

Adolescents' fight against the negative effects of the COVID-19 social lockdown: case of Culiacán, Sinaloa, México

Lucha de adolescentes contra los efectos negativos del confinamiento social por COVID-19: caso de Culiacán, Sinaloa, México

Kristian Armando Pineda Castillo

ABSTRACT

This investigation had the purpose of enhancing the life and educational experience of adolescents by executing a healthy life plan with the participation of a high school community. Various theoretical aspects played a significant role in the decisions made, starting from the major coronavirus preventive measures all the way to the healthy lifestyles that could be adopted to face the pandemic. A qualitative approach was embarked on under an action research design throughout six months employing techniques such as participant observation, online questionnaires, in-depth interviews, and focus groups to collect information from 123 participants. The results demonstrated how the intervention favored the lifestyles in physical, emotional, educational, and social dimensions, as well as the prevention of destructive thoughts. Additionally, most teenagers, teachers, and principals expressed satisfaction with the implementation of the project. It can be concluded that united actions ought to be put through to deal with different social problematics, which is a valid rationale to opt for collaborative actions in the education field that impact society in general.

Keywords: Education, lifestyles, pandemic, project implementation, social adaptation.

RESUMEN

La siguiente indagación tuvo el objetivo de mejorar la experiencia de vida y educativa de adolescentes mediante la ejecución de un plan de vida saludable con la participación de una comunidad educativa de bachillerato. Varios aspectos teóricos jugaron un papel importante en las decisiones tomadas, desde las principales medidas preventivas del coronavirus hasta los estilos de vida saludables que se podrían adoptar para enfrentar a la pandemia. Se embarcó en un enfoque cualitativo bajo un diseño de investigación-acción a lo largo de seis meses empleando técnicas como la observación participante, los cuestionarios en línea, las entrevistas en profundidad y grupos focales para recopilar información de 123 participantes. Los resultados demostraron cómo la intervención favoreció los estilos de vida en dimensiones físicas, emocionales, educativas y sociales, así como en la prevención de pensamientos destructivos. Además, la mayoría de los adolescentes, maestros y directores expresaron satisfacción y éxito con la implementación del proyecto. Se puede concluir que se deben llevar a cabo acciones conjuntas para hacer frente a diferentes problemáticas sociales, lo cual es un fundamento válido para optar por acciones colaborativas en el campo educativo que impacten a la sociedad en general.

Palabras clave: Educación, estilos de vida, pandemia, ejecución de proyecto, adaptación social.

INTRODUCTION

Education has expanded its utility to more than an indoor application of knowledge or the formation of individuals. Correspondingly, some institutions have adopted models which intend to transcend school walls, striving for a real-life employment of what is learnt. In the case of the present work, reference is made to *integrative projects*, an educational strategy undertaken by certain Mexican high school subsystems such as Colegio de Bachilleres del Estado de Sinaloa (COBAES).

Integrative projects are an approach for teaching and learning in which students embark on an enterprise to solve a social or educational issue. Furthermore, they entail a mobilization of abilities as well as dexterities to put into action a macro activity that awakens an adaptive spirit for researching through collaboration, coupled with an integration of knowledge from different disciplines (Nivela-Cornejo et al., 2019).

The community that is the object of this study is located in the city of Culiacán, Sinaloa. According to a holistic diagnosis carried out in an academy meeting, the student population is made up of young people from the campus's surroundings. With 620 students, 80% belong to a medium socioeconomic level in which both father and mother work; the remaining 20% are classified in a middle socioeconomic status with dysfunctional families: divorced parents or children of singles. Such sociocultural settings generate diverse problems among learners, for instance, unwanted pregnancies, addictions, aggression, or vandalism. Coupled with the COVID-19 pandemic, these complications have a strong impact on the adolescents' personal and school environments, causing apathy, low achievement, absenteeism, or dropouts.

For this reason, the problem at hand lies in the COVID-19 health contingency, which provoked numerous issues in society. In this manner, it was fundamental to foster the prevention of respiratory diseases like the coronavirus along with the side effects that derived from the confinement period, which harmed many people's physical and emotional conditions (Andreu-Cabrera, 2020; Hernández-Rodríguez, 2020; Jiménez-Bandala et al., 2020).

In this vein, educational initiatives must provide knowledge as well as skills for learners to manage their own reality. This can be done by fostering the application of healthy lifestyles, behaviors, or values seeking to counterattack unhealthy conditions

Kristian Armando Pineda Castillo. Profesor en el Colegio de Bachilleres del Estado de Sinaloa, México. Es director de tesis en la Universidad Pedagógica del Estado de Sinaloa. Cuenta con estudios de Doctorado en Educación y diversas certificaciones internacionales del idioma inglés y competencias docentes. Es miembro del Sistema Nacional de Investigadores y del Sistema Sinaloense de Investigadores y Tecnólogos. Medalla y reconocimiento al mérito docente COBAES 2022 por su labor durante el periodo de confinamiento, al igual que un reconocimiento como Docente Destacado por la asociación Ciencias, Tecnología, Ingeniería y Matemáticas en el Premio Docentes Extraordinarios. Correo electrónico: kristiancobaes@hotmail.com. ID: <https://orcid.org/0000-0002-4686-3587>.

since education is perceived as an active and participative process of socialization and human development (Fidalgo-Díaz et al., 2017). In such a setting, a plan to face or prevent these issues may be created at a personal or familiar level (Roque-Garay & Segura-Segura, 2017; Yorde-Erem, 2014).

