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USING AN INTERVENTION TO PROMOTE SOCIAL DEVELOPMENT IN KINDERGARTEN DURING REMOTE LEARNING

by

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SUBMITTED TO SCRIPPS COLLEGE IN PARTIAL FULFILLMENT OF THE DEGREE OF BACHELOR OF ARTS

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Abstract

Remote learning has become the new normal for students across the world due to the current pandemic. Especially for those children in crucial stages of their development, the social isolation that is a product of online schooling is concerning for parents and educators alike. This thesis proposes a 6 week virtual social intervention to promote social development for kindergarteners participating in remote learning. Participants will be assigned to either an intervention or control group, and will be assessed on social competence and social satisfaction before and after the intervention. The length of time that they spend in remote learning during the study will also be measured. It is expected that after controlling for length of time spent in remote learning, those in the intervention group will show a more significant improvement in social competence and social satisfaction than those in the control group. This research is expected to inform educators and families on how to provide virtual programming for children who need social development support, and to demonstrate the need for peer interaction and social and emotional based learning curriculums for children.
Using an Intervention to Promote Social Development in Kindergarten During Remote Learning

The current pandemic has altered the world of education in unparalleled ways. Families are being forced to choose whether to sacrifice health and safety or quality of education for their children. Most pressing however, seems to be the social implications of how a remote year of learning will impact their child’s development. Without options for safe in-person instruction, many students are being required to only interact with their classmates and teachers through a screen, which is only further aggravated by how the pandemic has limited outside peer play. In a recent *New York Times* article (McLean, 2020), a series of surveys from 28 educational organizations in the United States found that the most common fear expressed by 3600 families participating in remote schooling was the concern over the deficit in peer interaction. This is a valid fear, especially due to the long-term effects that research has shown this period of isolation may have. As cited in McLean (2020), experts Dr. Bonnie White and Dr. Dew Reeves note that there is a real concern that these children will start seeing issues of depression, anxiety, and even regression into past behavioral problems in the coming future. Scrambling to find any way to supplement their child’s education, some families have been choosing their own paths of schooling, such as pod learning, to find some way to build social interaction into their child’s life (Blum & Miller, 2020). As the official organization of Learning Pods (2020) states (a program that facilitates classroom learning in small groups of families), the goal of their program is to provide a learning environment in which children can progress academically, safeguard adults from wide exposure, and still have social connections with their peers. Although safer, these new forms of learning come at no low cost for parents, both in time and money, but many are acutely aware that the cost of their child’s development is much greater. Even prior to this pandemic,
there have been strong concerns about the social implications of alternative forms of learning. Many teachers and parents have noted doubts in the past that a “well-rounded education” can be achieved without peer interaction (Guernsey, 2001). As both research and theory has shown, peer interaction is incredibly crucial to a child’s social development, and in turn educational experience and success (Bukowski, Buhrmester & Underwood, 2011; Piaget, 1960).

With peers and social skills holding so much importance, remote learning is especially worrying for the children just beginning their formal schooling and therefore more significant social interactions. The preschool to kindergarten transition is especially vulnerable. It is a more formal learning environment, with more time in larger groups of peers, more instrumental teacher-child relationships, and higher social and behavioral expectations (Eggum-Wilkins, Fabes, Castle, Zhang, Hanish & Martin, 2014). With such limited life experience, kindergarten students are expected to disproportionately struggle in the new virtual environment. The current study aims to examine how a virtual social intervention may aid kindergarten students in building social relationships and skills, and its impact on social development in this unprecedented era of alternative learning.

**Social development**

Social development for children is defined as the process in which a child learns to interact with those around them. Throughout this development children learn to communicate with others, process other’s actions, build friendships and other relationships, and understand their own role within a community (“Social development in children”, 2020). Ultimately, a child’s ability to interact with others in a healthy way impacts their development all the way to adulthood (“Social development in children”, 2020). As Hojnoski and Missall (2020) caution, early social and emotional behavioral problems tend to persist over time without the presence of
an intervention, due to the developmental vulnerability of this age group. Naturally, there will be individual learning differences and behavioral issues in early childhood, and therefore fostering healthy social development early is crucial (Hoijnoski & Missall, 2020).

As previously noted, the aspect of building relationships with others is a key mechanism in a child’s social development. Many theoretical perspectives, within both social psychology and educational psychology emphasize that one’s learning occurs through their interaction with those around them, especially their peers. For instance, social learning theorists suggest that children learn by observing the behavior of those in their environment (Bandura, 1977). As demonstrated by Albert Bandura’s well-known Bobo doll experiment (1961), in which children mimicked adults who interacted either aggressively or non-aggressively with a doll, this theory suggests that children encode what they observe in their environment and later imitate that behavior. Children are known to choose models in their environment who they aspire to be, a process called identification, and encode those model’s behaviors, such as the adults in this experiment (Bandura, 1961). This theory has continued to be supported by current research (Newman & Newman, 2007), with the addition that such modeling and social learning can occur at any life stage. For instance, modeling from school peer groups has been shown to have a significant impact on adolescents’ sexual initiations (Barker, Subramanian, Berkman, Austin & Evans, 2019).

Additionally, Bandura (1977) believed that children may modify their behavior depending on reinforcement. If they are rewarded for their behavior, or see others such as their peers being rewarded, they continue it. If their behavior is met with negative consequences, they adjust it. Current research agrees (Betz, 2007), but have added that in addition to reinforcement, cognition plays an important role in behavior, and that such behavior often becomes self-
regulated as people cognitively develop. For instance, Liu, Zhang, Zhang and Yu (2017) examined children ages 4 to 8 as they engaged in fair or unfair activities, and found that the gap between cognition and behavior decreased with age. The older children were more likely to focus on principle instead of desire, and acted in the activities based on their more advanced cognitive assessments of the situation. Therefore, the ability to think critically as they cognitively develop over time may significantly affect a child’s behavior. Ultimately though, reinforcement to their own and other’s behavior plays a major role.

