Now You See Me: The Emotional Impact of Visible Labs on Museum Staff

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Abstract

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THE EMOTIONAL IMPACT OF VISIBLE LABS ON MUSEUM STAFF

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In the last half-century, visible lab and storage spaces have become a popular phenomenon around the world. These new spaces provide visitors to the museum the option to view museum staff, operations, and collections which were usually behind the scenes. This is usually done by renovating these spaces so that there is a glass window so that the public can look into the lab or collections space from the museum. Changes such as these have been buoyed by a wave of interest in making museums more democratic and transparent. Because this movement to openness toward the community was focused on the visitor's experience, the majority of research surrounding visible lab spaces focuses on visitor reactions to these spaces. The purpose of this research study was to understand the impact of working in an inside-out setting within a museum on the emotional well-being of museum staff who conduct daily business in these spaces. With that goal in mind, a phenomenological study was done by conducting seven semi-structured interviews across three institutions with visible lab spaces. The results of this research were that staff experience both positive and negative emotional impacts by working in these spaces, which are brought on by interactions with visitors, the change in obligations and responsibilities, and the amplification of staff emotions by being observed at work. The results have implications for museum practice and the organizations' treatment of the emotions of staff who conduct business in these spaces, and also serves as preliminary investigation for further research.

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Table of Contents

Chapter One: Introduction

In 1976, the Museum of Anthropology in Vancouver, Canada opened one of the first visible collections spaces “As a teaching museum associated with Canada’s second largest university, it was considered desirable for the Museum of Anthropology to increase access to teaching collections as much as possible” (Ames, 1985, p. 61.). Since that year, visible labs and collections areas in museums have blossomed into a global phenomenon. These new spaces provided visitors to the museum the option to view museum staff and collections which were usually behind the scenes. This was usually done by renovating these spaces so that there was a glass window through which the public could look into the lab or collections space from the museum. Visible labs spaces are distinguished from other visible spaces within the museum by being spaces in which lab work is actively conducted by staff within view of the museum’s visitors.

Changes such as these were buoyed by a wave of interest over the last fifty years in making museums more democratic and transparent. "The argument for supporting natural history museums as scientific and cultural entities is increasingly driven not simply by their individual identities but, more importantly, by the way they engage with others in the world to accomplish their individual missions." (Hennes, 2007, p. 88). While the creation of these spaces may not inherently make the museum a more democratized space, it is part of a larger movement toward a more open and authentic visitor experience, a goal of the museum field in recent decades (Reeves, 2017, p. 62).

Problem

Because this movement toward openness toward the community was focused on the visitor's experience, the majority of research surrounding visible lab spaces focuses on visitor reactions to these spaces. This research suggests that visitors generally understand the ideas behind the visible lab and storage areas, and see them as both engaging and important (Bradley, 2015; Dawes, 2016). However, many museum visitors are not aware of the visible spaces prior to coming to the museums, and don't cite them as a reason for visiting (Dawes, 2016, p. 46).

Additional topics of research include the debate between access and conservation (Allen, 2001; Ahrens, 2010; Perier, 1998) and implementation tips for adopting visible labs (Hillberry, 2002; Lopez, 2016; Slater, 1995). These studies discovered that while visible labs and storage are interesting and instructive for visitors, they present a unique set of problems, such as the inability to easily access collections on display, and visitors generally tended not to understand what the visible storage was or the best ways to use it (Slater, 1995).

However, despite the growing phenomenon of visible storage and visible labs, little research has thus far been conducted on the impact of these models on the museum staff who work in them. While a few books and articles briefly mention that the visible lab as a workspace could have an impact on the people who work in them, this was almost never a main focus of the research. Even in the one instance where it was, the study focused on only one museum and the research consisted entirely of informal observations (Meyer, 2011). Research in other settings on the impact on individuals when they are being observed at work has shown that when workers are aware of being watched they tend to change their behavior, and even though over time they may appear to return to a state of normalcy, this is less a true adjustment to being observed and

more from the exhaustion of presenting themselves differently for such an extended period of time (Schwartz 2013 & Lebbon 2013). Visible labs in museums present a unique environment that could have an equally unique impact on the staff who work there and which is not currently being studied.

Purpose

The purpose of this research study was to understand the impact of working in a visible lab setting within a museum on the emotional well-being of museum staff who conduct daily business in these spaces. With this in mind, I chose three questions to guide the research:

1. What impact (if any) do staff feel the inside-out model has on their emotional well-being?
2. What aspects of their job related to working in this setting do they attribute to their emotional wellbeing?
3. How do the museum professionals deal with the consequences of working in this setting?

Significance

Traditional museum roles are evolving, especially for those who work in museums with visible spaces and who may be asked to make large changes in their roles, tasks, and hours. More and more museums are making changes to introduce greater access for visitors, including implementing visible laboratories. This research aims to aid four distinct groups: prospective staff, current staff whose museum is adopting visible lab spaces, current visible lab workers, and museum management.

This research is important because it gives them access to the experiences of other museum staff and provides prospective museum staff with insight into what their role might entail at a museum with visible labs. It also presented current museum staff with the opportunity

to share their insights, stories, and experiences, and gave them the space to make constructive comments so that museums which construct visible labs in the future could adjust their work environments accordingly. In addition, museums themselves will be able to use this research to adapt their institution in order to keep their workers happy and healthy.

Chapter 2: Literature Review

Many museums have adopted visible labs and storage spaces, whereby visitors to the museum are able to see into both storage spaces and laboratories within the museum. These visible lab spaces enable visitors to see into these previously concealed spaces, observe the work being done, and gain a better understanding of what the museum does and why it is important. These spaces have become more popular in the wake of a growing movement to make museums more transparent to their community (Hennes, 2007, p. 98). As of 2020, over 44 museums in the United States alone had adopted some form of visible storage, laboratories, or both (Lopez, 2016, p. 50-52). While some art museums have adopted this strategy, the majority currently appear to be natural history museums. Natural history museums conduct research, which is important towards understanding the full effects of climate change, increases in population, decreases in natural resources, and other such problems faced by the global community (Watson, 2013, p. 225), making them ideal museums to house visible lab and storage spaces. Studies suggest that the ability to see into these spaces enhances the visitors' sense of community as well as a sense of responsibility towards the state of the planet and the global repercussions of individual actions. (Watson, 2013, p. 255).

As a museum's architecture changes, so too does their relationship with the communities they serve. In fact, increased need for public access has historically been a driving force in the architectural changes a museum faces (Forgan, 1994, p. 139). In order for museums to stay relevant and a vital part of their communities, as well as to actively strive to make those communities better, increased interaction and transparency with those communities is needed (Hennes, 2007, p. 98). This is where visible lab spaces come in. Adding these labs and other

spaces like them into museums allows museums "to move from a position of detachment to one of connection; from holding themselves apart from the world they once described, to engaging with a world for which they take responsibility" (Hennes, 2007, p. 90). In fact, in much of the literature surrounding museums integrating visible lab and storage spaces, these are seen as a net positive. However, this community-oriented outlook has caused many researchers to overlook an invaluable perspective, that of the museum staff who work in visible lab spaces.

The purpose of this research study is to understand the impact of the visible labs within museums on the emotional well-being of museum staff who conduct daily business in these spaces. In order to do so, this chapter will first examine the literature previously conducted surrounding the topic of visible labs and visible storage in museums, and how it can inform and direct this research. While visible labs are a relatively new phenomenon, being introduced to museums in the 1970s by the Museum of Anthropology in Vancouver, Canada, the research conducted so far focuses on six main topics: the Observer Effect, museum employee well-being, the balance of preservation and access in visible labs and visible collections spaces, guidelines for implementing visible storage and visible labs, visitor reactions to these spaces, and visible lab impact.

The Observer Effect

Research has, in fact, been conducted on the effect being observed has on people while they are working. When the effect is from being observed for a study the effect is known as the "Hawthorne Effect" and when it is simply the effect of being observed it is known as the "Observer Effect". The theories surrounding both effects state that when a person knows they are being observed, they change their behavior. This can be seen in Schwartz's work on the

Hawthorne Effect, wherein they study whether participants in an energy conservation study alter their behavior once they learn that said behavior is being monitored. Naturally, the behavior of the group being observed changed to a significant degree (Schwartz, 2013).

