

# THIS DOES NOT DEFINE YOU.

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A SOCIAL SUSTAINABILITY EXPLORATION

YOU ARE BIGGER THAN THIS FEELING.

**TDNDY.ORG**

# CREDITS

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# STEPPING THROUGH STORMS

OVER THE COURSE OF THIS class, I investigated many different ideas and concepts over the course of unpacking professional practices of impact within a sustainability initiative, while retaining a focus on stakeholders, impact, and experience design simultaneously.

Starting with “overpopulation”, or, as the UN loosely defined in their Sustainability Initiatives, under Sustainable Communities and Cities, I tackled a seemingly insurmountable issue through a series of iterations, narrowing down the focus by oscillating between intention, execution, and impact to better understand how my design practice can have the most impact.



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**SUSTAINABILITY FOCUS:  
THE WORLD CANNOT  
PROGRESS WITHOUT  
HALF OF ITS POPULATION**



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# FOCUS:

# GENDER EQUALITY

## Exercise A: Research

**IN TAKING THE ISSUES OF** overpopulation a step further, it warrants a closer look at gender roles within sexuality to better understand where the most lasting change can take effect. Socio-political movements concerning women's rights reveal the causes of opposition to women's right to choose. Contemporary studies on toxic masculinity provide supporting documentation concerning the role of men over history in the creation of laws and infrastructures, designed to limit the ability for women to regulate their right to family planning.<sup>1</sup>

While there is spirited debate regarding the complicitness of men in creating the power dynamic described by contemporary feminist movements<sup>2</sup>, it follows that there are two parties involved in the creation of a family. We are living in an era focused on women and girls, this is appropriate given the persistent and debilitating gaps in global access to education, health care, and economic opportunity between the genders<sup>3</sup>. However, there is also a gap in complementary funding and research to engage men, "which not only makes overall family planning objectives more elusive, but puts

even greater stress and pressure on women to shoulder the burden of contraception on their own."<sup>4</sup>

Cultural definitions of masculinity are evolving. World Vasectomy Day, an event aimed at empowering men to join the family planning sphere, is proof that when provided thorough information through compelling stories, men will, in fact, participate in family planning, including opting for a vasectomy. Mexico boasts that this is the largest male-focused family planning event in the world. By using creative media to dispel vasectomy myths, raise awareness,

and promote positive masculinity, World Vasectomy Day backs their mission with education.<sup>5</sup> Research has found that when involved in family planning and sexual health programs, men are more likely to participate in household work and childcare, financial resources are more readily allocated for female contraceptives, and domestic violence decreases.<sup>6</sup> Essentially, bringing men into the family planning conversation increases overall contraceptive use while making broader and critical strides toward increasing gender equality.



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# WHAT'S IN A GESTURE?

## SOCIETAL RAMIFICATIONS AROUND THE PRACTICE OF REQUIRING PROOF

### COMMUNICATION ERRORS?

Regardless of the demonstrable<sup>7</sup> impact of education across genders and family planning, the prevalence of rape, sex crimes, and legislation are indicative of gross transgressions against women in the socio-political sphere<sup>8</sup>. According to one study by the Backlog Project<sup>8</sup>, a person is sexually assaulted every 98 seconds in the United States, with 98% of those people being female-identifying. It is estimated that hundreds of thousands of rape kits sit untested in storage rooms in police stations nationwide<sup>9</sup>, constituting what is

called the Rape Kit Backlog.

As a societal gesture, an untested rape kit sends a signal to the rapist and to the victim regarding power dynamics. While against the law, if not persecuted, rape and instances of sexual assault are looked over and enforced.<sup>10</sup> There is no incentive for the assault to end.

The rape kit as a gesture is also indicative of societal definitions of power. Instead of sending a message to the victim that the assault they experienced was real and traumatic, they are revictimized upon the collection of the data that would put their assailer away

for life. 55 percent of victims do not file a rape kit due to the impersonal nature of the forensic evidence collection, and for fear of revictimization for a crime they had to prove happened to them.<sup>11</sup>

### IMPACT OPPORTUNITIES

What would happen if we turned this gesture on its head? By visiting the policies, procedures, and practices, and applying design thinking to this practice, re-designing how we take care of injured women can send a powerful message of gender empowerment to society.



**HOW MIGHT WE REDESIGN  
THE RAPE KIT TO BECOME  
A SOCIETAL GESTURE OF  
EMPOWERMENT FOR RAPE  
VICTIMS?**

# RE-DESIGNING THE RAPE KIT

## CAN A RAPE KIT RE-DESIGN IMPACT THE SUSTAINABILITY QUESTION OF WOMEN'S RIGHTS?

### COMMON POLITICAL OPPOSITION

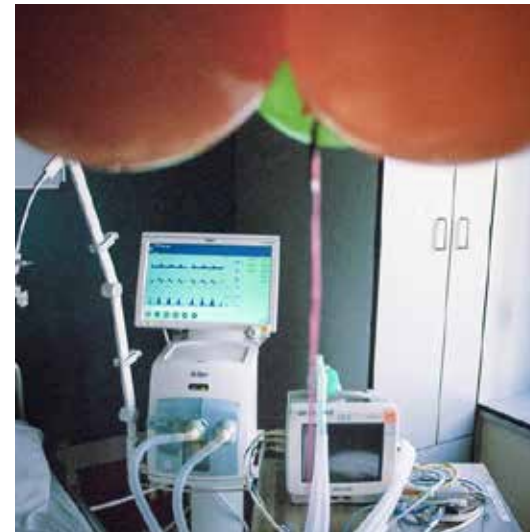
among policymakers against infrastructure for family planning is the perspective that these policy changes are expensive.<sup>1</sup> However, the repercussions of minimizing or removing support for women results in higher public expenditures as the rate of unintended pregnancies rises. In addition to political opposition, cultural barriers to family planning initiatives regarding gender roles and bias challenge the need for change.

As a microcosm of cultural bias against women, rape culture perpetuates women as the reason why sex crimes happen. Tangible impact design in this sphere would result in ripple effects, changing cultural definitions for generations.



### FORENSIC REQUIREMENTS

The forensic requirements of the rape kit are key cornerstones to the effectiveness of the data collected if taken to court. Changes made to the shape, intention and performance of forensic data collection equipment are difficult to tackle and require a depth of analysis in engineering. Redesigning these components needs to be performed by a professional medical device engineer. This is the least feasible option to explore within the timeline allotted for this course.



