ONLINE LEARNING AFFECTS ON UNDERPRIVILEGED YOUTH

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INTRODUCTION

In the United States, rates of online learning and technology use have greatly increased as a result of the current pandemic and social distancing guidelines. The recent shift to online learning has resulted in a nationwide increase in use of technology by all, especially by adolescents and children. As the country reopens, many parents are presented with a choice: have their child continue online learning or attend an adjusted in person experience. For some there is not even a choice;about 49% of all school districts are offering only virtual learning while full in person instruction is only available to 24% of students, and the remainder are being offered a hybrid model (Maxwell, 2020). While many students have the resources to not fall behind during this time, others who are already at a disadvantage will become more divided from their peers.

There are many adverse physical, social, and mental health effects associated with technology use by adolescents and children. One major issue with increased dependency on technology is how it worsens disparities in social classes. Students are not getting the same level of academic assistance: many low income students lack access to internet, some lack stability in the home and typically utilize school as an escape, others depend on their school for food as well as their only access to clubs, sports, or organizations, and school provides all students with positive adult figures. For many students, an education is the only chance they have to overcome generational poverty, but online learning exacerbates inequalities. According to a new Pew Research Center Survey, lower income parents are more concerned than higher income parents about their children falling behind as a result of online school (Horowitz, 2020).

Online education requires more support and accountability from a parent than in person learning does, and many underserved students do not have the support they need. Even if the students' community provides them internet access, there is no guarantee they even own the proper device or enough for each child. About 14% of students, or 9 million students, aged 3 to 18 do not have internet access and 17% of students, or 11 million, live in homes with no desktop or laptop (USA Facts, 2020). Another overlooked problem is the parents' capabilities; some parents may not know how to use technology. In many cases parents lack an education themselves and cannot

assist their child who may already be struggling. Parents are also faced with the challenge of who will watch their children during working hours. In many cases, these parents cannot afford childcare and must sacrifice their job, further worsening their financial situations. A recent survey stated that 73% of parents plan to make significant changes to their careers to account for lack of child care (Leonhardt, 2020).

Even though online learning itself does not directly affect mortality or morbidity of underserved youth, it magnifies the already existing inequalities among demographic groups. One example is a child's exposure to adverse childhood experiences (ACEs). While any amount of exposure to ACEs is not ideal, by not attending school, children with difficult home lives will be stuck in these situations with no escape. By attending school students can seek help from adults they trust and have positive experiences, something they may not have the courage to do over the computer. These adverse experiences can greatly impact their future health including mental health, substance use, violence, as well as many more dangerous health effects. The results of a child's physical activity and nutrition will also affect their further development. For many children school is the only place they are required to exercise or have access to sports and activities. As a result, without the proper resources or influence these students will not meet the recommended physical activity. Similarly, many children depend on school for proper meals. Parents who lack the resources to provide for their children likely sacrifice nutritional value in food for cheaper, less healthy options. The combination of children lacking physical activity and nutrition could lead to an unhealthy lifestyle and associated affects later on in life.

The Healthy People 2030 organization promotes objectives to improve the lives of children and adolescents. Among these are goals to increase those who participate in a high quality early childhood education as well as to increase the proportion of students with reading and math skills at or above the proficient level. The initiative aims to improve physical health by increasing the proportion of children who do enough physical activity, play sports, and participate in daily school physical education. Lastly, there are goals to increase the proportion of adolescents who get preventative mental health care in school, increase the proportion of children with

developmental delays who receive intervention services, and increase the proportion of public schools with a counselor, social worker, and psychologist (Healthy People, n.d.).

THEORY

Theories are used to explain behaviors and guide ways to change behavior (Glanz, 2016). The health behavior change theories and models are built from different constructs that make them distinctive from the others. The Social Cognitive Theory and the Theory of Planned Behavior are health behavior change theories that can help predict and explain the effects of online learning on underprivileged youth.

Social Cognitive Theory

The Social Cognitive Theory (SCT) focuses on the continual relationships between personal factors, environmental factors and behavior. Health behavior change interventions are based on the key constructs of Social Cognitive Theory. The construct of reciprocal determinism is a central component to the SCT and means a person can both respond to change and influence change. The other key constructs include observational learning, reinforcement, self-control and self-efficacy (Lent, 2016). This theory can be used to determine factors that shape if a person will participate in online school and why they participate.