This was also found by Lebbon when they studied workers in a simulated work environment who also knew they were being observed. Their goal in this instance was to see how long it took for the worker to become "habituated" to their observation, meaning that they stop performing the altered behavior and act as they would were they not being observed. They found that they not only took longer than hypothesized to become habituated, but that in several instances they would drop the altered behavior out of fatigue from maintaining it rather than genuine habituation (Lebbon, 2013, p. 185).

Employee Well-being

Another area of research that is recently gaining traction is museum employee well-being in general. In 2019 Dorothy Svgdik conducted a study on the emotional well-being of employees at museums which center much of their dialogue around trauma. She found that employee well-being was impacted greatly by interactions with the public. Her results showed that there were implications for museum practice, namely in "developing institutional strategies for handling the effects of negative emotions in the workplace, imploring trauma site museums to prioritize self-care for their employees, and advocating for the implementation of trauma-informed practices to support employees." (Svgdik, 2019, p. 80).

In addition, people have studied the overall happiness of museum workers. Michelbach, for instance, found that museum workers "scored lower in workplace experience than in other

domains of well-being" but also that they experienced positive effects more frequently than negative ones while at work (Michelbach, 2013). She came to the conclusion that

> "Museum supervisors and workplace policymakers need to consider the impact of current demands on their staff while also bearing in mind how such demands could compromise the well-being, and retention, of their staff for the future. On a personal level, museum professionals may need to recognize the importance of caring for their own well-being. If they believe in the work they do, then they should take a long-term view, considering how they can improve their well-being in the short-term while also maintaining their well-being for the duration of their career" (Michelbach, 2013, p. 67).

What these two studies indicate is that while this study will not be the first to study worker well-being, or to note that visible labs impact the people who work in them, it will be one of the first to study those two phenomena in conjunction.

While meaningful work can fuel the passions of driven employees, it can also lead to faster employee burnout, as Kira Schabram found in her work *Negotiating the Challenges of a Calling: Emotion and Enacted Sensemaking in Animal Shelter Work (*Schabram, 2017). Schabram found that the more passionately a person felt about their vocation, the more quickly they would reach a point of emotional burnout (Schabram, 2017). This could also be the case for passionate employees who work in visible lab spaces. While museums have become increasingly focused on the well-being of their visitors, it seems they have perhaps become less focused on the well-being of their staff members. The employees who work in visible labs have to contend both with the professional pressures of performance and the emotional pressures that come from being in these spaces. Museum employees in visible labs are not only being asked to change how they operate professionally to include a performative aspect to their roles, they are also being asked to work in spaces which may have a more personal, emotional impact on their well-being.

As museum employees tend to be very passionate and sometimes have to discuss and engage with the public on sensitive or difficult subject matter, this burnout may also affect them.

Preservation vs. Access

The majority of the research surrounding visible labs and visible storage focuses largely on striking a balance between preservation and access and the unique struggles with preservation that come with providing such a large degree of access to the public. For instance, Allen's 2001 article "Making Collections Visible" focuses on the Metropolitan museum's new wing which featured a visible storage area, and its impact on the implementation of future visible storage areas (Allen, 2001, p. 3). She writes positively about this change throughout the article, commending the increased access that visitors will have to the collection and the potential for new technology saying,

> "The museum is keenly aware of its indebtedness to the open storage idea ...Now the Smithsonian American Art Museum, buoyed by the Luce Foundation's investment of confidence in its future, is poised to express this model in new ways through display, public programming, and technical enhancements that validate and extend the open storage concept" (Allen, 2001, p. 3).

In contrast, Perier-D'leteren's "Tourism and Conservation: Striking a Balance" takes a less optimistic stance on increased access. While her writing focuses on tourism to heritage sites and public restoration sites rather than visible labs or storage, many of the issues she brings to light surrounding increased access and the solutions she offers are still applicable to visible storage settings.

Perier-D'leteren does not see access as a net negative, and even acknowledges that conservation and restoration projects done in public view increase interest and awareness of conservation issues at heritage sites (Perier-D'leteren, 1998, p. 11). However, she also cautions

that "It is nevertheless a matter of concern that, in this ever-changing field, conservation and restoration are still the poor relations of the subjects dealt with when they should be priorities, since, if the heritage is considered merely as a product for consumption by tourists, it is doomed to rapid extinction" (Perier-D'leteren, 1998, p. 5).

The key beliefs espoused by Perier-'leteren were that conservation and restoration are as important if not more so than access by the public. Alternative sites/replicas, staggered opening times and dates, and admissions restrictions are good alternatives that allow the public direct access to the objects without putting them in undue danger (Perier-D'leteren, 1998, p. 6). While this research does not focus on conservation, it is important to consider that the increased risk to collections caused by the implementation of visible labs may cause increased stress in employees who work there and who care for the collections, and changes how they conduct their daily work. These increased risks could come from threats of theft and accidents during increased object handling, but also from damage due to the realities of display causing harm to objects. In most instances of visible storage, the storage areas are lit so that visitors can see in, but these lights cause immediate and irreversible damage to all storage objects, when in a non-visible storage setting only a very small percentage of the collection would receive light damage, those being the objects on exhibit.

Implementing Visible Labs and Visible Storage

Another large portion of the research surrounding visible labs and visible storage concentrated on how to implement them. For example, John Hillberry's "Behind the Scenes: Strategies for Visible Storage" presents guidelines for how to successfully implement visible storage in museums. Hillberry said,

> "One of the advantages of isolating visitors behind a glass window or partition is that the storage areas remain easily and conveniently accessible to authorized staff at all times without the danger of loss or damage caused by curious or malevolent members of the public. And seeing the staff or others working with the collection can be, in itself, interesting and instructive for visitors" (Hillberry, 2002, p. 38).

Like most of the other research, however, Hillberry focuses not at all on the workers behind the glass.

Dennis Slater's "Visible Storage: The Glenbow Experiment" also offers tips on how to carry out visible storage, and does so by examining the Glenbow Museum and what specifically made the visible storage there a success, as well as what could be improved in the future. Throughout the article, Slater compares the Glenbow Museum to the Museum of Anthropology at the University of British Columbia, which has been largely regarded by the field to be a magnificent success and a model for future endeavors of the same kind (Ames, 1985, p. 61). What Slater found was that visitors did not understand what the visible storage was or how to use it, and that staff had issues accessing the collections on display because of the construction of the visible units (Slater, 1995, p. 16). While these may seem like common sense, easy to solve problems, the article was written in 1995, when visible storage was only just beginning to morph into the phenomenon it is today, and the problems Slater notes are still relevant to museum staff now.

Paul Thistle's "Visible Storage for the Small Museum" (1990) also placed emphasis on the staff in such environments. Thistle noted that

> "Negative consequences for staff are also worrisome. Because all of the museum's errors, foibles, and insignificant kitsch are placed before the public, staff can be embarrassed more often than is the case with thoroughly researched exhibits.

> They are under pressure to upgrade and expand the catalogue data (although many regarded this as a positive consequence). They are forced into spending much more time dealing with visitors than would be the case with traditional systems. This may interfere with collections management and/or research. Some observers even make the case that the position, authority, and traditional responsibilities of curators may be undermined. Staff may also find working with a collection housed in a public area awkward and risky in security terms" (p. 53).

He also mentions that staff are taken from their typical "background" roles and put in positions of greater visual prominence after previously working in much more isolated environments (Thistle, 1990, p. 51). As before, however, this was not a focus of Thistle's research, and as such did not delve any deeper into the issue.

Visitor Reactions

The final segment of literature focuses on the perspective of the visitors to museums and their reactions to visible storage and labs. For instance, in "Looking Through Glass" Sena Dawes focuses on visitor perceptions of visible storage (Dawes, 2016, p. 3). Dawes found that "Results suggest that the majority of visitors understood the purpose of visible storage, and believe that it is very or extremely important for museums to provide access to their collections. While most visitors reacted positively to visible storage, many felt overwhelmed by the amount of objects in the space" due to the sheer amount of objects and the lack of interpretation (Dawes, 2016, p. 3). After conducting and analyzing her research, Dawes concludes that "Most participants in this study did not know about the visible storage before coming to the museum and may not have

thought about collections access before being interviewed. Once asked, participants expressed that their time in the visible storage gallery did enhance their overall museum experience" (Dawes, 2016, p. 46).