Therefore, the present object of study was defined as the promotion of healthy living experiences through a plan implemented by high schoolers in an integrative project that fosters the adoption of healthy habits in the light of a worldwide health contingency. Simultaneously, a central question was posed: how can different actions carried out by teenagers through a healthy life plan ameliorate their life and educational quality during the COVID-19 confinement period? Thus, the purpose of this investigation was to enhance adolescents' life and educational experience by executing a healthy life plan with the participation of a high school community.

Concurrently, a tentative answer or solution was formulated in order to provide a response to the central question, also referred to as a presupposition or working hypothesis (Cohen et al., 2018). Such conjecture goes as follows: by applying a set of planned activities, members of the educational community could channel these actions towards adopting different lifestyles to reduce the adverse sanitary conditions of their daily lives, which would in turn positively impact teenagers' social life and educational experience during the COVID-19 confinement period.

Coronavirus preventive measures

The World Health Organization (WHO) suggested several ways to prevent COVID-19 transmission. The main recommendations regarded testing, social distancing, washing hands with soap, using hand sanitizer, and wearing surgical masks (Pratomo, 2020).

Another example of a preventive measure was that schools that at some point decided to return to face-to-face classes established filters in school entrances. In this sense, committees formed with the participation of school members had the objective of identifying typical COVID-19 indicators: fever, dry cough, myalgia, and fatigue. Other atypical signs are sputum production, headaches, dyspnea, hemoptysis, diarrhea, dizziness, abdominal pain, nausea, vomiting, confusion, and sore throat (Ge et al., 2020). Additionally, some educational communities decided to use a questionnaire to detect asymptomatic individuals; in such cases, interrogations may be oriented towards asking learners whether they are experiencing any of the symptoms or if they have recently come into contact with someone infected (Guiñez-Coelho, 2020).

In addition, Salathé et al. (2020) indicate how it is extremely vital to first detect cases of people who are coronavirus carriers. The experts cite the WHO to argue the importance of diagnosing, tracking, and self-isolation of individuals that have been infected. Likewise, if a person tests positive, a follow-up must be issued to close contacts under the same idea of precautionary self-isolation (quarantine).

As it is indicated by Fowler et al. (2021), staying at home reduced the number of infections as well as deaths by coronavirus in the United States of America and the United Kingdom. Nonetheless, social and physical distancing are terms that are closely related but have often been confused during the COVID-19 confinement period. The first one means stopping society's overall human interaction, while the latter requires physical separation of approximately two meters from one person to another and avoiding crowded places or events where such a separation can hardly be maintained (Pratomo, 2020).

On the other hand, the use of masks significantly reduces the risk of catching the coronavirus as well as other respiratory infections (Leung et al., 2020). However, this measure needs to be accompanied by protective strategies as surgical masks alone are not sufficient to stop the spread of viruses (Klompas et al., 2020). In the same order of ideas, Chiu et al. (2020) carried out an extensive documental research analysis parting from the Taiwan National Infectious Disease Statistics System. These investigators discovered how the use of masks, hand hygiene, and social distancing may contribute to diminishing the transmission of COVID-19, influenza, pneumonia, and other related ailments when comparing the data from previous years.

Healthy lifestyle habits

Many healthy lifestyle habits could be put through to maintain physical, social, and emotional wellbeing during the COVID-19 confinement. Some practices involve maintaining virtual social interaction, technological use of gamification, contact with nature, interacting with a pet, keeping a balanced diet, latching on physical activity, among others (Cheng et al., 2019; Tala et al., 2020).

In this respect, gamification is an element that can promote mental health and wellbeing. Some of its main successful elements are levels, progress feedback, points, rewards, prizes, personalization, customization, social cooperation, open-world approach, among others. Additionally, when technology is used for different intervention purposes, gamification helps with anxiety disorders or welfare (Cheng et al., 2019).

On the other hand, interaction with nature has not been frequently taken into account as a healthy habit. Research demonstrates that an *in vivo* or virtual exposure to natural environments through different kinds of activities could offset cardiovascular issues and improve mental health, feelings of wellbeing, and interpersonal relationships. Likewise, contact with natural surroundings is linked to a reduction in mortality from heart diseases since there is more physical activity, relaxation, and breathing of cleaner air (Frumkin et al., 2017; Mygind et al., 2019; White et al., 2018).

Still, social interaction is an important habit to promote during public emergencies that require confinement since the physical separation of groups provokes diverse complications (Hernández-Rodríguez, 2020). In this vein, human socialization

may go beyond physical contact with persons, in other words, society could employ today's digital resources to stay in touch at different levels: education, work, social, and familiar. Nevertheless, precautions as well as discipline need to be considered as there are negative consequences of long-time screening or internet use (Montag & Reuter, 2017; Stiglic & Viner, 2019).

Likewise, the Canadian Paediatric Society, Digital Health Task Force (2019) suggests that the use of digital media by adolescents impacts in different ways on cognition, psychosocial functioning, and physical health. Also, friendship is a motivator for an adolescent's life online, which is why social media is a positive resource to recover from rejection or isolation (Peter et al., 2005).

Now, adopting a pet can also be beneficial for many people, but, of course, those who are allergic to animals must consult a doctor to see if this is a viable option. Animal companionship has been associated with diverse benefits, such as the promotion of healthier eating, more physical activity, or increased support networks. In addition, studies have shown how domestic animals diminish self-destructive behaviors, anxiety-depressive symptoms, and loneliness. Even the single act of gently touching a pet could lower blood pressure and cholesterol levels (Friedman & Kause-Parello, 2018; Hodgson et al., 2015).

On top of this, optimal nourishment greatly influences the immune system, which is one way to overcome some of the social confinement's negative effects. For such matters, dietary guidelines about nutrition and food safety must be followed to withstand COVID-19. In connection therewith, a proper diet with sufficient zinc, iron, plus, vitamins A, B12, B6, C, and E can contribute for the body to be in shape to defeat the virus (Aslam et al., 2017; Aman & Masood, 2020; Yousafzai et al., 2013).

