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Honors Capstone Thesis

Introduction to the Impact of the Virus on Child's Development

Children's developmental phases have been construed over the last year by the effects of the COVID-19 pandemic. The early years in children's development are very important because every action affects their brain and stimulates a reaction for the rest of their lives. The sudden change in children's daily lives affects their understanding of how a normal day should be. Children are developing anxiety disorders which has led to a spike in childhood obesity because of the lack of structure in the child's day. Children are trying to grasp an understanding of the virus in correlation to the family's financial status and can sense the stress brought on by financial struggles. The high stress levels on children since the start of the COVID-19 pandemic, with the increase in technological use, are imposing changes on the developmental and emotional growth caused by the shift in routines, prior to the pandemic, to a stay-at-home routine.

Developmental Impact on Children

Birth to age five are the most significant years for development in children. The long-term effects of the pandemic do not have an easy solution due to the fact that, "A nation of children coping with trauma, illness and disruption will need more than a vaccine to address the fallout" (NBC). Children who are facing other inequalities such as disabilities, financial deficits, and illnesses due to coronavirus are falling behind more than other children in stable homes

because they are not receiving the benefits, they would normally receive in a school setting (OECD). Children in homes that are not sustainable for receiving an at-home education are failing to understand the concepts that are critical to their development. Removing children from the school environment affects their mental health because parents are not fully trained professionals who can provide the adequate educational assistance to their children. They are being neglected and expected to be treated like every other student in the classroom. They are falling behind in their classes due to their disabilities because they are not receiving enough help to deal with it. Being in a school setting allows students to differentiate classes and counseling. Counselors are available to help students if they are having a tough day and need to take a step out of the classroom for some time to regroup. When students are at home, they do not have this option. Teachers expect students to put their full attention towards the class on Zoom and do not have the full control over their students to speak to them privately and address their learning disabilities. Learning subjects through Zoom can be a frustrating experience for not only the teachers but also the students. It is a significantly different learning environment than being in a classroom which affects children's understanding of subject material. Children are lacking the ability to focus on one class at a time because they are distracted by the temptation of computer video games.

Technology's Impact on Following Routines

Children view technology as inherently good because it is not only how they are educated but also how they are entertained. However, since the child's brain is still developing, "their brain may adopt an internet approach to thinking" (Florida Tech) because it is a constant repeated action throughout their day. Children's developing brains are at high risk because they are vulnerable to adapt to this way of thinking that differs from other generations who used their

imagination in the outside world and not on a screen. The increase in screen time has changed children's ability to follow a routine throughout the day. They wake up and are immediately logged in to zoom for class. They spend eight hours of the day in class on the computer. Once the school day is over, they are most likely going to want to watch television or play a game on their phone. Children have lost the ability to self soothe because technology stimulates their brain and distracts them from having a peaceful mind. Technology has stunted the brain's development and caused a loss of imagination that is imperative to their learning. Engaging students through a screen is an enormous task because children are uninterested in the material.

A significant part of a child's day at school is the ability to play at recess and gym class. Studies show that everyone needs to find a way to relax and release endorphins. Exercise releases endorphins and keeps the body and mind healthy. Children do not have the same structured recess and gym class at home that are the same as they would be in school. If they go outside to play during the suggested recess time, most of the time they are playing alone or not with children in their own age. Playing with children their own age and competing with another is a part of their development. Instead of going outside to play, children will resort to playing on their phone, iPad or watching television. Children have adapted quickly to understanding how to use technology for online schooling because it is the new normal. Parents are more worried now about "their children's ability to maintain friendships and other social connections and about their emotional well-being" (Washington Post). Maintaining relationships with family and friends during the pandemic was made possible because of technology and being able to FaceTime and zoom with them. The lack of motivation to go outside and play with their friends or family because of COVID-19 restraints has led to a dramatic increase in childhood obesity. Technology is a huge factor in the lack of desire to go outside and exercise but is not the only

impact. The “economic consequences of the pandemic, may be increasing the risk for obesity” (SOCB) because of the lack of resources available to families who are struggling financially.