### HUMANISTIC INTERVENTIONS

Aside from the forensic requirements of the rape kit, there are auxiliary ways that the contents of the rape kit can be designed to be more hospitable and kind to the victim. Elements such as the paper they stand on could be considered from this lens, and is fertile ground for a redesign from a user experience level. However, the same problems present themselves when looking at the assignment requirements and drivers to redesign for sustainability.



### SUPPLEMENTAL RESOURCES

Instead of considering a redesign of the contents of the forensic kit, a possibility is to consider designing an auxiliary system of support for women going through this trauma. The biggest things that are missing for rape victims is a lack of support, validation, and resources to know what to do next to keep updated with what is happening with their case, how to take care of themselves in various states of post-traumatic stressors, and who to turn to for emotional support.



### REQUIRED CERTIFICATIONS

While there are SANE (Sexual Assault Nurse Examiner) and SAFE (Sexual Assault Forensic Examiner) certified practitioners, it is not required in many cases of forensic examination. Requiring certification of this kind be performed by all trained professionals who will be interfacing with trauma victims is a way to incentivize care for victims in a way that provides a better standard of care. In this way, third party certification can mitigate problems on during the exam.

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# A COMPOSITE CHARACTER MAP

## A SKETCH OF THE MOST PROMINENT STAKEHOLDER

Exercise B: Observe

### DEMOGRAPHIC DATA

As prescribed by the Design Thinking Bootcamp, a composite character map gives the design process a distinct person to keep in mind for product development.

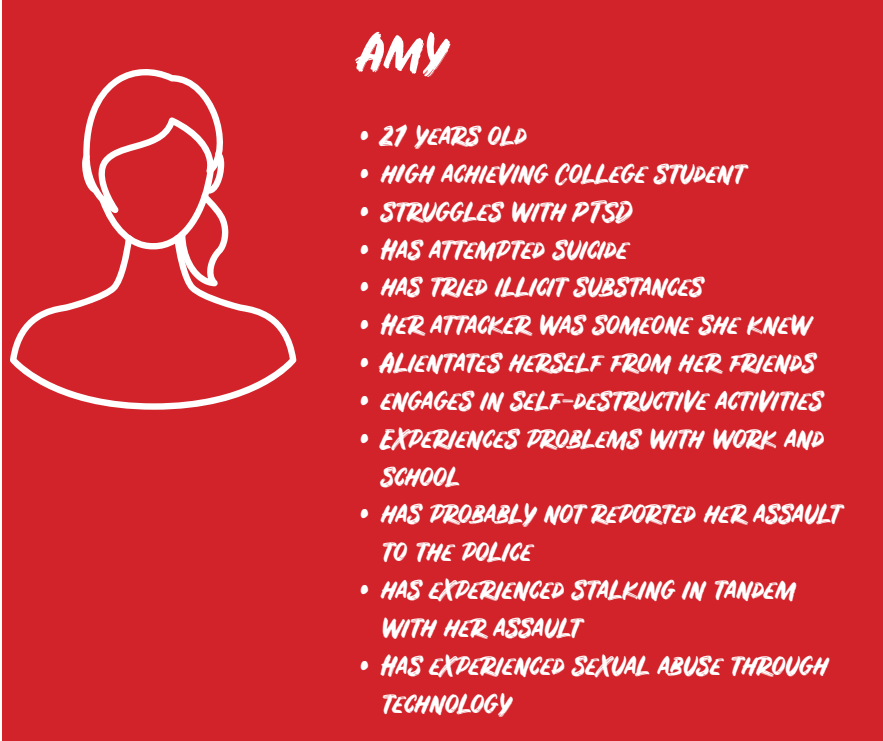
According to a variety of raw studies, rape victims are more likely to be female, between the ages of 18 and 31 years old, and in college<sup>1</sup>. Females between the ages of 16 and 19 are four times more likely than the general population to become victims.<sup>2</sup>

94% of women who are raped experience symptoms of PTSD during the first two weeks following the incident, whereas a third of those women report symptoms as far as nine months after<sup>3</sup>. 33% of women contemplate suicide, while

13% attempt it. Approximately 70% of women who are raped experience moderate to severe stress after their assault, which is more than any other violent crime.<sup>4</sup>

Victims of sexual crimes are also more likely to experience difficulty at work or school. 38% of victims of sexual violence experience work or school problems, which can include significant problems with a boss, coworker, or peer<sup>5</sup>. 37% experience family/friend problems,<sup>6</sup> including getting into arguments more frequently than before, not feeling able to trust their family/friends, or not feeling as close to them as before the crime. 79% of survivors who were victimized by a family member, close friend or acquaintance experience professional or emotional issues, including moderate to severe distress, or increased problems at work or school.

Despite the lengthy list of problems our victim is going through, she probably has not reported her rape to the police. Only approximately 30% of sexual assault cases are reported to authorities.<sup>7</sup>



**AMY**

- 21 YEARS OLD
- HIGH ACHIEVING COLLEGE STUDENT
- STRUGGLES WITH PTSD
- HAS ATTEMPTED SUICIDE
- HAS TRIED ILLICIT SUBSTANCES
- HER ATTACKER WAS SOMEONE SHE KNEW
- ALIENATES HERSELF FROM HER FRIENDS
- ENGAGES IN SELF-DESTRUCTIVE ACTIVITIES
- EXPERIENCES PROBLEMS WITH WORK AND SCHOOL
- HAS PROBABLY NOT REPORTED HER ASSAULT TO THE POLICE
- HAS EXPERIENCED STALKING IN TANDEM WITH HER ASSAULT
- HAS EXPERIENCED SEXUAL ABUSE THROUGH TECHNOLOGY

# LIST-MAKING

## OUTLINING COMMON PERCEPTIONS

### Exercise B: Observe

#### CULTURAL DEFINITIONS

From an empathetic standpoint, I used my perspective as a female having grown up in the United States to dig deep into the conceptions that I've interacted with my entire life. Using the tool of list making from the IDEO Bootleg, concepts that came up more readily are organized in the following list:

- Vaginas are dirty
- Vaginas are taboo.
- Never ask anyone for any advice regarding your private areas.
- Boys are off limits.
- I am unclean, because bleeding is distasteful and unclean.
- Blame for my physical process, natural process, of bleeding because my body is preparing for being pregnant.
- Lack of understanding of what pleasure feels like. Lack of resources to find out.
- Not knowing how to define and hold boundaries.
- Powerlessness due to lack of tools for self-knowledge.

