Coloquio: Pro-Social Games for Healthy Social Interaction

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Coloquio
Pro-Social Games for healthy social interaction

By
Mintesinot T. Gebre

A Thesis Submitted in Partial Fulfillment of the Requirements for the Degree of Master of Fine Arts in Industrial Design

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Mintesinot T. Gebre
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Abstract

This study was conducted to address the unhealthy social and emotional development of children today as they are exposed to the adverse effects technology dominant environment. The extent of interference of screen interaction in today’s group activities at home, hinders opportunities for families to interact with one another. Surveys and tests were conducted for the purpose of finding where the undesired behaviours and habits formed by screen interaction become very pervasive. And the design solution proposes a pro-social activity that makes use of cognitive abilities to allow social activities and conversations to happen in parallel.

Key Words

Technology, Interference, Infiltration, Environment, Interaction, Social interaction, screen interaction, Conducive Environment, Pro-social
Introduction

Technology dominates almost every aspect of our life today. It is advancing each passing day and people, not surprisingly, continue to apply and integrate it to their lives. In most cases, we have become very dependant that the many aspects of life became unimaginable without the use of technology. One of the sectors, where advancement of technology is very evident, is the communication sector. Starting from the broad sense of the term, down to everyday interaction between people, technology affects it in one way or another.

As mentioned above, the ubiquity of the technological medium in everyday communication, in addition to its many benefits, is replacing many positive aspects of communication that shouldn’t be technology dependent. These values and the fact that they are slowly disappearing are often overlooked and infiltration of screen interactions in almost every human to human interaction is now very common. Family time, friends’ time, face to face interaction are just few values that are slowly fading away or losing their qualities because of constant interruptions and screen interactions.

Not only the dominance in our activities, but the time we spend using digital screens is considerably high. It is nowadays a very common scene to see a person regardless of their age, gender, economic status, education level etc. interacting with a screen(phone, ipad etc) for extended period of time even with the presence of company around them. This behaviour according to, Collaborative for Academic, Social, and Emotional Learning (CASEL), is compromising a big part of Social and emotional development which has to a lot do with social interactions with others. Certainly, at the crucial development age for young adults, uncontrolled exposure to media screens drags Social and emotional development.

This research tries to put light on the infiltration of daily social activities in the household context, by individual screen interactions with hand-held devices and tries to give design solution to counteract the negative effects. All the qualities of human to human/ face to face interactions such as information exchange, lessons to be passed on or get to know one another to emotional level are being disrupted by the pervasive nature of the ubiquitous screens and the passiveness of our environment. Series of tests were conducted and possible design solution is given, in this study, as to how this interactive environment can be used to enhance communication between family members and help young adolescents develop socially and emotionally in the process.
Social and emotional development

As CASEL defines it, social and emotional learning (SEL) is the process through which children and adults acquire and effectively apply the knowledge, attitudes, and skills necessary to understand and manage emotions, set and achieve positive goals, feel and show empathy for others, establish and maintain positive relationships, and make responsible decisions. This kind of learning is not just one that we only acquire in formal school environment or with a certain teaching method. It is a combined efforts of parents, school and the community to create interactive environment for these young adults to interact with other humans, similar age or older. The context of this particular research is the home environment, where adolescents spend most of their time. The interaction that takes place with their parents and siblings is a big part of their Social and emotional Development.