One study used a mail survey based on the Social Cognitive Theory to examine individual motivations or ability to access the internet in rural America. The SCT factor of observational learning, lessons learned from others and previous experience with the internet, is related to more positive perceived outcomes of broadband internet. Experience with technology also increases one's perceptions of self-efficacy, perceived ability of getting internet access. An individual's greater perceived self-efficacy was found to be linked with better education, higher income, white persons rather than less educated, lower income, minorities, who are less likely to gain internet access. The survey results showed that education and income were most strongly correlated with access to the internet. This study shows that internet access is less likely for those with a financial disadvantage, which would affect ability to succeed at online school (LaRose et al., 2007).

Another study examined how the perceived environment of the school predicts physical activity levels of elementary school children. Physical activity during school and after school activities is an opportunity for structured and low cost exercise for students. A blind study, based on the SCT, over a four year period collected data from eight low income schools in Colorado. The six theoretical variables studied were self-efficacy, enjoyment, social support, structures, condition, equipment and supervision. A self-efficacy scale quantified a student's belief that they were able to perform consistent physical activity with barriers present. The enjoyment scale measured how participating in physical activity made students feel. Social support and encouragement from family, home, neighborhood, and school to engage in more physical activity were measured. The condition of the school's play structures and equipment were scored. Lastly, exposure to adult supervision was assessed by students. Results found that self-efficacy and social support were good predictors of physical activity levels. This study highlights the importance of physical activity incorporation in daily school activities (Harmon et al., 2014). By attending school online students will receive less social support and resources that encourage participation in physical activity.

The Social Cognitive Theory is a helpful tool when evaluating the factors that influence participation in online schooling. The previous study could be used as a guide for using the SCT to evaluate participation and success of online school. Influence of the SCT and perceived environment on online school involvement could be determined by studying the same theoretical variables. Self-efficacy would measure a student's confidence in their ability to participate in online school regularly with barriers present. Enjoyment could measure a student's feelings about online school and monitor their mental health. Social support would determine a child's perceived social support at home and if the school adapted to still provide social support online. Structures, condition, and equipment could measure if the child has a safe home environment, access to internet, proper resources at home, technology, and their perceptions on the quality of those factors. Lastly, adult supervision would measure a student's perceptions of the amount of adult supervision they receive from parents in person and teachers online.

Theory of Planned Behavior

The Theory of Planned Behavior (TPB) focuses on behavioral intent and likelihood of an individual to participate in a behavior. The main constructs of the Theory of Planned Behavior are attitudes, behavioral intention, subjective norms, social norms, perceived power, and perceived behavioral control (Ajzen & Sheikh, 2013). The Theory of Planned Behavior can help determine the likelihood of a student or parent to do online school based on their attitudes about expected outcomes.

One study used the Theory of Planned Behavior to explain college student's attitudes towards adopting mobile learning in higher education. In this study, mobile learning is defined as a "new form of learning utilizing the unique capabilities of mobile devices"(Cheon et al., 2012). College students are more prepared to adopt mobile learning than K-12 students because many college students have their own devices. Three factors of the TPB including attitude toward mobile learning, subjective norm, and perceived behavioral control are studied as potential predictors of intention to adopt mobile learning by higher education students. Limitations associated with mobile learning are also taken into account. Some examples of mobile device limitations include slow network speeds, inadequate memory, low resolution, lack of standardization, social distractions, or lack of devices. Students at a public research university enrolled in a technology course were surveyed for this study. The results demonstrated that the intention of adopting mobile learning could be predicted appropriately by constructs of attitude, subjective norm, and perceived behavioral control. Students who felt mobile learning was easy and those who already owned mobile devices were more likely to have positive attitudes toward mobile learning. Instructors have a significant influence on college student's intentions to adopt mobile learning. If student's perceive faculty are not prepared for mobile learning then student's are more likely to opt for traditional methods. Lastly, results conclude that a student's perceived behavioral control of mobile learning could be improved by increasing opportunities to learn functions of different mobile devices in learning (Cheon et al., 2012). Though this study looks at mobile learning rather than complete online learning, it is likely the same TPB constructs could be studied to determine a student's attitudes toward online learning.