- Alienation from one's own natural processes.
- Belittling of a woman's capability to do things due to her emotions.

**"ATTEMPTS TO ENFORCE FAMILY PLANNING FOR YOUNG WOMEN IS DIFFICULT - ADOLESCENT WOMEN ARE NOT GIVEN ENOUGH INFORMATION OR AGENCY"**

- What does control even look like as a feminine person?
- What about trans-rights? Just because you menstruate and have all the hardware for being a woman, doesn't mean that you identify as man.
- Attempts to enforce a family planning method for women

is difficult – young women do not get to choose what to do with their bodies to protect themselves.

- Women aren't inherently

encouraged to take control of their sexuality, whereas men culturally are "allowed" if not "expected" to know what they enjoy.

- Sexual health products do not take into account women's natural chemistry
- Problems seem to be information,

access, and education.

- Sex-ed conversations seemed to help, but if you already are an awkwardly shy person, how do you get to know your reproductive capability in a self directed way to avoid shame? How do you facilitate good communication with your doctor about health?
- Holistic health also includes the woman understanding how best to feel pleasure, and how to teach their partners the same.
- Holistic health involves teaching women their powers and their hardware and their full living system ability to engage in the dare-I-say sacred act of perpetuating the human race – and instilling a cultural shift into empowerment for that ability.

# BODYSTORMING

## A PHYSICAL EMPATHY EXERCISE: AFTER SEXUAL ASSAULT

Exercise B: Observe

### METHOD RESEARCH

One of the best ways to interact with ideas is to physically put yourself in the shoes of a stake holder.

The following is a collage of ideas presented when attempting to place myself in the shoes of a rape victim going through the process of reporting her assault, filing a rape kit, and following up with authorities.

In terms of my own qualifications to perform this, I have personal experience as a victim who decided to not report her assault. My personal experience informs this bodystorming.



### LAWYERS + BUREAUCRACY

Lack of faith that the person filing the report believes you, or will prosecute the offender.



### COLD, IMPERSONAL EXAM

Suddenly the crime scenes on television are your body. You are even made to floss your teeth.



### ENDLESS WAITING

Find yourself waiting for what seems like eternity, while grappling with early stages of PTSD.



### ONUS OF PROOF

Repetition of the event over and over to law enforcement, while being treated like a perpetrator.



### BODILY DISSOCIATION

Depression hijacks your ability to function. You stay in bed for weeks, lose your day job, stop seeing



### LOSS OF COMMUNITY

After several weeks of sequestering, friends start to doubt your struggle, telling you to get over it.



### EXPENSIVE THERAPY

Those who can afford it, receive therapy, or medication for depression.



### DRUG DEPENDENCY

You consider suicide. In the meantime, you find a means to numb pain and racing thoughts, engaging in risky behavior.

# CONCLUSIONS AND DISCOVERIES

## KEY STAKEHOLDERS, PROBLEM STATEMENTS, AND DESIGN DRIVERS

Exercise E: Describe

### PROBLEM STATEMENT:

**I WISH TO CREATE** a means for sexual assault and rape victims to receive immediate connection and support to a larger community of survivors, to send a larger societal message that women, their bodies, and their boundaries matter.

**ACCORDING TO RESEARCH,** many problems and breakdowns in communication regarding the rights of women to set boundaries that are respected <sup>1</sup>. The impact of the assault and disregard of women's rights results in women's lack of ability to have healthy and relevant access to health care, family planning, education, and societal mobility <sup>2</sup>. This mentality contributes to larger global issues of overpopulation, discrimination, and harm to half the population of the world<sup>3</sup>.

### STAKEHOLDERS:

**I WILL USE AN** approach that combines a variety of different existing product and knowledge dissemination tools to give victims access to reliable, straightforward resources for recovery, including immediate connection to a support community of individuals working to aid victims of sexual assault.

Female-identifying victims of sexual assault, public health professionals, law-enforcement,

### KEY ISSUES:

Overpopulation, falsification of news and information, resource depletion, gender inequality, and cultural barriers.

### KEY DESIGN DRIVERS:

Information democratization, peer-to-peer systems of value creation, cultural barriers, technology and internet, gender inequality.

### KEY OBJECTIVES:

1. **MANAGE/LIMIT GROWTH:** stabilize or reduce human population to the planet's carrying capacity
2. **ACHIEVE SOCIAL JUSTICE**
3. **MEET FUNDAMENTAL NEEDS**
4. **CREATE GREEN JOBS:** buy locally-made and artisan-made materials parts, objects

**HOW MIGHT I CONNECT  
A VICTIM OF SEXUAL  
ASSAULT TO A MEANS  
TO HEAL HERSELF, AND  
HER COMMUNITY?**

# BUSINESS MODELS TO EXPLORE

## CURRENT EXAMPLES OF IMPACT, PRODUCTS, AND RESPONSES TO NEED

### WITHIN THE PUBLIC HEALTH

initiatives for educators, sexual health education kits exist mainly for educators already working in the education sphere.

In terms of social justice endeavors aiming to answer discrepancies and gender gaps in pay and opportunity, there are business models employing women to create products for women.

Subscription based boxed models specifically are tailored to more a affluent customer base who can afford subscriptions and tailored experiences. Somewhere between these models there is a synthesis of information delivery that will make an impact for survivors.



### NAJA

A contributor to the contemporary women's empowerment movement through connecting with women artisans. Through their Underwear for Hope program, Naja employs women from the slums of Colombia to make lingerie bags that are offered with each purchase. This program allows marginalized women access to education and entrepreneurship opportunities.



### SERVICE-BASED MODELS

Contemporary services that are tailored to the customer give personalized experiences. In addition to being tailored to the user, it provides a modicum of privacy and self directed control over value-creation. As an experience based example of a private exchange of goods/services and information, it is a good example of a potential model for rape kit interventions.



### SEXUAL EDUCATION KITS

A pre-existing model for educators, sexual education kits such as the one above provide examples and opportunities for contemporary practices for sexual education. Though it is hard to verify how relevant the information presented in these resources is, or how they are being taught in schools, it gives an example of a type of kit addressing sexual education.