Dawes mentions in her thesis that there is little research focused on visitor perspectives and that more should be conducted as museums don't seem to have fully communicated what visible labs and storage spaces are and are for, and are therefore causing much confusion among visitors (Dawes, 2016, 35). However, her work already provides more research for visitor perspectives on utilizing visible storage and labs spaces than currently exists for museum staff working in them.

The second visitor perspective comes straight from a visitor in the form of an online op-ed from the BBC. The article, "Why Museums Hide Masterpieces Away" by Kimberly Bradley, explores why museums cannot display everything in their collection at once, despite possessing objects in storage spaces that may be of interest to visitors (Bradley, 2015). This article found that though museums house the majority of their collections in storage spaces that are inaccessible to the public, the objects not on display still hold interest and value to the community. This confirms Dawes' theory that visitors are gaining interest in and awareness of greater access to museum collections. This work provides a layman's perspective on non-visible museum collections, and represents the demographic often cited by museums as the reason to go about implementing visible spaces within the institution.

Visible Lab Impact

Research in understanding the impact of visible labs has either not been undertaken or has not been well documented. However, it is the area of work which has the most relevance to

this research. Morgan Meyers' article "Researchers on Display", published in *Museum Management and Curation* in 2011, focuses on similar aspects of the visible lab to this research "the changes that the laboratory undergoes through this relocation –namely a transformation of its social and material architecture; an extension of its object-world; and a change in, and multiplication of, the roles of researchers" (Meyer, 2011, p.261). Meyer's research used a more informal and observational approach to her research than this study, and focused on two museums, the Deutsches Museum and the Berlin Museum, both located in Germany.

While Meyer notes that some researchers may feel discomfort due to being on display, and that their work was impacted by the environment of a visible laboratory, she does not present any direct quotes from researchers in the lab, and her research methodology appears to have consisted of informal observations. She does, however, go out of her way to make note of ways in which the museums she studied attempted to make working in a visible lab more comfortable for their researchers, namely having a floor which was slightly higher up in the laboratory than in the gallery, and having quiet rooms to which the researchers could retreat if needed (Meyer, 2011, p. 264-265). However, the researchers working in these labs were employed by the university, not the museum, and so would not be conducting all of their research in the lab and thus spending all of their time in that work space in the same way that employees of the museum might (Meyer, 2011, p. 262). While Meyer's work provides a solid foundation from which to build, there is still little that appears to have been conducted on this subject outside of it.

In 'Through the Glass: A Glimpse into the Management of Visible Labs', Justine Lopez examines the management, staffing and impact of visible labs in museums (Lopez, 2016, p. 18). Lopez discovered that "The research taking place in these labs is selected or designed not only to

engage the public but also to contribute to research in the associated disciplines of the labs with results often published in peer and museum publications" (Lopez, 2016, p. 3).

After conducting her research, she found that "The staff and the management in visible labs are a significant aspect in accomplishing the communications between the mission and visitors" (Lopez, 2016, p. 7). It is also important to note that Lopez also found that "Although not a focus of this study, there was a suggestion that visitors may not realize they are watching scientists and not actors" and that "More research is needed on the impact of these labs on the professionals who work in them, the visitors who view them and the institutions that host them" (Lopez, 2016, p. 3). While Lopez may not have focused on the effects that this work environment has on the staff who work in them, she is the second person thus far to have observed that these conditions may not be ideal.

"Visible Storage, Visible Labour?" focuses on museum professionals being put on display as well (Reeves, 2017, p. 55). However, Reeves' focus is more on the inequality of the kinds of labor being put on display, rather than on lab and collections workers specifically. As Reeves states, "Visible storage puts labour on display, but it is a very particular type of labour...The labour of collections work is visible, but the ongoing labour of cleaners, caterers or security staff remains invisible" (Reeves, 2017, p. 61). She also notes that being put on display in this manner naturally adds an aspect of performance to the work being done by these staff members, and concludes that while this is a novel phenomenon for museums, making storage and lab spaces visible does not inherently make them a "democratized" space (Reeves, 2017, p. 62). This shows that while museums are striving to show the "behind-the-scenes" lives of some of their staff, not all staff positions at a museum are put on display, and it is not enough simply to

work in a museum to be deemed worthy of display, the work a staff member does also has to have elements of entertainment or educational value.

Conclusion

Despite the growing phenomenon of visible storage and visible labs, little research has thus far been conducted which studies the impact of these models on the museum staff who work in them. Current research instead focuses on balancing preservation and access, implementation of visible labs and storage spaces, and visitor perspectives. What little research exists that mentions the effect of working in a visible lab environment has on museum staff is not focused solely on it, and therefore takes only a cursory glance at the issue. The goals of this research, therefore, are to determine how staff feel their roles differ from those working the same job in a traditionally modeled institution, discover if, and how, staff feel their professional lives have been impacted by the inside-out lab model, and identify what impact, if any, staff feel the inside-out model has on their mental well-being. This research proposes to fill in the gap and provide needed answers as to the effect that working in a visible and performative environment has on staff who work in roles which would traditionally be “behind the scenes”.

Chapter 3: Methods

Purpose

The purpose of this research study was to understand the impact of working in an inside-out setting within a museum on the well-being of museum staff who conduct daily business in these spaces. For the purpose of this research, a visible lab is defined as any space in which lab work is conducted in a museum that is also within view of the public.

What initially drew me to this research was my own personal experience working in a visible lab space. I noticed the impact it had on myself and those around me and wanted to see if it was one that was shared with other staff in similar work environments elsewhere. While I noticed that some of the impact that the space had on me was due to the performative aspect of the space, I also noticed that the workspace began to take an emotional toll which both derived from that performance and was separate from it. Because of this, emotional well-being generally was what I chose to focus on in this research, in an effort to bracket my own experiences from those of the participants in the study and to get as unbiased data as I could (Moustakas, 59)

The museum professionals working in these settings who participated in this research did work related to collections (such as rehousing, mount making, and object handling), specimen preparation (such as fossils or biological specimens), and computer work (such as cataloging, scheduling, and database work). They spent anywhere between one hour to seven hours per day in the visible labs, and spent between one and six days per work week in the visible lab spaces. Three research questions guided this research in order to pursue that purpose:

1. What impact (if any) do staff feel the inside-out model has on their emotional well-being?

2. What aspects of their job related to working in this setting do they attribute to their emotional well being?
3. How do the museum professionals deal with the consequences of working in this setting?

Research Approach

This study used a phenomenology study design that looked at the perspectives of multiple lab workers in visible labs from three separate museums, The Burke Museum of Natural History and Culture, The North Carolina Museum of Natural Sciences, and The Natural History Museum of Utah. The method of data collection was through semi-structured interviews with these staff members, whose names and titles will remain anonymous, concerning their perceptions of the impact of the environment of a visible lab on their work and their mental well-being. This chapter provides contextual information on why and how each of these institutions was chosen as well as some background information on each museum. In addition it outlines the data collection and analysis process.

Site Selection

For the purposes of this research, potential research sites had to match certain criteria:

1. They needed to have a visible lab space
2. They needed to have staff members who utilized the lab space on a regular basis as a part of their regular work routine

3. The lab needed to be in operation a significant portion of the day when the museum is open to the public so that the interview participants all had spent a large portion of the workday not only in the lab, but being observed in the lab

Since only some museums fit these specific criteria, despite there being many museums in the United States which operate visible lab spaces, the museums below were selected specifically because they fit the above criteria. Only visible labs were studied for this research. In one instance a participant worked in both a visible lab and a visible storage space, however the storage space had a workspace within it and similar types of work were conducted in the space as in the other labs studied.