METHODOLOGY

A qualitative approach was undertaken by recurring to an action-research design. The techniques implemented were participant observation, online questionnaires, in-depth interviews, documentary analysis, and focus groups. Circumscribed under the critical educational science paradigm, action researchers seek the transformation of society, liberation from oppressiveness, and solutions to problems (Lewin, 1948; Stringer, 2007). It is a contextual intervention, which is cyclical, systematic, flexible, but no less rigorous than any other type of scientific investigation. Thus, it can be taken as an endless transformative process that goes on until purposes are met or issues are solved (Ary et al., 2010; Carr & Kemmis, 1986).

Although there are many models of an action research cycle (Cohen et al., 2018), the process undertaken may be represented in the diagram provided hereunder (Figure 1).

Figure 1
Representation of the action research process conducted



Source: Author's own elaboration.

Alternatively, the constructivist grounded theory method was employed to analyze the information. In this sense, Charmaz (2006) argues that the methodology may support other types of qualitative inquiries to build a theory based on the data retrieved from the research field.

Sampling. Experts insist that action research is an inclusive and democratic methodology that aims at the emancipation of individuals, where those affected by a problem cannot be excluded from any transformative intervention (Carr & Kemmis, 1986; Stringer, 2007). In this vein, comprehensive sampling was used by involving students and teachers who wanted to voluntarily participate in the study (Ary et al., 2010). Accordingly, 123 school members took part in the investigation (Table 1).

Table 1
Participants involved in the investigation process

Stakeholders	Number of participants
Students	106
Teachers	15
Principals	2

Note: This table shows the educational community members that participated in the research.

Source: Author's own elaboration.

Procedure. In a preliminary stage, students, teachers, as well as principals were included as major stakeholders. To ensure an ethical process, permission was successfully obtained from local authorities in order to officialize the project. In addition, an informed consent was employed during the research to get approval from school community members to use their words in the final report.

First, issues provoked by COVID-19 social lockdown were identified by conducting research techniques in the high school community, such as participant observation, an online questionnaire, as well as a focus group from June to September 2021. For this, information was distilled by appealing to the constructivist grounded theory methodology: open, focused, and axial coding, the use of memo-writing, the constant comparative method, and theoretical sampling (Bryant, 2017; Charmaz, 2006).

Second, a strategic plan was created with the school's academy of teachers and student representatives of each classroom during September 2021. There are a few ways to go about planning for action research processes; however, only the guidelines proposed by Ary et al. (2010) and Stringer (2007) were taken into consideration. In this sense, the intervention was organized into four phases: 1) diagnosis of the adolescents' issues provoked by the confinement, 2) creation of a personal plan to tackle these problems, 3) plan execution and reflections, and 4) evaluation. A semi-structured interview and participant observation were employed to find out the actions to be taken by the teenagers.

The third phase of this intervention concerned implementing the planned actions from September to December 2021. Participant observation, documentary analysis, and two online questionnaires were applied to monitor the execution of the intervention. Once more, analysis of information was carried out by appealing to the constructivist grounded theory techniques.

The last phase involved carrying out participant observation, documentary analysis, an online questionnaire, and a focus group to evaluate the overall intervention from December 2021 to January 2022. Here, the participation of students, teachers, and principals was imperative since the qualitative approach sees them as the main source of validation of results and credibility for any investigation process undertaken under the interpretive or critical paradigm.

On the other hand, computer text processing programs that facilitate the organization of information were used to analyze the data, which is considered valid in qualitative approaches (Cisneros-Puebla, 2003; Watkins, 2017).

RESULTS

The findings hereunder are organized according to the methodological route designed for this action research process. Thus, the diagnostic of the educational problematic is first presented, followed by the elaboration of the strategic plan, its execution and reflection, and finally the evaluation of the intervention.

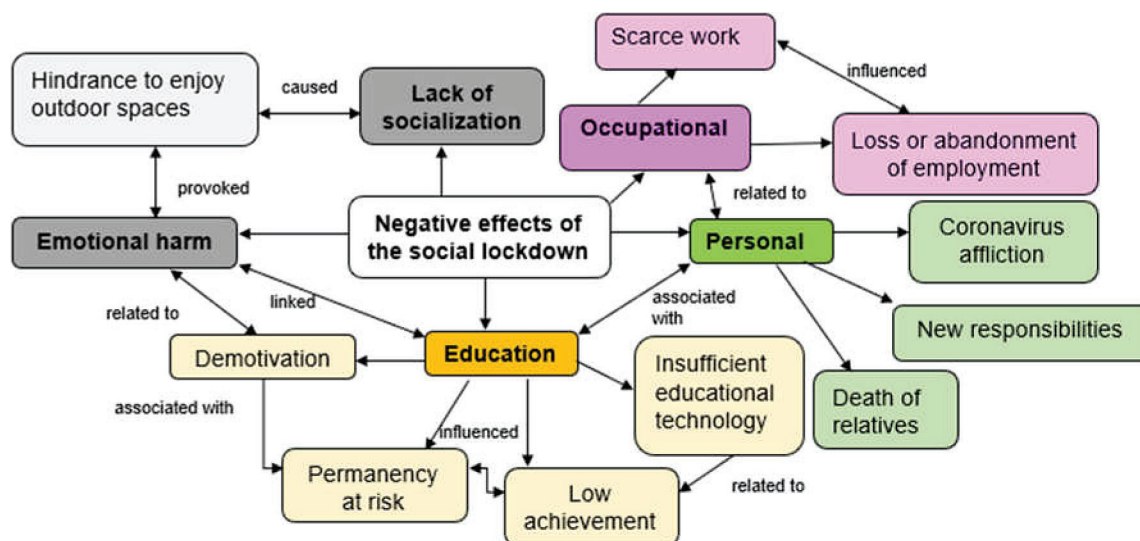
Diagnosis of the educational problematic