### THE ARTISAN ECONOMY

The artisan economy, such as the one Naja is a part of, is a booming economy that provides a direct means to empower women in vulnerable communities in other parts of the globe. Though leveraging this point in the system, we begin to start to see ways to connect disparate elements of the globe in the common cause to aid women of all cultures heal.

# PRODUCT OFFERINGS, BRANDING AND TONE

## A MOOD BOARD AND INSPIRATION SATURATION FOR PRODUCT

WITHIN THE KIT, A MORE personal approach is required to understand what is most needed, and how to present it, to the user while maintaining the sustainability initiatives delineated in design drivers.

Products included augment the forensic component and answer three needs: affirmation, connection, and stabilization. Kit of parts should be presented in a way that is approachable, clean, and discrete, while also cutting through the actual mental fog occurring with PTSD symptoms.



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### WORRY DOLLS

According to the tradition of the Mayans from the Guatemalan highlands, when children are scared or have nightmares, they give them worry dolls before they go to sleep. Then, they put them under the pillow, and when they wake up, their worries are gone. As a talismanic symbol, worry dolls could be a way to include community and provide psychological grounding.



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### EMPOWERMENT JEWELRY

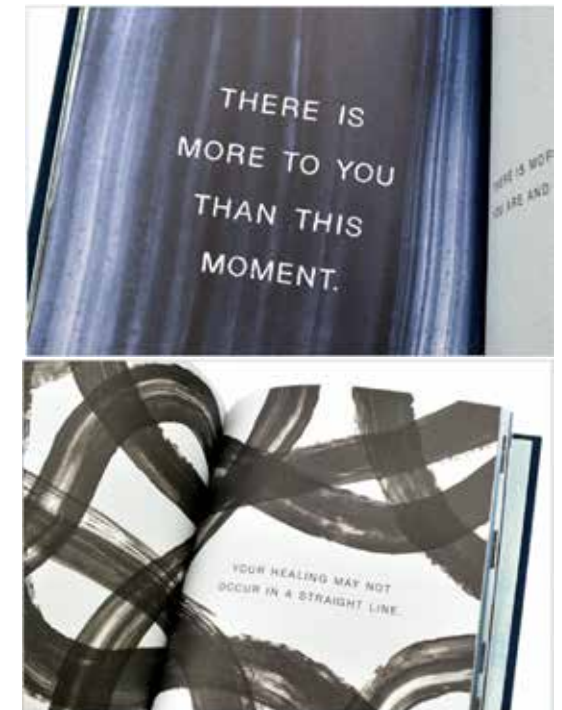
Aside from its talismanic property, a piece of jewelry can also bear messages on it. It provides a means for survivors to recognize each other, and provide an opportunity for two women who would have never known each other otherwise to help assuage loneliness and take the onus off of the survivor to go out of their way to find community and help.



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### MATERIALS OF AFFIRMATION

Often, when someone suffers from PTSD, the racing thoughts concurrently create scenarios that can be confusing and unsettling. Survivors, in their struggle, are constantly asked to question the certainty of their experiences. Books such as Read This Till You Believe It provide a means for the survivor to remind themselves that their experience and feelings are



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### TONE + MESSAGING

Because of the confusion of PTSD, the tone of the materials itself has to be clear enough, arresting yet affirming, to cut through the noise and confusion. There is a need for the kit itself to not call attention to itself, like the cover of the book does. And yet, while the survivor starts to unpack the materials, there are clear directions, messaging, and tools to mentally grasp onto.

**THE TONE CREATED** by including resources in pamphlet form and talismanic form, the stabilizing component of the kit enforce psychological tips and techniques for self-care to treat PTSD.

Self-care techniques to combat dissociative episodes include products for bathing, aromatherapy oils, and creams.

According to studies, best practices for treating and helping a survivor struggling with PTSD include providing a physical means for coping. Additionally, a community support system greatly decreases the chance of attempted suicide.

While the kit can't answer all these issues, products included in the packet can include at least a start. Starting with looking at life cycle analyses of the necklace, packaging, and flyer, a baseline understanding ensures that the kit is answering sustainability goals.





# EMPATHY MAP + OFFERINGS

WHAT ARE THE NEEDS OF THE MOST IMPORTANT STAKEHOLDER?

AS A VICTIM OF SEXUAL assault, it is important to unpack what the victim is feeling to best tailor the product offerings to her.

Using the Empathy Map tool from the Bootleg Toolkit, a map can be drawn that illustrates what the user is thinking, saying, feeling and doing.

THINKING

SAYING

FEELING

DOING

"I can't believe this happened."  
"Did I even want to?" "Will they believe me?"  
"Did I deserve it?" "Who can I trust now?" "Should I report it?" "Will my parents believe me?"  
"I feel like the only one going through this."  
"Nobody understands me." "My body doesn't belong to me."

"I'm fine." "I don't want to talk about it."  
"I'm just tired." "I was drunk, I deserved it."  
"We don't hang out anymore, just a falling out."  
"I think I'm failing because I'm just not good at this."  
"I don't feel good." "I can't focus."  
"Everything hurts."



"I feel worthless."  
"I can't trust anyone."  
"I'm scared that if I tell someone, that they will make fun of me."  
"I'm a slut because I couldn't say no."  
"I can never drink again."  
"I'm broken goods"  
"I can't trust myself to make good decisions."  
"No one will want to be with me now."  
"Life is not worth living."

