



VCU

Virginia Commonwealth University
VCU Scholars Compass

Theses and Dissertations


Graduate School

2018

ANXIOUS?: Re-designing Women's Jewelry to Help Manage Symptoms of Anxiety Disorders

Nourbanu Feras Hijazi

Follow this and additional works at: <https://scholarscompass.vcu.edu/etd>

 Part of the [Interdisciplinary Arts and Media Commons](#), [Metal and Jewelry Arts Commons](#), and the [Psychiatric and Mental Health Commons](#)

© The Author

Downloaded from

<https://scholarscompass.vcu.edu/etd/5467>

This Thesis is brought to you for free and open access by the Graduate School at VCU Scholars Compass. It has been accepted for inclusion in Theses and Dissertations by an authorized administrator of VCU Scholars Compass. For more information, please contact libcompass@vcu.edu.

ANXIOUS ?

Re-designing Women's Jewelry to Help
Manage Symptoms of Anxiety Disorders

NOURBANO AIHEJAZI

DOHA, QATAR

MAY 2018

ANXIOUS?

Re-designing Women's Jewelry to Help Manage Symptoms of Anxiety Disorders

Nourbano Al Hejazi

ACKNOWLEDGEMENTS

First of all, I would like to express my deepest gratitude to my primary advisor, Thomas Modeen, for his generous guidance throughout all the phases of the study. His illuminating advice and criticism help me to improve my thesis. I also would like to express special thanks to my jury members, Rab McClure, Basma Hamdy, and Michael Wirtz, for their valuable critiques, contributions and their support and guidance on my academic studies. They were always there when I needed their guidance and always made time for me. This thesis could not be written without their support.

I am very thankful to my family, especially my loving mother Ayda Murad, and my wise father Feras Hijazi. This thesis is the result of their unconditional and endless love and support.

I owe much to my friends and MFA colleagues, who shared many of the funniest and hardest moments of my life for the last two years. I would like to thank them also for our enlightening discussions on my thesis subject which helped improve my perspective.

Lastly, my special thanks to interviewees who spared time and shared their experiences and perspectives with me.

Written by: Nourbano Al Hejazi

Advising Committee: Thomas Modeen, Rab McClure and Basma Hamdy

External Advisor: Laura Green

Reader: Michael Wirtz

MFA Program: Virginia Commonwealth University in Qatar

© 2018 - ANXIOUS? - Nourbanu Hijazi

Doha, Qatar



Figure 0.0, Sketch of the fidget earrings

TABLE OF CONTENTS

Abstract	8
Introduction	10
Literature Review	12
Precedent Studies	19
Explorations	32
Outcomes	60
Limitations and Future Directions	62
Conclusion	62
List of figures	64
Endnotes	67

ABSTRACT

Health surveys indicate that mental disorder illnesses are as common as physical illness; however, the former does not receive as much attention and focus as the latter. Treatments for the various mental disorders are available, however nearly two-thirds of people who suffer from some form of mental disorder never seek help from a health professional. This is mostly due to perceived stigma and discrimination associated with and against mental disorder patients.

Mental disorders stigma and discrimination are observed globally, and are cultural specific. They take on different forms depending on culture and society. Sadly, much of the public perception of mental illness in the MENA region (Middle East and North Africa) is adverse and unfavorable and is not viewed from a medical aspect. This is caused by people in general lacking proper understanding of the nature, implications and repercussions mental disorders have both on the individual and society.

My design solution tackles behavioral symptoms of anxiety, specifically two conditions that fall under obsessive compulsive behavior; Dermatillomania (a compulsion to pick and peel one's skin off) and Trichotillomania (irresistible

urge to pull out hair mostly from one's scalp and eyebrows). Re-designing five types of women's jewelry, to specialized accessories that help relieve symptoms of maladaptive behaviors and hurtful impulses resulting from anxiety. The designed objects tackle this through re-directing impulses to an external surface, while at the same time still satisfying the user's impulse.

Anxiety is a common condition anyone can suffer from. The purpose and function of these artifacts is to help the user, the person who has one of these conditions, tactfully and harmlessly manage condition symptoms, and thus contribute to more favorable perception by others. This will help destigmatize these mental disorders, positively impact people's interaction and communication with others, and possibly prompt more empathic conversations in which people more eagerly and freely share their experience with such mental disorder leading to improved societal understanding and perception.

Figure 0.2, Prototype of the Fidget Thimble.



INTRODUCTION

Think of four of your closest friends; there is a significant chance that one of them, even yourself, will suffer from mental health issues at some point in life. If you think the previous statement sounds outrageous, it's from actual statistics published by the World Health Organization. "One in four people in the world will be affected by mental or neurological disorders at some point in their lives. Around 450 million people currently suffer from such conditions, placing mental disorders among the leading causes of ill-health and disability worldwide."¹ I was told by a therapist that psychiatrists have a popular saying that goes "depression is the common cold of mental disorders, anxiety is the flu."

Historical records reveal that mental disorders evolved similarly to physical disorders. Instead of microorganisms evolving resistance through years of reproducing via natural selection, certain human genes of traits that once provided a survival advantage to our ancestors, through years of reproduction, have exponentially increased. This has resulted in upsetting the balance of normal behavior expressed by said genes carrying these traits, changing the traits to extreme symptoms, becoming what we now know as mental disorders.

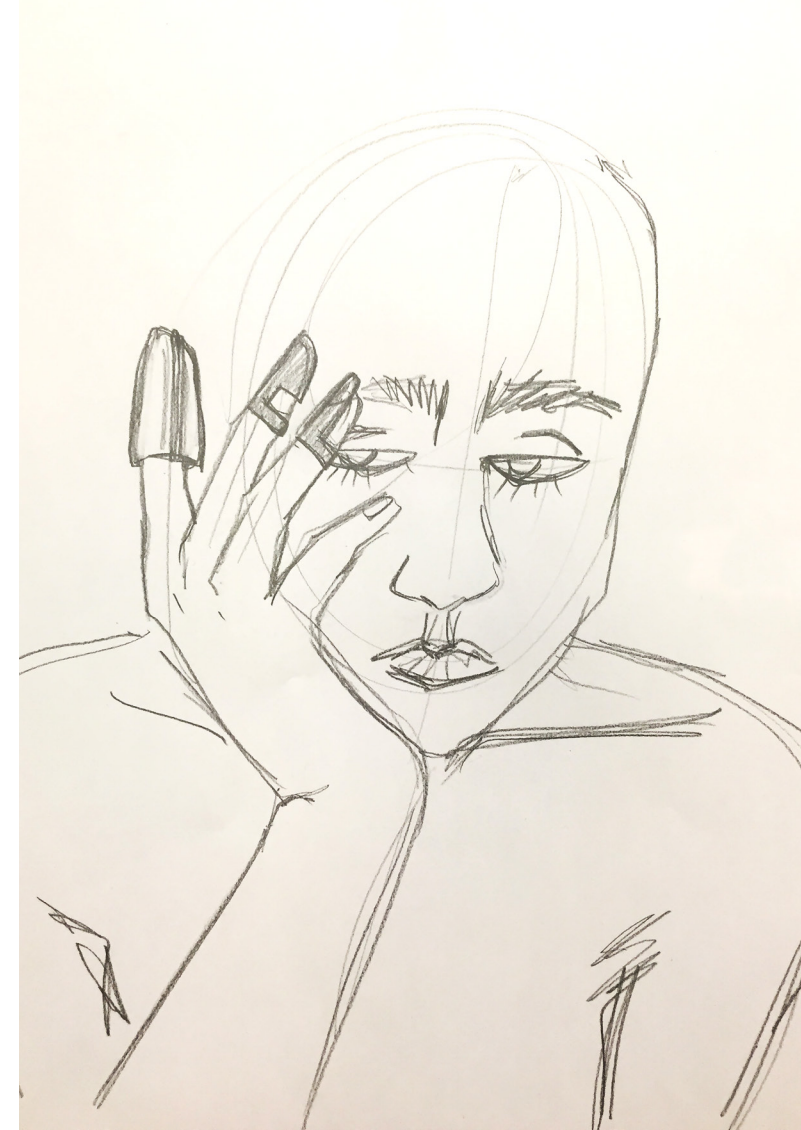
Most Psychiatrists and therapists believe that mental health issues are mostly influenced by lifestyle factors which interact with genetic susceptibility. Treatments are available, but nearly two-thirds of people with a known mental disorder never seek help from a health professional mainly due to stigma and discrimination. This can then lead to neglect, preventing people from getting the care and treatment they need to overcome their mental illness.²

While stigma is a global phenomenon, it is culturally specific. It takes on different forms depending on the environment and society. Unfortunately, much of the public perception of mental illness in the MENA region is negative and non-medical.³ This is in part caused by the lack of understanding of the implications and impact mental disorders have - not just on the individual, but society as a whole.

My research focuses on mild cases of generalized anxiety and social anxiety in Qatar. I chose this disorder mainly for the following reasons:

- Statistics rank it as the second most common mental health issue in Qatar.⁴
- It's a mental disorder with observable physical symptoms.

Figure 0.3, Sketch of the Thimble Rings.



- Therapists I interviewed stated that anxiety can be a healthy reaction affecting human performance. By increasing physiological or mental arousal, it in turn improves human performance. However, when levels of arousal become too high, performance decreases.

