

The HeART of the Patient: The Impact of Art on Patient Satisfaction in a Northern New England
Hospital

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Sociology 11: Research Methods

Dartmouth College

INTRODUCTION

Previous research has focused either on patient satisfaction with hospital staff and the environment or on the impact of art on patients' mood and health. Little research has combined these two domains. Thus, we aim to address the gap in the literature by evaluating the impact art in hospitals has on patient satisfaction with the hospital environment and their well-being. We will work with our community partner, Marianne Barthel, the director of the Arts Program at Dartmouth-Hitchcock Medical Center (DHMC), to specifically look at the visual art inside a hospital in New Hampshire. The DHMC Arts Program runs different types of art sections and activities in the hospitals for patients; however, we will primarily focus on the public art around the hospital to determine the impact standing art has on patients. This study would help gather quantitative data that would allow the DHMC Art Program to have evidence to prove the impact standing art has on patients and would be helpful to use for funding and improvement of the program.

LITERATURE REVIEW

Many studies have been conducted on the impacts of hospital environment and how environment factors can affect patients' experiences and satisfaction. From a cross sectional study of over 1000 hospitals in Europe and the United States, Aiken et al. (2012) found that hospital working environments are associated with outcomes in patient satisfaction, quality of care, and stability of nurse staffing forces. Jamshidi, Parker, and Hashemi (2020) more specifically focused on aspects of the built environment, and found that factors such as nature, music, and visibility of medical equipment, had positive effects on patient experiences. These studies show that environment matters when looking at its impact on patient satisfaction with the hospital.

Our research also concerns the role of art in patient experience, and there is ample literature on the possible effects of visual arts' on moods and emotions. Associated with a range of intense emotions, hospitals are a space where art can be particularly beneficial in improving patients and visitors' moods. Nanda et al. (2012) found that art in hospital waiting rooms can reduce patients' stress and anxiety. Belfiore, Palmieri, and Palasciano (2014) also found that visual art can counterart patients' feelings of isolation or alienation, and Lankston et al. (2010) provided a possible mechanism for how art can positively affect patient emotions through serving as a distraction according to biophilia, which suggests that recognizing healthy environments is a survival tactic.

Where the gap in the literature resides, and what this study hopes to contribute, is how the presence of visual art can affect patient satisfaction with the hospital environment. There has been research on hospital environment effects on patient satisfaction, but less so on art as an environmental factor. There is research on the impacts of art on patient moods, but less so on satisfaction. In line with our topic, Nielsen et al. (2017) aimed to understand how patients

experience art in hospitals in five different medical wards in Denmark. Consistent with the literature on art impacts, this study showed how art can help create an environment where patients feel safe and connected to the world outside the hospital, resulting in positive effects that increase patient satisfaction. Nielsen et al. (2017) called for more attention on the topic. This research hopes to contribute to that understanding of art on patient satisfaction and hence experiences as well, particularly in the Upper Valley.

RESEARCH QUESTION

Our research question is, *“How does art in hospitals impact patient well-being and their satisfaction with the hospital environment?”* Since there isn’t a measure that allows us to directly study a causal relationship between art and patient satisfaction and well-being, we hypothesize that there is a positive association between observing art and patient satisfaction as well as patient well-being (Appendix A). Through our research, we hope to gather quantitative data that will help support the qualitative data and anecdotes our community partner has received about the positive impacts art has at DHMC.

METHODS

Our project uses a survey (Appendix E) to evaluate the arts program at DHMC using a quantitative, or numbers-based, approach. We chose to work quantitatively instead of qualitatively, or descriptively, because our community partner already has a lot of qualitative data about this program. We used deductive reasoning to build our survey, meaning we used existing links in academic journal articles and books to figure out what we want to ask respondents. In the end, we had three main categories of questions: respondents’ experience with the art in the hospital, the variable we are most interested in observing; respondents’ experience at DHMC itself, especially in regards to the care they received; and sociodemographic variables, which help us understand who is taking the survey and how their life experiences might affect their answers (Appendix B).