The Burke Museum of Natural History and Culture

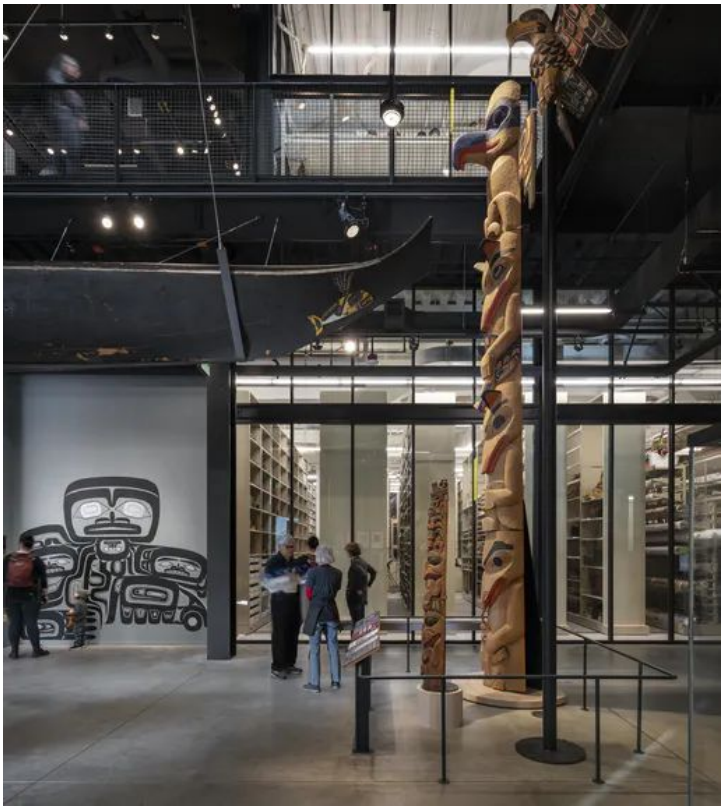

Figure 1: Burke Museum Contemporary Visible Storage Space. Retrieved from https://www.architecturalrecord.com/articles/14402-burke-museum-of-natural-history-and-culture-by-olson-kundig

The Burke Museum of Natural History and Culture in Seattle Washington, was established in 1885, and has existed in some form over 130 years. Today the Burke is associated with the University of Washington, and has rebuilt their museum building to accommodate visible laboratories and collections spaces which opened to the public in October 2019.

The mission of the Burke Museum is that the museum"...cares for and shares natural and cultural collections so all people can learn, be inspired, generate knowledge, feel joy, and heal" (Burke Museum, n.d.). Of the museums represented in this study, their labs are the most recently implemented. Each of their departments with collections has at least one visible lab and/or a visible storage space.

The North Carolina Museum of Natural Sciences

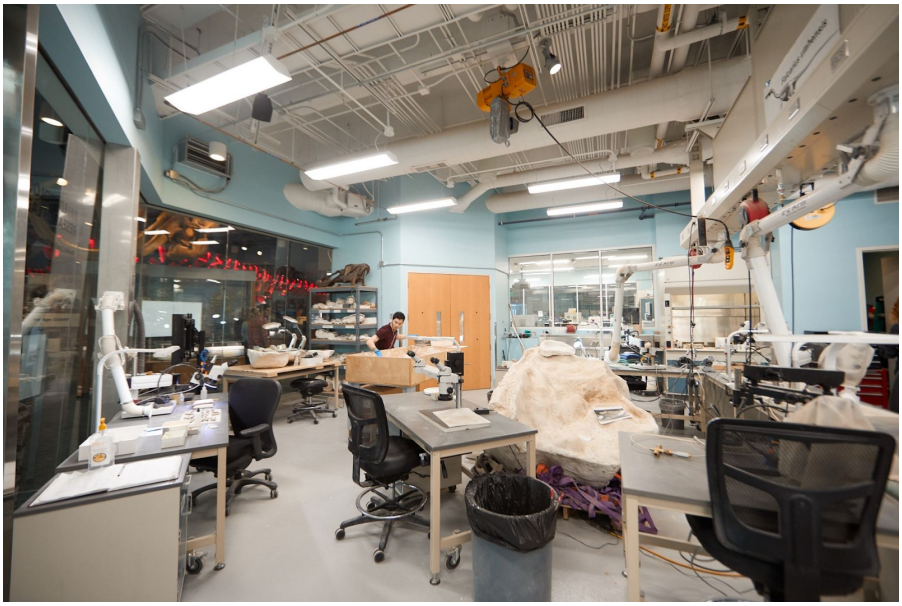

Figure 2: Visible Lab at the NC Museum of Natural Sciences. Retrieved from https://www.waltermagazine.com/current-issue/lindsay-zanno/

The North Carolina Museum of Natural Sciences is located in Raleigh, North Carolina. Their mission is "to illuminate the natural world and inspire its conservation". The museum was established in 1879 and implemented their visible lab spaces in 2012. Their labs look in on the laboratories in the Nature Research Center (Natural Sciences, n.d.).

The Natural History Museum of Utah

Figure 3: Fossil Preparation Lab at the Natural History Museum of Utah. Retrieved From https://nhmu.utah.edu/newsdesk/filming-and-photography-at-nhmu/gallery?title=Paleo+Prep+Lab

The Natural History Museum of Utah in Salt Lake City, Utah, was established in 1959 and implemented their visible labs and collections spaces in 2011. Their mission is that the museum "illuminates the natural world and the place of humans within it". They are affiliated with the University of Utah (NHMU Utah, 2019).

Participants

Similar to the site selection process, the participant selection process also had to measure up to a set of benchmarks:

1. The participants had to work in a visible lab
2. The participants had to work in the lab for many hours in their workday.
3. The participants had to be salaried employees, and could not be volunteers or work study students, or unpaid or part-time researchers

The staff could, however, work in any position other than the ones vetoed above, and likewise did not need to be in a particular rank within the institution. The reason only salaried staff were chosen for this research was because they have a permanent attachment to the space and their job in it, whereas hourly staff, volunteers, and student researchers have more flexibility with their schedules and tend to work in the spaces for shorter periods of time than salaried staff.

Originally, this research was intended to have twenty participants, four each from 5 institutions. Several institutions were contacted outside of the ones which participated in this research as well as additional staff members from the institutions represented in this study. However, due to the onset of the quarantine and museum closures associated with COVID-19 from the months of March 2020 onwards, there was limited contact and availability during the data collection period for this research. Ultimately seven participants were interviewed, three from the Burke Museum, two from the North Carolina Museum of Natural Sciences, and two from the Natural History Museum of Utah.

These participants were located by using the staff directories on each museum's webpage and by a snowball sampling method wherein participants recommended other staff members for participation. They were contacted by email after which the phone interviews were scheduled.

The participants were selected because they fit the criteria above, although they spent varying amounts of time in the lab spaces, and because they indicated willingness to participate. All of the participants had worked at their museums for at least two years, and in the visible lab spaces for a minimum of five months, with the person working the longest in an institution with a visible lab having been there for 11 years (although this individual also spent the least amount of time within the lab itself). The average length of time spent in the visible labs per work day was 4 hours and forty-five minutes, with the least amount of time being between 15 minutes and 3 hours, and the most being seven hours. Participants worked between one and six days per work week in the visible lab spaces. While ideally the participants would have worked longer hours more consistently in the visible labs, due to the limitations described above that was not the case.

The table below in Figure 4 summarizes the demographic information for each participant. The interviews are labeled with a letter and number to maintain the anonymity of the participants, and interview quotes will be labeled with their identifying label throughout the rest of the document.

Interview	A1	A2	B1	B2	C1	C2	B3
Position	Lab Manager; Volunteer Coordinator	Preparator	Collections Manager	Collections Manager	Collections Manager	Chief Curator, Curator	Collections Manager
Tenure	2 years	4 years	19 years	9 years	11 years	11 years	29 years
Tenure in Visible Lab	2 years	4 years	5 months	5 months	9 years	11 years	5 months
Hours in Visible Lab Per Workday	7	7	4-5	2-3	7 total 3 (prep lab), 4 (collections)	15 min-3 hours	2
Days in Visible Lab Per Work Week	5-6	5	5	5	5	1+	5

Figure 4: Table of participant demographics

Data Collection

As noted above, the data collection process consisted of semi-structured interviews with museum staff. These staff members remained anonymous and were asked to verbally consent to being interviewed and recorded prior to the interview. A copy of the interview questions and the consent talking points can be found in Appendices A and B respectively. The interviews varied in length depending on how much each individual participant chose to discuss, however the average length of the interviews was approximately 30 minutes. These interviews were conducted over the phone and transcribed using Trint and Google Drive.

