

TOXIC STRESS

Thesis 1 Progress Report

How do defense mechanisms formed during a period of childhood toxic stress impact one's behavior?

18/10
Whole world is filled w/ triggers

inability to remember + being TRAPPED in that memory

25/10
brain to write about the

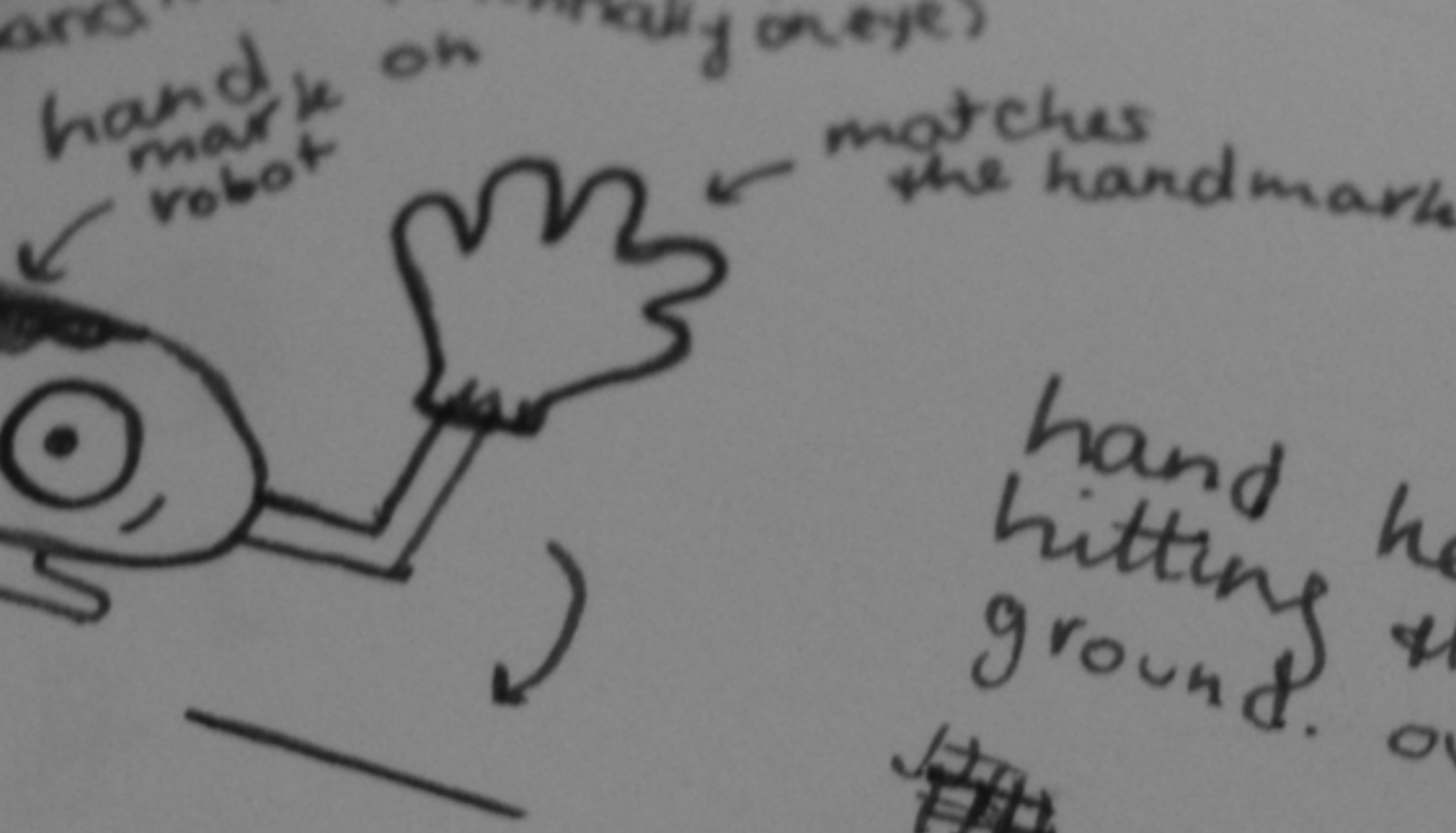
no words for feelings

Broca's area,
Amygdala,
Brodmann's area 19
"cover story"
p43
inability to remember

alexithymia
↳ no words for feelings
pg 100

1. so
2. fid
3. fre

**“I HAVE IT!
I’M GOING TO MAKE A SERIES OF
REALLY TRAUMATIZED
ROBOTS!”**



abused becomes the abuser

PROTOTYPE #1

Traumatized Robots

Questions

1. how do behaviors / feelings like anxiety, control, anger, isolation manifest themselves in daily behavior?

a. what are the subtleties?

2. does the traumatic incident(s) need to be stated?

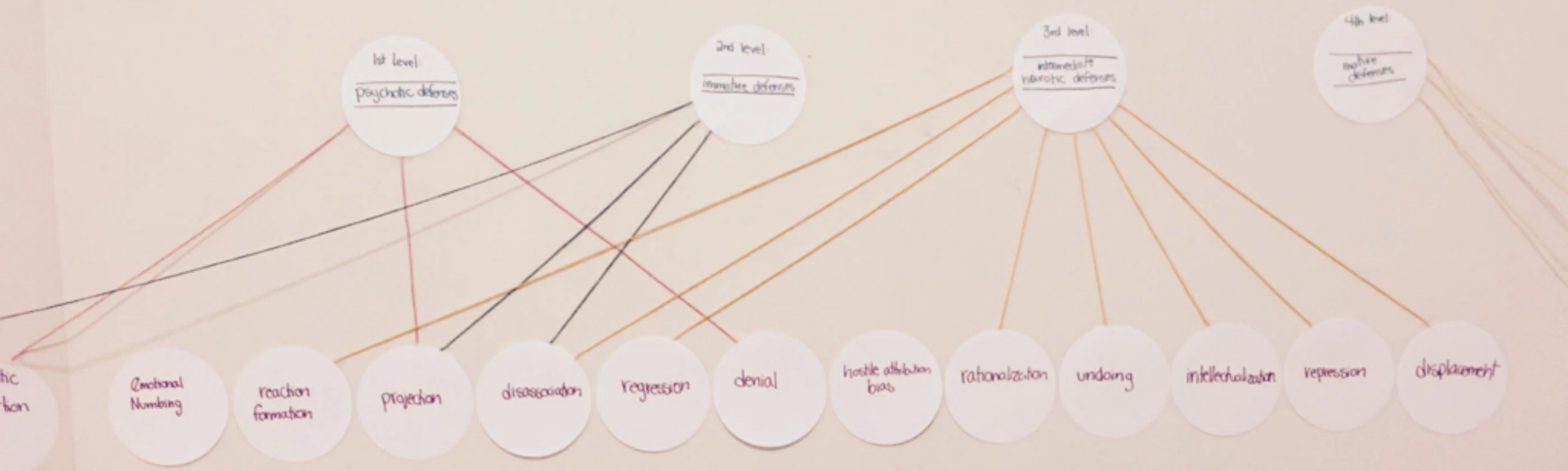
**“WOW, I HAVE NO IDEA WHAT I’M DOING.
I’M NOT A PSYCHIATRIST.”**

“THINK IN TERMS OF DEFENSE MECHANISMS.”

-Blake Phillips, M.D.

Clinical Assistant Professor
Department of Child and Adolescent Psychiatry

Attending Psychiatrist
Bellevue Hospital Center Child and Adolescent Partial Hospitalization
Program



GEORGE VAILLANT'S MODEL OF DEFENSE MECHANISMS

“THIS COULD BE A TOOL FOR TRAINING.”