Similarly, constructivists emphasize the role of social interaction, especially with those who have more expertise, to help facilitate development. Vygotsky (1978) proposed the Zone of Proximal Development (ZPD), which is the area of exploration in which a student is cognitively prepared but requires assistance from others to fully develop. For example, a child may be able to do addition and subtraction problems when they have help from a tutor, but get frustrated when attempting to do so alone. Vygotsky believed that through cooperation, and by taking advantage of other’s expertise, children can solve problems and reach levels of understanding that they wouldn’t be able to alone. With peers especially, the co-construction that can occur is incredibly valuable, and can even outweigh the mentorship role of a teacher (Vygotsky, 1978). For instance, de Lisi (2002) shows that peer learning, or the collaboration of peers within the classroom, is very beneficial for academic prosperity. Academic programming such as group presentations, daily assignments in pairs, and instant messaging while in remote settings, has been shown to significantly enhance subject matter mastery (de Lisi, 2002). However, the Vygotsky framework has proven limited, as the proposed ZPD does not account for children’s personal learning needs, present capability level, or motivational influences, all factors that can significantly affect learning (Chaiklin, 2003). Additionally, it does not take into account any
social or cultural diversity. Some individuals, such as gifted students or child prodigies, may have the capability to rise above social norms and social impact, and instead develop their own personal understandings of those concepts taught in school. On the other hand, students with learning disabilities or other challenges may not be able to learn from their peers in the same way (Lui & Matthews, 2005). Regardless, the value of peer support in learning has still been shown to have significant impact for many children.

Piaget (1960) furthers the idea of peer value, by asserting that peer interaction, in the form of discourse, conflict resolution, negotiation, etc., is critically important for the development of higher levels of operational thinking. In relationships with adult figures, there is an aspect of constraint in which children must adhere to the others’ rules, creating a unilateral relationship. With peers however, the relationship is built on mutual respect and is therefore cooperative, which is deemed most valuable for moral and social development (Piaget, 1960). More recent research (Devries, 2000) cautions that when attempting to transfer this theory of learning to the classroom, extra effort is needed as it cannot perfectly model the socio-moral context of the play spaces that Piaget used as his frame of reference. Additionally, critics of Piaget (Harris, 1983; Weiten, 1992) have shown that his theory both underestimates the abilities of young children and doesn’t account for the individual differences in children that may vary their development even within the same stages. Nevertheless, his general theory continues to serve as a model for child development, and de Lisi (2002) suggests that the classroom environment is the best place for peer relationships to thrive. Educators therefore would benefit from creating spaces for peer collaboration in their classrooms, and the extra effort needed will ultimately pay off for their students.
In the long term, developmental psychologists have found that the strength of peer relations can predict positive lifestyle effects, such as happiness, school achievement, and other forms of well-being, as well as negative lifestyle effects, such as depression, aggressive behaviors, drug use and a higher risk of being bullied (Bukowski et al., 2011). Children with poor peer adjustment are most at risk for later life difficulties, including dropping out of school and criminality (Parker & Asher, 1987). Therefore, fitting in with others is a natural need, and peer play is desired in children as young as six months (Bukowski, et al., 2011). In fact, research has shown that being able to form reciprocal friendships as early as preschool, and the coordination in learning that occurs because of it, results in children’s affective social competence and social skills in their later schooling (Bukowski et al., 2011). In the end, social and emotional skills and the peer relationships that help build such skills, are the key to present and future academic success.

Social competence and academic success

Social competence, or the ability to engage and form relationships with others, is strongly valued by educators as necessary for school readiness (Kirk & Jay, 2018). A study examining at risk children in 18 Head Start preschool classrooms showed that those children with higher initial rates or higher rates overall of peer play during their Head Start programs, had a higher level of school competence in kindergarten (Eggum-Wilkins et al., 2014). Even different types of peer play can affect social competence in important ways. In a study in Hong Kong, 60 preschoolers were assigned to either pretend or non-pretend play activities for a month with teachers assessing their social competencies in the classroom before and after. Results indicated that girls who participated in the pretend play condition showed an increase in social competence and less disruptive behavior, while the boys benefited equally from both (Fung & Cheng, 2017). Due to
the communication, problem solving and perspective taking that occurs in peer play, children are set up with social skills that not only help them thrive in school, but enjoy it, which in turn increases their engagement in the classroom (Eggum-Wilkins, et al., 2014). In this way, social competence is key for children to thrive in the school environment.

Kindergarten students are in an especially vulnerable age in their development, as they are just beginning formal schooling. According to Kirk and Jay (2018), early childhood teachers have often rated social and emotional skills and motivation to be more important than being able to read in kindergarten. In this crucial period, the skills that they build in preschool and then continue to foster in the kindergarten environment will serve as an important foundation for the rest of their academic career (Smith, 2010). For a healthy developmental trajectory, there are key milestones that early childhood experts agree need to be met within the year of kindergarten. In general, Smith (2010) says that the social skills necessary for academic success include getting along with others, greetings and farewells, negotiating, following directions, regulating one’s emotions, conflict resolution, engaging in social conversation and cooperation, and having a good self-perception. Throughout the year of kindergarten, children should be making significant progress on these skills. Specifically, they should be going back and forth more frequently in conversation (four to five turns), begin to understand and use “politeness”, begin to communicate their needs more clearly, and engage in longer conversations (“Conversation and social skills”, 2020; Fox, Dunlap, Hemmeter, Joseph, & Strain, 2003). If these skills are fostered well, by eight years old (a few years after kindergarten), children should have a strong sense of identity, strong sense of well-being, be able to connect with and contribute to their world, and be confident and involved learners and communicators (Raban, 2014). This development can occur most
effectively when supported by peer relationships and focused social and emotional learning (SEL) curriculums, and therefore must be valued to the highest degree in our new learners.