Face to face interaction

Face to face communication is the least prefered method of communication today, because of the opportunities created by the technology, states a blog on Odyssey, under the article “The Real Problems With Today's Generation”. Most members of the youth would be comfortable to text and skip all the emotional and social aspect of face to face or even verbal communication. Some sociologists argue that as many young people choose to text rather than to talk about awkward or emotionally difficult situations that this will impact on their capacity to interact with each other. Kate Fox concludes following a focus group interviews she conducted for an article “Evolution, alienation and gossip”, texting is used as a way of undertaking one’s social obligations to stay in touch without spending time or energy on the encounter. Texting avoids awkward silences and having to make conversation. It also enables shy or reserved young people to communicate without embarrassing emotions. Figure 1

This shortcut opportunity creates a habit of escaping situations in social relationships issues rather than facing them. So, starting from a very young age, before the kids in middle childhood of today could realize, their social and emotional development is affected by the overuse of the virtual communication. In support of this, Dr. Leena Srivastava states that although the quantity of communication has increased through the anywhere and anytime functionality of the mobile, the qualitative aspect of communication may not have been correspondingly improved. Furtive text messaging, for instance, can often give an illusion of strong communication, whereas it is a medium that clearly lacks some of the principal elements of human interaction, e.g. tone of voice, body language, facial expression and touch. Some sociologists argue that texting teenagers run the risk of affecting their capacity to interact with each other on a voice or face-to-face basis: many choose to text rather than to talk, particularly in awkward or emotionally-charged situations.
Technology usage and impact on communication

Regardless of the uses and benefits the usage of technology brings to our life, side effects and unanticipated negative effects are evident. Matthew Unzen in his academic research on communications with Pacific Lutheran University agrees that many forms of new media technology such as computers, Internet, cell phones, smart phones, web camera chat, texting, and social networks, have taken a new hold in the paradigm of communication. His research shows that as people decide to use technology to communicate more and talk to people less, a decline of verbal speaking skills, social skills, and a lack of human presence and warmth may occur. Therefore, there are risks associated with everyday decisions to communicate more over a computer or phone rather than in person. Unzen concludes by suggesting, even though people have the ability to use such technology, they must not take it for granted and decide when it is truly appropriate to use a certain type of communication.\(^5\)

Why is middle childhood targeted?

These side effects attain even more severe nature when it comes to young adolescents that are still developing. Dr. Anne Kennedy on her article, “Putting children first”, characterizes children of age 8-12 as inside a period where they consolidate, extend and refine the values they have been learning from infancy.\(^6\) Young adolescents have not yet seen the benefits of human interactions with real people or impacts of continuous exposure to media screens, nor can they decide by themselves to balance both. Figure 2 shows how ownership of technological gadgets has increased in the 5 years time in the different age groups studied.\(^6\)

Being born and growing up in this technology dominated time and age, the development of adolescents in social skills and emotional well-being must be a crucial question today. The environment the current adolescents are being brought up in is very different from that of previous generation’s, as is the challenges that today’s young face due to the nature of the technology dominated lifestyle. The age 8-12, is where children start to show autonomy and decision making, hence considered in this study. According to Dr Michelle Anthony, who has spent her entire professional life working hands-on with educators, children, and families, around this age range, children develop the ability to consider the intent behind an action or choice, along with the ability to take another’s perspective.\(^7\) This crucial time in their development is an opportunity to intervene to with an intent to set certain standards and values for positive social interaction and relationship with others.
Due to the access to media screens and the advancement of the interactive medium, the landscape of social interactions and activities at home have gradually been changing from socially active in groups to personal screen interaction (see Image 1). The development of the young generation needs balance between cultivating the social and emotional intelligence as well as technological skills. The educational content adolescents receive from their environment should also equip them with the social skills to interact with others as well as emotional development that they need to live with others. John Dacey hammers the importance of balanced growth in his book, “Your Child's Social and Emotional Well-Being”, as he intends to guide parents. He states that the survival of the human race depends at least as much on the cultivation of social and emotional intelligence as it does on the development of technological knowledge and skills. The need to refocus American households and schools on the holistic development of children is profound. One national survey, whose result shown in this book, discovered that among 148,000 middle and high school students, well under half felt they had developed social competencies such as empathy, decision-making, and conflict resolution skills. A large percentage was noticed to have been involved in multiple high risk behaviours and social problems as a result.