The proposed solution in this thesis tackles mental health issues and anxiety through design. It is based on medical case studies, research, interviews with medical personnel, user testing, and preexisting concepts and techniques used by medical specialists. My thesis is a proposed design solution to these mental health issues, and is intended to help the user manage them.

LITERATURE REVIEW

The Evolutionary Biology Behind It

Natural selection helps explain why mental disorders exist and how they evolved. Humans' primate ancestors lived in small social groups that were regulated by strict dominance hierarchy.⁵ The way these hierarchies work is by utilizing certain behavior patterns from their members, for example, "...irritability towards inferiors, anxiety towards superiors, elation on going up the hierarchy and depression on going down."⁶ These traits are advocated for by the group, due to granting a well-functioning hierarchy. This in turn provides the group survival advantages. However, the equilibrium achieved from balancing these behaviors becomes a disadvantage when there is an excess of these behaviors. These excesses can be manifested as mental illness, leading to disorders such as anxiety neurosis, schizophrenia, and aggressive personality, mania and depressive psychosis.⁷

According to Kevin Dutton, a research psychologist at the Department of Experimental Psychology, University of Oxford, the role of natural selection has a role in the existence of mental disorders. He gives examples from history demonstrating how certain individuals were sought for certain traits they possessed that provided a survival advantage at the time. In the first chapter

of his book, he demonstrates this through human proximal ancestral groups, where violent competition within and between these groups was the primary evolutionary precursor of psychopaths.⁸ Dutton stated, certain individuals, known as, "Warrior Hawks," were distinctly known for their hyper-aggressive behavior and were needed to hunt for prey and protect the group from outside invasions. Another example he mentions is the Viking "Berserk," a champion Norse warrior from Icelandic literature, who reportedly fought in a trance-like fury, a characteristic that later gave rise to the English word "berserk." Historical records show that at some point the Berserks turned against the people they were tasked with protecting.⁹

Another example linking natural selection to mental illness is Seasonal Affective Disorder (SAD), more popularly known as seasonal depression. Research links its cause to reduced exposure to sunlight during the shorter autumn and winter days, in turn causing biological changes in the human body, mainly affecting part of the brain called the hypothalamus, which is responsible for regulating our mood.¹⁰ The study attributes SAD as an adaptive evolutionary mechanism: "Women were more likely to become pregnant in the summer and thus to give birth at a time of

year when their babies had a higher chance of survival. Winter depression symptoms also promoted healthier pregnancies and gave rise to enhanced female-male pair-bonding, which improved the survival chances of both mothers and babies."¹¹

As the sources above suggest, at one time these characteristics started as desirable traits, which increased the survival chances of carriers. However, due to changes in environmental conditions and years of human breeding, the concentration of genes that carry these traits has since intensified, resulting in an upset balance, and transforming these traits into severe symptoms. This led to these traits becoming dysfunctional behaviors, and what we now know as mental disorders.^{12, 13, 14}

A study published by the Journal of Clinical Psychology states that individuals with bipolar disorder have proven to be more creative, due to the unique brain function brought on by their disorder. The research paper also claims that milder symptoms, such as happiness and energy, may be more crucial for creativity than severe symptoms that emerge during mania.¹⁵ One such case may be evident in a People Magazine interview with singer and song writer Demi Lovato where she stated, "there were times when I was so manic, I was writing seven

songs in one night and I'd be up until 5:30 in the morning."¹⁶ She went on to state that her symptoms became so severe, however, that she needed medical intervention.

This is also true of other mental disorders. Dutton found that functioning psychopaths are able to integrate themselves in society, due to a balance in their varying symptoms and characteristics. On the other hand, those that have been diagnosed with extreme symptoms, or as the author puts it, "...got all their controls dialed up high," often exhibit hyper-aggressive and hostile behavior, and are unable to adapt and assimilate into society. These individuals often resort to a life of crime and repeated incarceration.¹⁷

The Stigma Against Mental Disorders

Statistics by the World Health Organization show that people distressed by mental illnesses often do not seek help or fully engage in treatment.¹⁸ Factors that mainly contribute to this vary from the availability and accessibility of the facilities in the area, the economic status of the individual, the cultural background of the society, and the perception of stigma regarding mental illness.

“Stigma is a complex construct that includes public, self, and structural components. It directly affects people with mental illness, as well as their support system, provider network, and community resources.”¹⁹ The effects of stigma go deeper, in perpetuating false stereotypes and information about mental illness and those affected with it. The repercussions of this affect society, and the most effective method to combat its effects is through raising awareness and teaching empathy. Understanding stigma is central to reducing its negative impact on care seeking and treatment engagement.^{20, 21}

Studies agree that a large percentage of public perceptions in the MENA region regarding mental illness are negative and non-medical. Stigma itself is culturally specific, taking different forms depending on the environment and society it's in.^{22, 23} It is important to examine how, and why these perceptions form, as well as defining the different forms and stages they take is important because it puts into considerations culturally and sociologically relevant suggestions on how to address and resolve stigma in a certain society. One example is the initiative taken by the Ministry of Public Health in Qatar, utilizing research from around the world and then tailoring it specifically to the needs of Qatar, through engagement with key stakeholders in the county. The National Mental Health Strategy aims to: promote good mental health and wellbeing, prevent mental illnesses, and to develop

accessible tailored quality services for the community of Qatar.²⁴

Two studies published in the Journal of Psychiatric and Mental Health Nursing have shown that individuals suffering from mental illness within the Arabic community are likely to face discrimination from community members when it comes to issues like socialization, business relationships, and marriage proposals. These studies also attribute a large part of those negative perspectives and reactions to ignorance and lack of understanding of the illness itself.^{25, 26} Because of this stigmatization, individuals suffering from mental disorders are often unable to approach their family or community members for support, making it difficult for them to get the medical attention they require. This in turn leaves this disenfranchised group vulnerable to resorting to different forms of substance abuse, and/or resorting to violent behavior.

The first study by Ciftci, Jones, and Corrigan, defines the constructs of stigma, its harmful effects, and the factors that may influence it, specifically in the context of a Muslim community.²⁷ The second study is by the research team Dardas and Simmons, a doctoral student and associate professor. It examines how stigma against mental illness operates within the context of the Arab family. Using case studies from the region that demonstrate how stigma can negatively impact patients' and their families' health and well-being, they concluded that: “Arab patients who face the public's stigmatizing attitudes often experience a complicated mental illness trajectory and are at risk for poor quality of life, social isolation, low self-esteem, and little confidence in future success.”²⁸ Even though most participants understood the importance of treatment, they still refused it in fear of stigma associated with their illness.

Design Solutions

My two final sources in this literature review come from the same research team from Delft University of Technology.^{29, 30} In this study the team puts forth design strategies that can be implemented in assistive, protective or medical products that are visibly worn or used in proximity to the human body. Their aim is to find the best methods for designers, to follow to minimize stigma experienced by product users.

This source bases its findings on an existing concept in sociology, titled the "Identity Threat Model". This model addresses how "Stigma directly affects the stigmatized via mechanisms of discrimination, expectancy confirmation, and automatic stereotype activation, and indirectly via threats to personal and social identity."³¹ This research explores the effects of stigma from a product design perspective. The aim is to find approaches for a stigma-free design approach, through investigating four context modalities and suggesting three strategies for designers to use in tackling product related stigma.

The four contexts determine how an artifact is perceived in its environment: The product itself (the stage where the authors recommend design intervention take place), the society (the social context behind the product), people living in that society, and the product user (the product's audience).

The three suggested strategies mentioned in the research for tackling product related stigma involve re-shaping the understanding of social and societal contexts in which the product is launched and perceived. The efforts that the designer can direct towards re-shaping the perception and meaning of the product, ultimately empowering the

product user against stigma.

The research team tested these strategies in an eight-week user experience project, with the assistance of a group of undergraduate students, at the Product Development Department in Artesis University College of Antwerp. The workshop explored methods to achieve a stigma-free design for a dust mask. These methods were measured and rated in accordance to how the people in the proximity of the wearer perceived the user of the product, as well as how the users themselves identified with the product and felt while wearing it. The results from the investigation showed that depending on the targeted population, the selected anti-stigma interventions differed substantially. Those that opted for an Identification with the product (via customization and personalization of product), had no issues wearing the mask. This attitude reflected positively on the rate of acceptance and approachability by the people around the wearer.

Mental illness is as common as physical illness, yet the equity of treatment between both is clearly lacking in many parts of the world. Although reasons may vary as to why this could be the cause, stigma has been reported to be one factor that plays a big role in this division. Examining and understanding societies' perceptions and misconceptions over mental health and illness can help point designers to the most effective means to tackle such problems.

PRECEDENTS

I got my insights regarding the current challenges with mental health awareness and stigma and what is being done to tackle these issues globally and in Qatar from interviewing practicing psychiatrists, therapists, and psychologists that have worked in and out of Qatar. It became apparent to me that there seems to be a disconnect between mental health (medical corporations, practitioners, and clients) and the general public, mainly in the form of miscommunication.

Practitioners and medical corporations understand that one of the main issues facing mental health right now is stigma, which can result from ignorance and misconceptions. While they are trying to tackle this by reaching out to the public through educational awareness campaigns, statistics show their methods are not very effective.