With such an emphasis on peer interaction and social competence for academic achievement, some experts recommend significantly implementing social learning into classroom environments (Zins, Bloodworth, Weissberg & Wahlberg, 2004). In fact, SEL should be at the forefront of school priorities. SEL encompasses skills such as self-awareness, social awareness, responsible decision making and relationship management. Too often, those children with behavioral challenges or lower social competencies are simply labeled as the “problem child” and pushed aside, creating an environment that sets them up for failure. To counter this, Fox et al. (2003) emphasizes the need for comprehensive training for early care and education professionals on supporting social competence and preventing problem behaviors in the classroom. Educators are encouraged by experts to create targeted social skills lessons, reward positive social behavior, and to create classroom environments that hold a foundation of trust and support between the students and teachers (Zins, et al., 2004). When the SEL challenges that children face are addressed with as much care as their academic achievement, teachers are able to better manage their classrooms and students, and students are able to thrive in the school environment and beyond (Zins, et al., 2004).

**Remote learning and social development**

Remote learning has been a popular learning alternative for as long as technology has allowed. In many ways, it has helped those students whose circumstances or environments do not allow traditional schooling to still have access to their education. Some of the most common alternative forms of learning include online schooling, pod learning and homeschooling (Guernsey, 2001; Katz, 2016). Online schooling includes teaching students primarily online or
through the internet, and therefore can be a strong alternative for those students who do not have
the resources or capacity to attend an in-person school (Katz, 2016). Pod learning includes in-
person instruction in small groups, in order for more one-on-one assistance for the students, or
for exposure safety in situations such as the current pandemic where classrooms could put lives
at risk (Learning Pods, 2020). Finally, homeschooling includes in-person instruction at home,
often from one’s own parent or guardian, and is a popular option for those parents who want
more control over their child’s education (Medlin, 2013).

Nonetheless, the social context of alternative learning has always been a point of concern,
for families and educators alike. Without daily peer-interaction, play, and opportunities to
collaborate with others of varying backgrounds, many worry that the quality of education is
dampened (Guernsey, 2001). In a study examining online, hybrid (a combination of online and
in-person instruction), and learning pod environments for adult graduate students, it was shown
that although the programs were a popular option, the students involved had a much lower
retention rate and a lower satisfaction of social needs than those in in-person schooling (Eichler,
who had adapted online learning, and found that their students, most notably those in
asynchronous classes, were overall less socially satisfied and engaged in their learning, as
compared to those participating in in-person instruction.

While the research cited above shows the negative social effects of remote learning, it is
important to note that that is not the case for all forms of alternative schooling. In a study
(Carvalho & Skipper, 2019) that involved interviews with homeschooled adolescents in the UK,
the participants indicated that they were very content with their social lives due to the
community they had built with other homeschooling families. Additionally, the students felt that
they were just as socially equipped as their peers in formal schooling (Carvalho & Skipper, 2019). Some homeschooling parents also feel similarly satisfied in their child’s social development. In a recent study by Medlin (2013), homeschooling parents countered the argument that homeschooling promoted a “parental despotism”, or an oppressive power dynamic from parents. This does seem of concern, as theorists such as Piaget (1960) note that constraint relationships with parents or teachers can be harmful to a child’s learning. Of course, reporting from the parent’s themselves on their “despotism” may introduce bias. Nonetheless, parents in this study agreed that, due to the intimacy of homeschooling, they had a stronger and more supportive relationship with their children than other families. Medlin (2003) also assessed the children’s social skills on the Social Skills Rating System (SSRS), and found that both the children and their parents rated themselves as either the same or higher than formally schooled children. Even when transitioning to college, homeschooled children found that they adjusted fine, and were more socially engaged in the community than their peers, which counters the notion that lack of peer interaction can result in future maladjustment (Medlin, 2013). Notably, homeschooled families are unique in that they often have the tools to still build a strong community, due to the popularity of homeschooling as a learning option and the foundational social network and resources that already exist. This is not always the case for those in online learning, due to the more intense social isolation that it promotes.

In contrast, exclusively online learning settings have been shown to not create the same sense of community (deNoyelles, Zydney & Chen, 2014) or student engagement (Katz, 2016) as in-person school. As Weidlich & Bastiaens (2019) note, in the online setting it is much more difficult to create a sound social experience without the aspect of sociability that comes from in-person peer interactions. In homeschooling, peer interaction may be more available with the
strong built in community, but this is often hard to find for those learning online. Being isolated in one’s own home does not allow for the social interactions that occur daily when surrounded by others, and the consequent social skills that are built (Weidlich & Bastiaens, 2019). However, there are ways to foster this, even virtually.

**Efficacy of virtual social interventions**

Having healthy peer relations is key to academic success and one’s general well-being. Naturally, those with strong social skills are better set up to create reciprocal friendships with their peers, and therefore a more positive school experience (Dunsmore, Noguchi, Garner, Casey & Bhullar, 2008). However, due to a variety of circumstances, not everyone can be supported by environments that effectively foster those social skills, such as children in remote forms of learning. Especially in the current pandemic, parents often do not have the capacity to supplement their child’s social development. Luckily, even in a virtual format, social interventions and supplementary social engagement programming have shown to be effective in increasing students’ social satisfaction and needs. Social satisfaction, as compared to social competence, is the perception that one’s social needs are being met (Weidlich & Bastiaens). Weidlich and Bastiaens (2019) examined how adding social affordances, or supplementary social engagement aspects, to an online learning environment may affect the students’ perceptions of sociability. The SIPS model (sociability, social *interaction*, social *presence* and social *space*) was used, which is a framework to create sociability, or the perceived condition of social relationships in computer facilitated learning. In this framework, social interaction is defined as the process of communicating with peers in a learning environment, social presence as the salience of the other people in the communication, and social space as the perceived social network. Through the use of three plugins (“Sharing”, an instant messaging platform for students
to collaborate, “Identity”, a meet the students page including profile pictures, and “Presence”, notifying students when others are online), they found that students in the intervention condition had higher perceptions of sociability and social interaction at the end of the course. Overall, students in this enrichment program were more socially satisfied and had increased curriculum retention. When analyzing online asynchronous discussions, deNoyelles, et al. (2014) similarly concluded that there are ways to foster community online via discussion boards, providing feedback to students, and peer facilitation. This may include peers being required to work on a project together virtually, peer review assignments, or daily active discussions boards (deNoyelles, et al., 2014). Instant messaging has also proven especially valuable, as it promotes peer collaboration and conversation (de Lisi, 2002). Even non-virtually, supplementary programs that include social and emotional learning at the forefront have been shown to be effective in improving outcomes related to drop out and attendance, grade retention and improvement, and reading, math and writing skills (Zins et al., 2004)