Data Analysis

After the interviews were recorded and transcribed, they were coded using Microsoft Excel. From there, the interview responses were organized in a coding rubric based on the questions they answered, and emergent codes were then pulled from the response (see Appendix C attached below). These themes were: the nature of the work in the visible lab space, the

contrast between that work and non-visible work, the emotional impact of visible lab work, and an additional comments section wherein the participants thoughts outside of the themes listed above were included. These themes were used to analyze patterns across all of the participants' interviews as well as to establish outliers. Once the interviews were coded, the analysis process began.

Limitations

After the research had been conducted and analyzed, it was easy to find some limitations in the methods used to conduct it. Since no two visible labs are exactly the same, it is impossible to perfectly compare staff experiences between institutions. Likewise, the previous experience of staff of working in visible labs and the duration of time within those spaces were not the same between any two staff members. In exactly the opposite way, this research was also unable to compare between people who work in visible labs versus those who do not. It also did not use any other data collection method outside of the semi-structured interviews, such as observation, which could prove useful in future studies on the topic. This research was also limited by time and budgetary constraints, as all research is. Given a greater number of altered methods and different circumstances surrounding the research, perhaps different results would appear.

One final note is that during the process of conducting this research, the global Covid-19 pandemic was also occurring, as well as an earthquake in Utah. This meant that many of the participants were experiencing unprecedented circumstances during which not only was their availability impacted, but also their stress and physical health. It also meant that it was more difficult than initially anticipated to get into contact with potential participants.

The framework developed by Clark Moustakas was used to conduct the analysis of this research (Moustakas, 1994). There are four stages involved in this framework. The first, the Epochal stage, which involves setting aside researcher biases and prejudgments. The second stage is Phenomenological Reduction, the task of describing in textural language both the external object and the internal life. The third stage is the Imaginative Variation stage, the goal of which is to arrive at structural experiences and to illuminate the meaning. The last stage is Integration which complements the rich emotional description with direct evidence in the form of quotes from the interview subjects (Moustakas, 1994). Results of the analysis are organized by the research questions which guided the data collection process, and excerpts from the interviews are provided within quotation marks to present the participants' thoughts in their own words.

Chapter 4: Results

This study explored the impact of working in visible lab spaces on the museum staff in museums that had adopted a visible lab model.

The three research questions that guided this exploration were:

1. What impact (if any) do staff feel the inside-out model has on their emotional well-being?
2. What aspects of their job related to working in this setting do they attribute to their emotional well-being?
3. How do the museum professionals deal with the consequences of working in this setting?

Below are the results of the data collection conducted for this phenomenological research study. In analyzing the data, I looked for emerging themes which arose through the participant's own language. This was done using the coding rubric which can be found in Appendix C. It is important to keep in mind that best practices for phenomenological research recommend a sample size of 20-30 interviews or until saturation is reached (Cresswell, 2009). That is to say that additional interviews may yield more, or contradictory, themes. However, the COVID-19 pandemic rendered it impossible to recruit additional sites or participants beyond the seven below. Therefore, the results below must be considered preliminary.

Research Question 1: What impact (if any) do staff feel the inside-out model has on their emotional well-being?

Positive Impacts

Each of the participants was asked whether they felt that working in the visible spaces provided any benefits to them. Their answers were that they felt that they benefited from working in the visible lab spaces by getting to see excited visitors, particularly children, seeing

entertaining interactions through the glass, feeling pride in what they do, being able to act creatively, feeling an increased sense of professional agency within the space, connecting to the audience, and the feeling that they're making a difference with their work. As one participant said “I do get much more part of the community here. It's much more inviting...Just that sense of being more connected to a community that they can see us doing work and really trying to press the whole science communication thing is really big. So that's definitely a plus” (Interview A1).

In addition, one of the participants stated, “It’s really fun to talk to people and share with them what archaeology is, how it works in [our state]”. Later they included, “And certainly I’m excited. And then the fact that they ask me questions in conversation makes it exciting for me to see that people actually want to learn about it and we’re here to share it with them. So it feels kind of rewarding” (Interview B2).

They were also asked whether they had ever felt any positive emotions while working the visible labs that they felt were triggered specifically by being in that space. All the staff members said that they had. Some of the catalysts for these feelings were seeing engaged visitors, particularly excited children, having pride in their work, and getting to share their knowledge with visitors. In the words of one of the interviewees,

> “...I am happy being in the fishbowl, like I said, as opposed to the room without the windows. So mentally, for me, it's much better. Well, to be able to see outside, because most of this building has a lot of glass. We can see from the lab directly outside. So that really helps. And then just being able to for me, just being able to see the visitors that are staring into the lab, I get a kick out of their reactions, whether it be that they think that we're in there making fossils or if they recognize something that they have seen before and they make connections. I enjoy that a lot” (Interview A1).

Negative Impacts

Conversely to being asked whether they thought they benefited from working in the visible labs, the staff participants were also asked whether they were challenged by working in the visible labs spaces, and if so, by what. The challenges these individuals felt came from rude visitors, space concerns (at least one wall in a visible lab is a window which takes away from space available to work in), feeling emotionally drained, having their feelings amplified by being observed, and the feeling of having additional responsibilities such as needing to entertain, coordinating with colleagues and scheduling lab workers, and feeling obligated to fill the space. As one of the participants elaborated,

> "the fact that we have a really cool space, that we are on display has provided an opportunity to do a [temporary display] kind of a thing. But with that comes more responsibility where I have to think about it and then I'll pick out a fossil and then work with the exhibits team to make a really cool plaque for it, and then work with the marketing team to put it on Facebook and Instagram it and put it on our web page, you know?..and so that has added some work load to my job that would not have been there had we not had a window" (Interview C1).

Later they added, "I do enjoy switching it out and I do enjoy seeing people, especially school kids, and they're looking in and waving and realizing that we're real people. Sometimes they think we're robots. And so laughing is fun, waving, that kind of thing. But then also if something does go wrong and it's in front of an audience you feel even more mortified about it" (Interview C1). When asked if they ever felt any negative emotions that they attributed to the space they described an embarrassing moment at

work and then said “it would be exacerbated if somebody watched that happening for sure. You know, in this day and age everybody can whip their cell phones out and take a video of you doing something. And you don’t want it to be like, proof to a colleague that, you know, you did something wrong or you’re bad at your job” (Interview C1). As another participant put it:

> “it occasionally feels just like there's the stratified system where it's like, ‘am I just here to occasionally do good work and mostly just supervise a couple of people to be gawked at?’ Academic people generally don't do this. And they also know this is often work for introverted people to begin with. So this just feels like ‘hey, look at the preparators, isn't that something’. It's for a good cause, but I feel like it would be nice to have that not be happening virtually all the time. Just to have times to be a little more social and just on view and then times to sort of recharge” (Interview A2).

They also included,

> “not everything we work on is gonna be like, some sort of showstopper...so it’s occasionally frustrating when, despite our best efforts, we’re just working on some specimen that is half covered in dirt. And it’s going to be scientifically valuable but never, like, great looking. And so when someone is staring through the glass and they can’t tell what we’re doing and they just walk away frustrated I feel like that’s a lost opportunity to really show the public what we can do. In a sense, it’s really got to pull them in as opposed to just getting bored and keeping walking” (Interview A2).

Neutral Impacts

Some of the participants said they did not feel they had any emotional impact from working in the visible labs whatsoever. In the words of one participant “the only challenge is really how to make that engagement even better rather than just people blankly staring through the windows...the only negative emotion would be if you see someone walk right by it, not even glance through the window. You go, ‘why are they not interested?’” (Interview C2). Three participants repeatedly encouraged the notion that they were not influenced by being in the

space. One of them felt they didn't spend enough time in the lab to have strong feelings about it, and the other two simply did not feel that they were impacted at all. In the words of one of these participants

> Right now I'm like 'oh no, window activation is part of my formula. I got to work that as I'm juggling everything. What can the volunteers do? These are the tasks that I kind of need done today. Is there a good overlap?' So those are the same types of things that have the bigger impact on me, not so much the 'Oh, my God, they're looking at me. Do I have anything in my teeth' sort of thing, right?" (Interview B1).