In addition, we included some questions that help ensure that everyone who takes the survey is qualified to do so. This means that our sampling frame includes everyone taking our survey should be an adult who has been to DHMC in the last 12 months for any kind of clinical care (inpatient or outpatient) and who can remember seeing art in the hospital while they were at DHMC. These questions are especially important to us because we cannot send our survey out to targeted individuals. If we were to do that, we would have to jump through a number of hoops related to patient privacy laws, and there is still a good chance that we would not be able to successfully do so. Instead, we plan to solicit the survey to a wide range of potential respondents through social media and emailing lists. However, not every eligible respondent could be reached through social media and emailing lists, so we hope to include two additional sampling paths to decrease the coverage error of the survey. The first would be to include posters near the art in DHMC that advertises the survey through tinyurl links and QR codes that individuals can

quickly use to take the survey (Appendices D1 and D2). The second would be to have volunteers conduct outreach to potential respondents through phone calls, though this would be a resource dependent sampling method.

It is crucial that we respect the rights of our respondents throughout the survey process. In doing so, we will inform participants that their participation in the survey is voluntary and that, by completing the survey, they will help us assess the impact of the art on patients and find ways to improve the program. To boost participation, Marianne may want to consider offering an incentive. Our current survey is confidential since it asks for contact information for participants who choose to enter themselves into the raffle which is optional. There is an introduction about the raffle in the survey as well, but Marianne can decide to eliminate this section or keep it at her discretion.

The survey should take about 10-15 minutes for participants to complete because we want to be respectful of respondents' time when completing it. We hope to have our community partner send out the survey as many times as possible or needed, hopefully beginning in spring or summer 2021, depending on IRB approval. This study is cross-sectional, meaning that Marianne would be looking at the data from a population in a given time.

In terms of generalizability, or how well our findings can be used in the context of other populations, this may be difficult because of patient privacy restrictions and the way we're delivering the survey. Reliability is hard to be completely sure of, but we have confidence in the test-retest reliability of our study because we borrowed some questions and used previous surveys as guides for our own survey (Karnik et al. 2014). Looking at validity, we want to know if we actually measure what we say we measure. The way we've conceptualized our definition of artwork in hospitals and its impact aligns with the findings in our literature review, meaning our study has face validity.

The results will be analyzed by our community partner. She will look at the responses and see if there are any trends in the data about the impact of art on patients at DHMC. Based on the survey responses and analysis, our community partner can better understand how her art program is helping patients and what ways it can be improved. It can also serve as evidence for the hospital itself that this program is worth keeping and supporting.

Overall, there are key strengths and weaknesses to our design. One of our weaknesses would be restrictions to accessing patient data and our inability to directly contact patients. Another would be that our community partner works alone, so we want to make sure this is easy enough for her to handle on her own. One strength is that the survey itself should be fairly quick and easy for respondents to answer. Another strength is that this survey will be specific to the DHMC Arts Program, unlike other surveys that just target general patient hospital satisfaction, and so this should provide our partner with a clear sense of the program and the art's impact.

ETHICS

This research deals with two main sets of ethical guidelines. The first is HIPAA, or the Health Information Portability and Accountability Act of 1996. This act provides federal protection for individually identifiable health information (US Department of Health and Human Services 2021). We cannot collect information about specific patient health data because that information is protected by HIPAA. We will maintain confidentiality by keeping the data secure and accessible only to the researchers. If Marianne uses an incentive to encourage participation, such as a raffle for a gift card, we would need to collect patient contact information, which would prevent our survey from being anonymous.

The second set of guidelines is the Belmont Report, which was written in 1979 in response to the ethical violations of the Tuskegee syphilis study. It outlines three unifying principles that all ethical research must follow: respect for persons, beneficence, and justice. Respect for persons means that researchers must treat participants as autonomous individuals who have control over what happens to them. In our case, this means obtaining consent from participants (Appendix C) before the research begins, which we do at the beginning of our survey by explaining its purpose, addressing the benefits and risks of the study, and informing respondents of their rights. The second principle, beneficence, involves the researchers' responsibility to maximize potential benefits while minimizing potential harms for the participants. By keeping data secure, be it through anonymity or confidentiality, our research minimizes harm that could come from patient data being divulged. Finally, justice requires the researchers to distribute benefits and burdens equally. Though we expect there to be minimal direct benefits to respondents, we distribute the burdens evenly by sending this survey to as many people as possible and keeping the potential time commitment low.