**Current research**

While most research on virtual social interventions to date has analyzed students in high school and higher education, this research is valuable as a foundation for understanding social skill programming and how to create a more age appropriate version for kindergarten students. This research also indicates a gap in the literature of online social programs for elementary aged students, specifically kindergarteners. In the current study, the effects of a six-week virtual social intervention on social competence and satisfaction for kindergarten students during a period of remote learning will be examined. This supplementary intervention is intended to examine the possible effects of virtual social-emotional and peer focused learning for this vulnerable age group. As the setting of learning is subject to change in the ever-evolving pandemic, through a
quasi-experimental design, the length of remote learning will be controlled, with students randomly assigned to either the social intervention or control group. Change in social competence will be assessed by the participants’ parents, as well as change in social satisfaction assessed by the kindergarteners themselves. Both will be assessed at the beginning and end of the six-week intervention. It is hypothesized that after controlling for the length of time spent in remote learning, participants in the intervention condition will show a more significant improvement in their social competence and social satisfaction, as compared to the control group.

**Proposed Method**

**Participants**

The participants in this study will be kindergarten aged students in the United States doing periods of remote learning at a public school. Their parents will also be included. To limit confounding factors, the children recruited will be restricted to kindergarteners in public schools who intend to participate in their school’s remote learning for the semester. Previous research (Weidlich & Bastians, 2019) on virtual social interventions during remote learning found a small effect size. Unfortunately, there has not been previous research on virtual social interventions for students younger than university level, so this may not accurately estimate the effect size for this study. A G*power analysis (Faul, Erdfelder, Lang, & Buchner, 2007) was conducted based on this research, assuming $\alpha = 0.05$, desired power = 0.80, and a two group between participants design. G*power suggests that 567 participants should be recruited, resulting in 284 kindergarteners and their parents assigned to each condition (social intervention or control). However, to account for the number of instructors that will need to be trained for the
intervention and the feasibility of recruiting this many participants, there will be a target of 400 participants.

The demographics of the participants are expected to generally match the average demographics of children in Los Angeles County. Therefore, the sample will most likely be 20.4% White, 7.5% Black, 0.2% American Indian and Alaska Native, 12.7% Asian, 0.2% Native Hawaiian and other Pacific Islander, and 55.7% Hispanic or Latino (“Los Angeles County Summary”, 2020). The sample will also most likely be 48.6% girls and 51.4% boys (“Los Angeles County Summary”, 2020).

To recruit participants, flyers will be placed in libraries, child-care centers, and public elementary schools around Los Angeles County. Recruitment will also occur by posting in local Facebook groups for families involved in remote learning. At the end of the study, adult participants will be compensated with a gift card to a school supply store, and child participants will be compensated with stickers.

Materials

All materials will be distributed via email and forms will be completed while on a Zoom call with the researcher. This study includes the following components.

Demographics

Parents will be asked to complete a demographics survey for their child. They will be asked to provide their child’s gender (male, female, or other) and ethnicity (White/Caucasian, African American/Black, American Indian, Latino/Hispanic, Asian, Native Hawaiian/Pacific Islander, Middle Eastern, or other). The “other” option will be in the format of an open-ended question.

Social competence
The Social Competence Scale – Parent Version (Conduct Problems Prevention Research Group, 1995) adapted from Kendall and Wilcox (1979) and Gesten (1976), will be used to assess the child participants’ prosocial behaviors, communication skills, and self-control. Parent participants will respond to 12 statements about their child’s social behavior, such as “Your child shares things with others”. Items will be rated using a 5-point Likert scale, from 0 (Not At All) to 4 (Very Well). The responses will be averaged to find the total score, with higher scores indicating higher social competence. The reliability of this scale was good, with Cronbach’s α = .89 (Corrigan, 2003). Additionally, Corrigan (2003) found strong associations between the Prosocial/Communication Skills subscale, the Emotional Regulation Skills subscale, and the Social Competence scale, suggesting convergent validity.

Social satisfaction

The Loneliness and Social Dissatisfaction Questionnaire for Young Children (Asher, Hymel & Renshaw, 1984) will be used to assess the child participants’ feelings of loneliness and social dissatisfaction in school. This scale is intended for students in in-person schooling, but the researcher will explain to the child participants that each item is asking about their current learning format, which will be remote learning for all participants at Time 1. The participants will respond to 15 statements about their social satisfaction during school, such as “Do you have lots of friends at school?”. Items will be rated on a 3-point Likert scale including 2 (Yes), 1 (Sometimes) and 0 (No). Due to the age of the child participants (5 or 6 years), the researcher will read each statement over Zoom, before the child will be asked to verbally respond with Yes, Sometimes, or No. Several practice questions will be administered first, such as “Do you like ice cream?”, to ensure that the child understands the activity. After reverse coding questions 4, 6, 8, 11, and 13, the responses will be averaged to find the total score. A higher
overall score will indicate higher social satisfaction. The reliability of this scale was acceptable, with Cronbach’s $\alpha = .79$ (Cassidy & Asher, 1992). Additionally, Cassidy and Asher (1992) established criterion validity for this scale.

