

# PLAYCRAFT



**ADVANCING SOCIALIZATION  
FOR TWEENS WITH HIGH FUNCTIONING AUTISM**

GINA KIM | MFA DESIGN FOR SOCIAL INNOVATION THESIS

# CONTEXT + RELEVANCE

Imagine what it would be like being a tween in our world today. Tweens, or “inbetweeners,” are children between the ages 9-12 who are transitioning from elementary to high school. During this time of maturation, tweens are transitioning from play to decision-making and developing social needs and desires. For many, this is the first time kids are thinking about relationships, gaining new responsibilities and conscientious of how their peers perceive them.

This is also the age range that marketers target to sell products. Tweens are enormous spenders in the US. Parents are concerned that tweens are spending too much time on digital games and being exposed to screens and isolating themselves from their peers.

Now, imagine being a tween with autism. Autism is a neurodevelopmental disorder characterized by difficulties in social interaction and communication with others. This niche cohort sparked my interest because there were many constraints and conditions that forced me as a designer to think unconventionally and outside the box. Thus, I started my journey to:

Create an interactive experience for tweens boys with high functioning autism (HFA) that will help advance socialization with their peers.

# PROCESS OVERVIEW

**I. Target audience:  
Tweens with High Functioning Autism**

**II. Finding the Affinity**  
a. Prototype 1: Expression Emotions and Feelings  
Through Animated Characters  
b. Prototype 2: Finding Commonality  
and Differences Through Superheroes  
c. Cultural Probes  
d. Experience Map

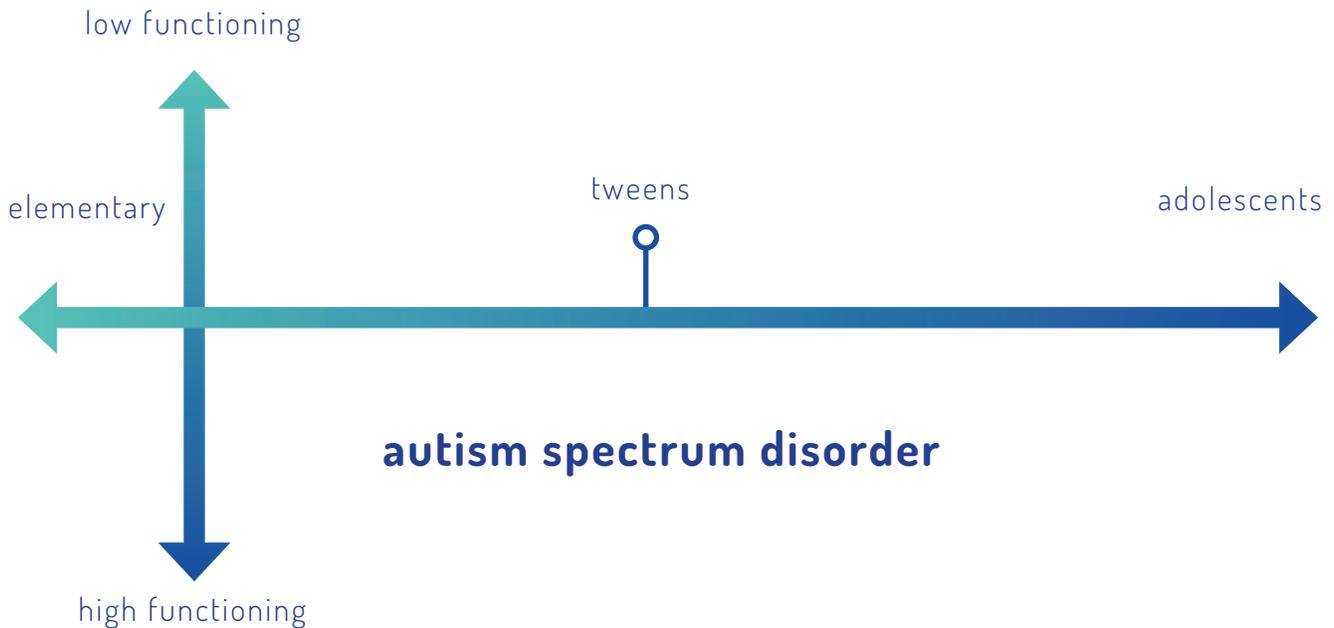
**III. The Hook**

**IV. Social Competency**

**V. Playcraft**  
a. Team Building Workshop  
b. Role Play Workshop

**VI. Impact  
+  
Value**

# I. TARGET AUDIENCE: TWEENS WITH HIGH FUNCTIONING AUTISM



## High Functioning Autism (HFA)

1 out of 68 children in the US currently have autism spectrum disorder (ASD). High functioning autism is at one end of the spectrum and the symptoms are less severe than other forms of autism. People with HFA are verbal and have average to above average level of intelligence. Children with HFA attend various education institutions and home schooling programs and can be found in integrated classrooms in public schools or specialized private schools.