Looking at screen interactions in terms of use, emphasis commonly is put on interaction with the object or medium, its technological aspects, and on a functional and/or ergonomic level, rather than on aspects of human social interaction which it may facilitate. For example, mobile phones are designed and developed with regard to the technical potential and simplicity of use (i.e., with regard to efficient functionality, rather than with regard to the social consequences of use or abuse). Professor Marilyn Campbell, a Psychologist who studied Early Childhood and Inclusive Education, begins her article “The impact of mobile phones on young people's social life” by saying that the mobile phone was originally created for adults for business use. Although it has become widely spread and got in the hands of very young people the impact in the process hasn't been dealt with much. Dr. Leena Srivastava argues that we have not had sufficient time, as a society, to adapt to this new technology, with its overwhelmingly pervasive nature; However, patterns of behaviour are already becoming evident. According to Kaiser’s family foundation study in 2010, more than 65% of 8-12 year olds own their own cell phones. Although more recent approaches take the aspect of the “well-being” of the user into account, and aim to enhance it, human-human interaction (i.e., user interaction) usually is not considered as the source of this well-being in the context of the use of design. As a result, objects are designed to make people
independent rather than to make dependency on each other and care acceptable as an integrated part of use.\textsuperscript{10}

Figure 3 summarizes the of problems associated with overuse of screen media by young adults. The design solution strives to counteract the infiltration of screen interaction at home since it negatively affects the development of the young adolescents in social and emotional aspect.

**Figure 3**

Mediation and control

Studies show and series of interviews conducted, for the purpose of this study, confirm the fact that most parents understand the side effects of the overuse of screens by their kids. And most have struggles with their kids to take a break and tried different ways of restricting usage. This, not surprisingly, makes the kids and teenagers unhappy. Even though this takes the electronics out of the way, it doesn’t prevent the kids from constantly think about what they’ve lost, until they get it back. The design solution seeks a smooth transition from letting go of the electronics into a more active and vibrant family time while, at the same time, reinforcing and supporting the decisions taken by parents in the intent having a better interactive family time.

Wendy Woods and David Neal, behavioral psychologist agree in their book, A new look at Habits and the habit-goal interface, conclude that habits are not easily changed through persuasive appeals that target people’s goals. Instead, interventions to maximize habit change provide people with concrete tools for controlling habit cuing.\textsuperscript{11} Direct way/Explicit of banning the use of the phone in social gatherings, where the individuals are more aware of the situation and feel like they are being punished rather than the purpose behind, creates the feeling of missing out and anxiety of the unknown activities on their screens. Psychologists commonly agree that enduring behavioral change can only be developed if a reinforcer, rather than a punisher, consistently follows the behavior.\textsuperscript{12} Even though the participants in social group settings try respecting the rules and decide not to interact with their screens, the fact that they are continuously thinking about their inability to check their phones or in the case of the young adolescents, the restricted phones and tablets, affects their social experience. This takes away from the full social experience people need to have in a group setting, especially developing children that are in a crucial age to learn social skills. Resistance to interact with our screens by itself demands focus,
and it’s too passive to promote positive social interaction. It rather inhibits the existence of possible interactions because of continuous thought in mind about the restricted usage. Distracting oneself from trying to resist continuously or filling the gaps where we involuntarily interact with our screens in a group gathering setting, is an opportunity area for design solution.

This design chose an indirect way/hidden approach to address the challenge of distracting one from being trapped in screen interaction while actively help create a conducive environment for group interaction. Considering the main target groups are kids of age 8-12 and parents, it looked for a common interest for both and made use of that to connect them. Parents, despite their busy schedule, the window of time they have to connect and interact with their kids is taken up by the use of electronics and whenever they are together conversations become routine Q&As. Playfully easing into conversation sets up a comfortable environment which may lead to various topics and help bond the family even stronger through time. Another case is where, the problem of family time being infiltrated by screen time is actually noticed and restrictions are placed. But through time, the momentum of interacting between families is lost and despite avoiding electronics, conversation starters and facilitators for smooth transitions are needed.