-Blake Phillips, M.D.

Clinical Assistant Professor
Department of Child and Adolescent Psychiatry

Attending Psychiatrist
Bellevue Hospital Center Child and Adolescent Partial Hospitalization
Program

MOMENT OF REALIZATION

HUMANS AREN'T ROBOTS.

**I WANT TO CONTRIBUTE TO THE CONVERSATION,
NOT JUST POINT OUT THE PROBLEM.**

THESIS SHIFT!

I am creating an educational resource for medical students in training to help them better identify behavioral responses to toxic stress.

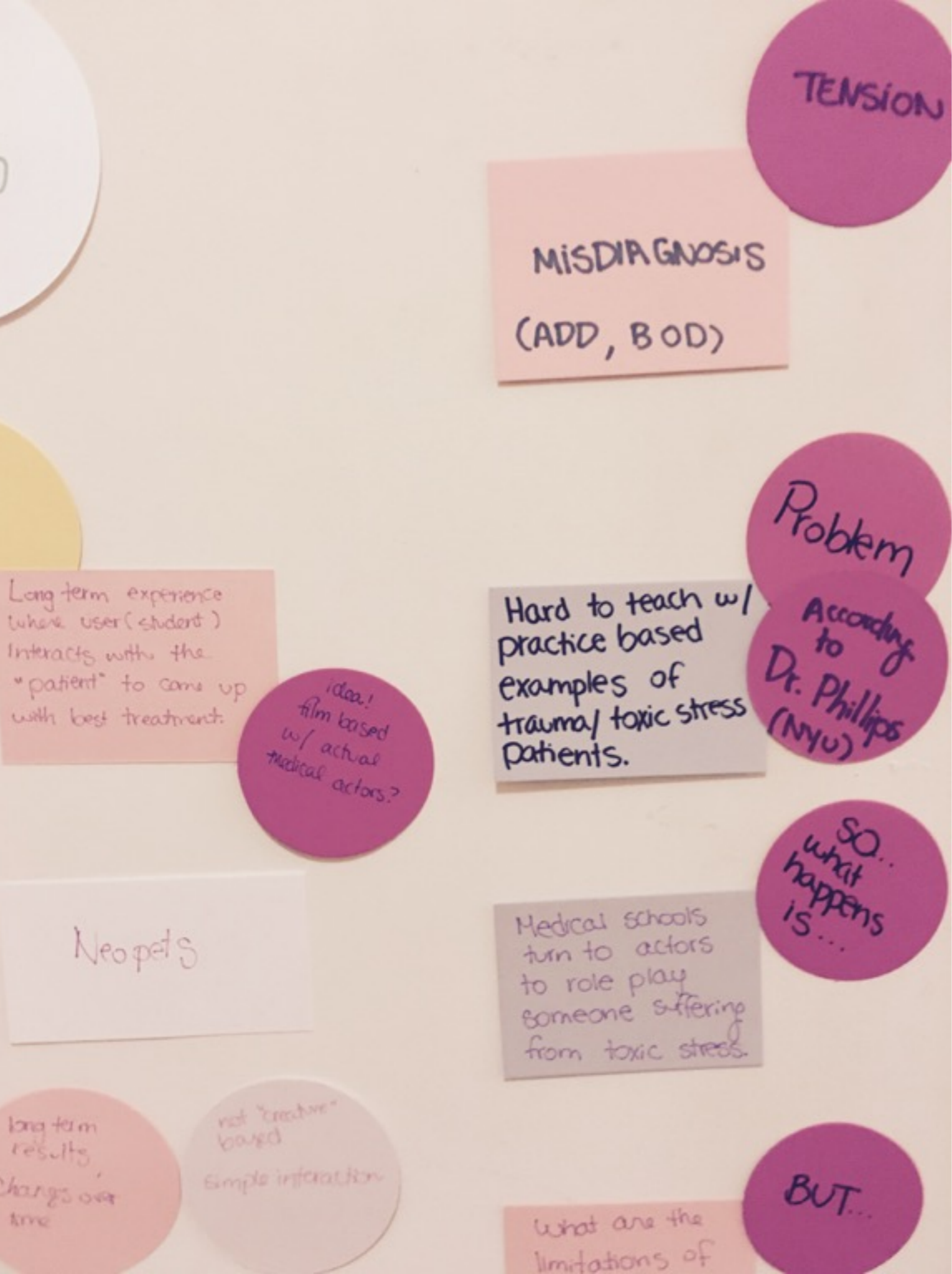
Core Questions

What are the defense mechanisms and behavioral responses to toxic stress?

What are the different needs of medical students in the learning process?

Why aren't medical students being able to properly learn about toxic stress and defense mechanisms in their current environment?

WHY IS THERE A NEED FOR A TOOL?



TENSION

MISDIAGNOSIS
(ADD, BOD)

Problem

Hard to teach w/
practice based
examples of
trauma/ toxic stress
patients.

According
to
Dr. Phillips
(NYU)

idea!
film based
w/ actual
medical actors?

Long term experience
where user (student)
interacts with the
"patient" to come up
with best treatment.

SO...
what
happens
IS...

Medical schools
turn to actors
to role play
someone suffering
from toxic stress.

Neopets

long term
results
changes over
time

not "creative"
based
simple interaction

What are the
limitations of

BUT...

KNOWN CIRCUMSTANCES

Due to many reasons,
training medical
professionals to fully
understand toxic
stress symptoms in
youth is very limited
and often relies on
textbooks or medical
actors.