When I attended the 6th Doha International Mental Health conference (held in December 2017, in Doha), I had the opportunity attend a panel titled, "Overview of Global Progress in the Fight Against Stigma," by Professor Sir Graham Thorncroft (Psychology and Neuroscience at King's College London). Professor Thorncroft's research is focused on understanding and tackling global stigma and discrimination against mental health.

Not only did he confirm my disconnect theory, he mentions the solution to closing that gap falls in social contact, and this connection can be initiated by artists and designers.

The following precedents that I have gathered, exhibit three important factors to my research:

1. What designers and artists are doing to help initiate social contact between the public and mental health facilities and their users.
2. How designers working with medical practitioners can help improve existing treatments and develop ways to relieve symptoms of mental distress.
3. How design can fight the stigma surrounding mental health treatment.

Claiming justice: Knowing mental illness in the public art of Anna Schuleit's 'Habeas Corpus' & 'Bloom'

To demonstrate, I would like to discuss American artist Anna Schuleit's two installations, Habeas Corpus, and Bloom. Both installations exemplify art being a connecting link between the general public and those afflicted with mental health disorders. In each she staged an art intervention that attempted to build understanding and empathy toward those affected by mental illness.

In Bloom, Schuleit invited people to walk through the deserted Massachusetts Mental Health Center (MMHC), exploring its rooms, hallways, basement, and stairs, during a four-day period from the 14th till the 17th of November 2003. The installation was comprised of live potted flowers, grass, 325 sound recordings, small photographs, a symposium, an open forum, and an artist's talk. All of which were free and open to the public.

This installation was designed as a tribute to MMHC, according to Schuleit's research and calculations. She calculated the number of patients that had been admitted to MMHC. If each of the patients that had been admitted to the facility during its 91 years of operation were given one flower during his or her hospital stay that would amount to a total of 28,000 flowers. According to Schuleit, the concept behind this installation was, "...bringing back all the

flowers that should have been given to the patients".³² (Figure 1.0 and 1.1) During the period of four weeks after the exhibition, the artist continued to water the flowers so that they would survive long enough to be delivered to psychiatric facilities, programs, and local non-profit organizations, bringing the project full circle.

On November 18th 2000, Schuleit's installation Habeas Corpus, involved a 28-minute recording of Bach's Magnificent, playing, "...at a volume that made the building sing in memory of those who lived, worked, and died in this institution over the years."³³ The Northampton State Hospital was closed two years prior, and had all its patients, staff, and equipment reallocated. The artist used this empty space for this installation, filling it with a sound system placed throughout its 414,000 square feet of otherwise abandoned spaces, such as the bedrooms, lounges and offices of the main building. (Figure 1.2) "Its many hundreds of windows were opened, and participants listened to it from the outside, remaining outdoors to take in the building as a whole."³⁴ Several thousand people listened to the music, as they spread out around the perimeter of the building. (Figure 1.3)

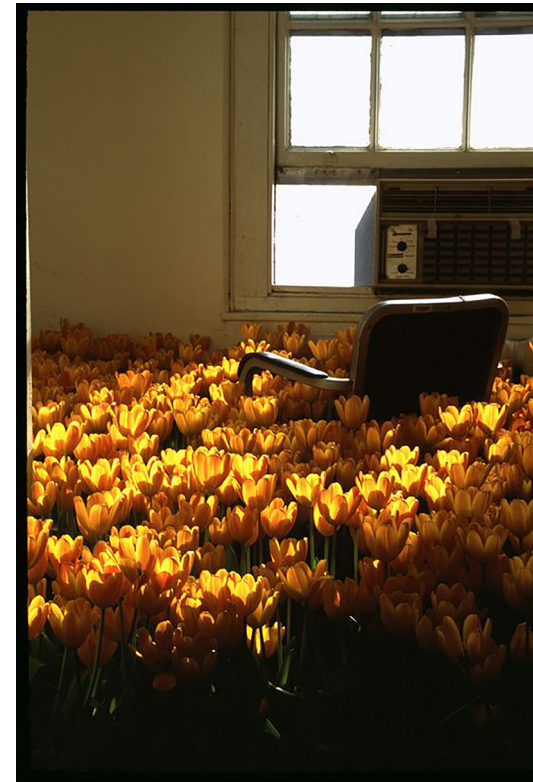


Figure 1.0



Figure 1.1



Figure 1.2

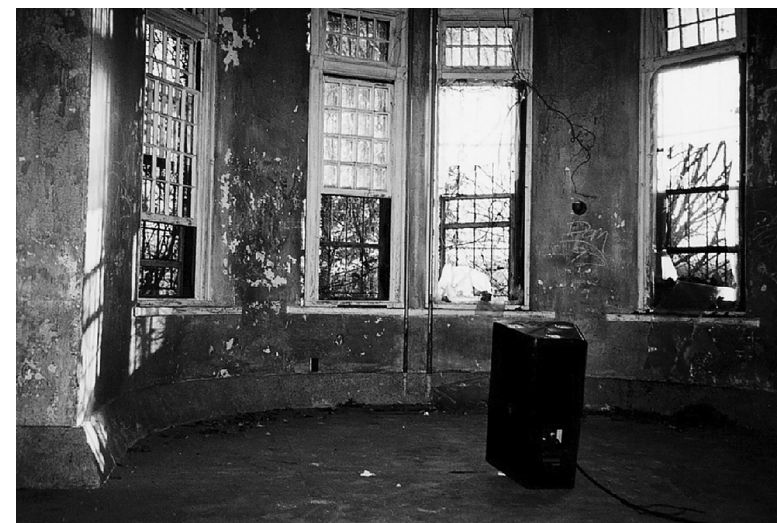


Figure 1.3



Figure 2.0

Mindnosia by Sara Lopez Ibanez

Designer Sara Lopez Ibanez created a self-assessment kit (Figure 2.0) that aims to help those seeking mental health services in the UK, though a set of tools and exercises that aim to help the user understand emotional distress and ways to cope with it. Additionally it is designed to help the user learn how navigate through mental health problems, to reach out for help, and identify the treatment amongst various types of therapy offered.

Her Mindnosia kit was designed after her own negative experience with mental health services, and how stigma had delayed her decision and opportunities

to seek treatment. "Accessing and using mental health services was a very traumatic experience which I buried and felt ashamed of for a long time. Years after, I discovered many people had had similar experiences and we all shared the same thoughts."³⁵

The kit includes a set of eight activity cards that combine mindfulness, cognitive behavior therapy techniques (CBT) and tips from peers to help users going through mental health problems. The first tool, named Discover, consists of six colorful triangles; each is meant to represent a different area that may be affecting



Figure 2.1

the user's wellbeing. The user chooses the triangles they feel most apply to their situation, and these can be pasted into the Record journal along with daily thoughts and reflections. The second tool named Try Out (Figure 2.1), is a set of eight activity cards that utilize and combine medical techniques and tips from peers to help users when they feel unwell. The final tool, named Learn, has six small colored cards that correspond with the Discover triangles and feature brief explanations of the different issues. The kit also includes a Crisis Help sheet containing information regarding access to services and helplines.



Figure 3.1



Figure 3.0



Figure 3.2

Tools for Therapy by Nicolette Bodewes

Another tool kit, by designer Nicolette Bodewes, tackles problems with mental health treatment by designing for the patient and the therapist. The kit and its items are intended to help users express their thoughts and feelings during psychotherapy sessions. Bodewes was inspired by creative therapy, which she stated many therapists found was more beneficial and effective than standard talk-based therapy. Creative therapy, she stated, was more engaging for the patients, giving them incentive to continue treatment.³⁶

Tools for Therapy features a basic set of building blocks as well as a set of 12 more complex objects, based on the Jungian Archetypes defined by Swiss psychologist

Carl Jung. Other elements include round sheets of paper and a workbook (Figure 3.0). The designer also looked outside of Jungian theory to mythology, creating a heavy block inspired by the moon and a smooth rounded shape for the cosmic egg. Other elements consist of white beams, cubes and cylinders in two different sizes. The various shapes and figures are intended to represent different situations, people, feelings or thoughts that the patient reflects on and assigns meaning to. Both sets of objects come with a round board of tracing paper for the client to draw on, along with a workbook for the therapist to refer to and record notes in to interpret the patient's thoughts (Figure 3.1 and 3.2).



Figure 4.0



Figure 4.1



Figure 4.2

Emotional First Aid Kit for stressful situations by Rui Sun

Designer Rui Sun constructed five objects making up this Emotional First Aid Kit, that are intended to provide comfort in times of mental distress.³⁷ (Figure 4.0) The designer's aim was to demonstrate that emotional wellbeing is just as important as physical health. Each of the artifacts is designed to focus on relieving a certain symptom. For example the Purple Breathing Mask (Figure 4.1) gives off calming scents that a user can utilize at times of stress or panic to help stabilize their mood. Another artifact titled the Green Meditating Stethoscope (Figure 4.2) helps de-stressed users by retuning their breath, using the heart beats of a friend or

family member as reference, while allowing said friend or family member to empathize and understand how the user feels.

The Fidget Spinner

2017 was the year when the “Fidget spinner” was trending everywhere. Children and adults alike were buying it. It’s composed of a ball bearing in the center of a multi-lobed (typically two or three) flat structure made from metal or plastic designed to effortlessly spin around its axis, initiated by the slightest push. Although the device is classified as a toy, it has been promoted as having therapeutic benefits for people with autism, anxiety and attention-deficit/hyperactivity disorder (ADHD).