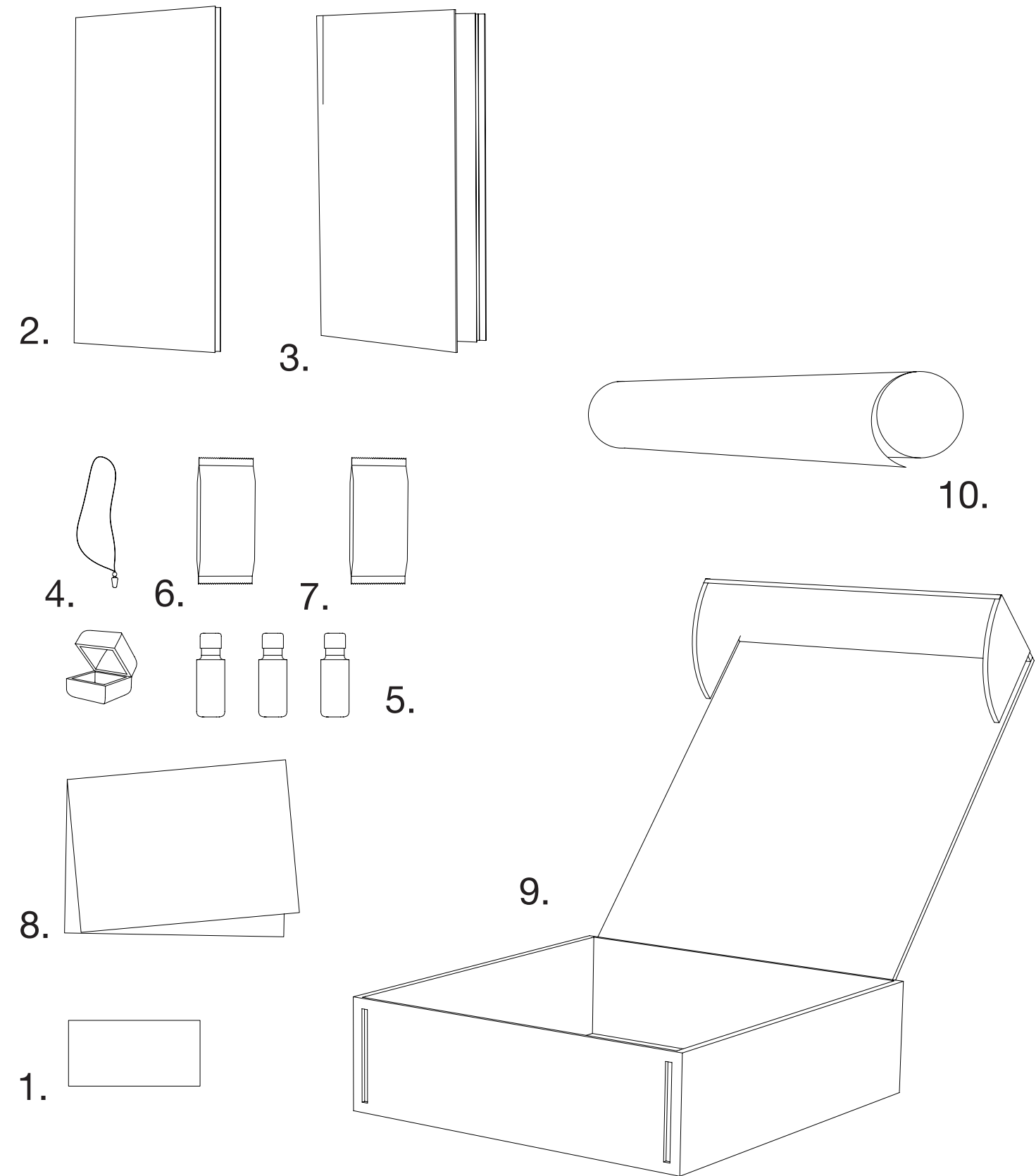
Sequestered behavior. Avoidance of social activity and friendships. Missed responsibilities. Extreme withdrawal. Drug and substance abuse. Risky and self destructive behaviors.

Immediately after trauma, experiences and behavior of shock, confusion, and dissociation. Flashbacks, emotional instability, lack of appetite and self-care. Lack of communication.

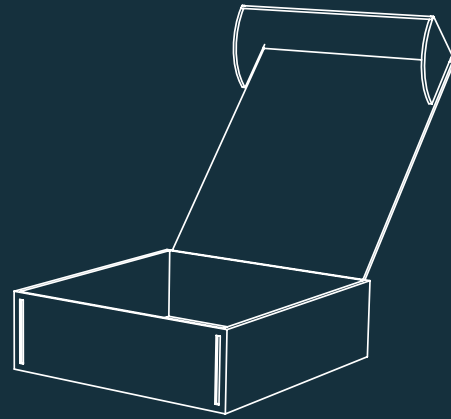
## KIT OFFERINGS

In a resource that augments the administered rape kit, this product gives survivors the tools necessary to connect to other survivors, both physical and communal. This as a tool aiding women to begin the long process of healing. The kit would include:

1. A refrigerator magnet with a crisis hotline number
2. A pamphlet with facts on PTSD, stress responses, step by step coping mechanisms for immediate self-care regimens, contacts for text-based therapy
3. A journal.
4. A necklace, connecting survivors to each other through a community object and physical reminder of her community.
5. Essential oils.
6. Ointments to help heal bodily harm and injury from the incident.
7. Bath salts for self care and muscle tension.
8. Contacts for local organizations for sexual health such as Planned Parenthood.
9. Physical box for holding, transporting, and delivering product.
10. A poster with an affirmation to serve as a physical reminder when times get tough.



# LIFE CYCLE INVENTORY: IMPACT ASSESSMENTS



## MATERIALS SUMMARY

Cardboard, 2 ply, Printed

### ASSUMPTIONS MADE

#### LIFETIME: 1,008 HOURS

Cardboard box is meant as a transportation device, as well as a storage device, while the kit waits to be deployed. Lifespan is based on use phase.

#### MANUFACTURING IMPACT

Transport covers the total manufacturing lifecycle at 100 miles - supplier, manufacturer, vendor.

#### TON-MILES

Calculated by taking pounds and converting it into tons, and doing an estimate of distance traveled according to sourcing for raw materials.

#### SUSTAINABLE ALTERNATIVES

Ink, recycled substrate

The overall impact was aided by changing ink processes and specing a different type of substrate.