**“MEDICAL ACTORS AREN’T USED FOR
THESE SITUATIONS.”**

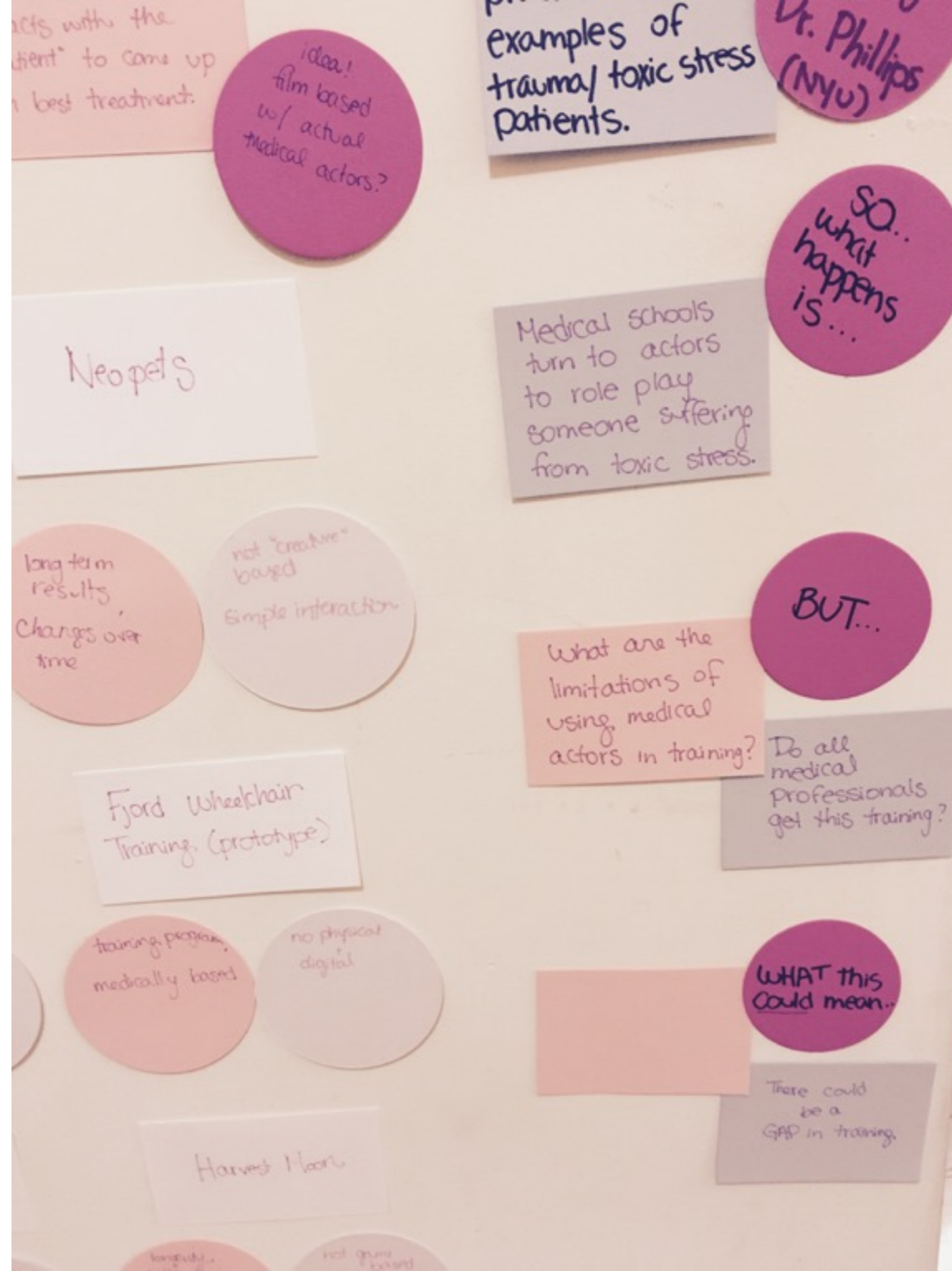
-Sam Wilkes

USC
Instructor of Clinical Medical Education

ARGUMENT

Medical professionals may not get proper training to understand and treat individuals with toxic stress.

This may lead to misdiagnosis or incorrect treatment practices, if any treatment occurs.



**“MEDICAL STUDENTS ARE GOOD AT STUDY AND
GENERALLY STRUGGLE WITH THE ACTUAL
IMPLEMENTATION..”**

-Sam Wilkes

USC
Instructor of Clinical Medical Education

**“...THEY NEED TO BE ABLE TO MAKE MISTAKES
AND SEE NEGATIVE OUTCOMES.”**

-Sam Wilkes

USC
Instructor of Clinical Medical Education

OUTCOME
FEEDBACK

LONGEVITY
OF
INTERACTION

NEEDS

PHYSICAL
+
VOCAL
INDICATION

According to SAM
WIKES, USC

Trauma
Care

Educational tool to help medical professionals learn about the behavioral effects of toxic stress.

OUTCOME
FEEDBACK
LONGEVITY
OF
INTERACTION
NEEDS
PHYSICAL
+
VOCAL
INDICATION
According to SAM
WIKES, USC

Medical
Education

Behavioral
psychology

Toxic
Stress

Physical
Space

The watch
towers that display
during disaster
maneuver training

Virtual
Program

A.I. trained to
simulate conversation
with hospitalized
patient.
Charles has different
responses

VR

Use this program
when you cannot
interact with the
"patient" to see if
it will help treatment

Use
the program
to assess
treatment
effectiveness

MISDIAGNOSIS
(ADD, BOD)

Hard to teach w/
practice based
examples of
trauma/ toxic stress
patients.

Problem
According to
Dr. Phillip
(NYU)

SO
what
happens
is

Medical schools
don't seem to
adequately
prepare
students
for toxic stress

Dis + Easy
Learning
Return

Medical
Virtual
Quality
(MVC)

Hospitals

Subtle
Communication

Use
technology
to
help

Use
this
program
to
assess
treatment
effectiveness

Use
this
program
to
assess
treatment
effectiveness

Use
this
program
to
assess
treatment
effectiveness

Use
this
program
to
assess
treatment
effectiveness

What are the
limitations of
using medical
education in training?

BUT

If all
medical
professionals
get this
training

Using
Virtual
Human
Simulation

Medical
Simulation

Food
simulation
"Training
Catching"

Using
technology
to
help

Using
technology
to
help

Using
technology
to
help

Using
technology
to
help

Using
technology
to
help

Using
technology
to
help

What
does
this
mean?

Using
technology
to
help

High
Fidelity
Simulation
+
Virtual
Medical
Education

Human
Simulation

Using
technology
to
help

Using
technology
to
help

Using
technology
to
help

Using
technology
to
help

Using
technology
to
help

Using
technology
to
help

What
does
this
mean?