Unfortunately, statistics say that by the time children with autism reach high school, 40% of them do not see others outside of school. Parents are concerned that their child won't advance in socialization and need to see their child interact with others to know that they are have autonomy to interact with others.

## Disruptive Design

In many cases of autism, tweens often times have a hard time:



When these things are not developed correctly tweens have a hard time developing social cues that can help interact with others in the future and in any other social context.

I saw this opportunity to disrupt the potential outcome of isolation through design.

## II. FINDING THE AFFINITY

“No one is getting cured but people are able to see these affinities as gateways.”

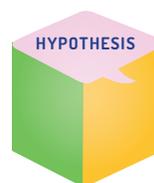
- Ron Suskind, author of *Life Animated*

Tweens of average abilities develop affinities, which are natural likings or sympathy for someone or something. This is not much different for tweens with autism except it is even more exaggerated for them. Though it is hard to gage with people, tweens with autism have empathy, strong bond, and feelings for their affinities.

Ron Suskind, author of *Life Animated*, said that while some people see “affinities as a wheel in the ditch,” we, the rest of the world, should brace affinities and follow them. He made a bold statement that “no one is getting cured but people are able to see these affinities as gateways.”

Though every child has his or her own affinity that is unique and special to them, I made the hypothesis that tweens will have a common affinity and through it, they will be able to find common interests and start dialogues with each other. I researched through the web and learned that a lot of parent bloggers wrote about their child’s obsession with animated characters, just like Ron Suskind’s son.

I decided to make a prototype that will help test out this hypothesis.



**tweens with HFA are capable of expressing their emotions and feelings through animated characters**

# PROTOTYPE 1

## EXPRESSION EMOTIONS AND FEELINGS THROUGH ANIMATED CHARACTERS



Whilst doing desk research, I learned about TechKidsUnlimited, a non-profit where tweens and teens with special needs, especially on the autism spectrum, explore and learn how to navigate the technology and software. I volunteered at one of their classes and had a chance to test out my first prototype with two boys. The prototype was a simple card activity where each player had to draw a card with a written scenario and pick an image of their animated character of choice that depicts how they would feel in that situation.

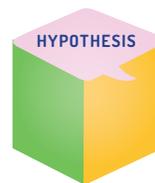
### **User Feedback**

They don't care too much for animated or cartoon characters. One of the players said, "it would be cool to be my own superhero and have famous animated characters co-exist"

### **Key Learning**

Tweens with autism are good at detecting different emotions but they are not good at asking questions about each other's feelings.

The outcomes influenced me to shift from animated characters to superheroes and pushed me to think about how superheroes can be used to initiate conversations. I came up with this hypothesis:



finding commonalities and differences between through superheroes will help initiate conversations

# PROTOTYPE 2: FINDING COMMONALITY AND DIFFERENCES THROUGH SUPERHEROES

For my second prototype, my main objectives were to:

1. Observe how tweens ask each other questions
2. Understand if tweens are able to find commonalities and differences between the traits of their superheroes
3. Observe gestures and body language (Eye contact, bodies facing each other)

In order to test these objectives, I made a superhero activity where players had to draw out their superhero, convert their strengths and weaknesses to superpowers, write what they enjoy and then take turns answer questions from a deck of cards. Because I enjoyed prototyping with the tweens at TKU, I brought this activity to another learning session to play-test and continue developing a relationship with the students.

## **Learning from Failure**

This prototype was more difficult than the first prototype for various reasons. Time played a major factor because I had needed more time to test my activity than I had anticipated.

Other technical issues were my lack of understanding how to quickly grab the students attention without closing the window of trust and preparing a better activity sheet more colors and decals, unlike the stark white template I had provided.

Also, my objectives were to see if spotting commonalities and differences will start more conversations but I was heavily fixated on having the participants fill out the sheet that I missed the opportunity to test the larger goal.

I made the mistake of testing this prototype out with my friend and her tween son with HFA. Though they were able to fulfill the tasks, my objective was to see how my target audience interacted with their peers, not their parents. I was driven by my need to have an activity fulfilled rather than having my objectives tested. This was a lesson to stick to your goals.

Despite minor shortcomings, there were still many things I had learned from these students. I made many observations on how students processed their thoughts and which steps they took in order to get there.

