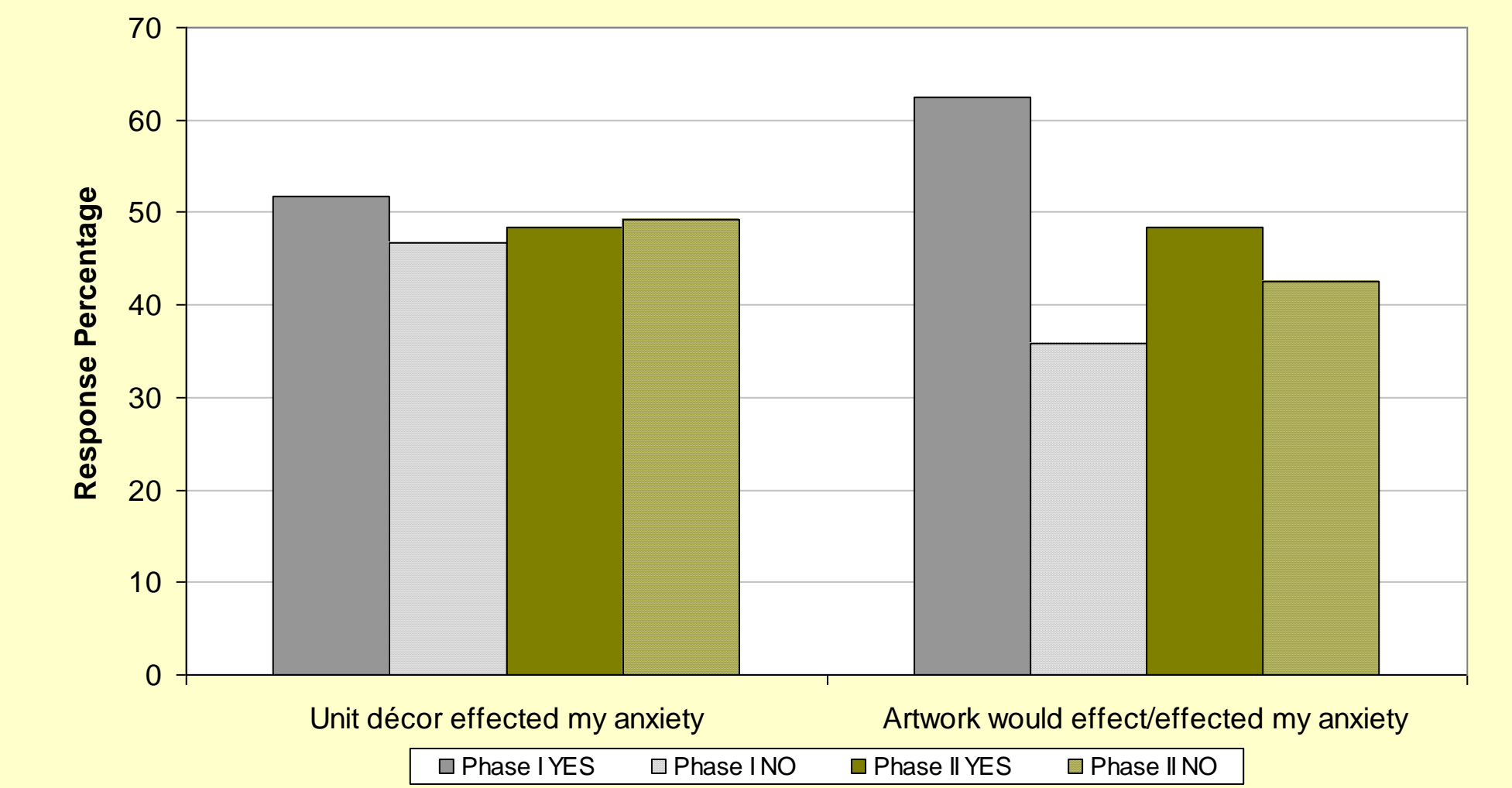


RESPONSES to QUESTIONS about the ENVIRONMENT



- In both phases of the study, over 75% of subjects reported their physical surroundings/environment effects their anxiety level
- More than 90% of subjects in both study phases indicated the physical environment was important to them during a hospital stay
- Interestingly, there was no appreciable difference in subject response regarding how relaxing they found the unit to be – both prior to renovation and after
 - Phase I subjects: 76.7% found unit relaxing
 - Phase II subjects: 78.3% found unit relaxing

DÉCOR & ARTWORK EFFECTS ON SUBJECT ANXIETY



- Décor refers to walls, flooring, color scheme and furniture of the inpatient psychiatric unit
- ~52% of Phase I subjects reported that unit décor effected their anxiety level, which was similar to the response rate of Phase II subjects (~48%)
- In Phase I, ~63% of subjects reported that artwork would effect their anxiety level, while substantially fewer Phase II subjects (~48%) reported that displayed artwork did effect their level of anxiety

SUMMARY

Conclusions

- Findings of this study confirm previous research concluding that earth tones and artwork involving nature are the most relaxing
- Conversely, these results do not support published reports suggesting the physical environment has an effect on anxiety level and/or mood of psychiatric inpatients

Study Limitations

- Double-sided printing of Phase II surveys resulted in a decreased number of responses for questions printed on the back
- Nature of the research did not allow for pre and post matched pair design

REFERENCES

1. Karlin BE, Zeiss RA. Environmental and therapeutic issues in psychiatric hospital design: toward best practices. *Psychiatry Services*. 2006;57(10):1376-1378.
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3. Turlington R. Creating a Planetree inpatient psychiatric unit. *Health Facilities Management*. 2004;June:1212-1213.

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