“PSYCH-CATION”
FOR 3RD YEAR MEDICAL STUDENTS

-Doug Zoerner

University of Kentucky School of Medicine
M2 Curriculum Committee Representative

**“MOST PEOPLE END UP MEMORIZING THE DSM-V
DURING THEIR SPARE TIME...”**

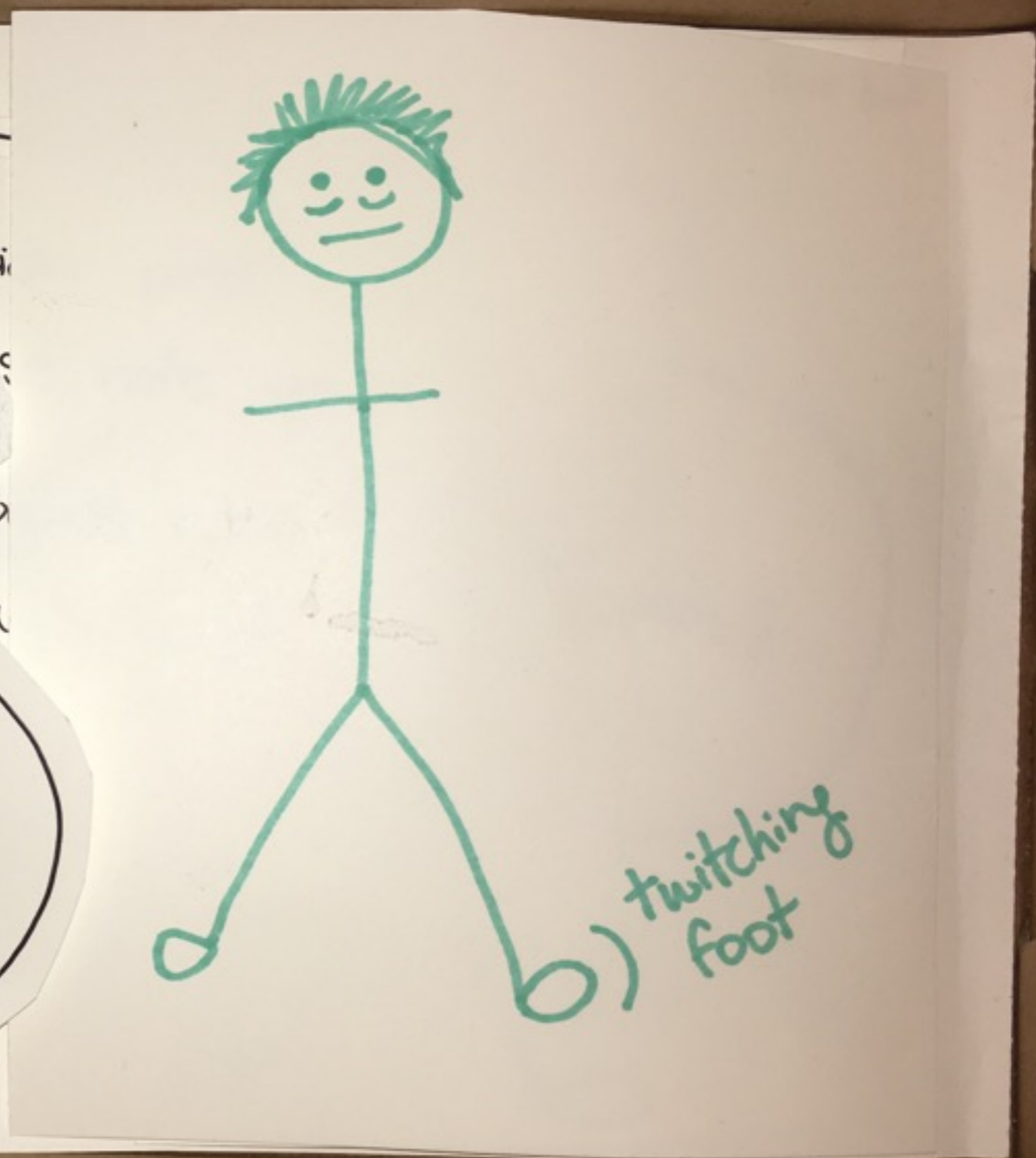
-Doug Zoerner

University of Kentucky School of Medicine
M2 Curriculum Committee Representative

**“... BUT EVEN WITH THAT, I’VE HEARD IT IS
STILL EASIER THAN OTHER ROTATIONS.”**

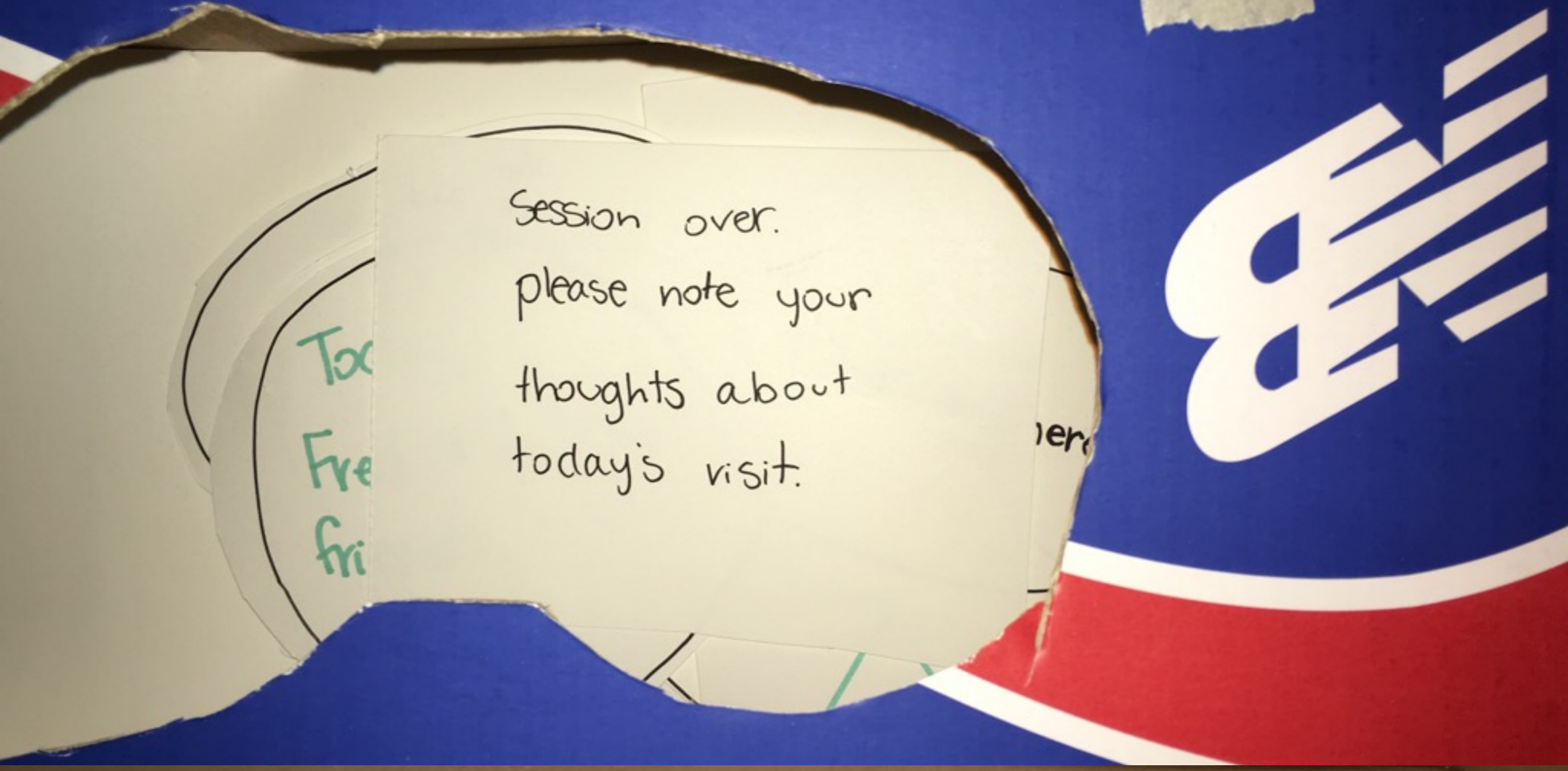
-Doug Zoerner

University of Kentucky School of Medicine
M2 Curriculum Committee Representative



PROTOTYPE #2

Long term VR Therapy Experience



PROTOTYPE #2

Long term VR Therapy
Experience

**“WHAT ABOUT THE ENVIRONMENT?
HOW DOES THIS EVEN WORK?”**

-Thesis 1 classmates

CONSTRAINTS

VARIABLES

"Be Look

PRECEDENTS +
RELEVANT WORK

LONG TERM
INTERACTION

physical indicators +
overall look does not
have to be realistic.
can be cartoony.

3rd year med
student

neopets

FEEDBACK
+
OUTCOME

better at tests
than real life

Kim Noble
art portraits

Physical + Vocal
Indication

the "expert"