Childhood Obesity Spike

The structure that in-person education gives a child reduces the risk of childhood obesity because it is a controlled setting. There is a designated snack, lunch, recess, and gym time that students are expecting. The meals that are either packed or provided by the school are healthy and nutritional. School lunch programs give an appropriate amount of food per meal that is followed by an active recess. At home schooling gives children a “limited access to affordable, healthy food, fewer places or chances to be physically active, or uncertain access to healthy school meals” (SOCB). At home, children have the freedom to turn off their camera and grab a snack quickly without the teacher having full control to stop them. Constant snacking throughout the day because a child is bored causes them to rely on food to comfort them. The economic status of a family also affects childhood obesity because some families do not have the ability to buy healthy options. Unhealthy foods can come in larger bulk packages that are affordable but not the best option for a child’s health. When a child eats a cookie and they enjoy the taste of it, they are conditioned to want more. The constant want to snack on something tastes better than a fruit or vegetable stimulates a response in a child’s brain that pleases them. Early in the pandemic, many families of all kinds of income struggled to afford food because there was a scarcity. Families were advised to only purchase one package of chicken or beef because companies couldn’t produce as much as usual because they were also regulated by the COVID-19 regulations. Families who were financially able to buy in bulk when they were allowed to, saved and stored as much food and supplies as possible to prepare for any negative outcome of the pandemic. As any human being requires a healthy, balanced diet, it is critical for a child to

also receive this because it is imperative to their development. An unbalanced diet can cause a chemical imbalance in the brain that makes children behave differently. Families in a comfortable financial state that are able to provide their families with a healthy diet and make the decision to eat healthy differ from families in economic crisis due to the pandemic.

Economic Struggle Families are Facing

The economic crisis of families who have suffered from the loss of a job or a family member's life during the pandemic have struggled to provide their families with proper care of their children. Studies show that "low-income parents were less likely to be able to work from home and more likely to have had difficulty arranging childcare than higher-income parents. The same holds true for Hispanic parents, who were less likely to be able to work from home and more likely to have had difficulty arranging childcare than non-Hispanic white parents" (Urban Institute). The loss of income from a parent or caregiver that has supported the family prior to the pandemic causes a dramatic increase in stress for the entire family. Children feel their parent's stress and are impacted by the effects that their actions reveal. Low-income households often cannot offer a three meal, healthy option for their children. A lack of routine in a child's day leads to unhealthy eating habits, which causes obesity. Families "reported coping with the pandemic's economic impacts by cutting back spending on food, reducing savings, and going into debt" (Urban) which is a huge amount of stress to put on a family. Children cope by eating comfort foods that are not the best health option for their diet. They lack fruits, vegetables and meat that allow them to think clearly and grow. The financial status of families is directly correlated to the high stress levels in children because it is reflected by their parents. Parents who have to figure out who can go to work and who will stay at home to monitor their child throughout their school day are giving up an entire loss of income that they were once receiving.

Family Dynamics and Economic Struggles

Hiring a nanny or tutor is costly and most families of low-income areas cannot afford to pay someone to help so they can continue to go to work. Parents who are under a lot of stress, figuring out if they will be able to afford their heating or food bills, take their anger out on their children. Children require a lot of attention in their development because they are learning how to also behave when they are under a lot of pressure. Children pick up on their parent's behaviors and will act the same way towards their siblings and friends.

Understanding people's emotions is a development stage that occurs when children are in an environment that is new to them. People understand other's emotions through their mannerisms. You can tell by another's body language and smile how they are feeling. Taking a child out of the classroom environment removes them from communicating with their peer's face to face. Communication without adult supervision is important to a child's development because they are able to speak how their mind thinks. If a child is playing with a toy at recess and another kid takes it from them, the child will be upset and angry. They may yell, cry or not say anything at all. This differs from child to child because everyone learns differently. Parenting styles differ based on their own decisions and experiences which translates into their mannerisms. Mannerisms and body language are not visible when they are all on Zoom because their face is shown in a small square with the rest of the class. Learning mannerisms helps children understand their own emotions and how to communicate with others who differ from them. This translates into their later lives because they will be forced to communicate with peers at work who may also differ from them. Mannerisms are taught at a very young age by the family that raises them. Behaviors and actions that family members have influence one another and alter based off the family dynamic in the household.