**MY NAME IS:** \_\_\_\_\_

**MY SUPERPOWERS ARE:**

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**MY WEAKNESSES ARE:**

\_\_\_\_\_

\_\_\_\_\_

**LEARNING**

Find out why the other player created the game to his/her

**PROBLEM - SOLVING**

Imagine: You and the other player are at school and one of your friend is getting bullied. Which superpowers do you guys use to help out your friend?

### User Feedback

They don't care too much for animated or cartoon characters. One of the players said, "it would be cool to be my own superhero and have famous animated characters co-exist"

### Key Learning

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# CULTURAL PROBES

## Designer's Block

At this point, I had hit a roadblock. I couldn't really tell what tweens actually thoughts and wanted to do. After receiving some suggestions from my advisors, I decided to take some time to have in-depth interview with tweens. I was able to find three parents who were willing to have me over at their homes to interview their children. I revisited my analysis and realized that I've been able to predict potential outcomes for all of the questions I had except for the ones around how a child thinks about his past, present and future.

Because the concept of time is abstract and difficult to understand for this age group, I intentionally designed a cultural probe, using the metaphor of a launching spaceship. This was an activity where tweens had a chance to express who is in their support group, what they want to leave behind in the past and what they aspire to do in the future by pasting illustrated icons on different parts of the page. The two planets on the paper represented the past and the present and the empty rocket ship in the middle of the paper was an empty vessel, representing a support network.

## Major Insights

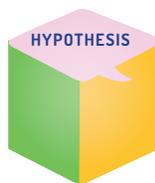
1. Tweens on the spectrum had difficult topics (bullying, dreams) that they didn't want to share with their parents
2. 2 out of the 3 tweens were victims of bullying and wanted to leave it in the past
3. Parents are more concerned about who they will be and what their child will do in the future more than how many friends they make

“I don't want to talk about it.”

*- Theo, 11 year old Tween,  
when asked about difficult topics*



Having a close friend gives teens security and confidence, and possibly prevents them from feeling insecure around bullies



Teens need to be in a comfortable environment in order to hone in their social skills. Small contained spaces will open up conversations

# EXPERIENCE MAP

## A Day of a Tween with High Functioni

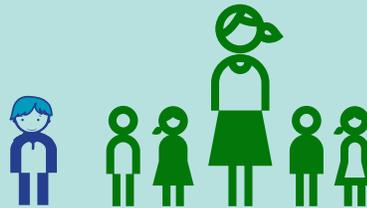


**Tween says**

Eats breakfast with little sister



I have many friends at school. I do many activities with them



I like playing games provided by the faculty during lunch



**Parent Says**

Zayden loves doing everything with his little sister

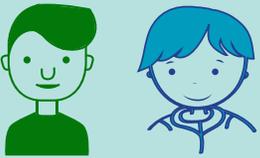
Every classmate counts as a "friend." His teacher says he spends a lot of time alone in the class

I don't like it that my son eats alone. I'm glad that the school provide board games

## ng Tween with Autism - Experience Map

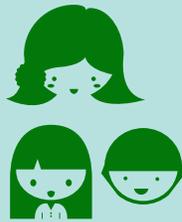
Goes to Boy Scouts Meet → Home with baby-sitter, sister and friends → Goes to Grandma's for Dinner → A friend comes over after dinner

I hang out with my friend Brian at the meet and we play outside afterwards



Zayden and Brian aren't really close friends

I want to be alone and play with my action figures



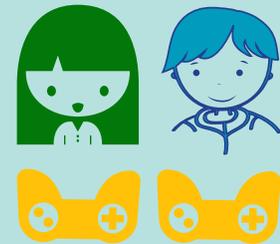
Even when Zayden has the option to play with his friends at home, he likes playing by himself

I love grandma's house because it's spacious and I could play games there without any disturbance



According to Zayden, the ideal place to be in the future is at his grandma's because it's safe, spacious and comfortable

We either play minecraft or xbox together



One in a while they will talk about a topic but they mostly play games together. I would rather have Zayden parallel play than to be alone

Above is an experience map I've generated to understand life in day of a tween with HFA

### III. THE HOOK

After exploring the cultural probes, I revisited my previous notes to see if there were any similarities between the tweens I interviewed and the students at TKU. An evident affinity subtly surfaced when I realized that every single tween I had encountered were on and loved the game, *Minecraft*.

Minecraft is a sandbox video game where players can create their own world by mining for resources in a lego-esque, pixelated world. When playing independently, players get to create their own world or enter a world (server) with other players in the online community. What's appealing about Minecraft to the autism community is that there have been many testimonials where children with autism who have a hard time socializing with peers would social through this media. There have been cases where children have increased their communication and writing skills.