Another study explained teacher's decisions regarding use of educational technology using the Theory of Planned Behavior. The study was used to create a questionnaire, which found attitude toward behavior, subjective norm, and perceived behavioral control to all be significant predictors of teacher's intentions. The results show teachers must associate positive education outcomes with use of computers to create and deliver lessons. The study emphasizes the importance of teacher development programs to improve technology skills. Effective programs and widespread technology use by schools requires sufficient funding (Lee et al., 2010). In conclusion, the TPB constructs predict a teacher's intentions of technology use. If a teacher has a negative attitude toward technology, lacks proper training, funding, or resources, this will negatively impact the student's online learning experience.

INTRAPERSONAL FACTORS

Intrapersonal factors are attributes of an individual including knowledge, self-concept, skill, developmental history, attitudes, and behaviors ("Ecological Model," n.d.). The effects of online learning on underprivileged students are greatly influenced by intrapersonal factors. One study among Dutch adolescents found that a selection of social, cognitive, and intrapersonal factors can be associated with co-occurring adverse health related behaviors (Velderman, et al., 2014). This is relevant because adverse childhood experiences in children can have a lasting impact on their development. Long term effects include risk of chronic diseases, mental health disorders, and reduced quality of life. Certain intrapersonal factors can increase the likelihood of adolescents experiencing these behaviors, and by attending school from home children may not have any form of escape from these experiences. Children raised in low income homes are at greater risk of mistreatment (Hunt, 2017).

Factors that may influence adverse behaviors include socioeconomic status (SES), race, and education. Since adolescents are dependents of their parents or guardians, most of these individual factors are a result of the adult's livelihood. Components such as parent occupation, income, and educational background all contribute to socioeconomic status. Higher parental SES

has been found to be a predictor of greater academic performance by students (Koban-Koç, 2016). Demographic factors put some students at a disadvantage which will be worsened by online education. Students' academic success can be delayed as a result of poverty and its associated effects (Walsh et al., 2014).

A student's attitude is an intrapersonal factor that could greatly impact the effectiveness of their education. Many students struggle with motivation when attending in-person classes. Studies have found that students associate online courses with feelings of loneliness and isolation, leading to lack of motivation. With online school accountability or lack thereof, staying motivated becomes more challenging. If a student's insufficient motivation is paired with no support system at home to hold them accountable, it will result in a poor learning environment. Student's with prior online learning experiences will likely have more positive attitudes towards online learning because they feel more comfortable (Bolliger et al., 2014). One study found that students who feel confident in their use of technology are more likely to be motivated (Kim & Frick, 2011).

INTERPERSONAL FACTORS

Interpersonal factors are primary groups such as social networks and support systems influencing an individual ("Ecological Model," n.d.). For adolescents, some of these main influences would be family and friends. Because most school age children are dependents, they are heavily influenced by decisions and actions of their families. As a result of the pandemic causing in-person school closures, many parents had to sacrifice their jobs to provide child care, were laid off, or are forced to work at home while their kids attend online school (Crasta et al., 2020). Children with difficult home lives or a negative family environment will be affected by this transition more. Some students rely on school for positive influences as well as basic necessities. Without support from both their families and their schools, students tend to drop out at a higher rate. This is magnified with online learning as student's progress is less tangible making it difficult for parents to know when their students are struggling (Tait, 2014).

In addition to family, friends are an important part of students' social networks. By attending school online, it can be much more difficult to build relationships. Forming friendships helps adolescents raise social competence, self-esteem, and self confidence. Friends can help improve student's social, emotional, and physical health ("Children and the benefits of friendship," n.d.). As a result of social distancing and online school it will be much more difficult for some children to maintain friendships. By connecting with other students, underprivileged youth can gain necessary relationships and involvement to help support their academic experience (Flynn, 2016).

For many students, school offers many different support systems. Schools often offer before and after school programs, summer programs, academic support, partnerships with local organizations, and sports. They also provide their students with health, mental health, and social services to help overcome any adversities they may face (Flook, 2019). By offering student support, schools can reduce nonacademic stressors that affect a student's academic performance and development (Walsh et al., 2014). Many schools require physical activity for students as well, an important developmental factor that possibly many students will miss as a consequence of online school. Online school affects the overall mental, social, and physical health of all students, but exacerbates inequalities between classes.