A diagnostic of the context was carried out from June to September 2021 in the high school with participant observation, an online questionnaire applied to 23 learners,

as well as a focus group with 13 participants: 2 teachers and 11 students. This inquiry led to an understanding of the problems that resulted from the confinement period. It can be confirmed that two major enemies were being faced at the moment: the coronavirus disease and the confinement period. Both issues, which were inextricably linked, had disastrous consequences, affecting individuals at an emotional, educational, social, personal, or occupational level (Figure 2). Nevertheless, as a traditional premise in the critical and interpretive paradigms for social sciences, these interpretations are in no way generalizable, that is, such theoretical representations only manifest the realities of this specific context.

Figure 2

Impact of the social lockdown on teenagers



Source: Author's own elaboration.

The lockdown made many adolescents and families suffer emotionally since they were limited to visiting schools, malls, among other places. Nonetheless, the coronavirus also caused the loss of beloved ones; moreover, some teenagers found themselves in the need to take on new responsibilities in the household such as taking care of their little siblings, cleaning, or getting a job. A juvenile's contribution makes this evident:

I was considering dropping out of school because my father and mother were sick. I also felt sad because my grandfather died. Additionally, I had to look after my little brother as he was also feeling sad. Plus, I had to get used to only communicating with my family, and this made me even more dependent on them [Adolescent 12].

In addition, the lockdown affected the educational experience of lots of teenagers since not all of them found the emergent distance education modality enjoyable. Furthermore, learners experienced connectivity difficulties or did not have the necessary technological devices to operate the platforms required by the institution, negatively affecting their achievement. Next, a contribution made by a teenager is shared:

We cannot go out with friends or for a walk anymore. Many parents are losing their jobs, and this is affecting the economy. Some of the families do not have computers, televisions, or internet access, which is a problem when taking classes online, something that my family and I experienced during the social lockdown [Adolescent 2].

Likewise, teenagers were affected in the employment area. Many families who relied on an everyday income suffered a depict in their business due to the fact that during the confinement most people would only buy what was absolutely necessary, while others lost their jobs because there was lower income for companies in general.

My family was affected economically since most businesses had to be closed. Additionally, schools had to be suspended to avoid infections. Some people, like us, had to use their savings to get by during the quarantine. Moreover, the lockdown made me feel anxious, and I guess that part of this feeling came from the fact that I tested positive for COVID-19 a few months ago [Adolescent 4].

Based on these findings, a plan template was proposed and validated by academic staff and local educational authorities in an official meeting. In the same manner, student representatives also approved the proposal to plan a set of actions to be carried out to counteract the confinement's negative effects.

Strategic action plan

In September 2021, as part of the participant observation, the present researcher created an action-research plan according to the orientations made by Ary et al. (2010), Stringer (2007), and Kemmis et al. (2014). Therefore, the format proposed was designed to be filled out personally in three stages.

First, adolescents had to identify the personal areas that needed attention. Subsequently, they had to do an investigation into how to tackle the identified issues by interviewing experts or people who overcame the same problems they were experiencing, or by carrying out research online. With the findings, they had to select those activities or habits which best suit their lifestyles and plan on a calendar the days to implement them.

The format also included a section for making a reflection at the midpoint of the term, which allowed teenagers to think about whether they had liked to add, eliminate, or continue doing the same activities. Lastly, a space was provided for an in-depth reflection to be made at the end of the semester. Each group of students was accompanied during the whole process by an educator, who was simultaneously assisted by the teacher-researcher.

A semi-structured interview was conducted with eleven students to discover the habits that could be promoted during the confinement period, besides the ones found in the literature review. It came as a surprise that teenagers planned to carry out different kinds of actions. For instance, to tackle their inability to go out to public or crowded places, some of them mentioned how they would strive to go to sites seldom visited by people and to uncrowded towns. Adolescent 4 gave a contribution in this respect: “My family and I occasionally go to a ranch near the city. We think it is a good idea since not many people go there on weekends.”

Furthermore, some teenagers planned to have sporadic meetings with their relatives while keeping a physical distance in order to balance socialization activities. In addition, most of them reported social networks to be an ideal activity that could heal isolation feelings during the lockdown. An adolescent commented: “What I usually do to stay in touch is chat with my friends through WhatsApp every day. Plus, my family and I sometimes organize meetings to get together” (Adolescent 8).

Moreover, support was detected to reduce the emotional issues high schoolers suffered because of the social lockdown. Some juveniles indicated how they decided to organize activities for them to do together, such as watching movies or talking with their beloved ones: “I try to get help from my family since I have a lot of emotional complications, but most of the time I manage to get more support from other relatives, in this case, my grandparents” (Adolescent 1). Likewise, teenagers reported that boredom, stress, and sorrow could be diminished by playing games on the phone, listening to music, doing manual or digital art, or with videoconferencing: “For me, I like to edit multimedia material and images when I have nothing to do. I also make calls through Zoom with my friends or relatives” (Adolescent 11).

Now, video meetings were the most popular dynamic planned by teenagers, as such action would not only allow social interaction at a distance but would also provide a virtual place to facilitate educational activities. Concurrently, certain juveniles scheduled peer and group tutoring to get support for some homework assignments and gain understanding of topics. Other pupils mentioned that taking the initiative in the learning process was fundamental when being educated from home: “Researching schoolwork on my own has been very effective for me during the first year of the confinement period. I watched videos on YouTube or just looked for information on the web” (Adolescent 7).