Once interactions have started, carrying them for as long as possible and avoiding awkward silences or sudden interruptions by screen interactions by one or more family member is very important, honoring the value of the social gathering and teach the developing adults this culture.

Behavioral problem and design solution considerations

The dominant use of screen interaction during group gatherings is so prevalent today, the effects go unnoticed and unaddressed usually. But when one observes mindfully, this scenario desperately needs solutions; either external or deliberate consensus amongst the group enforcing rules. Adults understand the benefits of human social interaction, whereas kids that who arent of age to understand, will be negatively affected by the ubiquitous electronics around them. Many of the parents interviewed have rules at home that limits the use of electronics. This explicit way of banning use of screen interaction, however efficient it may be, does not guarantee the promotion of active social interaction. The ubiquity of the digital media around us affects our behaviour. Especially powered by the internet and social media, it presents itself functional and standby for service at all times. Depending on the user and the scenario, this nature can be utilized positively or abused. The design acknowledges the existence of a undesired behavioral problem capitalizes on this opportunity to give a behavioural solution that responds accordingly.

The design solution strives to actively engage users in human social interaction as well as keep attention of users to a central focal point where the group interaction is appreciated rather than the secluded interactions the screens on our hands give us. Among the different group activities affected by infiltration of digital interaction , the design solution tries to focus in home contexts where families gather around. Dynamic activities such as cooking, cleaning and going out are dynamic enough that to some extent the active promotion of social activities is partly covered. Whereas, families sitting around a table for a given amount of time, opens a door for both parents and kids to check their screens repeatedly and eventually be trapped individual screen interactions. The gathering environments are very passive and encourage this undesired
behaviour, with no positive influence on the interaction of the people around them. Wendy Woods and David Neal, the behavioral psychologists, agree that many of our habits are associated with our environment/context. And one possible way of dealing with undesired habits is to alter or avoid exposure to cues, a strategy that can involve deliberate decision making in exploiting changes in performance contexts. Disrupting the experience of the context presents with a clean slate to form new set of habits and association. The additional action draws the user’s attention, and causes reflection on its design and use, and on an additional level of meaning of this use. So, altering the family’s experience, when they come together around a table at home, is chosen by the design solution. The frequency of usage also helps in addressing the behavioral issue in an effective manner.

On article on NCAC magazine, Dr Anne Kennedy gives a general characteristics of this age range as growing capacity for autonomy, increased physical stamina and competence, enjoyment of complex and competitive games, improved capacity to socialize and work with peers and improved capacity for initiating interests, problem solving and abstract thinking. Primary research is conducted for the purpose of this study (interviews and observation), regarding what both kids and parents mostly do while interacting with their phones at home. The analysis of this research shows that kids spend considerable amount of time on entertainment (games, video and social media). Whereas parents focus on being connected (with friends and family), business (emails, text and updates), essentials (bills, doctors appointments, teacher’s updates) and entertainment (news and social media). Finding an intersection between the interests of both parents and kids, considering parents are already interested in taking action to curb screen interaction problem, is very important.

Many experts explain the addiction/dependence on phones scientifically through Dopamine Release / Dopamine loop. Dopamine is the central chemical in the brain that regulates how you perceive and experience pleasure. During pleasurable moments or situations, this neurotransmitter is released, which causes a person to seek out a desirable activity over and over again such as Eating (especially foods with high levels of sugar). Because dopamine is the chemical that promotes feelings of pleasure, it makes us look forward to enjoying life and various activities. When it comes to usage of phones specifically, studies show that it is the release of dopamine is responsible for seeking and feeling satisfied and happy when we find what we wanted. As we look for another and find again, we are trapped in the loop/cycle. In due time, many studies establish that this neurotransmitter not only rewards us but actually acts before that. Meaning it is released giving the feelings of being happy when even thinking about performing the activity.