The design of the popular fidget spinner known today (Figure 5.0) can be traced back to Scott McCoskery. In an interview by NPR Magazine he described how he invented a metal spinning device in 2014 to cope with his own fidgeting in IT meetings while taking long conference calls. McCoskery would share the device he made on an online web forum, there he garnered positive responses encouraging him to start making more devices and selling them online. He would later manufacture and sell his device under the name Torqbar.³⁸ (Figure 5.1)

Shortly after the Torqbar was launched online, other people started making and selling their own spinners-some machined from metal like the original, others 3-D printed from plastic. Since the Fidget Spinner was not claimed by any brand, and no one had renewed its patent. This (along with its simple but effective design) facilitated the device being easily replicated and manufactured and eventually major retailers caught on.

The Fidget Spinner is a successful example of how design thinking and product design can fight stigma. The device offers a simple harmless solution to a common problem - fidgeting.

What is special about this precedent is that the designer Scott McCoskery falls in the category of the audience he’s designing for, which gives him insight on the perspective and behavior of the user base. Another factor is its simple design that made it easy to replicate, manufacture, and customize; also, its size and weight make it easy to store.

The fidget spinner normalized fidgeting, a behavior that is generally discouraged and to a small extent frowned upon. After the device trended, people were openly using the toy in public. It even became a collectable. Although the effectiveness of the spinner in the treatment of stress or anxiety is debatable, the spinner created a conversation around that aspect of mental health. By becoming so popular it reframed the public’s understanding of stress and anxious behavior, it shifted peoples’ general misperception of mental distress being a condition associated with emotionally and mentally weaker individuals. The spinner exemplifies that anxiety is a common condition anyone can suffer from and prompted conversation between people to share their experience. This is exactly what I hope to accomplish with my research and design intervention.



Figure 5.0



Figure 5.1

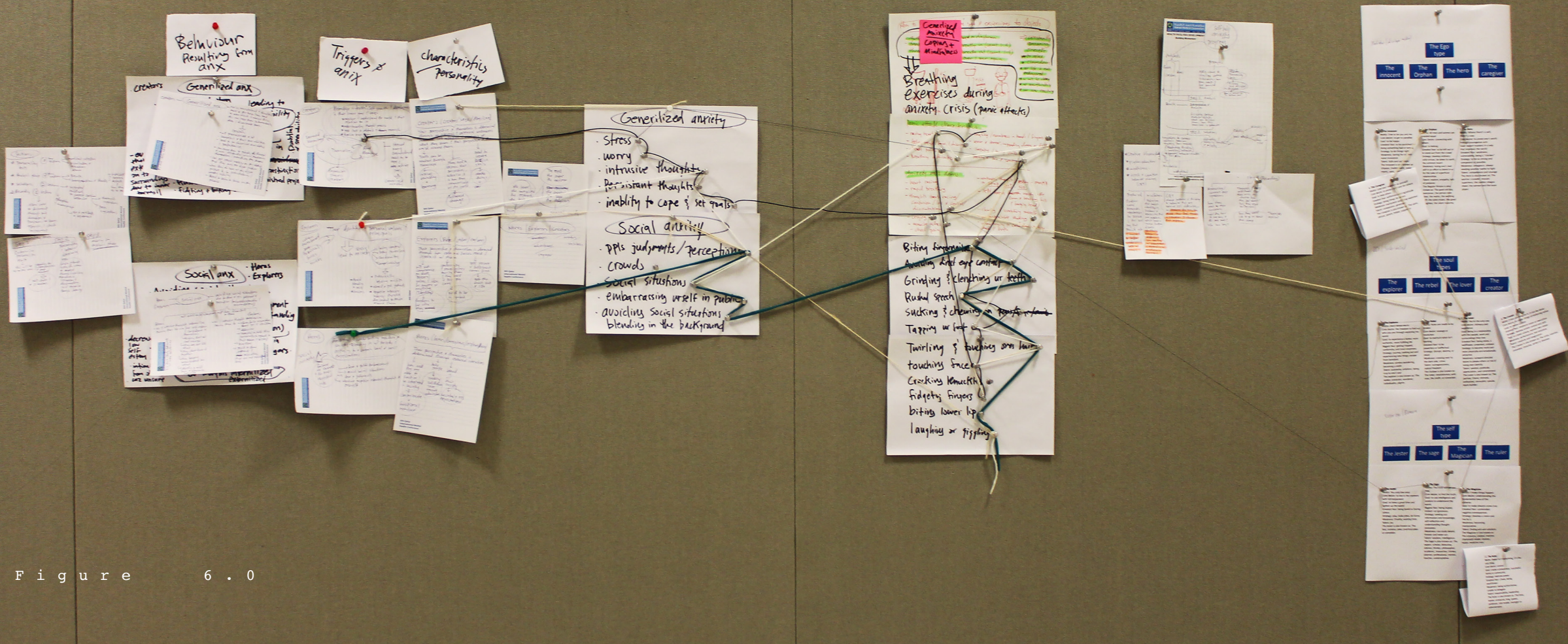


Figure 6.0

Explorations

My research pursued two approaches. Approach One tackled both the root cause and symptoms of anxiety, and it led to a four-step exploratory project which I outline below. Approach Two developed tools to relieve symptoms of anxiety, but without trying to also take on the larger underlying psychological and physiological causes.

Approach One:

Tackling the cause and symptoms The anxiety self-management program

One of my designs for helping those who suffer from anxiety was a self-help program in the form of a kit (Figure 6.0). The components of it are designed for one user at a time. This element of individuality was informed from research and interviews with local practicing therapists. These interviews indicated that most mental health patients from Arabic Middle Eastern backgrounds-especially those from the Gulf-preferred one-on-one therapy sessions, largely due to the fear and shame of being recognized in a mental health treatment facility. The stigma and misconceptions associated with such facilities drive people away.

The Program focuses on treatment of mild cases of generalized anxiety and social anxiety by helping the patient manage her condition through a user-friendly and engaging self-help process. (Figure 6.0) The Program utilizes various existing therapy techniques put forth by therapists, combining aspects of creative therapy, psycho-education, mindfulness, cognitive behavior therapy techniques (CBT) and tips from peers—others who have struggled with, but overcome, the condition.

The Program works through four
chronological steps, with each phase

designed to draw out specific information such as a patient's personality type, anxiety symptoms and triggers. The Program also works to establish how previous factors influence a patient's problematic and maladaptive behavior. At its conclusion, the Program recommends a suitable solution, informed by the patient's personality, type of anxiety, and manifesting behavior. Note that the following descriptions provide a summary of how each step works in relation to the whole system and the patient.

The First Step

Identify the personality type of the user. In the kit, I designed two components to achieve this: avatar building and personality tests.

To build their avatars, users are provided with three geometric forms from which they must choose one to serve as the base for their avatar construction. This is followed by another set containing three different items for the user to choose from to add to their avatar. The items and materials serve as tools, used by patients to subconsciously project their mood and characteristics. For example, choosing the sphere form and adding soft material to it could be an indicator that the user seeks comfort and security. This in turn opens areas of investigation about potential problematic behavior the user could exhibit, which the following section of the personality tests help narrow down.

The personality tests applied in this program are based on kokology, a term used to describe a specific personality test game that is based on psychological principles, created by Japanese psychologist Tadahiko Nagao. Kokology engages the user through a fun series of seemingly innocent questions and topics. Answers to these questions reveal different aspects of the player's personality for a

unique approach to self-discovery.

My design adapts this personality test and combines it with creative therapy, prompting users to imagine and visualize themselves in certain situations, to which users are instructed to actualize this by drawing and painting. The goal is to gain insight into users' sense of self in relation to their surroundings, utilizing the basics of art therapy. For example, drawing circles and spirals commonly signifies confusion, drawing eyes signifies feeling self-conscious, and drawing sharp angles signifies feeling trapped.

The Second Step

The following section is informed by choices the user made in the first step, where the definition of the user's personality established a pattern. Results fall into three categories according to potential anxiety type, personality, and ways in which personality manifests in terms of thought and behavior. For example:

- Generalized Anxiety (Creator Archetype) Obsessive compulsive tendencies, gets overwhelmed and stimulated easily, and is most likely to overthink and analyze.

- Generalized Anxiety with tendencies to develop Social Anxiety (Explorers Archetype)

- Negative and intrusive thoughts externalize, causing paranoid suspicion of surrounding people. In turn, people that fall into this archetype become defensive, reactive, and tend to take things personally.

- Social Anxiety (Heroes archetype)

Negative and intrusive thoughts internalize affecting their self-esteem. Tendency to compare themselves with others around them, lament abilities they don't have, and view themselves from an imagined outer perspective of those around them.

The Third Step

In this section of the Program, users are offered potential solutions to anxiety-related issues, which are divided into two sections:

- Section One: Methods to target and correct patterns of thinking and intrusive thoughts—which result in anxious behavior—by employing mindfulness and cognitive behavioral therapy techniques, plus tips and advice from therapists and other patients treated successfully for anxiety.

- Section Two: Education and symptom management, using designed anxiety-relieving tools, including finger thimbles and breathing helpers (Designed to help the user overcome panic attacks. I will not be including further details about the breathing helpers in this paper).