**Length Spent in Remote Schooling**

A survey will be sent to parents on the length in which their kindergartener participated in remote learning during the six-week period of the study. The survey will consist of one open-ended question, and parents will be asked to enter the number of weeks, ranging from 1 to 6.

**Social Intervention**

Over the course of 6 weeks, the child participants in the intervention condition will complete a social intervention (see Appendix for full curriculum) over Zoom, once a week for 90 minutes. At the start of the intervention and every two weeks, the children will be randomly assigned into groups of three. In those small groups, the kindergarten students will complete a virtual social skills intervention, led by either the researcher or a trained instructor. The curriculum will be structured around the social skills that research has deemed necessary in order for kindergarteners to achieve school readiness and competence: greeting and farewells, conversational skills, politeness, communication of needs, following directions, cooperation, regulating one’s emotions, negotiation, conflict resolution and positive self-perception (“Conversation and social skills”, 2020; Fox et al., 2003; Raban, 2014; Smith, 2010).

This intervention is also developed based on past research on the positive long term effects of SEL programming for kids (Zins et al., 2004), as each lesson’s learning objective focuses on a social or emotional skill. It is additionally developed based on the importance of learning collaboratively with peers (Eggum-Wilkins, et al., 2014; Fung & Cheng, 2017), as many
activities will require the children to work or play cooperatively with their group members. Finally, the Free Play sessions and the synchronous lesson structure is based on the research on online learning programs, which emphasizes the need for sociability and being able to actively engage with classmates in order to promote social satisfaction (deNoyelles et al., 2014; Weidlich & Bastiaens, 2019).

Each weekly lesson will use the following structure: Warmup/Introduction to lesson, Games and Activities, Free Play, and Cool Down. Free Play will serve as a time in which children can choose the activities they want to do with their group mates without direction from the instructor. This may include playing in their respective rooms together, showing each other their houses, playing their favorite online game, or just talking. To give the children full independence during this time, the instructor will turn off their camera and microphone until the Free Play period has ended. This time is intended to encourage natural socialization, and for the children to put the social skills they are learning into practice. Children will also be rewarded “Star Points” by the instructor for any time that they exemplify a social skill well, based on research on the importance of behavior reinforcement (Bandura, 1977; Betz, 2007). At the start of every session, children will be asked to provide verbal assent before beginning that day’s lesson. Parents will also be provided with a list of items they need to help their child prepare before the session begins. Parents are welcome to be nearby when the intervention is occurring but are encouraged to let their child engage independently. Each session will be recorded for research purposes.

During Week 1, the Learning Objective will be “Greeting & farewells, and conversational skills”. This is intentionally the first lesson, as greetings, farewells and conversation are the core to most social interactions (“Conversation and social skills”, 2020).
Based on this learning objective, activities were chosen in order to encourage the children to engage verbally with their peers, and to practice their speaking skills. In 20 questions for instance, children need to practice the back and forth nature of conversation as they ask questions and wait for a response. Greeting and farewell practice will also be encouraged by listening to music about the phrases “Hello” and “Goodbye”. For Week 2, the Learning Objective will be “Politeness and communication of needs”. The goal of the chosen activities for this week is to practice using polite language such as “please” and “thank you”, and to practice appropriately communicating needs to others. The Go Fish game for example requires that the children be polite to their peers, as well as to communicate what they need in order to give and receive cards.

For Week 3, the Learning Objective will be “Following directions and cooperation”. The activities for this week were chosen as ways to practice listening and cooperation in natural settings. The game Simon Says for instance, necessitates that children listen attentively to the instructor and act upon their requests. Week 4 will be based on the Learning Objective, “Regulating one’s emotions”. These activities were chosen as ways for children to learn about emotions, and then better understand how they may personally experience them. “The Color Monster” book for example teaches the emotions in an engaging way, while the craft activity will allow the children to creatively express when they have felt each emotion personally.

For Week 5, the Learning Objective will be “Negotiation and conflict resolution”. The activities this week will allow the children to practice negotiating with others in an appropriate way, as well as tools for how to resolve conflict. This is intentionally placed after the Week 4 lesson on emotion, as the children may now better understand their emotions, and therefore the way they manifest during conflict and negotiation. In the market activity for instance, they will practice sharing and trading items in a fair and polite manner. For Week 6, the Learning
Objective will be “Identity and positive self-perception”. This also serves as the wrap-up lesson for the intervention, as it is a great way to reflect on how the children have grown over the six-week period. The session will include activities such as a self-portrait art project and sharing what they like about their peers, in order to foster a positive self-perception in themselves.

**Procedure**

After being recruited, participants will be randomly assigned to either the intervention or control condition. Volunteer instructors will be trained by the researcher to help lead the social intervention, as there will be multiple sessions occurring each week. The instructor trainings will be comprehensive and thorough in order to maintain procedural fidelity.

All participants, including parents, will participate in an initial pre-briefing Zoom call. This will be in January and will be Time 1. At the start of the call, the parents will receive an informed consent form, the study overview, the demographics survey, and the social competence measure via email. After they give informed consent, the parent participants will be asked to go to a different room to complete the remaining material, while their child stays on the call. This will ensure that the child can answer the questions without interference from their parents, but still feel comfortable with their parents in close proximity. The child participants will then give verbal assent for the study, and verbally complete the social satisfaction measure with the researcher. The parents will then return, and the rest of the call will be left open for any clarifications or questions on the procedure.

Those assigned to the intervention condition will then begin their six weeks of sessions, all via Zoom. Child participants will be randomly assigned into new groups of three at the start of the intervention and every two weeks to increase social interactions and better model a
classroom environment. Children will provide verbal assent at the start of every session. At the end of the six weeks, at Time 2, all participants will engage in a final Zoom call, where the parents will receive a debriefing form, the social competence measure for their child, and the length spent in remote learning survey. All forms will be completed during the call, again in a separate room, and returned. While the parents are completing the forms, the child participant’s will verbally complete the social satisfaction measure with the researcher. Finally, all participants will be thanked, and will be sent compensation in the form of a school supplies gift card for parents, and stickers for the children.