One of them also theorized that people who have been working in these spaces for long periods of time have likely become used to being in the visible lab spaces or were never bothered by being in them. They postulated that their peers who had not worked in the spaces for a long time and were not enjoying being on display might self-select out. In their own words "If you ask people who work in windows, 'hey, how do you like working in windows?' you are not capturing people who decided not to go into museum fields, or who quit, or retired when [the museum] moved [to visible lab spaces]" (Interview B1). While they make an excellent point that this research does not cover the group of people who self-selected out of working in visible lab spaces or museums generally, that is also beyond the scope of this research, as the primary purpose of this research is to determine what impact (if any) working in a visible lab space in a museum has on the people who work there, and therefore does not include people who do not work in those spaces, whatever their reasoning for that may be.

Research Question 2: What aspects of their job related to working in this setting do they attribute to their emotional well-being?

The Work Environment of the Visible Lab

One question during the interviews asked participants if they had worked in a behind-the-scenes (not visible) lab before working in the visible lab spaces. If they had done so, they were asked if they thought their job differed from others who worked the same job in a behind-the-scenes environment. Those who had not worked in a non-visible lab setting were asked if they thought their job would differ. Many of the participants thought their job did or would differ significantly if they did not work in a visible lab. The ways in which they thought their jobs might differ were: in the way they presented themselves, the distraction of visitors observing them, the need to be more heavily scheduling people working in the lab, and the obligation to be activating the space and doing something entertaining.

The participants were also asked which aspect of working in a visible lab they found to be the most consequential to their emotional well-being. Responses were that the amplifying effect of the work environment on their emotions, the pressure to project a sense of legitimacy, to represent their job, and to interpret what they're doing at any given time. One of the participants said that being visible made them hyper aware of their existing job pressures and had the greatest impact on their emotional well-being. As one participant put it “when things are going well with the temporary exhibit that I'm really proud of and I created that, because we have the visual lab space that makes me happy. And then again, when things go bad in front of a window, you feel even more upset about it” (Interview C1).

Another participant added, “And then when we’re being watched from outside there’s even more pressure just to project a sense of legitimacy and just--It’s just exhausting some days...and it just makes you occasionally hyper aware of all the job pressures you have on you from various directions”. They later said, “There are times when I feel like, ‘hey I’m having a good day and my work looks great’. I’m proud to show it off. But there might be another day when despite my best efforts, this project just isn’t going the way I’d like it to. And there are just people staring at me while that’s happening, and that’s less fun” (Interview A2).

Relationships to the Institution

Another question the participants were asked was whether they felt the relationship they had with the institution changed once the museum initiated its visible lab spaces. This was only asked of the participants who had worked at the institution prior to the visible lab implementation, which was five of them. Several said they felt that the relationship had changed, for better or for worse. The positive responses were that they felt an increased feeling of community and improved inter-departmental relationships, as well as the ability for all staff to see what is going on in other departments. Some also felt that the museum was more inviting. Some of the negative feelings toward the perceived relationship change were the amplification of feelings in that space, the feeling of being, "on edge", the feeling of an increased expectation of professionalism, the feeling of less communication and isolation between departments, and an obligation to be in the visible spaces at specific times and to staff visible spaces to keep them "active". As one participant elaborated,

> “I think expectations have certainly changed. And those have been both positive and negative, I think. The obligation to be in certain spaces at certain times when maybe we don't have the bandwidth to do that has been difficult. So it's almost like balancing the public facing side, and like the visitor services side and the

> collections management side has been a little bit--can be a little challenging sometimes" (Interview B2).

Contrast in Labor

Another of the questions asked of the participants was whether they felt working in a visible lab setting had any differences in the physical labor required from working in a behind-the-scenes lab. Some of the participants thought that it did, with the participants citing the existence of additional tasks, different professional obligations and responsibilities, and an added element of collaboration with certain of their colleagues that did not previously exist. As they said,

> "One of the challenges really has just been figuring out among different colleagues how to handle it. What's their posture towards the window? How do we share the space? Because we're a bunch of people who are evenly ranked we don't have a good leadership structure...so the challenge I've had is how do we address all the different windows and the scheduling of those windows among all these different collections who normally don't have to work together….all of the sudden we are collectively responsible for making sure that room looks active...different work and totally different mission, you know what I mean?" (Interview B1).

They were also asked whether they thought working in a visible lab setting had any differences from working in a non-visible lab in terms of the mental labor required. Some of the negative aspects of this mental labor included the awareness of being watched, the awareness of needing to be professional and presentable, the awareness of representing their job and industry, the amplification of bad feelings by being in the space, and added variables in the execution of their job. As one participant said "...we definitely have to be cognizant that people are watching us, you know? If something goes wrong". Later they elaborated, "you have to be aware that you're being watched, for good things going on, for bad things going on" (Interview C1). Another participant included, "...we field things on a daily basis that aren't expected in a vocation. So like, really misinformed requests or questions" (Interview B2).

Some of the positive aspects of this mental labor included seeing children looking in through the glass, seeing people realize that the staff members were real people, the amplification of positive emotions in the space, getting to act creatively in the creation of temporary exhibits, and the ability to see out into the museum and into the outside world. As one participant put it "I think I've gotten a chance to kind of explore some new ways of activating the spaces...that allows me to get a little more creative with a job that can sometimes, you know, feel like there's not as much growth maybe" (Interview B2).

Research Question 3: How do the museum professionals deal with the consequences of working in this setting?

Carry Over Into Personal Life

One of the questions asked of the participants was whether they felt that the emotions triggered by working in the visible lab space were carried over into their personal lives after work. Five of the participants felt that the emotions were carried over. When asked which particularly carried over, the positive instance was listed as their mood being boosted. The four other participants said they carried over in negative ways. As one participant put it when asked if the emotions carried over, "Truthfully I never have. However, I have experienced a great deal of anxiety worrying about my people. I typically have--you know the volunteers and young students, you know, people who are teenagers still or early 20s, and we're discussing things like how do we keep our people safe during open door sessions" (Interview B1). Another said "It's not the best. I have, on many occasions, left frustrated and drained" (Interview A2).

Strategies for Working in the Visible Lab Spaces

Participants were also asked about what strategies they used to cope with working in the visible labs when they felt negative emotions from being there. Some of the strategies they listed took the form of personal actions, some of which were: staying positive, working out, healthy venting, organizing their space, and doing relaxing activities. Other actions were more professionally oriented actions, such as planning out actions in the space before doing them, and suggesting improvements to the museum that they felt would make the space a better work environment. One of the ways in which one of the participants felt the museum could adapt the space was to have it open at specific times throughout the day so that visitor-staff interactions could be better controlled and scheduled, and so that the staff had time to "recharge" and not be on display.

They were also asked what strategies the museum was employing to make employees feel safer or to mitigate the negative emotions they sometimes felt in the spaces. Some of the ways in which the museums had adapted were to use the buddy system with people working in the visible spaces, switching out when emotionally burnt, having white boards with useful information for the staff in case of uncomfortable situations as well as to communicate with visitors, having a radio in the space when the door is open, and designing quick locking mechanisms for doors. One participant described their lab's strategies saying,

> "we actually have a big whiteboard sign inside our lab space. And the public can't see it...so we can write information up there. [Like,] 'what do you do if someone says they have human remains?' Because, unfortunately, that is something that happens. And we have a little diagram for giving them the information they need to resolve that...We have a radio when the door is open. We also have printed out all the codes that the museum has kind of developed with lost children or a health emergency, or a suspicious person. So we have those posted in multiple places in that space so that pretty much anywhere you look when you're looking out at the public you could find that information" (Interview B2).

Overall the participants indicated that while there were some very positive aspects of working in the visible labs such as getting to see excited visitors and feeling like they can be creative and make a positive impact, working in the visible labs also had an amplifying effect on staff emotions, and many of the participants felt they had taken on extra obligations and responsibilities in addition to feeling an increased need to be doing work that was both important to the institution and also entertaining for visitors.

Chapter 5

The purpose of this research study was to find out what the emotional impact of working in a visible lab was on the museum staff who work in those spaces. While little research has been done on this subject specifically, visible labs are an emerging phenomenon which only seems to be getting more popular with time. Through a phenomenological study approach which consisted of seven semi-structured interviews, from staff at three different institutions, data was collected and analyzed over the course of four months and compiled into this thesis. This chapter summarizes the findings and applications of this research. Due to the limited sample size of this study, it serves as preliminary research which could be built upon by future researchers. Hopefully this research serves as a foundation upon which that later research can be built.