Figure 7.0.

The Finger Thimbles

These artifacts were designed to tackle Dermatillomania: a disorder and extreme symptom of anxiety that results in an impulse to pick at one's skin, most noticeably during times of anxiety or stress. Commonly affected areas are limbs, especially hands and feet. In my research, I focus on the hands and fingers, since patients suffering from this disorder tend to bite their nails and peel the skin away from their fingernails and fingers. (Figures 7.0)

My design solution works by re-directing this impulse toward an external artificial surface, satisfying the urge while reconditioning the behavior into a less harmful fidgeting action. Instead of mutilating one's skin, the patient fidgets with the textured finger thimbles. These artifacts are informed by existing treatments, as well as documented patient behavior.

Through my interviews, observations and personal experience, those with Dermatillomania tend to engage in this behavior using both hands, mostly drawn to their thumbs and index and middle fingers—with the thumbs damaged most often. This behavior springs from an impulse to pick off parts of the skin that "don't feel right", including rough or dry patches, scabs, or skin imperfections.

The most common form of treatment for dermatillomania involves applying band aids or wearing gloves, to limit access and protect the skin. However, many people afflicted with this condition decline these methods due to the unwanted attention they attract, the impracticality, problems with hygiene, and cost. Personally, as a dermatillomania sufferer, when I cover my fingers with 4-5 band aids I get concerned inquires and remarks from people. I can't win though, because when I don't, people see my self-inflicted wounds, and give me

disturbed looks, concerned inquires and make remarks regardless. Individuals with this condition are advised to wear beaded or textured bracelets, because fidgeting often redirects their picking impulses. Generally, however, bracelets are not designed for this function, and many who try this treatment method complain about the difficulty of finding a bracelet designed to satisfy the patient's specific impulse.

I was dually inspired—on the one hand by the practicality of sewing thimbles—and also by claw rings, which have recently become fashionable (Figures 7.1 and 7.2). By combining aspects of both sources, while keeping in mind the above-mentioned treatments and impulses, I designed artifacts to protect the patient's skin, redirecting compulsive behaviors to a false skin, specifically designed to emulate loose, dry skin. Fidgeting with the patterned leather tags satisfies the patient's impulses, but without causing harm. (Figures 7.3 and 7.4)

The Fourth Step

The fourth and final step of the anxiety self-management system is documentation. Recording and tracking habitual behavior helps the patient identify potential triggers, track progress with Program techniques, and determine which anxiety management methods work best.



Figures 7.1



Figures 7.2



Figures 7.3



Figures 7.4

Issues and Limitations

Creating a holistic system able to tackle anxiety's causes and symptoms proved difficult. I found it challenging to compress, simplify, render, adapt and address all aspects and elements into one clean solution. I was limited by my time constraint (four months) and disciplinary knowledge (I am not a medical student, and have no training in psychology or psychiatry). The focus of the program is to help users by educating them about their condition, teaching them how best to manage symptoms, and introducing them to treatment possibilities—either through the program's techniques, or by listing available facilities and online resources.

In this phase I narrowed my research focus and targeted two aims of the anxiety management program: patient education, and symptom management. Additionally, while the program did address the stigma of seeking help for mental health disorders by allowing a patient to use the kit discreetly, it did not go far enough to actively address stigma within the local cultural context. What I wanted to create was a design that allowed patients to actively, but subtly, challenge those misconceptions.

I decided to focus on achieving two of the aims of the anxiety management program: educating the user and helping them manage symptoms of their disorder.

Approach Two:

Relieving Symptoms

Moving on from the anxiety self-management program, which combined aspects of psychoeducation and symptom management, I focused only on symptom management. I began to investigate other types of anxiety disorders, determined to refine my efforts to relieve problematic behaviors through a process of applied critical design.

Fighting Stigma Through Design

Similar to the way fidget spinners (discussed earlier) reframed public understanding of stress-related fidgeting and helped to normalize the underlying condition, my next round of research investigations helps patients manage anxiety-induced symptoms openly, by applying design strategies that are aimed to minimize stigma, put forth by a research team from Delft University of Technology.³⁹

My designs are informed by behaviors exhibited by individuals with these conditions, as well as user feedback. I attempt this by identifying stigmatizing features of existing treatments and medical devices (for example, unsightly band aids that cover injuries, in the case of Dermatillomania, drawing unwanted attention), and transforming them into positive attributes that

convey fashion sense, prestige or status (i.e., replace the item that signals a medical problem with something attractive and desirable, something precious and jewelry-like).

These artifacts are designed to maximize product identification and meaningful product interaction. Product personalization enables users to customize the product to express personal taste and identity. In addition to customization, the products are also designed to appeal to people who do not exhibit anxiety-induced behaviors. Such users won't benefit from the full range of designed features in the same way that patients do, but they will benefit from other designed attributes. If successful, both groups of people will feel better off with the product than without.



Figure 8.0

Trichotillomania, Fidgeting, and Anxiety

Another disorder that is a manifestation of anxiety is trichotillomania (like dermatillomania, this condition also lies in the obsessive-compulsive spectrum). The disorder is classified as a maladaptive extreme self-grooming behavior, resulting in a compulsion to pull out one's hair. Extreme cases can result in significant hair loss if efforts to stop this behavior fail. The condition can manifest anywhere on the body, however, the head and area around the eyes are most common. (Figure 8.0 and 8.1). This condition is often poorly reported, mainly due to the shame and stigma associated with it. Those that suffer from it tend to hide it.



Figure 8.1

Design Interventions

My design research focused on mild cases of Dermatillomania and Trichotillomania, and stress induced behavior that results in maladaptive coping techniques. I explore this through five artifacts, the fidget earrings, ear cuffs, dome crown, sun crown, and thimble rings.

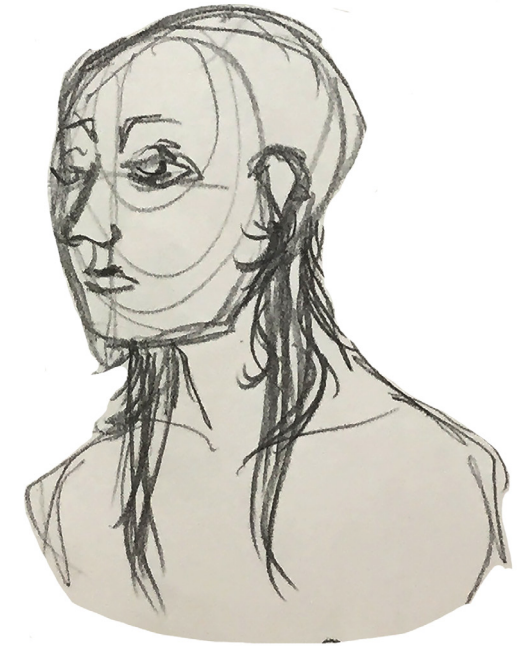


Figure 9.0

1) Fidget Earrings

My interviews and observations indicated that most women with this condition start by collecting a chunk of hair, combing through it in search of hairs that "don't feel right" (split ends or hairs with rough texture), and then proceeding to remove that hair. They repeat this behavior until they satisfy their compulsion. After removal, most patients dispose of the hair, hiding it, due to shame associated with the compulsive activity.

I started rapidly prototyping the artifacts with felt, due to the material being accessible and easier to handle (Figure 9.0 and 9.1). The earrings contained loose strands at the end that the user could fidget with and pull out when anxious. (Figure 9.2 and 9.3) The main issue with suspending the earring on the earlobes was that the repeated tugging action at the ear would put pressure and potentially harm the earlobe. To solve this I changed the suspension from the earlobe to the ear in the form of a hook earring.



Figure 9.1



Figure 9.2



Figure 9.3



The following model integrated more psychological methods to help the user manage symptoms of their anxiety through aspects of cognitive behavioral therapy, specifically re-conditioning. Each time the user would pull the earring strands downwards, a small needle attached to the back of the ear hook would slightly press against the skin below the ear. (Figures 9.4)

This harmless sting sensation grows more irritating the longer and more often the user pulls on their earring, eventually discouraging the user from continuing with said behavior. The second intervention comes in the form of re-directing and re-

conditioning the previous behavior through substituting it with a similar but safer action, in this case twirling small beads. (Figure 9.4) This prototype was not received positively by users, and the small stinging sensation of the needle was reported to be so annoying that it discouraged users from wearing the earring.