ORGANIZATIONAL, COMMUNITY, ENVIRONMENT, POLICY

In the typical year, a child spends the majority of their time at school. Aside from weekends and summer, schools daily provide students with many resources. Many schools offer education, transportation, meals, child care, after school activities, physical activity, summer activities, counselors, nurses, and other resources. The organization of schools provides children across the nation with services that affect their health. The incorporation of physical activity into school structure benefits health students in underserved communities with limited access to parks and recreation facilities (Barr-Anderson et al., 2011). Food insecurity at home is another potential effect of online school. In 2016, over 30 million students participated in the National School Lunch Program, which provides free or reduced lunch to children in need (U.S. Department of

Agriculture, 2019). These are just a few of the many health related services the organizations of schools provide underprivileged students.

A community is the system of networks in place that affect the health and behavior of an individual. Many underprivileged students benefit directly from interventions from their school and their families are assisted by community networks. For example, many schools have direct partnerships with community organizations to provide after school programs and promote student health (Kanters et al., 2014). Schools in the same area with the similar goal of education come together to create a community for their students. They are often linked together by sports, clubs, and activities supported by the people involved. This sense of community gives students the chance to meet and interact with new people. Students attending school online may have a harder time connecting with this community and feeling accepted.

Public policy affects students across America differently since most policies vary depending on location. Each state, county, school, business and community create different policies; due to the geographic difference in public policies, the impact on each student is varied. Many families do not have the means to adapt to these changes. For example, one school district may choose to remain online while another school district in the same town may proceed with in person classes, likely putting those students ahead academically. Public policy can affect funding of schools and students attending those schools. Studies have shown that increase in school spending is associated with more positive academic outcomes for students (Hyman, 2017). This is a factor students have no control over and are affected by their government.

Many environmental factors that affect the health of underprivileged students are a result of location. In many counties funding of schools is based on the tax bracket of the area surrounding the school (Turner et al., 2016). Students typically attend the school they live near and are zoned for, thus it is unlikely that wealthy students attend an underfunded school. This process means students already at a disadvantage are being placed further behind by attending underfunded schools. The transition to online education further magnifies these disparities. Many students at

well funded schools have resources at their disposal to succeed in online school at home. On the other hand, underprivileged students who attend underfunded schools have just been stripped of resources they depend on that these schools cannot offer effectively to students at home.

SUGGESTIONS FOR INTERVENTION

The factors addressed in this paper can all be used as starting points for future targets of intervention. All of the previously mentioned factors influence the effects of online learning on underprivileged students, including intrapersonal, interpersonal, organizational, community, environment, and policy. While it is ideal that all of these factors be targeted, in order to be most effective and efficient, factors targeted for intervention must be deemed important and changeable. Factors where change is more probable should be prioritized over factors that seem unalterable. The majority of the problems associated with online school for disadvantaged youth stem from lack of support. The most appropriate factors for interventions would target the interpersonal and organizational levels.

Interventions at the interpersonal level should attempt to increase positive support systems and social networks influencing students. Technology education for not only students, but also parents and faculty, should be a requirement for online education. In many cases, underprivileged students, as well as their parents, lack experience with technology. When it comes to education, parents and teachers are two main sources of support for students; increasing their knowledge of technology use will result in a more successful educational environment for students. While this intervention benefits the interpersonal level, it will need to be maintained at the organizational level. Two schools in the Los Angeles Unified School District are examples of the intervention at the organizational level. Technology workshops are offered there in Spanish and English with the goal of helping parents gain knowledge to engage in their child's education. The workshops have been successful for facilitating parent involvement and are expanding to include a wider range of applications (Jonas, n.d.). This intervention is important and changeable, as it has proven to be done before and increases available support for a child's education.

The interpersonal factor of social networks can be targeted by increasing small learning communities in online education. This intervention is important because it encourages positive social and mental health for students. It is also changeable and only requires cooperation from instructors and students. Teachers should connect students with their peers and encourage student to student communication. Creating small online learning communities within a class has been effective in increasing academic achievement among underprivileged students (Flynn, 2016). This smaller community allows online students to feel more accepted, socially involved, and access additional academic assistance.

Without proper support and technology online learning can negatively impact underprivileged students. Online learning can magnify inequalities between students because some do not have access to the same resources. Students without access to the internet, assistance from parents, or technological experience will fall behind their peers. Many students rely on resources provided by schools in order to overcome their lack thereof at home. In the future, hopefully all students will receive the help they need to succeed academically online.

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