FEASIBILITY AND SIGNIFICANCE

Our research is designed to be the most feasible option given our community partner's time and resources. Marianne manages the public art program alone, and co-manages the entire Creative Arts team. Therefore, the online survey format is easier, quicker, and cheaper to run than an in-person survey or in-depth interview. While she may choose to run future studies using in-person methods, this study is accessible given her current time and resource constraints. This research is very valuable for Marianne and her program. If the positive association is found, as we hypothesize, this information could be used to gain funding and resources from DHMC to further improve the program. However, if the research finds a negative association, that information can form the basis for further inquiry into issues with the program and how to improve it. Marianne has only ever had anecdotal evidence to support her program, so this research will be the first time DHMC will have quantitative data about the art program. This research also benefits the developing cross-disciplinary field of the arts in healthcare.

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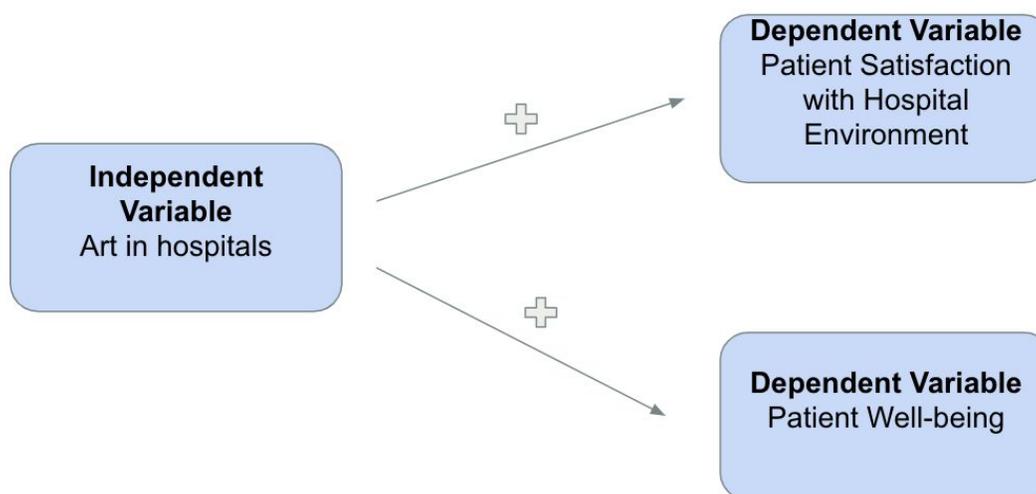
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APPENDIX

CONCEPTUAL MODEL (Appendix A)

Conceptual Model



Conceptualization & Operationalization of Variables (Appendix B):

Variable	Conceptualization	Operationalization
Art in hospitals	public or standing art in hospital spaces	Frequency and number of times art is observed
Patient Satisfaction with the Hospital Environment	the evaluation of a hospital setting and space and its quality to ensure patients' needs are met	Quality of art based on association of word descriptors; rating of environment
Patient Well-being	the state of being health and happy	Stress level; Health; Mood

*Along with the variables of patient satisfaction and well-being, we hope to look at race, gender, income, and rurality to determine if the relationship with our independent and dependent variables may depend and vary due to these sociodemographics.

CONSENT FORM (Appendix C)



Permission to Take Part in a Human Research Study

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Title of research study: The HeART of the Patient: The Impact of Art on Patient Satisfaction in a Northern New England Hospital

Investigator: Marianne Barthel

Key Information: The following is a short summary of this study to help you decide whether or not to be a part of this study. More detailed information is listed later on in this form.

Why am I being invited to take part in a research study?