Conclusions

The emotional state of some staff members is amplified by being in the visible lab space.

Dorothy Svgdik in her 2019 thesis noted that employee well-being was greatly impacted by interactions between employees and the public (Svgdik, 2019, p. 80). While Svgdik's study was focused on museum staff at trauma museums and not in visible lab spaces, the observation appears to be true in both contexts. As several participants in this study stated, their existing mood or mood developed during work in the visible spaces was exacerbated by the awareness of being observed. This was true of both positive and negative emotions. While the implication of this is not necessarily negative, there are ways in which museums could mitigate the instances where these emotions manifest negatively, which are touched upon later in the section on implications for the field. Positive interactions with the public also impacted the emotional well being of the staff by boosting their moods, or making them feel pride in their work.

These museum staff are aware of being observed, and often act and feel differently due to this.

As Shwartz noted in their research on the "Hawthorne Effect" the behavior of people working in an environment where they are aware that they are being observed is altered (Schwartz, 2013). This was indicated by several participants, and caused staff members to act more carefully. Something several participants indicated was that they were concerned with the appearance of professionalism and felt like their colleagues and visitors were aware of their self-presentation and any mistakes they made in the space. They also felt the pressure to represent their job or profession and its importance to visitors. While some participants showed signs of what Lebbon referred to as "habituation", becoming used to being observed so that it no longer has an impact on the worker, even the participants that did not list any negative impacts from working in visible lab spaces still noted that they were aware of being observed (Lebbon, 2013, p. 185).

The visible labs also present stress to the staff who work in them due to complications with the space.

Participants mentioned several ways in which the visible labs were more difficult spaces in which to work, noting that the additional window removes a wall's worth of space where lab work can be done, the open windows of some labs make it difficult for staff to complete projects. Other difficulties were: the need to find and schedule people to be in the space to keep it activated, and to sometimes take on that job when there is other work to be done outside of the visible spaces, and the need to be doing something entertaining to make it appear like the work is

interesting and important, or even that work is being conducted. This is in keeping with what Meyers' noted in her study when she found that working in visible labs meant a change in the roles of researchers as well as an augmentation of their duties (Meyer, 2011, p. 261).

There is another impact: staff are expected to add visitor engagement to their work. While this is not unusual for some institutions, it appears that for some staff, the idea of working in a typically behind-the-scenes job meant that they do not have to engage with the public. Unfortunately, this is a notion which is at odds with organizations implementing visible spaces, and the direction in which the museum field is going. It seems like this is an area where the organization really needs to do more work bringing these staff into current engagement strategies where every staff member has the potential to impact the visitor experience, training staff to be in these spaces, and helping staff to find strategies to work in these spaces without experiencing emotional drain from being on display or interacting with visitors.

There are positive emotional benefits from being in the visible lab space.

The most common of these benefits seem to be: enjoyment of the ability to communicate with the public about their job and field, pride in their work, enjoyment of the increased ability to communicate with visitors and increased agency within the job to act creatively in the utilization of the space, and joy at seeing engaged visitors, particularly children, showing their enthusiasm. These emotions and situations stem from being in a visible space where the staff are observable by the public.

Some of the staff and their institutions have come up with strategies for working in the visible spaces.

Some of these strategies, like enforcing a buddy system for being in the labs, having radios and whiteboards with information in case of emergencies, and working on quick-locking mechanisms for the doors focus more on helping staff in case of a physical threat to their well-being, while more of the participant-provided strategies included approaches to aid with their emotional well-being, such as practicing self-care and finding healthy ways to release negative emotions when they were unable to leave them at work. These strategies seemed to largely be divided between personal actions, which had a direct impact on the staff members' emotional well-being, and professional impact, which tended to address the performative aspect of working in a visible space. While the recommendations listed above may seem like obvious steps to take, many museum employees have been left to find and implement them on their own with little to no help or guidance from their institutions.

While visible labs and storage spaces can be beneficial spaces to visitors and employees alike, it is important that museums consider the emotional influence of these workspaces, and provide their employees with the tools and strategies to effectively operate in these spaces while also mitigating the negative impacts of working in visible labs so that staff aren't left to fend for themselves in a situation they didn't create. From these interviews it would seem one of the most engaging ways to do this might be to give staff more creative freedom with how they interact in these spaces, especially in how they choose to communicate with the public. Being able to set their own terms and to think outside the box about engaging the community might allow them to think more positively about the opportunities the space presents, not just the limitations.

Implications

For Staff

One of the goals of this research is to provide participants with a means of sharing their experience as well as to provide other museum staff with research that shows that they may not be alone in their experiences or feelings. Hopefully, it will also provide the foundation for others to add to the research on this subject. If museums with or considering implementing visible work spaces read this research, it will provide them with some insight into the work space they will be creating for their employees, and with luck encourage them to consider ways in which they could make a more enjoyable work environment for their employees. In addition, it could show that the emotional impact of working in these spaces is exacerbated by existing feelings of passion about the job, and forewarn of future emotional burnout of the type indicated by Schabram if staff are working in a space they don't find positive or conducive to their mental well-being (Schabram, 2017).

For Institutions

An additional goal of this research is to present institutions with or considering implementing visible labs with an idea of the potential impact of this work environment on staff members and ways in which they could potentially mitigate any negative emotions caused by conducting work in these spaces. It is the belief of this researcher that it is the duty of museums to provide safe and comfortable work environments for their employees, and hopefully this research positively impacts the work experiences of staff in visible labs in the future.

This research shows that currently the visible lab spaces, while at times possessing beneficial qualities to the people who work in them, also present a source of stress. While no

work environment is perfect, museums who implement visible workspaces can be doing more to ensure their staff's well-being. For instance, limiting the amount of hours per day staff are required to spend in those spaces, having times for workers when they can work in a space where they are not on display and have moments to recharge, being more understanding about the logistical limitations when it comes to staffing and activating the visible spaces, and by compensating workers when the implementation of visible lab spaces includes additional duties and responsibilities outside the purview of their contracts.

Another recommendation would be to ask employees how they feel about the space and what changes might make it a more comfortable work environment for them, which might also prove to be an effective means of evaluating the well-being of staff who work in these visible spaces. From the participants' responses in this study, it seems as though many of them are willing to talk with their institutions about ways they could work with the space or positive changes they could make, they just need the institutions to listen and be willing to adapt.

While museums are notoriously difficult for newcomers to find jobs in and often cannot offer the kinds of pay associated with other work, the people who choose to work in them are passionate and driven, and care about the mission of their institution. Museums might not be able to reward their employees with better pay, but they can make the spaces in which they work comfortable environments for their employees. While some positive impacts were felt by these employees, museums should be striving to eliminate the negative ones to the best of their abilities, and make changes where they can to accommodate their employees when they choose to initiate visible lab spaces. As noted above, this is preliminary research covering only a small sample size, and a very small proportion of workers in visible lab spaces, however, by making

some of these changes museums could be making their visible labs more comfortable work spaces for their employees.

For the Field

Hopefully, this research presents a foundation of preliminary work upon which later research can be built. While this research investigates the impact of visible labs on a few individuals working in visible labs, the sample size is very limited, and future research could be conducted on a larger scale and with a wider range of participants. One of the limitations of this research is that it did not study the experience of the people who spend the most time working in visible labs, student workers, hourly staff, and volunteers. To properly understand the impact of visible labs on the people who work in them, these demographics must also be studied. This research also only studied the experiences of lab workers at three institutions. With more than 44 visible labs in museums in the United States alone, this research could certainly benefit from broadening its scope to include additional labs.