**Ethics**

This study aims to supplement kindergarteners with the social development they may be lacking due to periods of remote learning. This could benefit the parents and children involved, by providing social support and supplementary social and emotional development during the study. If the intervention proves successful, it will inform the educational world about virtual ways we can support our students’ social learning, especially during unprecedented times such as those of remote learning necessitated by a pandemic. It may also inform families on ways that they can encourage their child’s social development virtually in our ever-developing technological world. Beyond this era of remote learning, such interventions could continue to serve for at risk children who are not meeting developmental social milestones, and help to better prepare them for the school environment.

It is necessary for this study to include the vulnerable population of kindergarten aged children, as the research aims to examine social deficiencies during the crucial developmental period of this age group. These vulnerable participants will be protected to the best ability.
Parents will be involved and present at every step, and informed verbal assent from the children will occur at every stage of the process.

In order to further ensure informed consent throughout the study, parents and their children will participate in a pre-briefing Zoom session at Time 1, as well as a debriefing Zoom session at Time 2. These sessions will inform the participants of exactly what the study entails, allow them to make an informed decision before providing consent, and make certain that no deception occurs. To provide consent, parents will complete written consent before the study begins, while their children will complete verbal assent. At the beginning of every intervention session and interview, children will again provide verbal assent before they can continue. Participation is voluntary, and participants may drop out of the study at any time without penalty.

In terms of emotional safety, no sensitive information will be requested. Surveys will only ask for general demographic information, and the period of remote learning that the child participates in. The social competence measure completed by the parents, and the social satisfaction measure completed by the children will only discuss general social topics, such as ability to make friends and conversational skills.

While general demographic information and the length of remote learning will be collected, names or other identifying information will not, and participants’ identities will remain confidential. All meetings will occur on Zoom, and to ensure safety, all Zoom meetings will be password protected and include a waiting room, and each family will be provided with their own personal Zoom link. Zoom meetings will be recorded but will not be posted on any public platforms.

Overall, this study will involve minimal risk to the participants. The probability and magnitude of harm or discomfort anticipated during this study is not any greater than what is
encountered in daily life or during normal schooling. The only potential risk is further elongated screen exposure, which also constitutes as a minimal risk relative to the daily use of screens in our society. For those in the control group who do not receive the intervention, they will continue their regular schooling and consequently nothing will be removed or introduced that is harmful. If the intervention proves effective, the participants in the control group will be invited to participate in the social intervention at a later date. For those families involved in the intervention, they may receive the benefits of social skill development for their children. At the end of the study, both parents and their children will receive compensation, in the form of gift cards and stickers. Therefore, the benefits of participation in this study may outweigh any possible risks.

**Predicted Results**

An analysis of covariance (ANCOVA) will be conducted to determine the effects of a virtual social intervention for kindergarteners on change in social competence and social satisfaction, controlling for length spent in remote learning during a six-week period. The difference in social competence between Time 1 and Time 2, as well as the difference in social satisfaction between Time 1 and Time 2 will be computed before the analyses are conducted.

Social competence is expected to show a significant improvement from Time 1 to Time 2 independent of participants’ groups, as determined by the test of the intercept, as that is the trajectory of natural development for this age group (“Social development in children”, 2020). A longer length spent in remote learning is expected to result in a less significant improvement in social competence, as those who return to school have the advantage of in-person interaction for applying learned social skills (Eichler, Boden-Mcgill & Lasker-Scott, 2014; Katz, 2016).
It is predicted that there will be a main effect of group (social intervention or control) on the child participants’ social competence. Based on previous research on intentional peer play and SEL (Eggum-Wilkins, et al., 2014; Fung & Cheng, 2017; Zins, et al., 2004), it is predicted that there will be a more significant improvement in social competence for those in the social intervention group than those in the control group. The variables of social competence and social satisfaction are expected to be highly correlated, as determined by a linear regression test, as the skills developed from gained social competence will help to facilitate better social interactions, and therefore increased social satisfaction.

Additionally, social satisfaction is expected to show no change from Time 1 to Time 2 independent of participants’ groups, as determined by the test of the intercept, as social statuses and relationships are unlikely to change over the course of six weeks. A longer length spent in remote learning is expected to result in a less significant improvement in social satisfaction, as those who return to school have the advantage of in-person interaction for developing better social relationships (Eichler, Boden-Mc Gill & Lasker-Scott, 2014; Katz, 2016). It is predicted that there will be a main effect of group (social intervention or control) on the child participant’s social satisfaction. Based on previous research (Weidlich & Bastiaens, 2019) on supplementary social programming during periods of remote learning, it is predicted that there will be a more significant improvement in social satisfaction for those participants in the social intervention group.

Discussion

The proposed study aims to examine how a virtual social intervention may support kindergartener’s social development and satisfaction during periods of remote learning. Without
the social context of in person classrooms due to limitations of the current pandemic, many kindergarten aged children are missing out on the crucial social learning that should be occurring in this stage of their development. The predicted findings suggest that after controlling for the length spent in remote learning, those in the intervention condition will show a more significant improvement in social competence and social satisfaction, as compared to the control group. As discussed in the results section, previous literature (Eggum-Wilkins, et al., 2014; Fung & Cheng, 2017; Zins, et al., 2004) has emphasized the importance of peer play and SEL for children’s social competence, and in turn school readiness. Additionally, previous literature (deNoyelles et al., 2014; Weidlich & Bastiaens, 2019) has shown that virtual interventions can be effective in increasing social satisfaction within remote schooling environments when social presence is prioritized. Based on this research, the proposed social intervention aims to supplement social development with a social skill-based curriculum, intentional time for peer interaction and play, and efforts for virtual social presence.