Figure 9.4



Figure 9.5

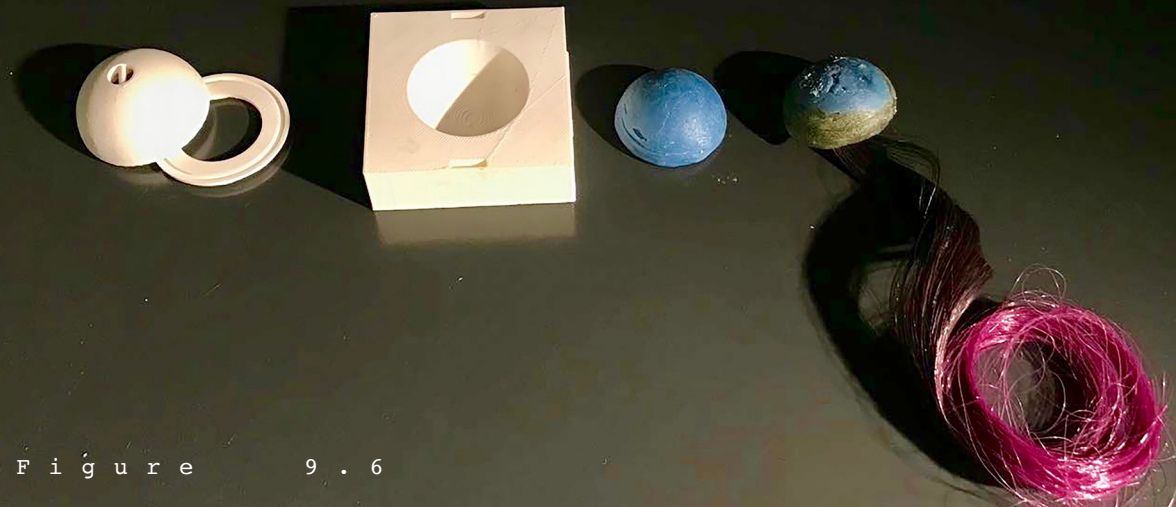


Figure 9.6



Figure 9.7

The next model was smaller and more practical, with an emphasis on achieving features such as reusability, customization, and adaptability. This model consists of separate components that allow the user to replace a disposable wax mold that suspends synthetic hair. The wax mold was informed from a series of experimentations on what material suspend hair best, while granting the user that satisfactory pull sensation that mimics the human scalp and hair root.

(Figure 9.5, 9.6, 9.7, 9.8, 9.9, and 9.10)



Figure 9.8



Figure 9.9



Figure 9.10

2) The Fidget Ear-cuff

This artifact is a variation of the earrings, tackling the same scenario, with the same features and functions. During user testing there were participants that stated they would rather have an option to wear a subtle version of the earrings. When this point was brought up during one of my committee meetings, one of my advisors suggested I look at ear cuffs-existing jewelry that is worn by being suspended on the ear. (Figures 10.0)

One of the issues I faced with adapting the previous iteration to a smaller model was readapting the features of the dome earrings to fit and function on a much smaller scale-specifically, the suspension chamber that will hold the wax mold and how the ear cuff will hold the mold as the user pulls the synthetic hairs from it. I opted to solve this through adding sharp cone structures on the sides, where the wax molds would slide into the suspension chamber and be held in place by the cones. I designed three different models and tested which one functioned best, in terms of sitting on the ear and keeping its place as the participant used it. (Figures 10.1,10.2, and 10.3)



Figure 10.0



Figure 10.1



Figure 10.2



Figure 10.3

3) The Dome Crown

This artifact was derived from the fidget earrings, exploring features I wanted to include in the earrings, but which proved elusive then, due to size and structure. Another source of existing inspiration was the tassel headband. (Figures 11.0)

Like the earrings, the Dome Crown includes features such as reusability, customization, and adaptability. It is designed with the same three components, but adds the functionality of flexible joints that allow the artifact to move comfortably with the body. (Figure 11.1, 11.2, and 11.3) Additionally, since its suspension is from a crown worn on the user's head, it can take more weight, allowing for the suspension of larger designs. (Figures 11.3)



Figure 11.0

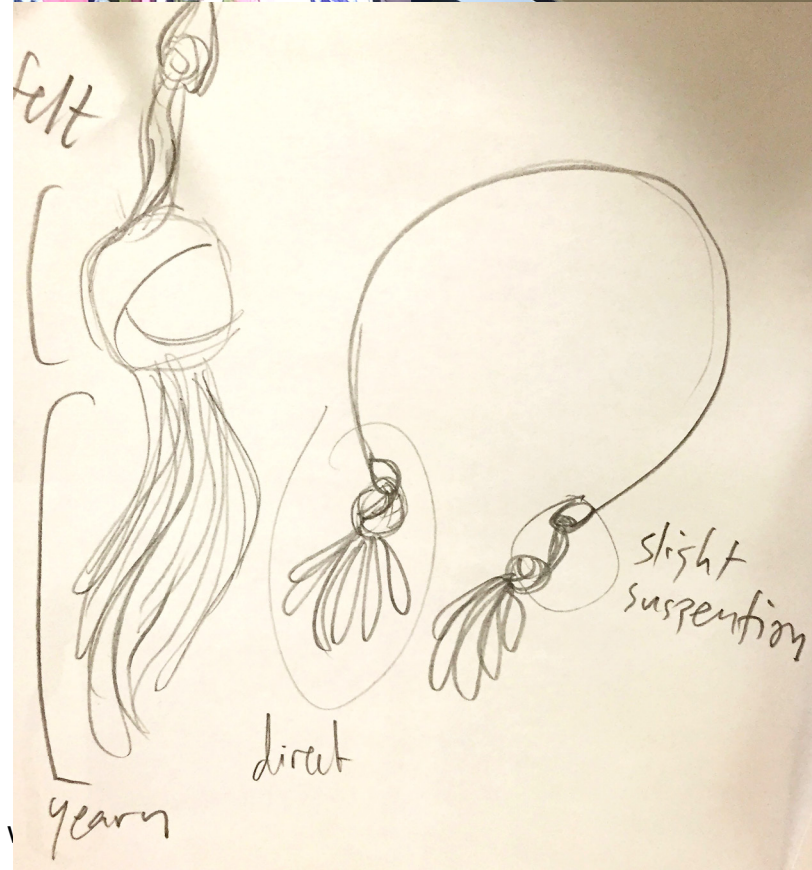


Figure 11.1

Figure 11.2



Figure 11.3

4) The Sun Crown

This artifact is intended to be a statement piece, inspired by the Arabic proverb, "A woman's hair is her crown." Hair forms an important part of how we, as humans, choose to identify and express ourselves, and one could argue that there is an observable emphasis on this for women. While I don't suffer from Trichotillomania, when very anxious I have the tendency to obsessively and repeatedly comb my hair with my hands to the point where I pull out a bunch of hairs. At its worst, this behavior grew uncontrollable, to the point where my hair started thinning, and the beginning of a bald spot appeared. I was ashamed of what I did to myself and terrified of others around me finding out about my anxiety. Thankfully I learned to manage my anxiety better and avoid inflicting self-harm.

The Sun Crown explores how to reframe negative connotations surrounding Trichotillomania, by constructing a hair crown from detached/ fallen hair. I designed it to raise awareness about anxiety and related disorders, and to create dialogue. (Figures 12.0 and 12.1)



Figure 12.0



Figure 12.0

5) Thimble rings

I also chose to redesign one of my earlier artifacts: the finger thimbles. In this iteration, I changed aspects of their design to improve on previous features and add new ones. The previous model of the thimbles was composed of a single layer of leather designed to be worn on the thumb. I integrated this feature as part of a set of three solid rings that are designed to be worn on the thumb, index, and middle fingers. The rings are not only designed to protect the nail and the skin around it, but also inhibit the user from harming their other fingers. Another aspect in the design of the new model was practicality, allowing users to be able to work with their hands as comfortably as possible while wearing the rings. The leather thimble functions by being added on top of the thumb ring as a fidgeting tool. I designed both a textured and smooth version of the thimble. (Figure 13.0, 13.1, and 13.2)