The design solution considers the above mentioned factors into consideration when solidifying a direction. In summary, the undesired behavior change due to ubiquity of screen media creating imbalance between screen interaction and human social interaction in group settings; addictive nature of screen interaction due to excitement created by hormonal release associated with getting almost everything at the tips of our hands; the potentials and characteristics of members of the target age groups (8-12 year olds) and common interest of parents to socialize with their kids as well as provide a platform for the kids to get attention of their parents.
Design solution

On article Elizabeth Brunscheen-Cartagena (Family Life & Resource Management at K-State Research & Extension department) wrote to Newswise, she talks about the benefits of board games in relation to human social interactions. Board games promote face-to-face interaction which is a vital component in human relationships that is fading away. She states face-to-face interaction is a key component to connecting, learning how to read body language, and developing social skills as compared to games without non-face-to-face interactions whereby attention is on screen rather than the participants. She also added that board games, allow families to connect with each other and foster traits of strong families like positive communication, successful management of stress, and commitment to each other. Moreover pro social games are linked to improving social and emotional health in a way that they encourage communicating verbally, sharing, waiting, taking turns, and enjoying interaction with others. Regarding Creativity and thinking, logical thinking or the ability to reflect on the task demand is another skill kids develop through playing board games. Some games introduce geometry concepts with shapes and patterns, how to classify items (pattern recognition and matching), and support learning about measurement, including distances and amounts. Problem solving and critical thinking can be strengthened with practice and learning, kids might make even more improvement if we encourage them to explain their strategies or the ones they learn from others.

The design solution for the specific problem, in this study, tries to make use of the opportunity presented when families are gathered around a table. A table top activity that is vibrant and interactive, fun and memorable at the same time helps in the healthy social and emotional development of the adolescents while fostering creativity through the experience. The board game platform has a character to excite kids as it is a fun experience. Because of the added aspect of relationship with the family gathering experience, that they can get at least once a day, it would address the behavioural issue more effectively. The experience becomes special as more people are gathered, which makes the family look forward for that exciting experience and helps them stay in the moment as it happens. A tabletop interactive play experience, with a hidden intention of promoting human social interaction among families to foster healthy social and emotional development of the young adolescents.

Older board game interactions are looked at as benchmark, to study and extract common characters and features that enabled them to provide the ideal kind of human interaction without the infiltration of screen media. However, as the main aim of this study is to create a conducive environment that facilitates interaction, the attention, thought, and emotions demanded by the game must be minimal to let participants engage with each other more than they are invested in the play.
Intervention approach

Keep focus & engagement
Distraction and loss of engagement contributes to the resort to looking for interaction on screens. Trying to fill the lapses that with weak link or avoid awkward silences, the screen interaction we fall onto keeps our attention for a longer time which takes away a good part of the family time together. Hence, one of the most important goals becomes avoiding these distractions with a central element that keeps everyone’s focus, keeps attention and engagement.

Interact with immediate environment
Beyond grabbing attention and visual focus, physical engagement and interaction becomes very important in helping stay in the moment. Especially to the age group targeted in this study, 8-12 year olds, tangible and interactive objects are very engaging and assist in keeping focus.

Interact with immediate people around
Visual and physical interaction of all the gathered family members with the common table top playful element at a center creates a conducive environment for various interactions to take place. The intention of the table top playful elements is not to create an additional layer of activity of function which takes up time and energy of the participants but merely a link or transition between other major activities (playing and dining, work and home) or states of interaction (lone, screen, social media, with siblings, colleagues etc). The design has a facilitating role for the participants to create a positive interactive environment and help them keep the positive social interaction without the being distracted and resort to screen interactions.
Design Elements

The name “Coloquio” is derived from the word “Colloquial” that refers to a context of everyday informal conversations in linguistics. Coloquio is a hands-on interactive design that serves as a vehicle for healthy social interaction in a gathering context. The design solution provides a set of modular wooden shapes that trigger memories associated with different pro-social games. The flat, wooden shapes grab the viewer’s attention and invite for engagement. Both sides are usable depending on the complexity level desired and age groups participating. The characters embedded in each piece (shape, engraved pattern) suggest a certain way of play as pieces allow inter fitting. The patterns enhance the effect of visual invitation as well as add another layer of possibilities for the creativity of the users. Since the play mostly stays flat on the table, interlocking guides/fences are used to enhance play.