Product Concept Name		System Boundaries		Functional Unit	
Component: Cardboard Box - Option A		Packaging: Outer box		Impacts/hour	
		Product Lifetime		6 weeks x 7 days x 24 hours = 1,008 hours	
Bill of Materials					
Materials	Amount	Unit	x Okala Factor Points	Unit =	Okala Impact Points
Corrugated cardboard	0.75	lb	0.76	/lb	0.57
Offset print ink	0.1	lb	1.7	/lb	0.17
sealing tape	0.25	lb	0.18	/lb	0.045
toner, black	0.1	lb	48	/lb	4.8
Manufacturing	Amount	Unit	x Okala Factor Points	Unit =	Okala Impact Points
Truck	0.00000375	ton	0.32	ton/miles	0.049
Transport/Disposal	Amount	Unit	x Okala Factor Points	Unit =	Okala Impact Points
Landfill, Corrugated Cardboard	1.2	lb	0.39	/lb	1.59
<b>Total Impact</b>					<b>7.224</b>
Impacts/product lifetime		$\frac{7.224}{1008} =$		<b>0.007166667</b>	<b>Impact/hour</b>

Component:		System Boundaries		Functional Unit	
Cardboard Box - Option B <i>Sustainable Alternative</i>					
Bill of Materials					
Materials	Amount	Unit	x Okala Factor Points	Unit =	Okala Impact Points
Corr. cardboard - Sec	0.75	lb	0.59	/lb	0.4425
Offset print ink	0	lb	1.7	/lb	0
sealing tape	0.25	lb	0.18	/lb	0.045
toner, black	0	lb	48	/lb	0
Manufacturing	Amount	Unit	x Okala Factor Points	Unit =	Okala Impact Points
Truck	0.00000375	ton	0.32	ton/miles	0.049
Incineration	1	lb	0.012	/lb	1.012
<b>Total Impact</b>					<b>1.5485</b>
Impacts/product lifetime		$\frac{1.5485}{1008} =$		<b>0.00153621</b>	<b>Impact/hour</b>

### ASSUMPTIONS MADE

#### LIFETIME: 8760 HOURS PER YEAR

Pamphlet life is dependent on the year long crisis recovery state that the victim suffers and is to be a reference for things to remember, and remind themselves, as they recover.

#### MANUFACTURING IMPACT

Transport covers the total manufacturing lifecycle at 100 miles - supplier, manufacturer, vendor.

#### TON-MILES

Calculated by taking pounds and converting it into tons, and doing an estimate of distance traveled according to sourcing for raw materials.

#### SUSTAINABLE ALTERNATIVE

Look at Ink, recycled substrate

The overall impact was aided by changing ink processes and specing a different type of substrate, but in terms of overall impact, it yielded a .7 amount difference.

#### Product Concept Name

##### Component:

Resource pamphlet/Book - Option A

#### System Boundaries

Resource Pamphlet

#### Functional Unit

Impacts/hour

#### Product Lifetime

8760 hours/year

Bill of Materials							
Materials	Amount	Unit	x	Okala Factor Points	Unit =	Okala Impact Points	
Paper, coated, primary	0.17	lb		1	/lb	0.17	
Offset print ink toner, black	0.1	lb		1.7	/lb	0.17	
	0.1	lb		48	/lb	4.8	
<b>Manufacturing</b>	<b>Amount</b>	<b>Unit</b>	<b>x</b>	<b>Okala Factor Points</b>	<b>Unit =</b>	<b>Okala Impact Points</b>	
Truck	0.000085	ton		0.32	ton/miles	0.0000272	
<b>Transport/Disposal</b>	<b>Amount</b>	<b>Unit</b>	<b>x</b>	<b>Okala Factor Points</b>	<b>Unit =</b>	<b>Okala Impact Points</b>	
Landfill, Paper	0.17	lb		0.36	/lb	0.53	
<b>Total Impact</b>						<b>5.6700272</b>	
Impacts/product lifetime						$\frac{5.6700272}{8760} =$	<b>0.000647263</b>
						<b>Impacts/hour</b>	

##### Component:

Resource Pamphlet/book - Option B

Sustainable Alternative

Bill of Materials							
Materials	Amount	Unit	x	Okala Factor Points	Unit =	Okala Impact Points	
Paper, Secondary, deink	0.17	lb		0.37	/lb	0.0629	
Offset print ink toner, black	0.1	lb		1.7	/lb	0.17	
	0.1	lb		48	/lb	4.8	
<b>Manufacturing</b>	<b>Amount</b>	<b>Unit</b>	<b>x</b>	<b>Okala Factor Points</b>	<b>Unit =</b>	<b>Okala Impact Points</b>	
Truck	0.000085	ton		0.32	ton/miles	0.0000272	
<b>Transport/Disposal</b>	<b>Amount</b>	<b>Unit</b>	<b>x</b>	<b>Okala Factor Points</b>	<b>Unit =</b>	<b>Okala Impact Points</b>	
Incinerator	0.17	lb		0.012	/lb	0.182	
<b>Total Impact</b>						<b>5.2149272</b>	
Impacts/product lifetime						$\frac{5.2149272}{8760} =$	<b>0.000595311</b>
						<b>Impacts/hour</b>	

### MATERIALS SUMMARY

Coated paper

Inks

Adhesives



## MATERIALS SUMMARY

Sterling Silver  
24k Gold plated

### ASSUMPTIONS MADE

LIFETIME: 87600 HOURS PER TEN YEAS

As a talisman of connection and support, much like the coins earned in AA, the necklace is meant to be given to the wearer as a signal of support and bond.

### MANUFACTURING IMPACT

I struggled to find the impact from the process of creating the jewelry - it was akin to the casting processes for plating for tin and zinc, but given the small surface area I wished to look at larger impact such as sourcing and transport.

### TON MILES

Calculated by taking pounds and converting it into tons, and doing an estimate of distance traveled according to sourcing for raw materials. I budgeted high - 100 miles for truck - to get an understanding for an estimate for the movement required from supplier, to manufacturer, to vendor.

### SUSTAINABLE ALTERNATIVE

Component:		System Boundaries		Functional Unit		
Jewelry - Option A		Necklace		Impacts/hour		
Silver plated, 24K						
Bill of Materials						
Materials	Amount	Unit	x	Okala Factor Points	Unit =	Okala Impact Points
Sterling Silver, Primary	0.09	lb		570	/lb	52.7786028
Gold, Primary (conflict metal)	0.0001	lb		170000	/lb	17
Manufacturing						
Amount	Unit	x	Okala Factor Points	Unit =	Okala Impact Points	
Transport/Disposal						
Truck	4.6297E-05	ton miles		0.32	ton miles	1.4815E-05
Airfreight, intercon.	0.00000005	ton miles		1.6	ton miles	0.00000008
<b>Total Impact</b>						<b>69.77861762</b>
<b>Impacts/product lifetime</b>		$\frac{69.77861762}{87600} =$		<b>0.00079656</b>		

Component:		System Boundaries		Functional Unit		
Necklace - Just Silver		Necklace		Impacts/hour		
Sustainable Alternative						
Bill of Materials						
Materials	Amount	Unit	x	Okala Factor Points	Unit =	Okala Impact Points
Sterling Silver, Secondary	0.09259404	lb		5.3	/lb	0.490748412
Manufacturing						
Amount	Unit	x	Okala Factor Points	Unit =	Okala Impact Points	
Transport/Disposal						
Truck	4.6297E-05	ton		0.32	ton miles	1.4815E-05
<b>Total Impact</b>						<b>0.490763227</b>
<b>Impacts/product lifetime</b>		$\frac{0.490763227}{87600} =$		<b>0.00000560</b>		

# CONCLUSIONS AND DISCOVERIES

## KEY DISCOVERIES FROM LCI ANALYSES

Exercise E: Describe

**UPON PERFORMING THE** Lifecycle Inventory at this point in the design process, concluding analysis on a simple kit has wide ranging consequences and impact.