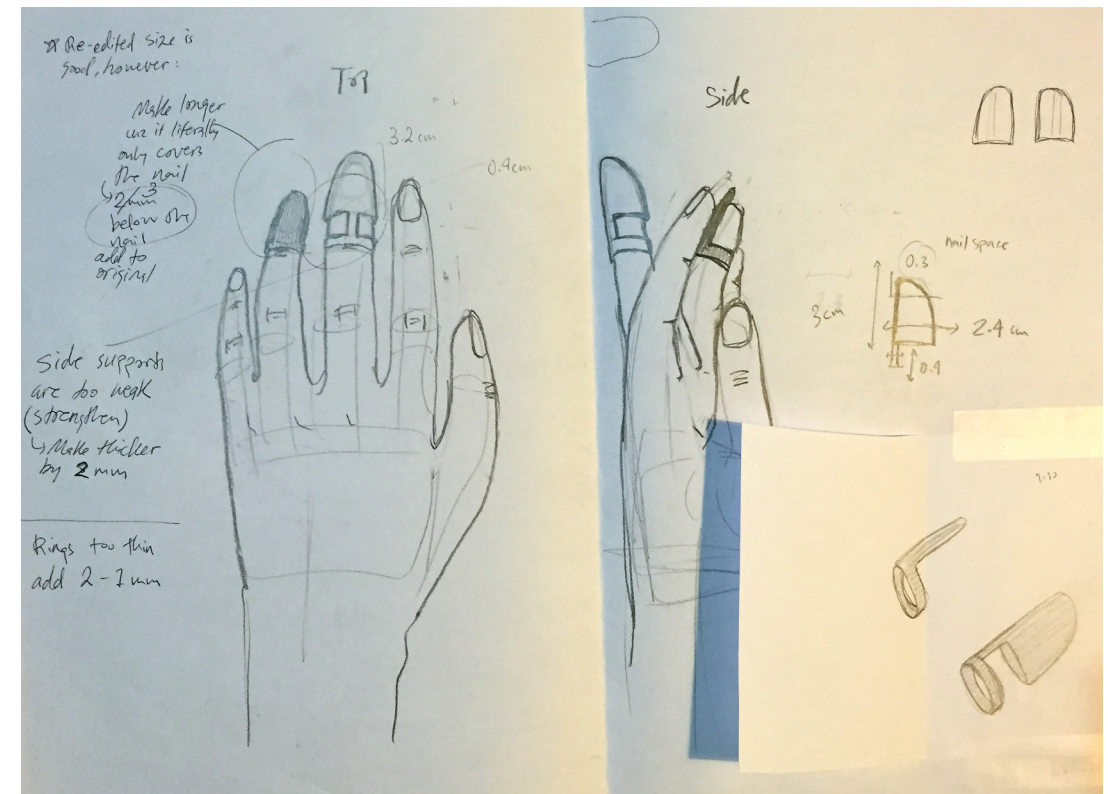


Figure 13.0



Figure 13.1

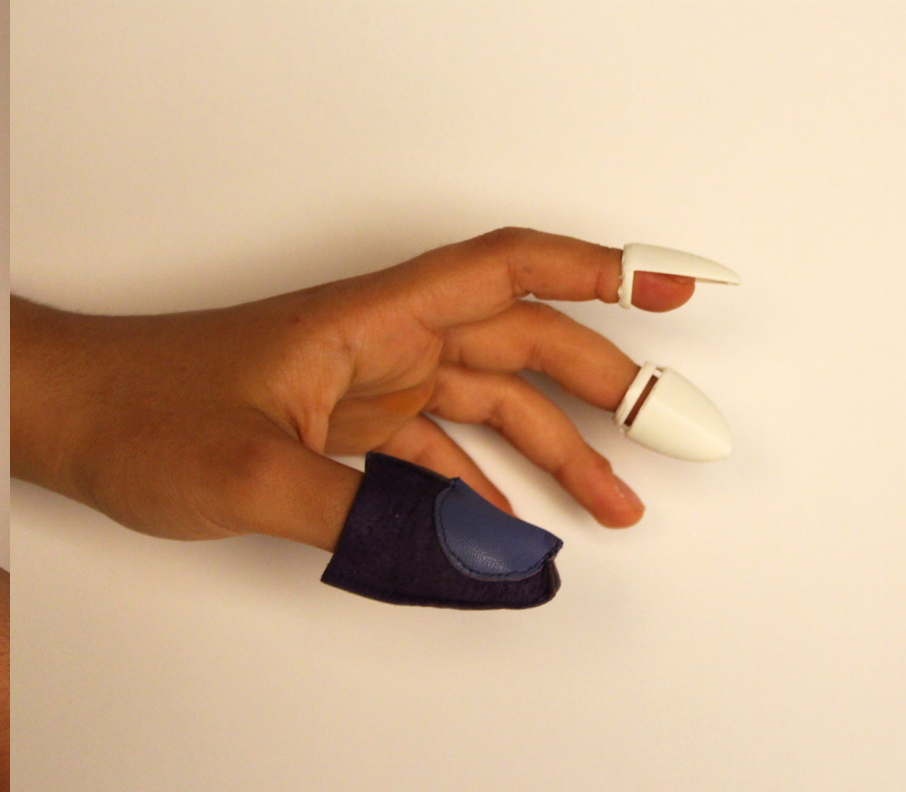


Figure 13.2

Outcomes

This section includes the photos of the exhibited gallery pieces, the limitations of this study, and potential future directions.

Figure 14.0, The Ear Cuffs and The Thimble Rings, 3D printed from gold-coated steel.





Figure 14.1, The Ear Cuffs, 3D
printed from gold-coated steel.



Figure 14.2, The Dome Crown,
3D printed polished bronze.



Figure 14.3, The Dome Earrings,
3D printed polished bronze.



Figure 14.4, The Sun Crown, Mixed media.

Figure 14.5, The Fidget Thimbles, 3D printed polished brass.



Figure 14.6, The exhibition space.

Nourbanu Hijazi

ANXIOUS?

Re-designing women's jewelry to aid the management of symptoms of anxiety disorders

Anxiety is a common and often stigmatized condition. Destigmatizing mental disorders can positively impact people's interaction and communication with others, and can prompt conversations in which people share their experiences of mental health, leading to improved societal understanding and perception.

My design solution tackles behavioral symptoms of anxiety specifically two conditions that fall under obsessive-compulsive behavior: Dermatillomania and Trichotillomania. By re-designing women's jewelry as specialized accessories, my intention is for these objects to help destigmatize these conditions and relieve the symptoms of maladaptive behaviors and hurtful impulses. By redirecting these irresistible urges to an external artifact, the objects are designed to help the user tactfully and harmlessly manage symptoms while at the same time satisfying the user's impulse.

MAIN ADVISOR

Thomas Moolven

ASSOCIATE ADVISOR

Rab McClure

ASSOCIATE ADVISOR

Basma Hamdy

READER

Michael Wirtz

EXTERNAL ADVISOR

Laura Green



Figure 14.7, The exhibition space.

Nourbanu Hijazi

ANXIOUS? Re-designing women's jewelry to aid the management of symptoms of anxiety disorders

Anxiety is a common and often stigmatized condition. Destigmatizing mental disorders can positively impact people's interaction and communication with others, and can prompt conversations in which people share their experiences of mental health, leading to improved societal understanding and perception.

My design solution tackles behavioral symptoms of anxiety specifically two conditions that fall under obsessive-compulsive behavior: Dermatillomania and Trichotillomania. By re-designing women's stigmatized accessories, my intention is for them to be adaptive behaviors and helpful in managing irresistible urges to an external aid to help the user tactfully and while at the same time satisfying

MAI
The
ASSOCIATE
Rash McQueen
ASSOCIATE
Rash McQueen
READ
Michael
EST



Limitations and Future Directions

Research informing my designed artifacts includes medical case studies and clinical studies, interviews with medical personnel, user testing, and existing treatment concepts and techniques used by medical specialists. While informed by medical criteria, my perspective for proposing strategies to tackle anxiety and mental health stigma is from the point of view of design.

Moving forward, I wish to continue designing and creating an engaging user-friendly therapeutic system for educating patients about anxiety disorders, which can direct them to treat and manage their own mental health. It remains a post-graduation goal for me to pursue—ideally, embedded within a team that includes medical personnel. Ideally I would like to pursue this research in collaboration with a hospital psychiatry department. This would provide me with access to more research resources, and a better and more varied user base, to provide more immediate feedback and improve the features of my designs. I want them, ultimately, to be easily reproduced and accessible to the public.

The designed, anxiety-relieving accessories I created are fully functional; however, there is room for improvement. With more time and a wider user base to provide feedback, I could improve the effectiveness and features of my wearable artifacts.

Conclusion

The equity gap between physical and mental health in the MENA region is profound. However, efforts are underway within the government and public health sector to close that gap. While improvement can be seen, the stigma against mental disorders is a common issue affecting the lives of millions. People suffer silently from untreated and deteriorating mental—and subsequently physical—health, because they are unable to access facilities and acquire needed treatment.

Most efforts to tackle this problem take the form of public awareness campaigns, initiated by hospitals and medical professionals. Based on what I have seen, these campaigns are lackluster and fail to facilitate meaningful interactions capable of engaging target audiences. Medical professionals should not be blamed; their field of expertise is treatment. This is an opportunity for design, and designers need to get involved. Designers have the mindset and skills to research and investigate people's needs and then take active steps to put better tools, devices, and systems in place, as a supplement to current treatment methods.

I hope my design proposals contribute to more open dialog, and I hope more people are encouraged to share their mental health experiences openly. More open discussion is needed to reframe public perception of mental disorders and to empower those affected by mental illness so they can finally take control through treatment.

List of Figures

All images used in this paper are courtesy of the author, unless mentioned otherwise.

Figure 1.0. Schuleit, Anna. Bloom. 2003. Mixed media. <https://www.pinterest.com/schuleithaber/bloom-2003/>.

Figure 1.1. Bloom, Detail. 2003. Mixed media. <https://www.pinterest.com/schuleithaber/bloom-2003/>.

Figure 1.2. Bloom, No Flowers on the Psych Ward. 2003. Mixed media. <https://www.pinterest.com/schuleithaber/bloom-2003/>.

Figure 1.3. Northampton State Hospital as Seen through the Eyes of the Installation Crew. 2000. Mixed media. <http://journals.sagepub.com.proxy.library.vcu.edu/doi/pdf/10.1177/1363459310397979>

Figure 1.4. 'Habeas Corpus': A Sound Installation for Northampton State Hospital. 2000. Mixed media. <http://journals.sagepub.com.proxy.library.vcu.edu/doi/pdf/10.1177/1363459310397979>

Figure 2.0. Mindnosis Kit Is Designed to Help People Overcome Their Mental Health Issues. 2017. Mixed media. <https://www.dezeen.com/2017/07/04/mindnosis-kit-helps-people-overcome-mental-health-issues-graduate-designers-2017/>

Figure 2.1. Ibanez, Sara. Mindnosis Kit Detail. 2017. Mixed media. <https://www.dezeen.com/2017/07/04/mindnosis-kit-helps-people-overcome-mental-health-issues-graduate-designers-2017/>.

Figure 3.0. Bodewes, Nicolette. Tools for Therapy Encourage People to Open up about Their Emotions. 2016. Mixed media. <https://www.dezeen.com/2016/11/04/tools-for-therapy-nicolette-bodewes-tactile-object-psychotherapy-dutch-design-week-2016/>.