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Appendix A

Research Instrument

Interview Questions

1. **Can you please state your name and your position at X museum?**
2. **How long have you worked at X museum?**
3. **In what capacities have you worked at X museum?**
4. **When did the museum initiate or construct the visible lab space?**
    - **a.** How long have you worked in their visible lab space?
    - **b.** What is the nature of your work in the visible labs space?
    - **c.** On average how much time, per work day, do you spend in a visible lab?
    - **d.** On average, how many days per week?
5. **Have you worked in any other museum positions before that were not in a visible space?**
    - **a. If yes**, how do you feel your job differs from those?
        - **i.** What is the biggest difference(s)?
        - **ii.** How has your job shifted in the sense of the physical labor required? (physical labor meaning the manual tasks you are to perform. i.e. mount making, interactions with the public, any actions you perform in the lab space)
        - **iii.** How has your job shifted in the sense of the mental and emotional labor required? (mental and emotional labor meaning the management of your feelings and thoughts while working in the visible lab space and during interactions with visitors. I.e. needing to put on a pleasant face while in the lab space)
        - **iv.** Which aspects of the difference between behind the scenes lab work and visible lab work do you feel were most consequential for your emotional well-being?
        - **v.** Do you feel that your relationship with the institution has changed since it implemented visible lab spaces?
        - **vi.** In what ways?
        - **vii.** If not specified, do you attribute this to the implementation of the visible lab space?
    - **b. If no**, do you feel your job varies wildly from others who work in similar positions in institutions without visible labs? Why or why not?
6. **Are there any benefits for you that come from working in a visible lab?**
    - **a. If yes**, what are they?
7. **Are there any challenges for you that come from working in a visible lab?**
    - **a. If yes**, how have you adapted to those challenges?
8. **Have you felt increased feelings of positive excitedness, joy, or other positive emotions when working in a visible lab that are attributable to elements of working in the space?**
    - **a. If yes**, can you describe a few of those moments.
        - **i.** What triggered that emotion?
        - **ii.** How often have you felt this way?

iii. How strongly do you feel each of these emotions, on a scale from one to five (one being barely at all and five being very strongly)?

b. **If other**, what emotions?

9. **Have you ever had increased feelings of nervousness, anxiety, stress, fear for safety or other negative emotions when working in a visible lab that are attributable to elements of the space?**
    a. **If yes**, can you describe them?
        i. What do you think triggered those emotions?
        ii. How often have you felt this way?
        iii. How strongly have you felt each of these emotions, on a scale from one to five, one being barely at all and five being very strongly?
        iv. How have you dealt with these emotions?
        v. Are you able to discuss these emotions with your colleagues or others in your organization?
        vi. Have steps been taken to mitigate these emotions (by yourself or by the organization)?
        vii. Can you please share some of these steps?
        viii. Would you recommend additional actions and if so what?
    b. **If other emotion**s, which?
10. **When you leave work, do you find that any of these emotions caused by being in the visible lab space carry over into your personal life?**
    a. **If yes**, which, and in what ways?
11. **Have you developed any strategies for working in the visible lab space?**
    a. **If yes**, could you describe those strategies for me?
        i. What aspects of working in the visible lab do these strategies address?
        ii. What aspects of working in the visible lab have you been unable to address?
            1. Why?
12. **Is there anything we haven't discussed that you'd like to add or clarify?**

Thank you

Appendix B

Consent Talking Points

Research Questions:

1. What impact (if any) do staff feel the inside-out model has on their emotional well-being?
2. What aspects of their job related to working in this setting do they attribute to their emotional well-being
3. How do the museum professionals deal with the consequences of working in this setting?

Talking Points:

- Greet participants and thank them for agreeing to meet
- Inform the participant of the anticipated length of the interview
- Inform participant that their name and title will be kept anonymous
- Remind the participant that their participation is voluntary, that they may refrain from answering any questions, and that they retain the right to terminate the interview at any time
- Obtain verbal consent to interview the participant
- Obtain verbal consent to record the interview
- Ask if the participant has any questions prior to the interview

Appendix C

	Interview 1	Interview 2	Interview 3	Interview 4	Interview 5	Interview 6	Interview 7
Nature of Work in Visible Lab Space							
Date of Visible Lab Space Initiation	2012	2012	Oct. 2019	Oct. 2019	2011	2011	Oct. 2019
Work in Visible Lab Space	Training; overseeing volunteers	Fossil Preparation	Scheduling, Digital Projects; Organizing Specimens	Collections Work, Staff Management	Curating, Housing, Numbering, Forklifting Specimens, Conducting Tours	Meetings, Strategizing, Coordinating	Computer Work, Organization, Specimen Work
Position	Lab Manager; Volunteer Coordinator	Preparator	Collections Manager	Collections Manager	Collections Manager	Chief Curator, Curator	Collections Manager
Previous Capacities Worked at Museum	N/A	N/A	Curatorial Assistant	Work Study Student	Research Assistant	N/A	N/A
Length of Time Worked at Museum	2 years	4 years	19 years	9 years	11 years	11 years	29 years
Length of Time Worked in Visible Lab Space	2 years	4 years	5 months	5 months	9 years	11 years	5 months
Hours Per Day	7	7	4-5	2-3	7 total 3 (prep lab), 4 (collections)	15 min-3 hours	2
Days Per Week	5-6	5	5	5	5	1+	5
Other positions?	Yes; in a visible lab	2 Previous, Never in a visible lab	Yes; in a visible space, not a lab	Yes	Yes	Yes; never in a visible lab	Yes; in a visible lab
Contrast to Other Non-Visible Work							
How does their job differ/do they think their job would differ?	Yes; Seeing Out	Yes; Tapping, Discomfort, Connecting to Visitors, Self-Presentation, Display	Yes; Logistical Variables	Yes; Activation of Space, Logistical Variables. Performance	Yes; Awareness, Display	No	No
Physical labor differences	No	No	Logistical Variables, Professionalism, Activation of Space	No	Temp. Exhibits, Additional Responsibilities, Collaboration	No	No
Mental labor differences	Yes; Happier; Enjoys seeing out	Yes; Mindset; Self-Presentation; "Selling" Vocation, Awareness,	No	Yes; no elaboration	Yes; Temp. Exhibit, Connecting with Visitors (Children,	No; Awareness, Connecting with Visitors (Children)	No

		Representation, Display, Logistical Variables			Connecting with Visitors (All); Amplification		
Relationship change with museum	Yes; Inviting; Part of Community	Yes; Self-Presentation, Professionalism; Discomfort, Amplification	N/A	Additional Responsibilities, Logistical Variables, Activation of Space, Lowered Sense of Community	Yes; Part of Community	N/A	No
Emotional Impact of Visible Lab Spaces							
Aspect of visible lab most consequential for emotions	N/A	Legitimacy, Representation, Hyperawareness	None	Representation, "Selling" Vocation	Amplification	N/A	None
Benefits	Connecting to Visitors, Inviting, Communicating about Field	Making a Difference, Connecting to Visitors (Children),Temp. Exhibit, Communicating about Field	Seeing Outside, Entertain, Connecting to Visitors (Children)	Excitement, Communicating about Field, Interacting in Space, Agency, Creativity	Pride, Temp. Exhibit, Communicating about Field	N/A	None
Challenges	Tapping, Photography, Mindfulness	Logistical Variables, Entertain, Activation of Space	Collaboration, Leadership, Activation of Space, Logistical Variables	Amplification, Logistical Variables	Amplification, Additional Responsibilities	None; Engagement Strategies	None
Positive Feelings from Visible Lab Space	Happier, Communicating with Visitors (Children), Pride	Connecting to Visitors (Children), frequently	Collaboration, Connecting to Visitors (Children)	Connecting with Visitors, Communicating about Field, 1-2 times per week	Pride, Excitement, once per month	Yes; Role of Lab, Engagement Strategies	Connecting to Visitors (Children)
Negative Feelings from Visible Lab Space	No	Logistical Variables, Anxiety, Performance, Stress, Display, Lack of Privacy, Forced Socialization, Self-Presentation, Emotionally Draining	No; Anxiety (directed at other staff)	Inappropriate Sharing, Misinformed Visitors, Frustration	Worry, Performance, Anxiety, Professionalism	Lack of Engagement	No; Awareness
Emotions Carried Over into Personal Life?	Yes; Happier, Seeing Outside	Yes	Yes; Anxiety (directed at other staff)	Yes; Worry Frustration, Annoyance	Yes	N/A	N/A
Strategies for Working in Visible Lab Spaces	No	Designated Times for Interaction; Positive Attitude, Exercise, Healthy Venting, Organizing Space, Relaxing Activities,	Buddy system, Safety Talks, Checking In, Quick Locks, Policy Changes	Buddy System, Switching Out, White Boards, Radio, Quick Locks	Planning, Carefulness	White Boards, Communicating to Visitors	N/A

		Suggesting Improvements					
Additional Comments							