On the other hand, all interviewees concurred that following general sanitary measures against the coronavirus was the best way to protect themselves. These preventive actions included wearing surgical masks, hand sanitizing, washing hands frequently, and receiving medical attention or isolation if they had any feeling of having the disease.

Execution and reflections

The strategic plan was implemented from September to December 2021. In order to monitor it systematically with participant observation, two online questionnaires were applied. The intention was to value the educational community's difficulties and solutions during the execution.

The first questionnaire was administered to eight educators to find out the difficulties encountered during the application of the healthy life plan and how they were faced. In that sense, educators reported certain issues throughout the implementation of the project, such as a manifested disinterest on behalf of quite a few teenagers. Teacher 4 reported: "The main problem was for adolescents to make a new commitment since it implied a change of habits." Similarly, teacher 7 contended: "Youngsters simply do not want to do the activity. They show apathy towards education, something which has gotten worse in the social lockdown." Another teacher said how a few learners were not able to complete their plan because they did not have the skills or technological resources: "Some students did not have access to the internet" (Teacher 6).

Another major issue identified by the lead teacher-researcher during the documentary analysis was the adolescents' lack of ability to elaborate in their writing and carry out research online. After analyzing the teenagers' action plans, it was noticeable how very few pupils showed well elaborated plans, while many others simply named what they would do without providing solid justification for their choices. The problem here was the fact that quite a few high schoolers were unable to fully express themselves, and according to the teachers' observations, this could be attributed to their lack of interest or motivation towards education.

As the main strategy to tackle such issues, most educators decided to give further assistance to pupils in the development of their healthy life plan and raise awareness about the importance of its fulfillment. Additionally, the teacher-researcher created a video that explained in detail how to fill out the plan's template. The multimedia material was shared through the WhatsApp social network for students and teachers to consult at any moment or time.

The second online questionnaire was administered to 25 adolescents. This qualitative instrument had the intention of finding out the experience these juveniles were having with the implementation of the project. First, teenagers expressed difficulty when organizing their activities in the accorded format: "I struggled when writing down the actions I would do to overcome the issues I was experiencing because of the pandemic" (Adolescent 1). Another juvenile added to the foregoing:

In my case, I was not sure how to plan my diet or do exercise. Also, it was hard to be specific about the schedule for these activities since I had other things to do, like taking care of my little niece [Adolescent 7].

In addition, some adolescents argued that they had difficulties turning in their evidence to show they were implementing the healthy life plan. In this sense, one of the complications was the poor internet connection since the high schoolers frequently did not have credit or a wireless network: “I had problems accessing the web; it was slow and sometimes it would not work” (Adolescent 6). According to the responses in the questionnaire, most teenagers did not need to ask for help. However, those who found themselves in need of assistance received guidance from teachers. Herein, a contribution made expresses such an aspect:

My teacher gave me some advice on how to elaborate on my healthy life plan by giving me information related to the project and how to carry out research about the actions I could take to face the difficulties I encountered [Adolescent 6].

Another interesting factor is that some teenagers included their parents and other family members in the healthy life plan. For instance, a few adolescents asked relatives for advice on what to plan, while others were highly encouraged by the tutors: “My mother motivated me to carry on with my goals through the activities I was doing. I found this to be very inspiring” (Adolescent 23).

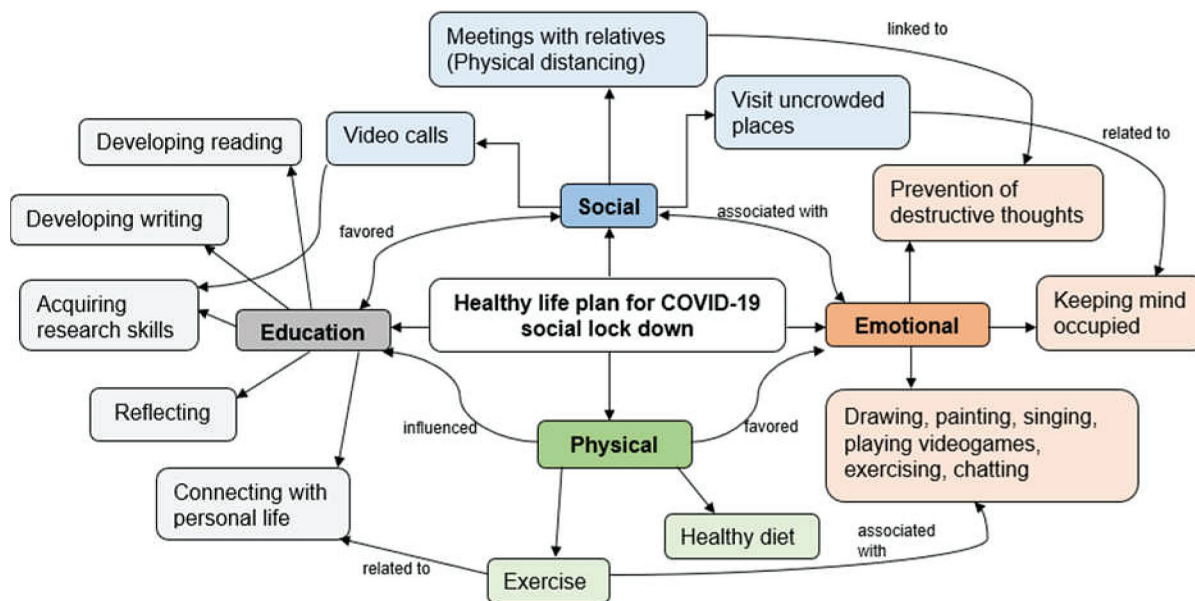
Evaluation

Action research is acknowledged to be a dialectical, interpretive, as well as critical methodology for inquiry purposes (Carr & Kemmis, 1986; Stringer, 2007). Thus, participant observation, an online questionnaire, a focus group, and documentary analysis were conducted with school members from December 2021 to January 2022. Such evaluation techniques were feasible to understand how the intervention impacted the educational experience and social life quality of adolescents and their families in the city of Culiacán, Sinaloa.