Integration with gathering activities
Since the problem is of behavioural nature the design stretches for the most effective areas to intervene. The problem of infiltration of screen interaction in our daily gathering activities is pushing us apart. The developing young adults are not getting all social and emotional developments they need to acquire from a healthy family gathering. So the goal of the design solution was to intervene in those gathering activities. The dining scenario being the prime example, moments where families gather around for an activity are very important moments to tackle the behavioral problem mentioned above.

Linking moments
The design intends to act as link between two different activities or strives to fill the moments between activities that are the pitfall traps into screen interaction. Awkward and silent moments, that would normally be filled with resort to screen interaction, call for smoother and healthier transition. The designed play activity doesn’t take up the time, thoughtfulness, energy and emotional engagement as a normal activity or a game does. Since the intention is to set up an vibrant and active interactive environment, Conducive Environment.

Conducive environment
The goal of the design is to design interactive tabletop elements that create conducive environment for social interactions and conversations to take place. It's not uncommon to see group of families and friends sitting around a table and every one busy with individual screen interaction. This not only creates a gap and seclusion between the people but kills momentum of conversations and creates an environment that inhibits developments of social interaction. The design solution considers tackling such moments in a way that is not explicit. Drawing the focus
and attention of the participants to the center of the table and engaging them to interact with the wooden playful elements, the environment is naturally set up for positive human interaction to take place. The design solution strives to facilitate the continuation of this interaction rather than create an activity that takes time and demands thoughtfulness by itself.

**Using cognitive abilities**
The design tries to keep the focus and attention of users and helps them be engaged and interact with their environment followed interaction with each other. The interactive pieces purposefully make use of simple shapes and patterns that require only cognitive abilities to understand be engaged with. This allows the users to continue interacting with each other while parallel conversations taking place. The interactive nature of the play makes it possible for users to skip through, what’s becoming, an involuntary behaviour of random checking and being trapped in digital interaction. The tactile interaction, size of tangible elements and making use of the hands is very important, as it replaces the action of reaching out to electronics and fidgeting, which is part of the physical behaviour associated with digital interaction.

**Open-ended ness**
The different layers such as patterns, shapes, fences allow for multiple interpretations. Series of user experience tests, done for the purpose of this study, show that even though users asked for some guidance in the beginning, they ended up following their interpretations to combine the different elements and come up with a certain way of play. Interpretation of the playful elements and how to use them differs between different users. The common characters studied from existing board game experiences and applied to the table-top playful elements design helps create a range of possible interpretations. Room for creativity is an important element added as part of grabbing the focus of the participants and engaging in conversation with the people around especially when the target groups (kids aged 8-12) are considered. In other words, this open ended nature presents an opportunity for interaction of users with the playful pieces first, then with the people around them on how to proceed with the play or sharing new way of usage. Endless possibilities brings about creativity which is an element used in contributing in the creation of the interactive environment. Among the many possibilities users come up with, making different interesting patterns and tessellations, covering up a certain area quickly, making different paths and bounding territories are some of mini-goals users can have when playing the game. Depending on the type of the user and mood of the particular time users can have both competitive and/or collaborative experience.