The current study will add to this body of research, as no research has been done on virtual social interventions for kindergarten aged children. All previous research on the social aspects of virtual learning (deNoyelles et al., 2014; Lisi, 2002; Weidlich & Bastiaens, 2019) has focused on high school level education and above, but has not examined how social skills may function in remote learning for elementary school students. Consequently then, a virtual social intervention for kindergarten students of this nature has never been proposed. Additionally, no previous research has examined the need for supplementary social learning in the context of a pandemic, as the necessity for remote learning to this extent has never existed before. As the world of technology continues to advance, this study will serve as an important asset to the current body of research.
One limitation of this study is that due to the remote format of the intervention it will be hard to control for confounding factors of each participant’s home environment and demographic information, such as ethnicity and socioeconomic differences. Even while limiting recruitment to those in public schools, some participants may have more resources at home and school to succeed, such as a better teacher, or more advanced technology. Random assignment will also ensure variability in each group, including for those participants with and without siblings. However, those who have more positive relationships with their family members may still have more of a social advantage. Additionally, even with intentional peer play during the intervention, the peer interaction is still limited due to the remote format, in that it cannot perfectly model the optimal in-person peer interaction that the research suggests. Finally, as research has shown that both peer interaction and directed social skill learning can have an effect on social competence and satisfaction, and both are included in the intervention, it will be difficult to know if one or both aspects are causing the main effect.

In terms of future research, it would be useful to extend the proposed study to include how such a curriculum can be implemented directly in the classroom. As past research has noted (Zins, et al., 2004), schools should prioritize social and emotional learning to the same degree that they do academic achievement. It would be useful to examine how such a curriculum can affect social competence and satisfaction when embedded directly into a kindergarten curriculum, or perhaps as an after-school program for those who need additional support in their social development. Additionally, building positive relationships with teachers and having a consistent mentor figure have also proven to be key to academic success, so it would be interesting to test how teacher-student relationships can also impact this learning. Finally, as this intervention is only testing social competence and satisfaction after a six-week period, this
research would benefit from a longitudinal study in which the length of the intervention is expanded, or a study in which the same children that participated in the proposed study are assessed in five years to examine the long term effects of social competence support in kindergarten. It would also be interesting to examine the long-term effects of the different lengths that each student spent in remote learning, and how that isolation will affect their social competence in later stages of their development.

The present research, therefore, is predicted to contribute to the growing body of research that shows that peer interaction and social and emotional learning are vital for our children’s social development, and consequently future competencies. Especially during the current era of remote learning and social isolation that the pandemic has resulted in, this research is especially important as educators, caregivers and families struggle to support our youth. This research may inform about effective ways to supplement children’s social development, including when-in person interaction is not possible. It may also encourage the educational world to shift their priorities, especially for those teaching children in their most vulnerable developmental stages, to support social and emotional skill sets in their classrooms. Especially for those at-risk children who need extra social support to succeed, such programs could make a huge difference in many children’s lives. With the ongoing pandemic, and the developing technological world, this research is more crucial than ever and will continue to be for eras to come.
References


https://doi.org/10.1016/S0732-118X(00)00008-8

https://doi.org/10.1080/10409280801963897

https://doi.org/10.1016/j.ecresq.2014.04.008


https://doi.org/10.1037/0033-2909.102.3.357


http://readingrecovery.org


Appendix
Social Intervention Curriculum

Session Format:

1) Warmup/Introduction to Lesson
2) Games & Activities
3) Free Play
4) Cool Down

Week 1
Intro: Explain intervention, meet the pod!

Learning objective: Greetings & farewells and conversational skills
Parent preparation: Item for Show and Tell

<table>
<thead>
<tr>
<th>Activity name</th>
<th>WARMUP</th>
<th>GAMES &amp; ACTIVITIES</th>
<th>COOL DOWN</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hello song!</td>
<td>20 Questions</td>
<td>Storytelling from pictures</td>
<td>Free Play</td>
</tr>
<tr>
<td>Instructor will share screen and show The Singing Walrus song about saying hello! Children will then be asked to practice greeting their pod mates. <a href="https://www.youtube.com/watch?v=ghhDRJvxFxU">https://www.youtube.com/watch?v=ghhDRJvxFxU</a></td>
<td>The instructor will show everyone a few pictures on their screen, and they will take turns telling a story from what they see.</td>
<td>Each child have the opportunity to choose whatever activity they would like to do together, without guidance from the instructor.</td>
<td>Instructor will share screen and show the Bye Bye Goodbye song and video. Children will then practice saying different farewells to each other. <a href="https://www.youtube.com/watch?v=PraN5ZoSjiY">https://www.youtube.com/watch?v=PraN5ZoSjiY</a></td>
</tr>
<tr>
<td>Skills practiced</td>
<td>Greeting others.</td>
<td>Engaging in conversation, taking turns speaking, answering questions.</td>
<td>Imagination, conversation skills, collaborative conversation.</td>
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<td>----------------------------------------------------------------</td>
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</tbody>
</table>

**Week 2:**

*Learning objective:* Politeness and communication of needs

*Parent preparation:* Scavenger hunt items (be prepared to help child during event), open Go Fish game on child’s iPad or computer ([https://cardgames.io/gofish/](https://cardgames.io/gofish/))