SimMan 3G
simulator

Interactive

Medical VR
PTSD Soldiers

VR WHEELCHAIR
Simulator → Ford

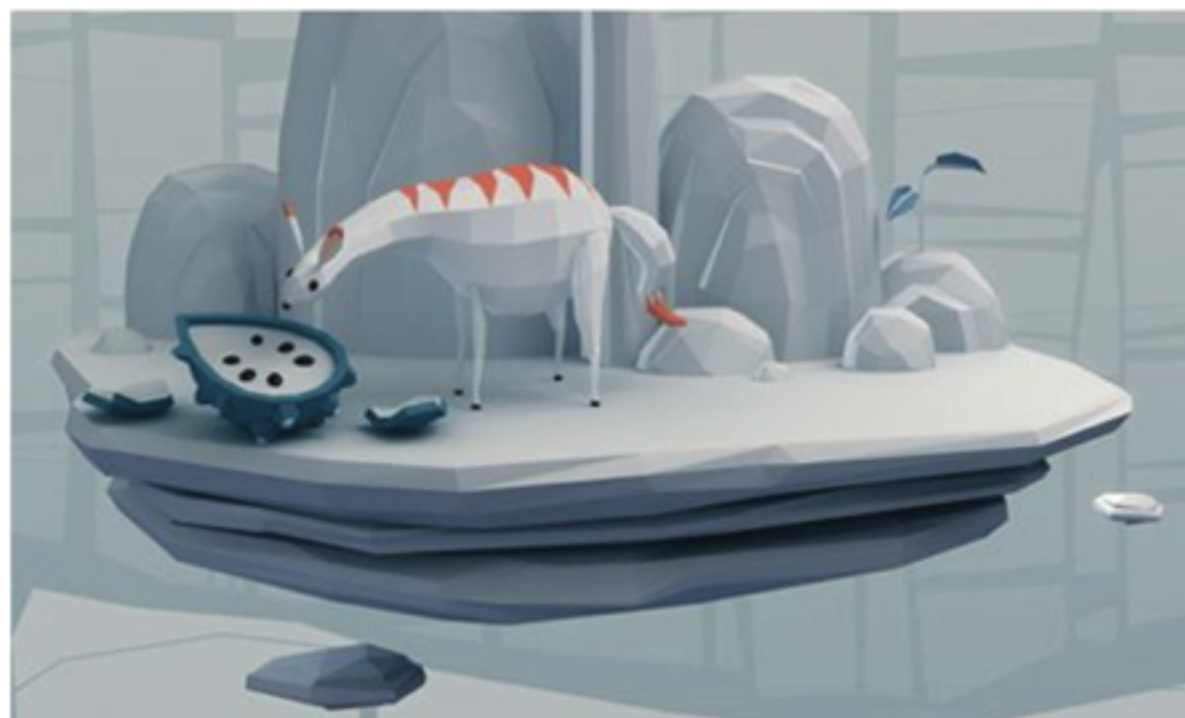
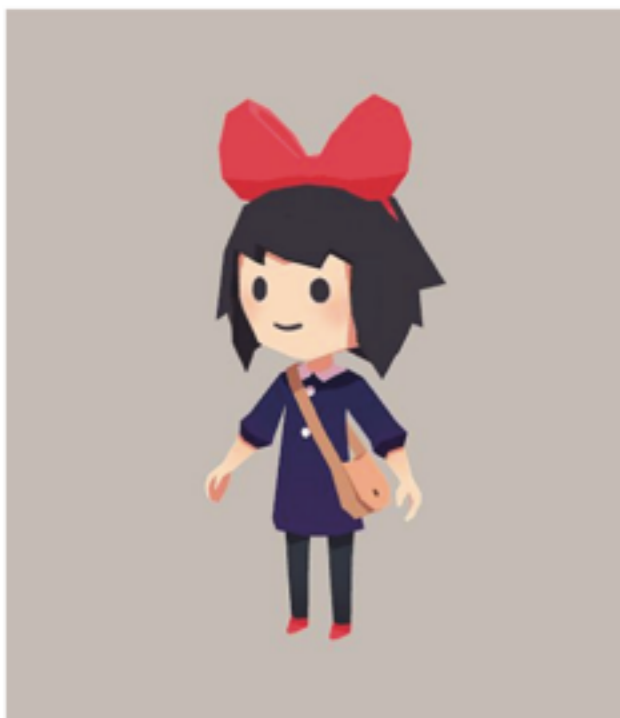