**Group and individual accommodation**
The character of the play is designed to start conversation when multiple participants are around. The design benchmarked older pro-social board games and tries to share some characters, which helps the users recall past experiences and make that part of the conversation at the table. The open ended nature of the activity designed gives a chance for the users to talk about what they came up with or how they would like to use them that particular time. This simple discussion may grow and diverge into different topics, which is the intention of the playful elements. The design invites for personal level interaction that grows into a group activity eventually shaping the behavior of of kids in social gatherings.
Common interests
The design solution considers the injection of common activity that could be of an interest to both young and older age groups. It studies various board game experiences and extracts commonalities and characters used to interest users and makes them interactive. The simplicity and easily understandability contributes to the the universality and inclusiveness of the play. The rewards and outcomes after spending time engaged in playing pro-social games are unique for each type. The main reward intended for the users of this particular interactive game design remains the environment created once interacting with the pieces and enhancement of communication between family members in their gathering time. Reconfigurability is a feature applied to the game platform to create a dynamic feeling every time it’s in use. Variation in shapes and the types of pattern, addition of the bounding fences helps create multiple outcomes that creates interest to interact with the pieces and keeps users engaged.

A designer and a mother, whose family was a test subject in this study, commented on the potential that she sees in this design solution, assisting in the communication with her eight year old son. The family normally has a hard time getting him to the dining table when he is using electronics. The transition between activities and is usually tough for him because of his age. But keeping the playful design on the dining table meant that the family is creating a communication language around it. Association of dumping the pieces on the table, with “time to come to the dining table”. In addition to smoothing the transition, it can help alleviate the constant thought of the “no electronics” rule on the dining table.

The before and after usage of the interactive play pieces is thought of as it can be affect the experience of the play. In consideration of letting users spend as much time as they have playing and interacting, option of easy actions of dumping the pieces out of and collecting into the container box is given. The randomness of the pieces in the container box is part of the dialogue of visual invitation to put them in order and interact with them.

The setting and context of usage of this interactive game is on a table where family and friends gather around. There are two different states the game exists. The compact state, where pieces are inside the container box, allows it to be kept as a table top element, stand by to serve as a facilitator of people’s interaction. The material usage is intended to give sentimental value to the object through the tactile feeling of the natural material and the form of the container box that helps emotionally connect the object with the user. But the stronger emotional connection comes with regular use and passage of time, memories of all the good times spent with loved ones, stored in the weathered wooden conversation pieces.
Future development

- Study the potentials of this design solution through tests conducted over long period of time.
- Other Similar options can be created with the same design considerations and can act as a family of pro-social games to accommodate different interests
- Materials studies can be done to better fit different contexts (outdoor/indoor, dry/wet)
- Considering other contexts and age groups, since interests are different but the major problem remains ubiquitous

Conclusion

- Embracing the ubiquity of the screen interaction, how can our environment and objects around us help balance the use of screen interaction with human social interaction to foster the Healthy social and emotional development of adolescents. A very passive way trying to avoid the screen interaction is not very effective way to promote people’s interaction.

- Physical environment that families gather around can take a huge part in helping create interactive medium. Since a clear behavioural problem is noticed integration of solution with everyday scenarios presents most effective solution.

- One possible way of dealing with undesired habits is to alter or avoid exposure to cues. Disrupting the experience of the context presents a clean slate to form new set of habits and associations.

- Drawing the focus and attention of the participants in a gathering setting to a central focal point and allowing them to visually and tangibly interact with their environment, opens doors for further interaction. Creating association of the visually and tangibly interactive element with previous personal experience helps the interaction to grow to a group activity.

- A mini activity that only uses partial attention or just cognitive abilities of users works well in keeping attention and focus as well as leaving enough room for social interactions to take place.
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Figures and Images

25 Figure 1, 2

Generation M2, Media in the lives of 8- to 18-Year-Olds, A Kaiser family Foundation Study, Jan 2010

26 Figure 3, 4, 5

Drawn for the purpose of this particular study/paper by the writer

27 Image 1

Establishing Context

[ https://riverview.org/blog/nutrition-2/put-your-phone-down-its-time-for-dinner/ ]

28 Image 2-5

The design solution was photographed (RIT Photography) and used for the purpose of explanation in the paper.