We invite you to take part in a research study because you may have experience with the artwork present at DHMC that may or may not have impacted your experiences as a patient there. We would like to know more about your experiences.

What should I know about a research study?

- Someone will explain this research study to you.
- Whether or not you take part is up to you.
- You can choose not to take part.
- You can agree to take part and later change your mind.
- Your decision will not be held against you.
- You can ask all the questions you want before you decide.

Why is this research being done?

The purpose of this research is to understand the impact of the DHMC Arts Program, specifically the public art displays, on patient satisfaction with DHMC. This research will bridge a gap in the literature between arts research and healthcare research. We aim to gather data that can be used to inform the Arts Program and its work in DHMC.

How long will the research last and what will I need to do?

We expect that you will be in this research study for 5-10 minutes.

You will be asked to fill out an online survey and answer questions to the best of your ability.

More detailed information about the study procedures can be found under ***“What happens if I say yes, I want to be in this research?”***

Is there any way being in this study could be bad for me?

No, there is no way that being in this study could be bad for you.

Will being in this study help me in any way?

There are no benefits to you from your taking part in this research. We cannot promise any benefits to others from your taking part in this research.



IRB Approval Date

Document Revision Date: June 4, 2019

Permission to Take Part in a Human Research Study

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What happens if I do not want to be in this research study?

Participation in research is completely voluntary. You can decide to participate or not to participate.

Your alternative to participating in this research study is to not participate.

Detailed Information: *The following is more detailed information about this study in addition to the information listed above.*

Who can I talk to?

If you have questions, concerns, or complaints, or think the research has hurt you, talk to the research team at Marianne.L.Barthel@hitchcock.org.

This research has been reviewed and approved by an Institutional Review Board (“IRB”). You may talk to them at (603) 650-1846 or irb@hitchcock.org if:

- Your questions, concerns, or complaints are not being answered by the research team.
- You cannot reach the research team.
- You want to talk to someone besides the research team.
- You have questions about your rights as a research subject.
- You want to get information or provide input about this research.

How many people will be in this study?

We expect about 100 people here will be in this research study.

What happens if I say yes, I want to be in this research study?

You can expect to spend 15-20 minutes completing this survey. If you agree to take part in this research study, we will enter you into a raffle for small compensation for your time and effort.

What happens if I say yes, but I change my mind later?

You can leave the research at any time it will not be held against you.

What happens to the information collected for the research?

Efforts will be made to limit the use and disclosure of your personal information, including research study and medical records, to people who have a need to review this information. We

cannot promise complete secrecy. Organizations that may inspect and copy your information include the IRB and other representatives of this organization.

Federal law provides additional protections of your medical records and related health information. By signing this form, you allow the research team to use your health information and give it to others involved in the research. The research team includes the study director plus others working on this study at Dartmouth-Hitchcock Medical Center and elsewhere. You also permit any health care provider holding health information needed for this study to give copies of your information to the research team.

The information collected for this study may be used by researchers or officials of the following institutions.

- Dartmouth College
- Mary Hitchcock Memorial Hospital

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Permission to Take Part in a Human Research Study Page 3 of 4

- Dartmouth-Hitchcock Clinic
- Dartmouth-Hitchcock Medical Center
- The Dartmouth-Hitchcock Health Institutional Review Board (D-HH IRB)

In order to conduct this study, researchers need to use your health care information. This data is called Protected Health Information ("PHI"). PHI is protected by federal privacy laws (HIPAA). By signing this consent form, you give your permission to have your PHI collected, used and disclosed for purposes of this study. There is no intention to disclose your PHI to others outside of the study. There are protections in place to keep your PHI and research data confidential. However, HIPAA requires notification so you are aware that if your PHI is disclosed to others, it may no longer be protected by federal privacy laws.

No publication or public presentation about the research described above will reveal your identity without another authorization from you.

Identifiable data collected for this study will be used for research purposes which are determined to be reasonable and in line with expectations by a review committee.

Once data collected for this research study is no longer identifiable, the data may be used or disclosed for other purposes.