PROTOTYPE #3

Long term VR
Interactive Therapy Experience

**“SHOULD THEIR ASSUMPTIONS AS A MEDICAL
PROFESSIONAL IMPACT THE WORLD?”**

–Jane Mitchell

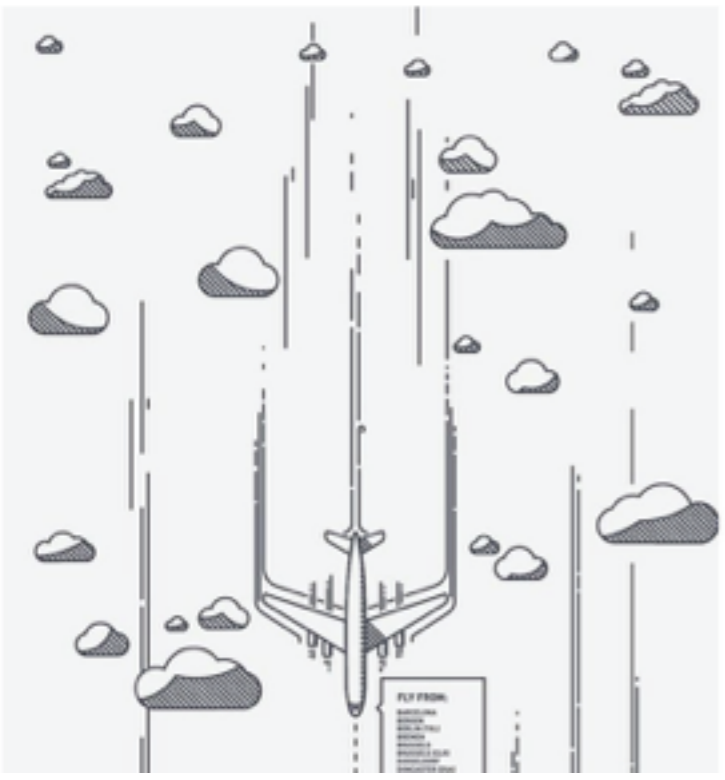


OPTION I: LOW POLY WORLD, EERIE FEELING, CLINICAL COLOR SCHEME

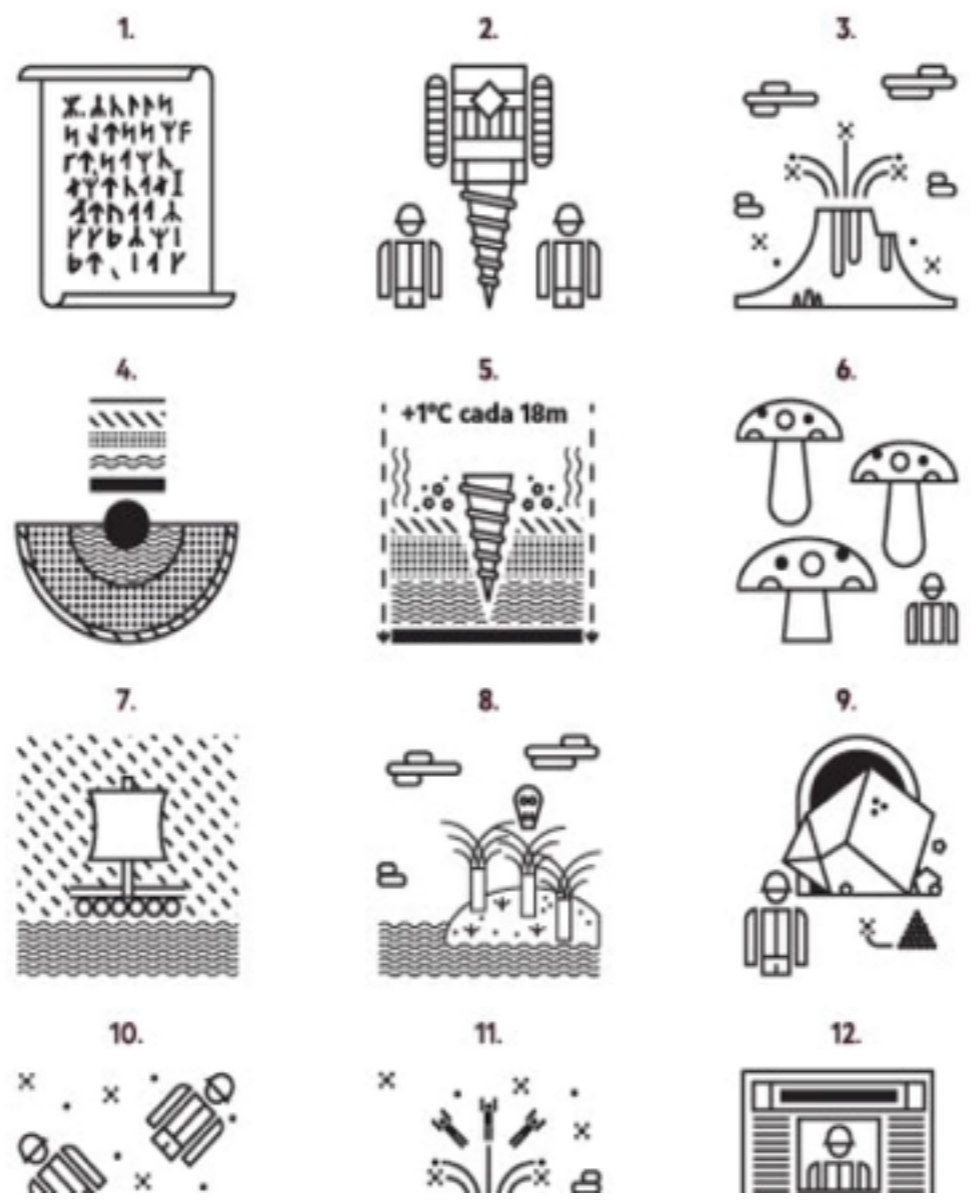
PROTOTYPE #4

Long term VR
Interactive Therapy Experience
Aesthetic Prototype

OPTION 2: BLACK & WHITE WORLD- FLAT + MODERN MINIMAL AND ISOLATING FEELING

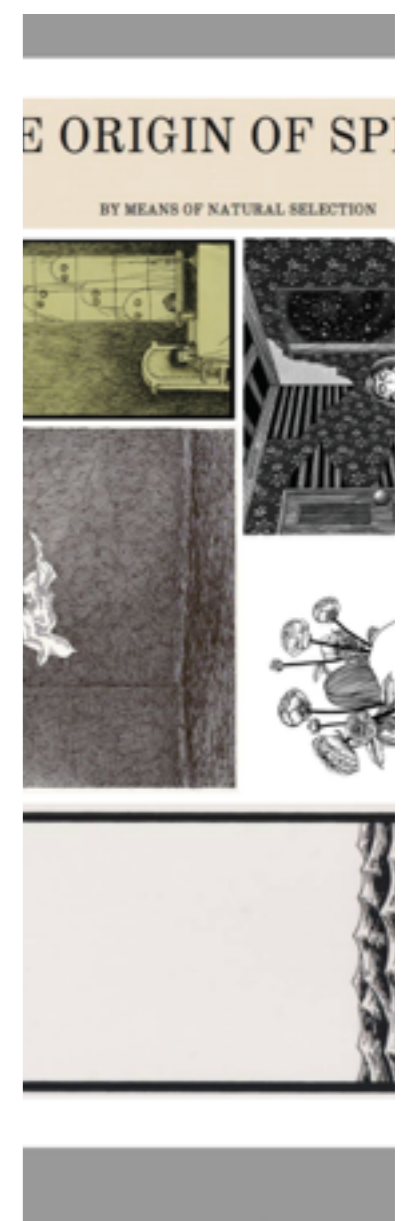
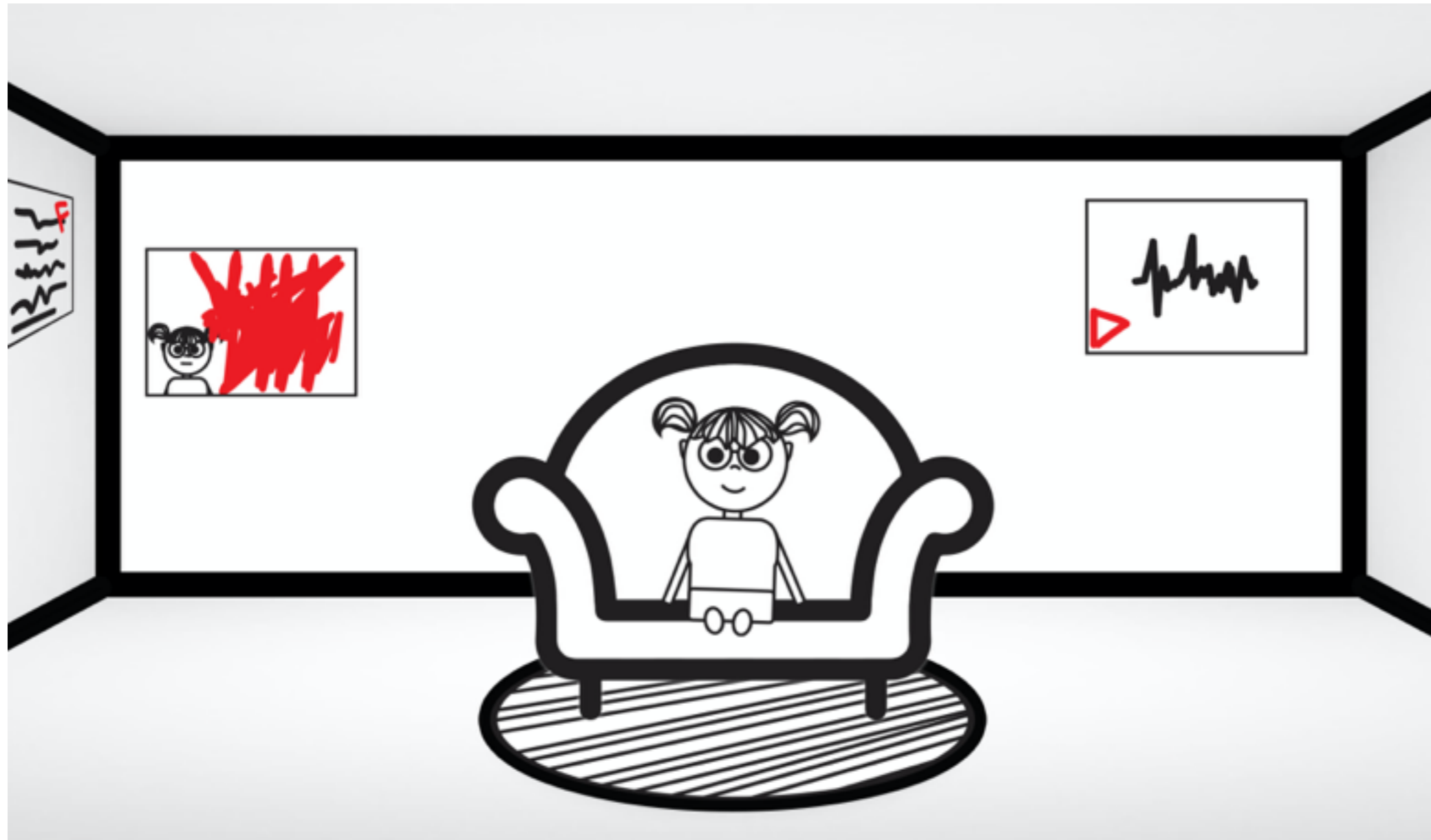