Family dynamics impact the development of a child based on the order of siblings and the relationship to each. A child who grows up in a high-income family of three to four children is used to a typical family dynamic. They are financially stable and able to afford the necessities without having to stress the rest of the family. During the school day, children have their siblings around to keep them entertained during breaks from school. They can eat lunch together and have face-to-face conversations which is a human need. Physical communication is a key developmental aspect that allows us to grow and understand how to communicate with another. By having healthy relationships within the household during a time of isolation from other families during the pandemic, people tend to maintain a healthier lifestyle than someone who is an only child, completely taken away from anyone near their age. A study shows that, “children who grow up with no siblings will likely develop a different brain structure than those with siblings” (Kansas City) and this is because they are forced to be creative and entertain themselves. Comparing an only child who is responsible for their own imagination to a child with one or more siblings shows the difference in their development while being isolated. An only child who is isolated during the pandemic with only their guardians, is not used to the common commotion in the household as a child with siblings is. Children with older siblings learn from their mistakes and follow in their footsteps. Their brain develops by learning from them and interacting in different ways from multiple perspectives.

The desire for human interaction is a basic human need. During the pandemic, everyone lacked human interaction with people they don't live with because we were advised to stay at home to avoid contracting the virus. For children who were taken from the environment of learning how to interact with their peers because of the virus, they lack the social skills that they should be learning. The school setting allows children to express themselves and communicate

with one another, which is significant because “relationships with peers are how kids learn about cooperation, trust, and loyalty, as well as how to not just receive support from their parents, but also give it to others” (Atlantic). Developing social skills is a key part of a child’s development because it gives them a perspective on their own life that is different from how their parents teach them to think. When the pandemic first began, parents thought that a little time at home would be good for their children because they would be able to do their schoolwork at the pace they needed to understand the material. Once the decision to continue to keep everyone home happened, children felt lonely. They missed their friends and getting to play at recess with them. The perspective of a five-year-old and an 18-year-old who are isolated because of the pandemic is very different. Children who are older and have experienced the regular school day will miss the routine of being with their friends and coming home after school to relax. children who are five or younger have not experienced a normal school year and cannot understand the lasting impacts of being home for this long will have on their life. The virus is something that is difficult for adults to understand the times and to expect children to grasp the concept is very challenging and causes many psychological problems. They worry that their friends or family will get it, or even themselves.

Families of High and Low Income

High income houses that have two working parents who are able to do their job from home create a different environment for their children to continue their at home schooling compared to children who come from low income houses. Experts state that while it is normal for children to easily get back to a normal lifestyle after the pandemic, “those growing up amid other adversities like domestic violence, abuse and poverty are struggling to cope with the turmoils of the pandemic — and face greater obstacles in recovering” (The New York

Times). Children who have experienced trauma within their homes or neighborhoods are struggling to do good in school because their lives are in danger. The virus has given children added stress that is uncontrollable. In Washington, researchers found that “low-income neighborhoods that are about 90 percent Black and have the city’s highest homicide rates and among the most coronavirus deaths” (New York Times). Children who are surrounded by the dangers in communities of low-income neighborhoods pose a threat to themselves because they are struggling to focus on school and playing, the things that a middle school child should be doing. Hearing constant gunshots or verbal abuse from family members causes children to suffer from high anxiety and stress. Being worried if they will be shot by accident when playing in their backyard is something that children should not have to go through. The effects of the pandemic show that “many families are weathering this crisis on their own, struggling in ways that could ripple through their schools and communities for years to come” (NBC). Families of all financial levels are experiencing trauma from the pandemic that causes them to struggle every day and find a way to make their family happy.

The environment at school is much safer and acts as a bubble for children to feel safe and learn in a comfortable setting. Children who have faced inequalities at school have “already lagged behind their peers in school, and already faced significant obstacles” (NBC). The effects of poverty related to stress directly relate to how the brain is structured and functions in the early years of child development. Families who struggle financially to raise a family in low-income neighborhoods where there is danger surrounding their house, face serious development consequences. Too much stress on any person can cause long term effects on the brain because it chemically changes the structure of the brain. A study was done using a “cross-sectional sample of 389 children aged 4 to 22 years and found that children in families in poverty had reduced

gray matter volumes in the frontal and temporal cortex and the hippocampus. When families were at 150% of poverty, these reductions were 3% to 4% below developmental norms. For children in families at 100% of poverty or below, reductions in these regions were 8% to 9% below developmental norms” (NCBI). The gray matter in the brain processes information so that the body can understand the message it is signaling. Reducing the amount of gray matter in the brain is detrimental to a person's well-being. Especially at a young age, children should not have reduced gray matter because their brain is still developing and growing. Raising children in an environment where they feel safe and secure to go to sleep at night and wake up to receive an education is the basis needed to develop a healthy mind in children. The structure of going into school for class, gives a child the help to focus on their well-being as a child who shouldn't be worried about their safety and health.