Your permission to use your health information for this study will not end until the study is completed. During this study, you and others who take part in the study may not have access to the study data. You may ask for study data once the study is over. You have a right to receive a copy of the information in your medical record at any time.

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Permission to Take Part in a Human Research Study

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Signature Block for Capable Adult

Your signature documents your permission to take part in this research.

Signature of subject	Date
Printed name of subject	
Signature of person obtaining consent	Date
Printed name of person obtaining consent	IRB Approval Date
<i>[Add the following block if a witness will observe the consent process. E.g., short form of consent documentation or illiterate subjects.]</i>	
My signature below documents that the information in the consent document and any other written information was accurately explained to, and apparently understood by, the subject, and that consent was freely given by the subject.	
Signature of witness to consent process	Date
Printed name of person witnessing consent process	

Link to Consent Form:

<https://docs.google.com/document/d/1ET6JtzVdlXk3EWIEAFct01tYi4jUBKpP/edit>

SURVEY FLYER (Version 1) (Appendix D1)



DHMC CREATIVE ARTS PROGRAM

HAVE FEEDBACK ABOUT THE ART?

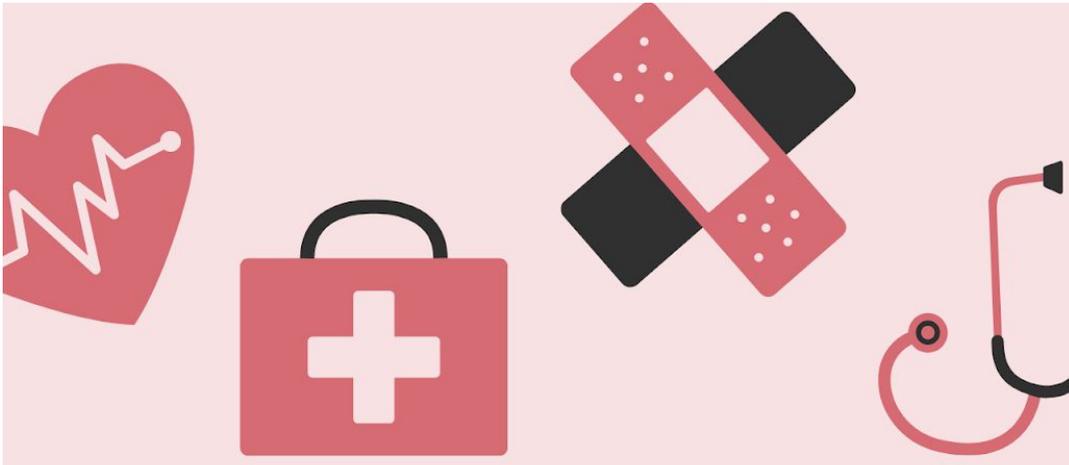
*Fill out this 10-15 minute survey to support
the arts at DHMC and inform future projects!*

<https://tinyurl.com/DHMCArts>



FOR MORE INFORMATION ABOUT OUR EFFORTS,
CONTACT MARIANNE BARTHEL AT
MARIANNE.L.BARTHEL@HITCHCOCK.ORG.

SURVEY FLYER (Version 2) (Appendix D2)



**HAVE FEEDBACK
ABOUT THE ART?**

Take this 10-15 minute survey to support
the DHMC Arts Program and inform
future projects!

<https://tinyurl.com/DHMCArts>



FOR MORE INFORMATION ABOUT OUR EFFORTS,
CONTACT MARIANNE BARTHEL AT
MARIANNE.L.BARTHEL@HITCHCOCK.ORG.

SURVEY (Appendix E)

DHMC Arts Program Survey

Dartmouth-Hitchcock Medical Center Arts Program is hoping to assess the impact art has on patient satisfaction in a hospital setting. The survey will take about 10-15 minutes. Your participation in this survey is voluntary, and you can decide to quit at any time. Through your participation in our study, you can opt into a raffle for a reward if you so desire. Your responses are confidential and will not be linked to you in any way unless you decide to enter into the raffle, which will require you to enter your email address. However, your email address will only be used for the raffle. If you have any questions or concerns regarding your participation in the study or want more information, you can contact Marianne Barthel, Director of the Arts Program, at marianne.l.barthel@hitchcock.org.