Landing on Minecraft was a key moment because I learned that tweens with autism can socialize in a way that doesn't interrupt their affinity but add on to it. I had to figure out how

digital

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# reality

to leverage minecraft and use it to add layers that will allow them to talk about the social topics and practice the social situations they will be faced with in the future.

While I was diving deeper into minecraft, TKU was simultaneously holding a Minecraft workshop. I jumped on this opportunity to learn about the game and observe how tweens were playing the game and interacting with each other while playing. At the workshop, the tweens used a special version of Minecraft called MinecraftEdu, dedicated for classrooms so that teachers can facilitate educational activities with the children on the same server. There were many positive feedbacks, where kids expressed wanting to play the special features of MinecraftEdu at home.

Everyday the interaction amongst the students changed. On the first day, the tweens did not talk to each other and were focused more on learning new skills, which at this workshop was coding. As the hours progressed, tweens were learning how to interact with each other on the MinecraftEdu platform and with each other in person. They were starting to build trust when teaching each other new skills and helping each other with instructions. It was evident to see that their seating position was changing too as they were starting to sit closer to each other and talk to each other by co-viewing, or looking at each others activities on a screen.



**Digital games like Minecraft can be catalysts to transfer tweens from the digital world to reality.**

With game-based learning and digital games becoming more and more popular amongst tweens, there have been parents where parents express that they are reluctant to give their children screen time due to their fear of isolation. Contrary to this concern, I made the the hypothesis that digital games like Minecraft can be catalysts to transfer tweens from the digital world to reality.

## IV. SOCIAL COMPETENCY

Next, I wanted to figure out what kind of conversations tweens should have to prepare for the future.

I worked with Paula McCreedy, an occupational therapist and founder of SPOTS, an occupational therapy service, to develop a set of social topics that will help tweens develop social competence. She clarified that the end goal shouldn't be on focusing on social cues or skills because those are behaviors that are conditioned and does not necessarily mean that the person is developing autonomy. Instead, my intervention should seek social competence, or the ability to get along and communicate with other people.

Paula shared her favorite resources and together we discussed social topics that would be appropriate for tweens. When asked whether it is more important to talk about a difficult topic or focus on the ability to talk about the topic, she advised me to concentrate on the latter because once tweens have the ability to have these discussion, they will most likely be open to talk about any topic. It was more about how they were going to do it. After reading the books she Paula had recommended, I synthesized my notes and broke down the social topics into 4 categories and then converted them into activities that tweens can do either in Minecraft or in-person.

	SOCIAL TOPICS		ACTIVITIES
Level 1	problem solving	.....>	team building
Level 2	facing conflict	.....>	role play
Level 3	expressing opinion	.....>	debate
Level 4	initiating conversations	.....>	interview

I started from team building because it allows players to make decisions together and gives everybody a collective goal to reach. Every level up encourages players to be more independent and express their point-of-views and thoughts about a topic. Role play teaches players to have empathy for another character and make creative decisions that play a part of a larger story. Debates opens discussions for players to express their opinions and learn how to have cooperative conversations even if they are around an uncomfortable topic. The ultimate goal is to have less prompts and conducting an interview allows players to generate their own questions and initiate conversations.

With this, I was on a quest to create a tool that can prompt discussions amongst tweens with HFA so that they can be prepared to engage with others in social situations.

# V. PLAYCRAFT

**A conversational tool used during hangouts that goes hand-in-hand with the game Minecraft to help tweens with high functioning autism advance in social competency**

## How it works:

The first 2-3 Hangouts or get-togethers require a facilitator -- This most likely is a parent and takes place in someone's home, an after school program, or a community center.

1. Social topics come in decks of cards of different levels of social activities. The facilitator picks a deck and works a level up at every meet.
2. The players set up their computers with a single Minecraft server, in other words, all of the kids play in one environment.
3. Each player will take turns drawing a card from the deck and follow the instructions given in the card.



Team Building



Role Play



Debate



Interview

# PLAYCRAFT



Look at your teammates and ask them:

What would everybody like to work on?

Who is going to look for materials?

What are we going to build?

-11-



Look at your teammates and say,

"What do you think is the number one reason why children get separated from their parents?"

-14-



# TEAM BUILDING WORKSHOP



I got in contact with one of the parents who've allowed me to exercise the cultural probe with her son and she helped gathered 4 other tween boys in the neighborhood to play test my first Playcraft prototype.