TRAVEL INSIDE EARTH



PROTOTYPE #4

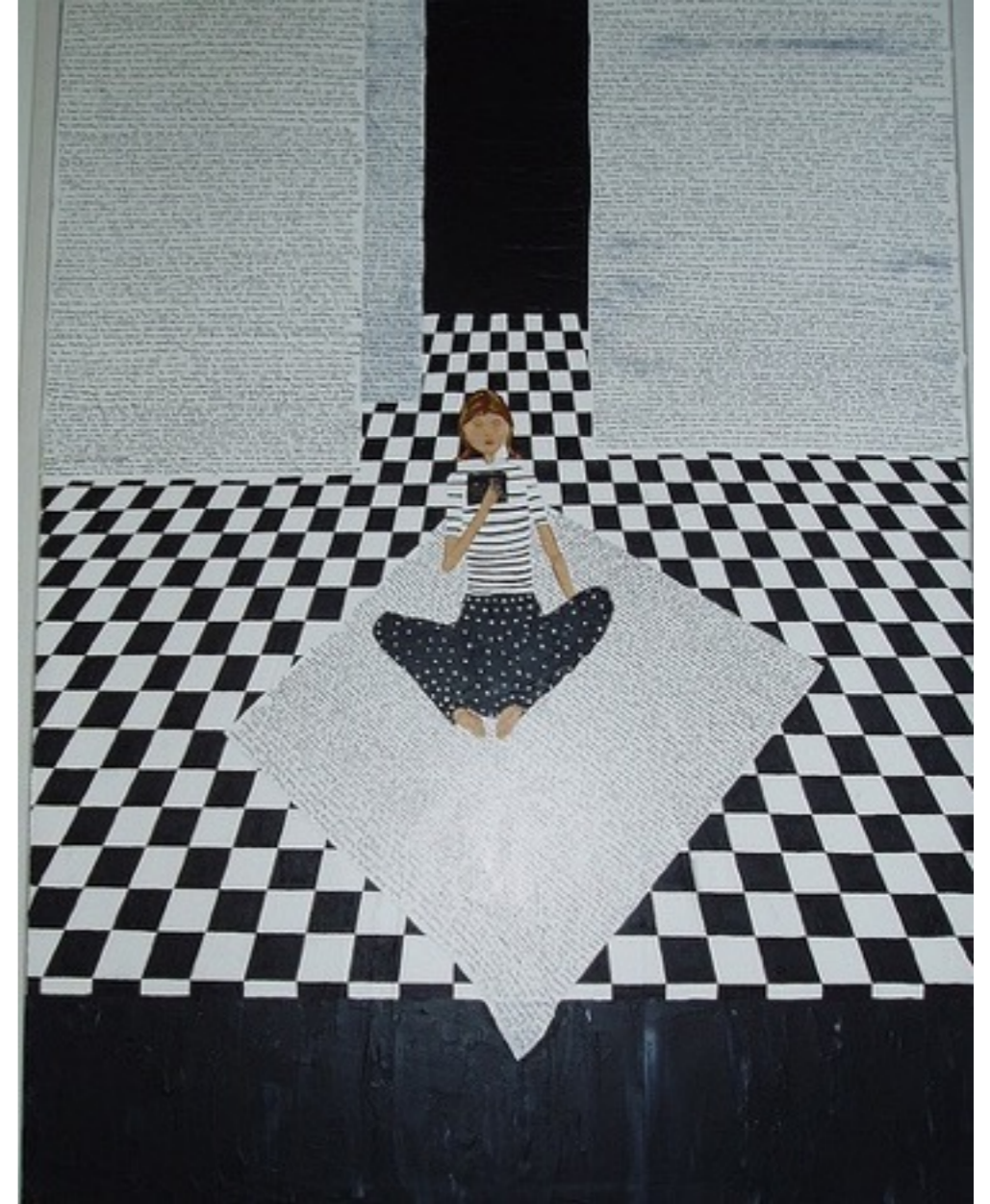
Long term VR
Interactive Therapy Experience
Aesthetic Prototype