* Required

Please indicate whether or not you consent to participate in this study below. If you do not consent to participate, please exit the survey now. *

- Yes, I consent to participate in this research
- No, I do not consent

Survey Qualification Questions:

Are you 18 years of age or older? *

- Yes
- No

At any point in the last 12 months, have you been at DHMC as a patient? *

- Yes
- No

When you visit Dartmouth-Hitchcock Medical Center, have you noticed the public displays of artwork located throughout the hospital? *

- Yes
- No

How many times did you visit the hospital in the last 12 months? *

- One
- Two
- Three
- Four
- Five or more

How would you rate the quality of DHMC's interior environment? (interior environment includes display of public art) *

- Excellent
- Very good
- Good
- Fair
- Poor

On a typical hospital visit in the past 12 months, how often did you see artwork in the hospital? *

- Never
- Rarely
- Sometimes
- Frequently
- Always

What types of art would you most like to see in the hospital? *

- landscapes/nature pictures
- portraits
- animals/bird paintings
- abstract art
- sculptures
- other
- No preference
- No art

Rate the following descriptors based on your assessment of the overall environment and atmosphere. *

1 2 3 4 5 6 7 8 9 10

Not likely Very likely

On a scale from 1 to 5, how would you say viewing the art affected your mood? (1= significantly worsened, 5= significantly improved) *

1 2 3 4 5

Significantly Worsened Significantly improved

On a scale from 1 to 5, how would you say viewing the art affected your stress level? *

1 2 3 4 5

Significantly worsened Significantly improved

How big is your town? *

- 0-2,999
- 3,000-5,999
- 6,000-8,999
- 9,000-11,999
- 12,000-14,999
- 15,000-17,999
- 18,000-20,999
- 21,000-23,999
- 24,000-26,999
- 27,000-29,999
- 30,000- and above

What is your race? Please choose one or more. *

- White
- Black or African American
- Asian
- Native Hawaiian or other Pacific Islander
- American Indian or Alaska Native
- Other

Are you of Spanish, Hispanic, or Latino origin or descent? *

- No, not Spanish/Hispanic/Latino
- Yes, Puerto Rican
- Yes, Mexican, Mexican American, Chicano
- Yes, Cuban
- Yes, other Spanish/Hispanic/Latino

What is your race? Please choose one or more. *

- White
- Black or African American
- Asian
- Native Hawaiian or other Pacific Islander
- American Indian or Alaska Native
- Other

Are you of Spanish, Hispanic, or Latino origin or descent? *

- No, not Spanish/Hispanic/Latino
- Yes, Puerto Rican
- Yes, Mexican, Mexican American, Chicano
- Yes, Cuban
- Yes, other Spanish/Hispanic/Latino

With what gender do you identify? *

- Male
- Female
- Nonbinary
- Other
- Prefer not to say

Which of the following best matches your annual household income? *

- Less than \$10,000
- \$10,000 - \$24,999
- \$25,000 - \$49,999
- \$50,000 - \$74,999
- \$75,000 - \$99,999
- \$100,000 or more

What is the highest grade or level of school that you have completed? *

- Less than high school
- High school graduate or GED
- 4-year college graduate
- More than 4-year college degree

Which of the following best fits your age group? *

- 18-24
- 25-31
- 32-38
- 44-50
- 51-57
- 58-66
- 67 and older

DHMC Arts Program Survey

Raffle Participation

Enter your email address if you would like to be added to the raffle for a chance to win a large prize/reward.

Your answer

Link to Survey:

<https://forms.gle/Rp4suz5HfknMCzu66>

Link to Edit Survey:

https://docs.google.com/forms/d/1pcBGMoZkzTD-NOINsFKHYxzyc_xLjXGYoXO2n5DbHfA/edit