Answers from the formats provided for learners to fill out the healthy life plan were analyzed, specifically the section to evaluate the project, which was also the case for the contributions in the focus group. Five theoretical categories were found as a result of the intervention: *Enhancement of physical health*, *Enhancement of emotional health*, *Enhancement of socialization*, *Enhancement of educational experience*, *Prevention of destructive thoughts*, and *Satisfaction* (Figure 3).

Enhancement of physical health. Some adolescents reported a substantial improvement in their health. In this sense, a few of them indicated having changed their dietary habits and physical activities to counteract a sedentary lifestyle which was easily fostered during the confinement: “When I applied the healthy plan, I was always active. I did not take good care of myself before, but now I feel much better. I exercise and walk every day; plus, I eat well” (Adolescent 8). Another teenager answered in the same manner: “I remember I stopped exercising because I suffered from depression since

Figure 3
Healthy life plan's impact on adolescents and their families



Source: Author's own elaboration.

I could not do anything at home, but I recovered; now, I do lots of exercise. I also got sick; nonetheless, I managed to recover” (Adolescent 12).

One of the educators also added on this behalf:

The participants felt very satisfied with the activities promoted in this type of project; they felt favored, especially in their mental health and that of their families during this crucial time. They clearly needed to do something else at home since they could not stand being inactive. It was very satisfying for everyone [Teacher 2].

Enhancement of emotional health. Quite a few teenagers reported an emotional upturn in their lifestyle. In this matter, many of the young people felt free from worriedness, stress, depression, and other negative feelings. That showed that the implementation of the project promoted a positive impact on them and their families. A high schooler commented on such an aspect: “The plan helped me not to get stressed, to be better physically, and to clear my mind. Additionally, it pushed me to improve my diet. It also allowed me to enjoy the time with my family” (Adolescent 4).

Enhancement of socialization. A lot of teenagers said they improved their social skills. This happened since many of the planned activities that involved distanced and face-to-face interaction counterattacked the feelings of stress, boredom, and loneliness that the social lockdown was provoking. Next, a response made by one of the high schoolers demonstrates this aspect: “Making video calls with my friends and fam-

ily has helped me stay more in communication with them. My parents are healthier thanks to the habits we changed and the plan we followed” (Adolescent 2).

During the focus group, a teacher made the following comment:

I really feel that these youngsters had a chance to recreate themselves through a reflective activity. The difference here was that they had the opportunity to do it in an organized way with the purpose of specifically tackling the negative effects of the pandemic, and most of them were harmed in their interactions with others [Teacher 1].

Enhancement of educational experience. During the focus group, most teenagers reported that the healthy life plan contributed to a good educational experience throughout the social lockdown. These adolescents argued that the elaboration of the plan helped them ameliorate their writing, reading, and research skills: “The project was favorable because it allowed learners to create healthy lifestyles, get to know themselves and their emotions” (Teacher 4). Also, a high schooler made a comment in this regard: “I feel that doing the whole thing made me more aware of my reading, writing, and researching since I needed to be more reflective on how to express my ideas” (Adolescent 15).

A teacher added how the integrative activity contributed not only to education but also to the adolescents’ quality of life. The educator commented as follows: “I noticed that students were more involved in their educational process as they were making a connection between the things they were learning in school and their daily life” (Teacher 4).

Prevention of destructive thoughts. The implementation of the healthy plan offset the tendency of a few high schoolers to have destructive thoughts by keeping them occupied. Some adolescents carried out activities such as reading, painting, and exercising: “It helps me to stay distracted and busy, avoiding me starting to think about illogical or frustrating things” (Adolescent 4). This allowed them to clear their minds of various personal situations that affected their emotional well-being and caused them stress. Another juvenile added:

The pandemic plan made me change my habits and kept me distracted. Exercising and eating healthy helped me feel better and improve my physical condition; reading and painting helped me not to think about negative things and keep my mind occupied [Adolescent 2].

Satisfaction. Most high schoolers reported that the planned activities helped them to counter the mental and physical damage that the period of confinement was provoking in them. Therefore, it can be interpreted that the intervention had a positive effect on the adolescents and their families: “I carried out many activities; for example,

visiting my family and friends... All this was effective. The truth is that I had a good semester in terms of school and personal well-being” (Adolescent 1).

Additionally, one of the educators in the focus group complemented on this matter:

I believe that this project turned out to be a learning experience for all of us in the educational community as it gave us the opportunity to work together in a more systematic fashion. I can honestly say that all the students under my command who did the healthy life plan reported a positive educational experience [Teacher 1].

DISCUSSION

The execution of the action plan was a complex experience for both teachers and students. The main limitations that were encountered throughout the investigation were apathy on behalf of many students, a lack of basic abilities for learners to carry out research, a digital divide that hindered some adolescents in fulfilling the activity, and insufficient participation on the part of some teachers. Next, these constraints are further analyzed and contrasted with other recent studies found in scientific journals.

Apathy towards education is one of the most difficult challenges educators encounter in their everyday practice. According to Bosserman (2018), apathy can be perceived as a lack of interest or endurance from learners to succeed in school. Like in the study carried out by the researcher, many of the high schoolers in this investigation see the need to fulfill academic activities as just a step to acquiring a diploma that will allow them to get a job or perhaps be accepted into a university. However, institutional or personal factors are not discarded as being a motive for these teenagers not to feel academically motivated, just as other studies have shown (Miranda-López, 2018), which could have been the reason why some of the adolescents in this project did not attend the orientations made by their educators.