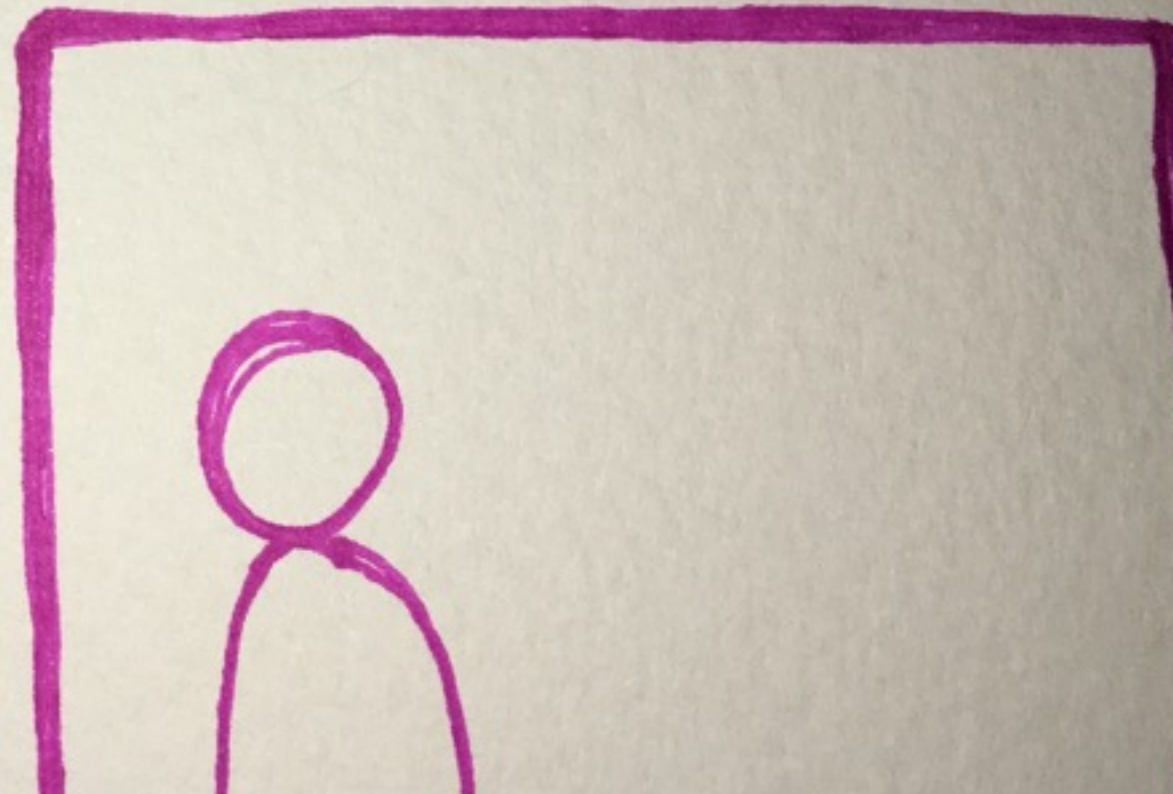
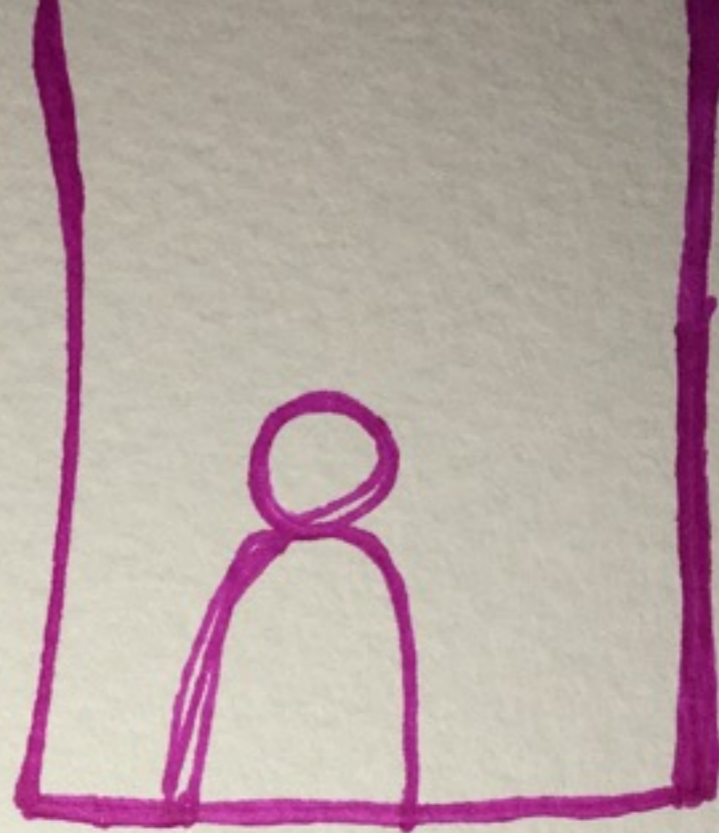
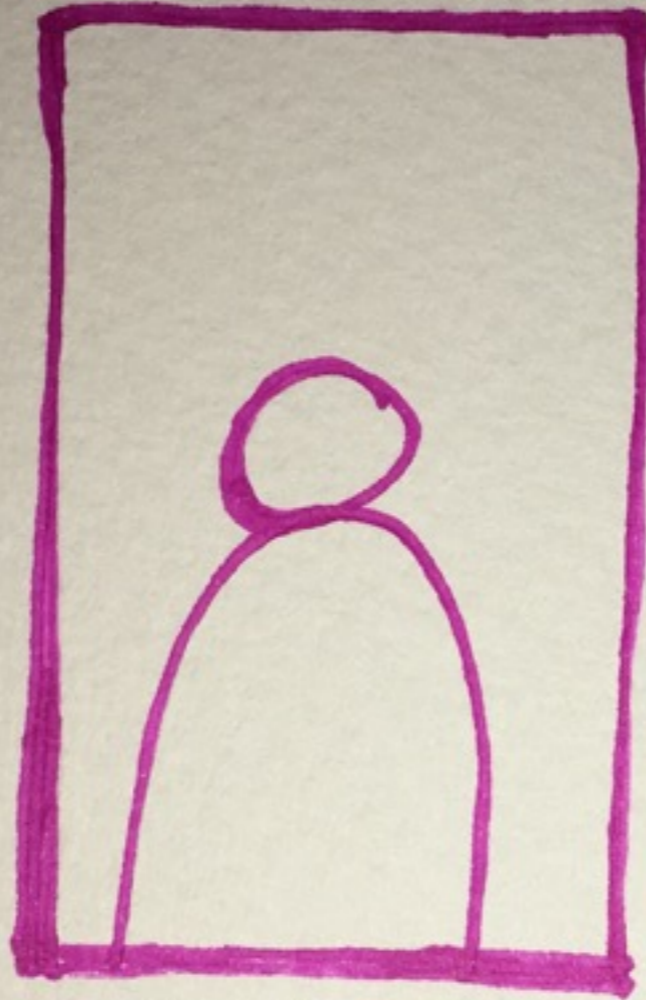
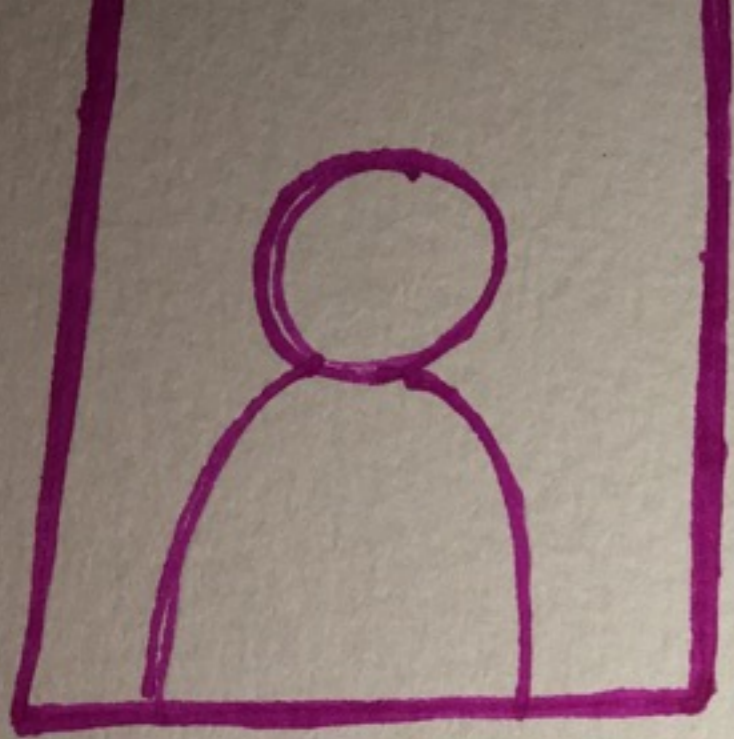


PROTOTYPE #4

Long term VR
Interactive Therapy Experience
Aesthetic Prototype

KIM NOBLE

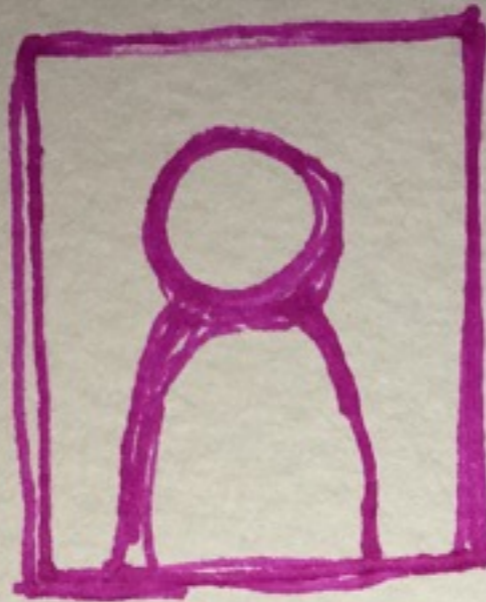




This is
Toxic Stress

PROTOTYPE #5

Narrative + Perspective Driven



DOCTOR NOTES

Patient:

D.O.B:

Hand-drawn horizontal lines representing a list or form structure, consisting of seven lines of varying lengths and positions, suggesting a series of input fields or a list of items.

PROTOTYPE #5

Narrative + Perspective Driven

LOW HANGING FRUIT

MOMENT OF REALIZATION

THE PROBLEM IS WAY MORE NUANCED.

**LEARNING ABOUT SYMPTOMS
THROUGH A VR EXPERIENCE MIGHT NOT
ADDRESS THE **UNDERLYING** PROBLEM:**

MISDIAGNOSIS.

THESIS SHIFT!

**TRAUMA INFORMED CARE
THROUGH THE LENS OF MISDIAGNOSIS**

I am **STILL** creating an educational resource for
medical students in training...

**... BUT WITH MORE OF A FOCUS ON
MISDIAGNOSIS.**

(SAME CONTENT OF TOXIC STRESS, DIFFERENT ARTICULATION)

MOVING FORWARD- FEEDBACK

RUTH GERSON, M.D.

& MICHAEL SCHOBER

& OTHER MEDICAL PROFESSIONALS!

MOVING FORWARD- EVENTS

HEALTHCARE HACKATHON

MOVING FORWARD- EVENTS

**NATIONAL ACADEMIES OF SCIENCE,
ENGINEERING, AND MEDICINE
WORKSHOP**

MOVING FORWARD- EVENTS

**ALLIANCE FOR THE ARTS IN RESEARCH
UNIVERSITIES**

**NATIONAL CONVENTION ON CREATIVE
VENTURE, WELLBEING & THE NEW
HUMANITIES**

QUESTIONS?

THANKS!