Adjustments in the original offerings warrant a deeper look at dematerialization, using less materials, and looking at reclaimed, natural materials instead of conflict materials.

What might perform the same way as the intended product offering, as well as meet sustainability goals? How might we downsize packaging and answer the larger goals outlined on page 26 and 27? How might we distill focus?

### **MATERIAL:**

### **PROCESSES:**

### **OFFERINGS:**

### **DEMATERIALIZATION:**

1. **REMOVE CONFLICT MATERIALS:** Can the necklace be made of renewable materials?
2. **LESS PACKAGING:** Is it a box? Can the original pattern be flat-pack?
3. **VEGETABLE OIL BASED INKS:** One tone printing, minimize samples.
4. **REMOVE RARE-EARTH MINERALS:** No need for magnets!
5. **SPECIFY GREEN ADHESIVES:** starch-based adhesives, avoid cellophane and plastic-based tapes.

1. **ARTISANAL VALUE-CREATION:** Can we use craftsman and people instead of oil dependent manufacturing?
2. **WOODWORKING INSTEAD OF METAL CASTING:** Carved? Renewable or reclaimed woods?
3. **RECLAIMED AND DISCARDED WOOD:** Use live-edge cast offs from typical milling processes.
4. **INDUSTRIAL ESTATES:** How might we localize production of offerings under one roof?

1. **NECKLACE MADE OF LIVE-EDGED WOOD**
2. **2 PAMPHLETS:** One resource on PTSD, one resource on affirmations.
3. **1 BOOK:** Read This Until You Believe It (consider partnership).
4. **PACKAGING, FLAT PACK BOX**

**LOOKING AT THIS** from a service design perspective, how might an endeavor like this connect sexual assault survivors to a means of community that doesn't need to necessarily be connected to a material product?

As a business model, what if we were to use the same model that Naja employs to empower their women, as well as an online community to connect women to other survivors in tandem to this product?

In many ways, removal of a product completely goes against research about what is most helpful in the immediate for PTSD symptoms, but going partially online would provide a platform that allows survivors to

# THE PROTOTYPE

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AN IMPACT-DRIVEN EMPOWERMENT MODEL

YOU ARE BIGGER THAN THIS FEELING.