On the other hand, it is considered imperative to develop basic research skills in learners as these give way to critical thinking and allow them to learn to work or solve problems collaboratively, as stated by Garrison et al. (2019). In contrast with the experts’ investigation, this inquiry allowed an improvement not only on sociological issues but also in areas of opportunity to enhance learners’ academic skills in terms of research, collaborative work, and writing. For such a reason, it is fundamental to continue educational projects that have a social impact by striving to solve matters that are in the interest of society in general.

On another note, even when the research seemed to be focused on the adolescents, they had the freedom to involve family members. In this manner, there were some of them who indeed managed to get their relatives to participate in the project. Hence, it is imperative to remark that the 106 teenagers that formed part of this

study represent family members in the city of Culiacán, which means that all these families were favored in some of the ways through the implementation of the project.

In an emergent modality of education, it was expected to come across difficulties related to connectivity (Litchfield et al., 2021). In this case, a call is made for governments and educators all over the world to continue working on providing a formation through a humanistic approach since the adverse situations caused by the confinement are very complex to attend objectively or with strict teaching conditions. Nevertheless, active participation from all community members is necessary for every educational project (Krichesky & Murillo, 2018), especially in those with dimensions that involve efforts to offset the negative effects of the COVID-19 social lockdown.

CONCLUSIONS

To conclude, it can be said that the general purpose of the study was achieved. Therefore, it can be postulated in theory that the educational and social life experience of adolescents and families from Culiacán, Sinaloa, were improved through the execution of a healthy plan, carrying out different actions which positively impacted physical, emotional, and social dimensions, thereby preventing teenagers from destructive thoughts. Furthermore, most teenagers expressed satisfaction in implementing the project.

It is imperative to assert that action research is a methodology which inquires in contextual problems. Thus, the findings presented in this paper should not be looked at as a universal truth; instead, they ought to be a motivation for educational communities to undertake more social interventions that seek to offset the negative effects that the COVID-19 confinement caused on society. Simultaneously, the results can be compared with other investigations for researchers to consider similarities and differences.

On the other hand, the investigation may continue in other directions. In this case, post-confinement inquiries are necessary as society is suffering constant changes because of this sanitary contingency. For such matters, the following research questions are proposed: How can a healthy life plan impact the lifestyle in society in a post-confinement context? Or, to what extent can a healthy life plan benefit social, educational, psychological, and emotional dimensions? These and other interrogations might be formulated, but that greatly depends on each social context.

This intervention is another proof that the teacher-researcher movement is still alive under the critical educational science paradigm. However, unified actions should be looked forward to tackle social issues in order to get better results. It is a valid justification to opt for synergically prompted actions as education can be used as one of the most powerful platforms for many changes needed today in society.

REFERENCES

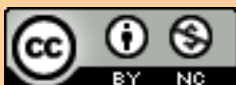
- Aman, F., & Masood, S. (2020). How nutrition can help to fight against COVID-19 pandemic. *Pakistan Journal of Medical Sciences*, 36(COVID19-S4), S121-S123. <https://doi.org/10.12669/pjms.36.COVID19-S4.2776>
- Andreu-Cabrera, E. (2020). Actividad física y efectos psicológicos del confinamiento por COVID-19. *Revista INFAD de Psicología—International Journal of Developmental and Educational Psychology*, 1(2), 209-220. <https://doi.org/10.17060/ijodaep.2020.n1.v2.1828>
- Ary, D., Jacobs, L. C., Sorensen, C., & Razavieh, A. (2010). *Introduction to research in education* (8th ed.). Wadsworth, Cengage Learning.
- Aslam, M., Majeed, S., Aslam, S., & Irfan, J. A. (2017). Vitamins: Key role players in boosting up immune response—A mini review. *Vitamins & Minerals Journal*, 6(1), 1-8. <https://doi.org/10.4172/2376-1318.1000153>
- Bosserman, L. (2018). *A case study of apathy and its effects in high school learners* (Publication No. 10825975) [Doctoral dissertation, Northcentral University]. ProQuest Dissertations & Theses Global. <https://www.proquest.com/openview/7232568df2d54ba07559fd70dcf7ad2b/1?pq-origsite=gscholar&cbl=18750>
- Bryant, A. (2017). *Grounded theory and grounded theorizing: Pragmatism in research practice*. Oxford.
- Canadian Paediatric Society, Digital Health Task Force, Ottawa, Ontario (2019). Digital media: Promoting healthy screen use in school-aged children and adolescents. *Paediatrics & Child Health*, 24(6), 402-417. <https://doi.org/10.1093/pch/pxz095>
- Carr, W., & Kemmis, S. (1986). *Becoming critical: Education, knowledge and action research*. Routledge Falmer.
- Charmaz, K. (2006). *Constructing grounded theory: A practical guide through qualitative analysis*. Sage.
- Chiu, N. C., Chi, H., Tai, Y. L., Peng, C. C., Tseng, C. Y., Chen, C. C., Tan, B. F., & Lin, C. Y. (2020). Impact of wearing masks, hand hygiene, and social distancing on influenza, enterovirus, and all-cause pneumonia during the coronavirus pandemic: Retrospective national epidemiological surveillance study. *Journal of Medical Internet Research*, 22(8), e21257. <https://doi.org/10.2196/21257>
- Cheng, V., Davenport, T., Johnson, D., Vella, K., & Hickie, I. B. (2019). Gamification in apps and technologies for improving mental health and well-being: Systematic review. *JMIR Mental Health*, 6(6), e13717. <https://doi.org/10.2196/13717>
- Cisneros-Puebla, C. A. (2003). Analisis cualitativo asistido por computadora. *Sociologias*, 5(9), 286-313. <https://www.redalyc.org/articulo.oa?id=86819565014>
- Cohen, L., Manion, L., & Morrison, K. (2018). *Research methods in education* (8th ed.). Routledge, Taylor and Francis Group.
- Fidalgo-Díaz, J., Cueto-Felgueroso, E. M., García-Martínez, G., García-Busto, O., Saá-Quintana, C., & Coya-Blanco, M. (2017). *Proyecto de vida saludable*. Consejería de Educación y Cultura. Dirección General de Ordenación Académica e Innovación Educativa. https://www.educastur.es/documents/10531/40652/2017-04_pub-apoyo_ProyectoVidaSaludable.pdf/3546bc6e-aa02-4cfb-8adb-94419a00da80
- Fowler, J. H., Hill, S. J., Levin, R., & Obradovich, N. (2021). Stay-at-home orders associate with subsequent decreases in COVID-19 cases and fatalities in the United States. *PLoS ONE*, 16(6), e0248849. <https://doi.org/10.1371/journal.pone.0248849>
- Friedman, E., & Krause-Parello, C. A. (2018). Companion animals and human health: Benefits, challenges, and the road ahead for human-animal interaction. *Revue Scientifique et Technique (International Office of Epizootics)*, 37(1), 71-82. <https://doi.org/10.20506/rst.37.1.2741>
- Frumkin, H., Bratman, G. N., Breslow, S. J., Cochran, B., Kahn, P. H., Jr, Lawler, J. J., Levin, P. S., Tandon, P. S., Varanasi, U., Wolf, K. L., & Wood, S. A. (2017). Nature contact and human health: A research agenda. *Environmental Health Perspectives*, 125(7), 075001. <https://doi.org/10.1289/EHP1663>
- Garrison, K., Fitzgerald, L., & Sheerman, A. (2019). “They should be called guiders”: Teachers and teacher librarians developing inquiry learners. *School Libraries Worldwide*, 25(2), 34-37. <http://dx.doi.org/10.14265.25.2.003>
- Ge, Z. Y., Yang, L. M., Xia, J. J., Fu, X. H., & Zhang, Y. Z. (2020). Possible aerosol transmission of COVID-19 and special precautions in dentistry. *Journal of Zhejiang University Science B-Biomedicine & Biotechnology*, 21(5), 361-368. <https://doi.org/10.1631/jzus.B2010010>