The first workshop was a level 1, a team building exercise where the boys had to collaborate and build an anti-bullying clubhouse. The boys took turn reading the commands of each card. Simultaneously, I handed out papertokens as a reward for every time a player initiated a conversation, asked or answered a question, shared a tool, or taught someone else something new. At the end, the players received a toolbox sheet just like the one in Minecraft, where they could combine their tokens in order to receive a giant prize from their parent.

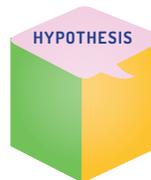


## Key Learning

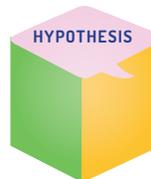
1. Playing Minecraft is an incentive!
2. Having shared goals evokes tweens to have a sense of belonging
3. Prompting roles helps players recognize each others' strengths

## User Feedback

When can we play it again!?



Players will remember each others' strengths and roles the next time they play



If tweens use Playcraft more than once, they will be able to perform in-person activities without Minecraft

# ROLE PLAY WORKSHOP



After the first Playcraft prototype, I was lucky to get invited back to play test again by the same group. Knowing that I will be testing with the same players again, I had to make the second prototype more difficult than the first session.

I originally had “conflict” and “role playing” as two different levels but I combined it to see if these tweens were capability of skipping a level of team building again and doing an in-person activity without Minecraft.

Before we played went to the computers, we had a discussion about “being lost in a public place.” Everybody took turns reading the Playcraft cards and discussed what they would do in that situation. Then, they built an amusement park in Minecraft, designed to help children who lost their parents. Afterwards, the players had to lower their laptop screens and were given a character role card with no script. They had to role play the characters in the context of an amusement park. One boy played the lost boy while the other boys assisted or hindered the

boy from finding his parent. Through the acting, I was able to witness expected personalities and characters come out of the tweens. They had a lot of fun and were able to make decisions and a conclusion together.

## Key Learning

1. After use Playcraft more than once, tweens with HFA are able to perform in-person activities without Minecraft
2. Players remember everybody's roles from the previous workshop and are able to pick up from where they left off

## User Feedback

When can we play it again!?



If tweens use Playcraft more than twice, they will be able to perform in-person activities without a facilitator

## VI. VALUE + IMPACT

I found a lot of value in the feedback I was receiving from parents after both workshops. One mom who was at the first workshop said,

**“It’s amazing how focused the kids are... they are actually having a deep discussion about this tough topic.”**

This to meant Playcraft allowed to have a mission and a shared goal, which further helped Tweens concentrate on the actual tasks. It also mean that it gives players a space and comfort to talk about difficult situations.

Another mom had emailed me and told me that,

**“My son was happier and behaving better for the next couple of days”**

This reminded me of a tantrum I had witnessed at the Minecraft workshop at TKU. I have forgotten that tweens with autism struggle with aggression and that it takes a lot of effort to get them to concentrate and cooperate with others around them. This feedback validates that working with a tween’s affinity makes it easier to work with them especially since it is ultimately an incentive for them

In addition, professionals in the Clinical and EdTech fields find value Playcraft because they recognize that children who learn differently thrive in smaller groups and that there needs to be more emphasis on creating smaller communities outside of schools.



## Clinical

“I have sessions with 2 tweens who love Minecraft. I can use these with them when they come to SPOTS after school.”

- Paula McCreedy, OT + Founder of SPOTS



## Educational

“I can see Playcraft being an important tool when his company expands from educational institutions to home school programs.”

- Joel Levins, Founder of MinecraftEdu





Like the Playcraft players, I hope that creatives, developers, game designers and caregivers can collaborate on a shared goal to increase socialization and disrupt the potential outcome of any tween becoming isolated. It doesn't require one to reinvent the wheel but to be conscientious and mindful of the affinities tweens already have and to be willing to enter their world. I believe that leveraging affinities is a way to advance social competency and communication skills for people of all ages of autism. As a design researcher, I learned that it is important to let go of any preconceived notion on a topic and to dive deep into it with humility. Taking the leap to understand and empathize tweens with high functioning autism has taught me what human-centered design truly means.



[WEPLAYCRAFT.COM](http://WEPLAYCRAFT.COM)

**PLAY TESTERS**

Benjamin  
Daniel  
Diego  
Henry  
Jeremy  
Lucas  
Luke  
Theo  
Students of TKU

**PARENTS OF  
TWEENS**

C. Kaeser  
Colette Sheehan  
Elyse Orecchio  
Gail Griffin  
Melissa Orlando  
Nicole Park  
Rob Roszkowski

**ADVISORS**

Tina Park  
Beth Rosenberg  
Paula McCreedy

**DSI TEAM**

Akshata Malhotra  
Anna Braga  
Haya Shaath  
Jenny Emmons  
Mafe Perez

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