<table>
<thead>
<tr>
<th>Activity name</th>
<th>WARMUP</th>
<th>GAMES &amp; ACTIVITIES</th>
<th>COOL DOWN</th>
</tr>
</thead>
<tbody>
<tr>
<td>Activity description</td>
<td>Instructor will share screen and show The Singing Walrus song about saying please and thank you! (<a href="https://www.youtube.com/watch?v=zXIxD0CRe84">https://www.youtube.com/watch?v=zXIxD0CRe84</a>)</td>
<td>The instructor will ask each child to go off screen and to find a variety of items in their home. If they need help finding things, they will be encouraged to politely ask their parent or guardian for help.</td>
<td>All children will log onto an online Go Fish game. There they will play a card game in which they need to request each other for certain cards to make pairs. If they don’t have the requested card, they can tell their friend to “Go Fish please!”. After they receive a card, they are asked to say “Thank you!”. (<a href="https://cardgames.io/gofish/">https://cardgames.io/gofish/</a>)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Children have the opportunity to choose whatever activity they would like to do together, without guidance from the instructor.</td>
</tr>
</tbody>
</table>
Week 3:

Learning objective: Following directions and cooperation
Parent preparation: Download “Putty Pals” on child’s iPad or computer
(https://store.steampowered.com/app/489110/Putty_Pals/?curator_clanid=28220276)

<table>
<thead>
<tr>
<th>Activity name</th>
<th>WARMUP</th>
<th>GAMES &amp; ACTIVITIES</th>
<th>COOL DOWN</th>
</tr>
</thead>
<tbody>
<tr>
<td>Activity description</td>
<td>Collaborative dance party</td>
<td>Fortunately, Unfortunately</td>
<td>Highs and Hopees</td>
</tr>
<tr>
<td>Every child gets to choose a dance move, and then others will mirror them. Instructor will play music while everyone dances.</td>
<td>Each child will either be assigned as a “Fortunately” or “Unfortunately” storyteller, then will get to take turns saying a part of a collaborative story. Those assigned to “fortunately” will only do positive parts of the story, while those assigned to “unfortunately”. The instructor will lead a game of Simon Says, before letting each child be Simon. The person assigned as Simon will either say “Simon says…” and then an instruction, in which others must follow, or Prior to the session, children will be asked to download the online video game, Putty Pals. In groups of two, they will play this online game together, in which they need to work together as Putty characters to beat each level.</td>
<td>Children have the opportunity to choose whatever activity they would like to do together, without guidance from the instructor.</td>
<td>Children will be asked to share their highs, or favorite things from the day’s session, and their “hopees”, or something they hope to do next week. When they finish sharing, they can</td>
</tr>
</tbody>
</table>
Week 4:

**Learning objective:** Regulating one’s emotions

**Parent preparation:** Paper and something to draw with for art project

<table>
<thead>
<tr>
<th>WARMUP</th>
<th>GAMES &amp; ACTIVITIES</th>
<th>COOL DOWN</th>
</tr>
</thead>
<tbody>
<tr>
<td>Activity name</td>
<td>Mood meter</td>
<td>Story Time</td>
</tr>
<tr>
<td>Activity description</td>
<td>The instructor will display a mood meter on their screen, and with the annotate feature, each child will be asked to show where their mood is during the current moment.</td>
<td>The instructor will read the book “The Color Monster: A Story about Emotions”, by Anna Llenas.</td>
</tr>
</tbody>
</table>

”will only do negative parts. just an instruction. If others follow the instruction without the preceding “Simon says…”, they will be out. [https://store.steampowered.com/app/489110/Putty_Pals/?curator_clanid=28220276](https://store.steampowered.com/app/489110/Putty_Pals/?curator_clanid=28220276) pass it on to a friend.

Skills practiced

Following directions from peers, collaboration with peers. Collaboration and cooperation with peers, speaking and conversational skills. Listening, following directions, taking turns. Collaborating, cooperation, conversation skills. Peer learning, collaboration, conversation, negotiation.

Listening to others, speaking skills, taking turns.
why those things make them feel that way.

card. They will then need to describe to the emotion leader what emotion they were shown, and the emotion leader will guess which emotion it is.

Skills practiced

Understanding one’s own emotions.

Understanding what different emotions are, and what they look like.

Understanding different emotions, and why they feel them.

Speaking skills, taking turns, understanding different emotions.

Peer learning, collaboration, conversation, negotiation.

Understanding one’s own emotions.

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**Week 5:**

*Learning objective:* Negotiation and conflict resolution

*Parent preparation:* None

<table>
<thead>
<tr>
<th>Activity name</th>
<th>WARMUP</th>
<th>GAMES &amp; ACTIVITIES</th>
<th>COOL DOWN</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Which activity?</td>
<td>Conflict role play</td>
<td>Free Play</td>
</tr>
<tr>
<td>Activity description</td>
<td>Children will be given the option for two different warm-up activities; either a Youtube</td>
<td>Each child will be assigned a character, in a role play about who should get the last slice of pizza. They will then need to act</td>
<td>The instructor will present a market of different toys and prizes. Using the Star Points participants</td>
</tr>
</tbody>
</table>
video about conflict resolution (https://www.youtube.com/watch?v=tw_nQ4x19Eo), or the book Enemy Pie by Derek Munson. Children will need to negotiate amongst themselves which activity to do, and compromise if they can’t agree.


**Week 6:**

*Learning objective:* Identity and positive self-perception

*Parent preparation:* None

<table>
<thead>
<tr>
<th>WARMUP</th>
<th>GAMES &amp; ACTIVITIES</th>
<th>COOL DOWN</th>
</tr>
</thead>
<tbody>
<tr>
<td>Activity name</td>
<td>Favorite Things</td>
<td>Self portrait</td>
</tr>
</tbody>
</table>
### Activity Description

**Children will be asked to share some of their favorite things about themselves.**

On the whiteboard feature, each child will get to take turns drawing a portrait of themselves when they grow up.

**One child gets to share something about themselves (ex: I have siblings). If others also share that trait, they can raise their hand. Those who raise their hand can share more about that trait.**

**Children have the opportunity to choose whatever activity they would like to do together, without guidance from the instructor.**

**One child will be placed in the “hot seat”, and the other children will take turns saying one word to describe something they like about that person.**

### Skills Practiced

|------------------|---------------------------|-------------------------------------------------------------|-----------------------------|------------------------------------------------------|-------------------------------------------------------------|