The lack of personal space in homes, where children share a bedroom or don't have a quiet space to receive counseling is barricading them from receiving the help they need. Studies have shown that the “lack of privacy has been one of the biggest barriers to students receiving help, Whitson said. Students who live in tight quarters with their families can't confide in a counselor without someone overhearing”(EdSource). Children want to be able to safely communicate about their mental health and are struggling to find a safe space in their home to receive the help they need, causing a rise in anxiety about returning to school again.

Development of Separation and Behavioral Anxiety

The return to school has increased separation and behavioral anxiety and children. They have now become conditioned to wake up and learn school through zoom and not have to worry about their friends being mean or hurting their feelings. For an entire year, children did not

interact with other children their age without a mask, which has caused them to forget how to be socially aware of themselves. They depend on their families to calm them down and when they are separated from them, they feel an immense amount of anxiety. families created new routines in their household during the pandemic to keep them entertained and feeling normal during a time that nothing is normal. It can be very easy to keep busy when you are quarantined at home and want to start projects in the house. Working together as a family to complete home projects causes children to develop separation anxiety when they are removed from a comfortable family setting. When anyone spends a significant amount of time in one setting every day, they become comfortable with how familiar it is. However, when children go to school for eight hours, they return home to a different setting. This was not possible because of the pandemic. Children were forced to combine schoolwork with their home life. Frustration between the child and the parent regarding school work creates an environment of stress and anxiety that turns into behavioral problems that children develop. Similar to newborn babies who need their mothers to comfort them, young children who have been fostered in a home safely for an entire year are comforted by the idea of always having family around to comfort them. A sudden change in their daily routine to now have to socially interact with peers and teachers face-to-face causes separation anxiety. This depends on children's prior behavioral problems and any anxiety they may have experienced before the pandemic. Children who experienced anxiety prior to the pandemic will be even more anxious to go back to school because it reminds them of how they felt before going to school. A child who has an emotional breakdown before going back to school one day might cause parents to become frustrated with them because adults understand the significance of getting back to normal. Children cannot always grasp this idea of getting what they want because their brain is still developing and learning.

Separation anxiety affects many different aspects of a person's life because it is a constant thought in their mind about what will happen next. Children look to their parents to comfort them when they don't feel good or get hurt because parents know how to make them feel better. The feeling of separation anxiety that children have been experiencing while returning to school is similar to the scenario because they don't understand why they cannot continue to stay home where they feel comfortable and safe with their parents. Anxiety can develop through experiences a person has had but can also be a genetic component. Parents who suffer from anxiety can struggle to give their children the proper care they need especially when they are home all the time. Children's and young teens are often worried about the clothes that they wear and what other people will think of them. While this is still a thought in their head, the same anxiety is reflected by the mask that they wear. Wearing a mask causes people to feel like they are suffocating especially if they are having an anxiety attack. Anxiety can lead to depression or addictions that can be very unhealthy for anyone but especially a child with a developing brain. They may turn to technology to distract them from their anxiety instead of understanding how to face it. Being disconnected may be easier for children but in the long run will create more social problems for them and they will lack the ability to communicate with their peers

Children will be most affected by this pandemic because of the delays and development they are experiencing. The high stress levels on children since the start of the COVID-19 pandemic are imposing changes on the developmental and emotional growth caused by the shift in normal routines to a stay-at-home routine. They are lacking social skills, falling behind in school, and developing anxiety about being around many people. Children do not know how to always communicate their emotions with others which makes it frustrating for them to do their schoolwork. Many subjects are taught differently than how people from other generations have

learned the material which also causes a lot of frustration between the parent and child. Getting children back to school is not going to be an easy task or a quick fix because there is so much to be learned and understood about the pandemic in correlation to our own lives. Humans are not meant to be isolated for a long period of time because it is unhealthy to the mind. We crave human interaction because it stimulates our imagination and challenges our thoughts. Through talking with others, we develop socially and understand different perspectives that people have on subjects. An entire generation of children who are all experiencing the same struggle are going to be returning to school soon and expected to know how to act in a school environment. Children need stability to develop, and the pandemic has not given that. The unknown of the outcome of the pandemic is enough stress to distract any person from the other important things in their lives. Falling behind because of the distraction that the brain focuses on and develops anxiety from is hurting the entire generation of young school children. Simple skills such as reading, and math have been lost because the way it is being taught is not understood by students as much as it would in the classroom.

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