**TDNDY.ORG**



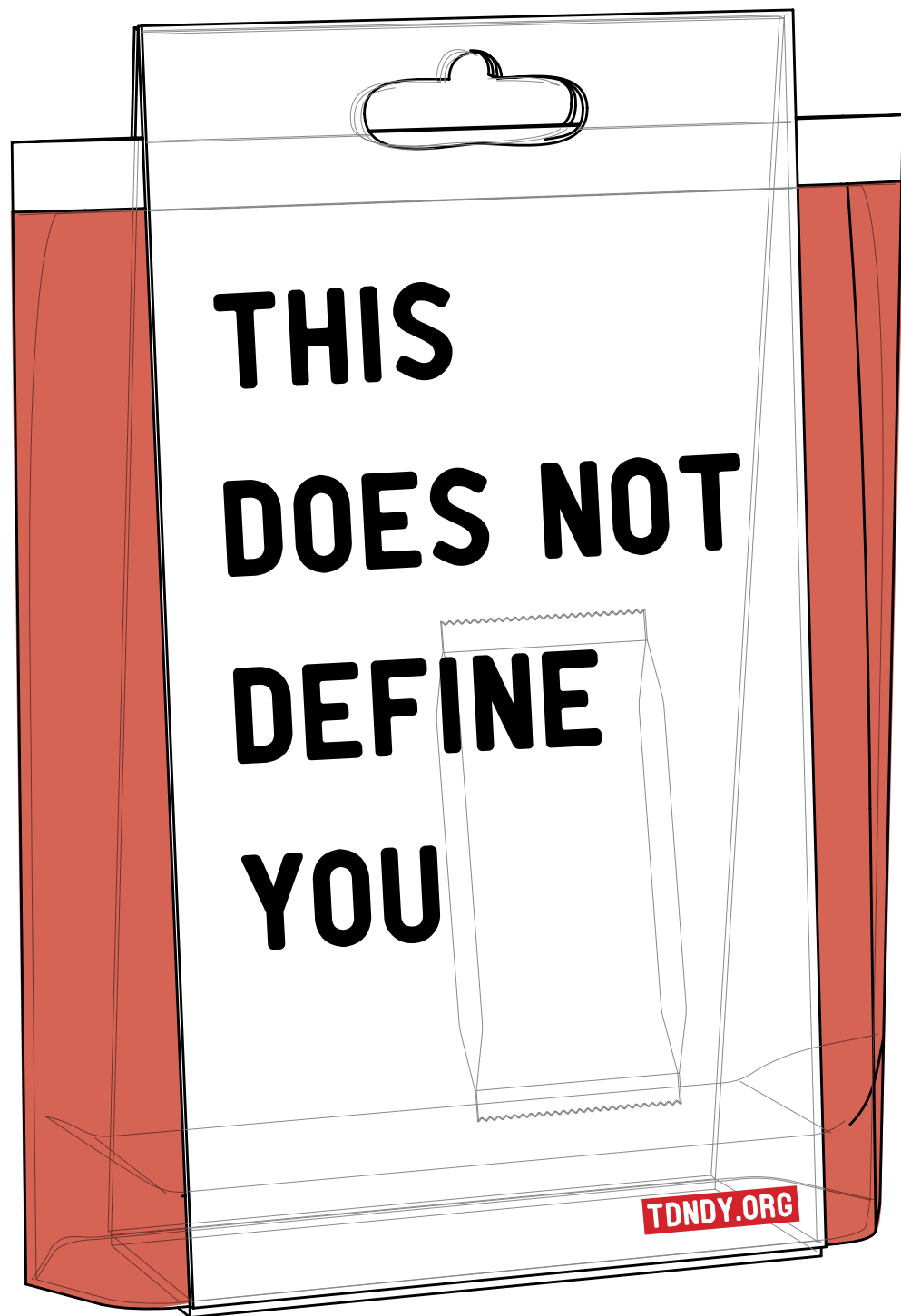


# HOLLISTIC EMPOWERMENT

## GENDER EQUALITY FOR ARTISAN SURVIVORS

**EMPOWERMENT DOES NOT** necessarily have to end at the production of a product. Creating a dematerialized, service-based model employs victims of sexual crimes, such as sex trafficking, rape, sexual assault, and other survivors in direct connection with each other through the creation of an object of connection. Through the gift of hand-crafted talismans, these talismans grant survivors of trauma through all stages of the supply chain access to alternative resources and support to reclaim their bodies and their power. At once an organization that functions in this way - by leveraging the artisan economy in

empowering ways - as well as an online advocacy community, this organization, labeled "This Does Not Define You", is a call to action, a more sustainable answer to our need for community, and finds a way to sustainably create connection through a renewable, physical talisman made from material rescued from the waste stream. As a story, what is discarded, used, and plundered can find a new story. "This Does Not Define You" aims to give an opportunity to survivors - to create a new future for themselves and for others who are struggling.



# REDESIGN FOR SUSTAINABILITY

## PRODUCT, PLANET, AND SOCIAL INTEGRITY

**FINAL PROTOTYPE OF THE KIT** would be made primarily out of 1-ply, 80% post-consumer content recycled kraft cardboard with printed with vegetable oil based inks. Pattern would be easily reproducible and flat pack pattern, containing a necklace crafted by artisans using scrap wood, capturing a waste stream from conventional milling techniques.

Two pamphlets fill out the package, offering information for the survivor to get in touch with an online community of individuals willing and equipped to help victims through their struggles. Included in the

packet is the book "Read This Until You Believe It", a book that has its own certifications (FSC paper, soy based inks). These changes result in impact measurement changes that drastically improve the lifecycle of the product without sacrificing the quality of the product, nor the social impact that the original idea intended to have.



LCI: WOOD REPLACEMENT

Hardwood | Sawn, planed, dried

Product Concept Name		System Boundaries		Functional Unit		
Component: Timber, Hardwood Wood Pendant - Virgin		Pendant		Impacts/hour		
		Product Lifetime		48 weeks x 7 days x 24 hours = 8064 hours		
Bill of Materials						
Materials	Amount	Unit	x	Okala Factor Points	Unit =	Okala Impact Points
Wood (Hardwood)	0.0440924	lb		5.2	/lb	0.22928048
Manufacturing	Amount	Unit	x	Okala Factor Points	Unit =	Okala Impact Points
Truck	0.0000220	ton		0.32	ton/miles	0.0000071
Transport/Disposal	Amount	Unit	x	Okala Factor Points	Unit =	Okala Impact Points
Landfill, Wood	0.0440924	lb		0.36	/lb	0.4040924
<b>Total Impact</b>						0.6333799
Impacts/product lifetime		$\frac{0.63337993}{8760} =$		0.0000723		

1 ton = 2000 lbs  
 1g = 0.00220462 lb  
 1 necklace = 20 g wood  
 1 necklace = 0.0440924 lbs  
 1 necklace = 0.0000220 tons

.17lbs = 0.000375 tons    100 miles

Component:		System Boundaries		Functional Unit		
Surfaced lumber - Reclaimed/recycled						
<i>Sustainable Alternative</i>						
Bill of Materials						
Materials	Amount	Unit	x	Okala Factor Points	Unit =	Okala Impact Points
Wood (Hardwood)	0.0440924	lb		0.056	/lb	0.002469174
Manufacturing	Amount	Unit	x	Okala Factor Points	Unit =	Okala Impact Points
Truck	0.0000220	ton		0.32	ton/miles	0.0000071
Transport/Disposal	Amount	Unit	x	Okala Factor Points	Unit =	Okala Impact Points
Landfill, Wood	0.0440924	lb		0.36	/lb	0.4040924
<b>Total Impact</b>						0.4065686



LCI: LEATHER + FASTENERS

Sterling Silver, Primary  
Leather

Product Concept Name		System Boundaries		Functional Unit	
Standard Leather, Necklace String		Necklace string		Impacts/hour	
Component:		Product Lifetime		48 weeks x 7 days x 24 hours = 8064 hours	
<b>Bill of Materials</b>					
Materials	Amount	Unit	x Okala Factor Points	Unit =	Okala Impact Points
Leather	0.125	lb	9	/sqft	1.125
Tanning effluent	0.1	lb	1.7	/lb	0.17
<b>Manufacturing</b>		<b>Amount</b>		<b>Unit =</b>	
Truck	0.00000375	ton	0.32	ton/miles	0.049
<b>Transport/Disposal</b>		<b>Amount</b>		<b>Unit =</b>	
Landfill, Leather	0.225	lb	0.39	/lb	0.615
<b>Total Impact</b>					1.959
Impacts/product lifetime		$\frac{1.959}{1008} =$		0.001943452 Impact/hour	

1g = 0.00220462 lb  
1 necklace = 1.5 in^2  
1 necklace = 0.125 ft^2

Product Lifetime		System Boundaries		Functional Unit	
87600 hours/decade		Necklace		Impacts/hour	
Component:		Product Lifetime		Assume lifetime token of solidarity - ten years	
Fasteners - Option A					
Sterling Silver					
<b>Bill of Materials</b>					
Materials	Amount	Unit	x Okala Factor Points	Unit =	Okala Impact Points
Sterling Silver, Primary	0.0022046	lb	570	/lb	1.2566334
<b>Transport/Disposal</b>		<b>Amount</b>		<b>Unit =</b>	
Truck	1.10231E-06	ton miles	0.32	ton miles	3.52739E-07
<b>Total Impact</b>					1.256633753
Impacts/product lifetime		$\frac{1.256633753}{87600} =$		0.0000143	

1g = 0.00220462 lb  
1 necklace = 1 g  
1 necklace = 0.00220462 lbs  
1 US Ton = 2000 lbs

Transport fees from distributor, to vendor, to r

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