Figure 3.1. Tools for Therapy Kit. 2016. Mixed media. <https://www.dezeen.com/2016/11/04/tools-for-therapy-nicolette-bodewes-tactile-object-psychotherapy-dutch-design-week-2016/>.

Figure 3.2. Tools for Therapy in Use. 2016. Mixed media. <https://www.dezeen.com/2016/11/04/tools-for-therapy-nicolette-bodewes-tactile-object-psychotherapy-dutch-design-week-2016/>.

Figure 4.0. Sun, Rui. Emotional First Aid Kit Is Designed to Help Those in Stressful Situations. June 22, 2017. Mixed media. <https://www.dezeen.com/2017/06/22/emotional-first-aid-kit-designed-help-those-stressful-situations-design-graduates-central-saint-martins/>.

Figure 4.1. Sun, Rui. Purple Breathing Mask. June 22, 2017. Mixed media. <https://www.dezeen.com/2017/06/22/emotional-first-aid-kit-designed-help-those-stressful-situations-design-graduates-central-saint-martins/>.

Figure 4.2. Sun, Rui. Green Meditating Stethoscope. June 22, 2017. <https://www.dezeen.com/2017/06/22/emotional-first-aid-kit-designed-help-those-stressful-situations-design-graduates-central-saint-martins/>.

Figure 5.0. Pierce, Signe. Fidget Spinners. 2017. Photography. https://timedotcom.files.wordpress.com/2017/05/170509_signe-pierce_time_fidgetspinners_014-final_300dpi.jpg.

Figure 5.1. Torqbar® Solid Body 303 Stainless Steel. Photography. Accessed January 27, 2018. <https://torqbar.com/products/torqbar-solid-body-303-stainless-steel-tbsbss>.

Figure 7.1. Uchimura, Daisuke. Hand Sewing Leather. Leather. Accessed April 15, 2018. https://www.instagram.com/p/-lLAvYLQ_W/.

Figure 7.2. 3 Colors Gold Claw Ring. Metal. Accessed April 15, 2018. https://www.etsy.com/listing/591626737/3-colors-gold-claw-ring-ebony-armour?utm_source=OpenGraph&utm_medium=PageTools&utm_campaign=Share

Figure 9.0. What Is Trichotillomania? Photography. Accessed April 15, 2018. <http://www.bfrb.org/learn-about-bfrbs/trichotillomania>.

Figure 9.1. Lucy. Trichotillomania - 7 Cups Forum. Photography. Accessed April 15, 2018. https://www.7cups.com/forum/OCDBFRBCommunity_165/Trichotillomania_1103/Trichotillomania_78673/.

Figure 10.0. Unicorn Ear Cuff. Metal. Accessed April 15, 2018. <https://www.dhgate.com/product/fashion-punk-ear-cuff-european-trendy-unicorn/201729577.html>

Figure 12.0. Photography, Dollhouse. Mary Halo Crown Headpiece. Sculpture. Accessed April 15, 2018. <https://www.apatico.net/products/mary-halo-crown-headpiece-spiked-sunburst-headband-madonna-iconography-dia-de-los-muertos-saints-gothic-lolita-headress>.

Endnotes

1. "WHO | Mental Disorders Affect One in Four People," WHO, accessed November 4, 2017, http://www.who.int/whr/2001/media_centre/press_release/en/.
2. "WHO | Mental Disorders Affect One in Four People."
3. Ahmad Sa, El-Jabali A, and Salam Y, "Mental Health and the Muslim World," *Journal of Community Medicine & Health Education*, June 30, 2016, 1-2, <https://doi.org/10.4172/2161-0711.1000445>.
4. "National Mental Health Strategy | Ministry of Public Health," accessed September 6, 2017, <https://www.moph.gov.qa/health-strategies/national-mental-health-strategy>.
5. John Price, "The Dominance Hierarchy and the Evolution of Mental Illness," *The Lancet* 290, no. 7509 (July 29, 1967): 243-46, [https://doi.org/10.1016/S0140-6736\(67\)92306-9](https://doi.org/10.1016/S0140-6736(67)92306-9).
6. Price.
7. Price.
8. Kevin Dutton, *The Wisdom of Psychopaths: What Saints, Spies, and Serial Killers Can Teach Us about Success*, 1st ed.. (New York: Scientific American/Farrar, Straus and Giroux, 2012).
9. Dutton.
10. J. M. Eagles, "Seasonal Affective Disorder: A Vestigial Evolutionary Advantage?," *Medical Hypotheses* 63, no. 5 (2004): 767-72, <https://doi.org/10.1016/j.mehy.2004.07.002>.
11. Eagles.
12. Price, "The Dominance Hierarchy and the Evolution of Mental Illness."
13. Dutton, *The Wisdom of Psychopaths*.
14. Eagles, "Seasonal Affective Disorder."
15. Sheri L. Johnson et al., "Creativity and Bipolar Disorder: Touched by Fire or Burning with Questions?," *Clinical Psychology Review* 32, no. 1 (February 1, 2012): 1-12, <https://doi.org/10.1016/j.cpr.2011.10.001>.
16. "Demi Lovato Opens Up About Her Bipolar Disorder: 'I'm Living Proof of Living Well' with Mental Illness," PEOPLE.Com (blog), November 30, 2016, <http://people.com/music/demi-lovato-bipolar-disorder-living-proof-living-well-with-mental-illness/>.
17. Dutton, *The Wisdom of Psychopaths*.
18. "WHO | Mental Disorders Affect One in Four People."
19. Patrick W. Corrigan, Benjamin G. Druss, and Deborah A. Perlick, "The Impact of Mental Illness Stigma on Seeking and Participating in Mental Health Care," *Psychological Science in the Public Interest*, September 3, 2014, <https://doi.org/10.1177/1529100614531398>.
20. Corrigan, Druss, and Perlick.
21. Neil Seeman et al., "World Survey of Mental Illness Stigma," *Journal of Affective Disorders* 190 (January 15, 2016): 115-21, <https://doi.org/10.1016/j.jad.2015.10.011>.
22. Ayse; Jones Ciftci, "Mental Health Stigma in the Muslim Community," *Journal of Muslim Mental Health* 7, no. 1 (2012), <http://dx.doi.org/10.3998/jmmh.10381607.0007.102>.
23. Sa, A, and Y, "Mental Health and the Muslim World."
24. "National Mental Health Strategy | Ministry of Public Health."
25. L. A. Dardas and L. A. Simmons, "The Stigma of Mental Illness in Arab Families: A Concept Analysis," *Journal of Psychiatric and Mental Health Nursing* 22, no. 9 (November 2015): 668-79, <https://doi.org/10.1111/jpm.12237>.
26. Ciftci, "Mental Health Stigma in the Muslim Community."
27. Ciftci.
28. Dardas and Simmons, "The Stigma of Mental Illness in Arab Families."
29. K. R. V. Vaes et al., "Contending Stigma in Product Design: Using Insights from Social Psychology as a Stepping Stone for Design Strategies" (Delft University of Technology, 2012), <http://resolver.tudelft.nl/uid:3157349a-bd30-4407-83fa-e71939055e9b>.

30. Kristof Vaes, Pieter Jan Stappers, and Achiel Standaert, "Stigma-Free Product Design: An Exploration in Dust Mask Design" (Delft University of Technology, September 7, 2012), <https://doi.org/10.13140/2.1.3017.9845>.
31. Brenda Major and Laurie T. O'Brien, "The Social Psychology of Stigma," *Annual Review of Psychology* 56 (2005): 393-421, <https://doi.org/10.1146/annurev.psych.56.091103.070137>.
32. Anna Schuleit, *Northampton State Hospital as Seen through the Eyes of the Installation Crew, 2000*, Mixed media, 2000.
33. Schuleit.
34. Schuleit.
35. Sara Ibanez, *Mindnosis Kit Is Designed to Help People Overcome Their Mental Health Issues, 2017*, Mixed media, 2017, <https://www.dezeen.com/2017/07/04/mindnosis-kit-helps-people-overcome-mental-health-issues-graduate-designers-2017/>.
36. Nicolette Bodewes, "Tools for Therapy Encourage People to Open up about Their Emotions," November 4, 2016, <https://www.dezeen.com/2016/11/04/tools-for-therapy-nicolette-bodewes-tactile-object-psychotherapy-dutch-design-week-2016/>.
37. Rui Sun, *Emotional First Aid Kit Is Designed to Help Those in Stressful Situations, June 22, 2017*, Mixed media, June 22, 2017, <https://www.dezeen.com/2017/06/22/emotional-first-aid-kit-designed-help-those-stressful-situations-design-graduates-central-saint-martins/>.
38. "Fidget Spinner Emerges As Must-Have Toy Of The Year," NPR.org, accessed January 27, 2018, <https://www.npr.org/2017/05/04/526931943/fidget-spinner-emerges-as-must-have-toy-of-the-year>.
39. K. R. V. Vaes et al., "Contending Stigma in Product Design: Using Insights from Social Psychology as a Stepping Stone for Design Strategies" (Delft University of Technology, 2012), <http://resolver.tudelft.nl/uuid:3157349a-bd30-4407-83fa-e71939055e9b>.