- Guíñez-Coelho, M. (2020). Impacto del COVID-19 (SARS-CoV-2) a nivel mundial, implicancias y medidas preventivas en la práctica dental y sus consecuencias psicológicas en los pacientes. *International Journal of Odontostomatology*, 14(3), 271-278. <https://dx.doi.org/10.4067/S0718-381X2020000300271>
- Hernández-Rodríguez, J. (2020). Impacto de la COVID-19 sobre la salud mental de las personas. *Medicentro Electrónica*, 24(3), 578-594. <http://www.medicentro.sld.cu/index.php/medicentro/article/view/3203>
- Hodgson, K., Barton, L., Darling, M., Antao, V., Kim, F. A., & Monavvari, A. (2015). Pets' impact on your patients' health: Leveraging benefits and mitigating risk. *Journal of the American Board of Family Medicine: JABFM*, 28(4), 526-534. <https://doi.org/10.3122/jabfm.2015.04.140254>
- Jiménez-Bandala, C., Peralta, J., Sánchez, E., Márquez-Olvera, I., & Arellano-Aceves, D. (2020). La situación del mercado laboral en México antes y durante la COVID-19. *Revista Internacional de Salarios Dignos*, 2(2), 1-14. <http://revistasinvestigacion.lasalle.mx/index.php/OISAD/article/view/2893>
- Klompas, M., Morris, C. A., Sinclair, J., Pearson, M., & Shenoy, E. S. (2020). Universal masking in hospitals in the COVID-19 era. *The New England Journal of Medicine*, 382(21), e63. <https://doi.org/10.1056/NEJMp2006372>
- Krichesky, G. J., & Murillo, F. J. (2018). La colaboración docente como factor de aprendizaje y promotor de mejora. Un estudio de casos. *Educación XX1*, 21(1), 135-155. <https://doi.org/10.5944/educxx1.20181>
- Lewin, K. (1948). *Resolving social conflicts: Selected paper on group dynamics*. Harper & Row.
- Leung, N. H. L., Chu, D. K. W., Shiu, E. Y. C., Chan, K. H., McDevitt, J. J., Hau, B. J. P., Yen, H. L., Li, Y., Ip, D. K. M., Peiris, J. S. M., Seto, W. H., Leung, G. M., Milton, D. K., & Cowling, B. J. (2020). Respiratory virus shedding in exhaled breath and efficacy of face masks. *Nature Medicine*, 26(5), 676-680. <https://doi.org/10.1038/s41591-020-0843-2>
- Litchfield, I., Shukla, D., & Greenfield, S. (2021). Impact of COVID-19 on the digital divide: A rapid review. *BMJ Open*, 11, e053440. <https://doi.org/10.1136/bmjopen-2021-053440>
- Miranda-López, F. (2018). Abandono escolar en educación media superior: conocimiento y aportaciones de política pública. *Sinéctica*, (51), 00010. [https://doi.org/10.31391/s2007-7033\(2018\)0051-010](https://doi.org/10.31391/s2007-7033(2018)0051-010)
- Montag, C., & Reuter, M. (2017). Molecular genetics, personality, and internet addiction. In C. Montag & M. Reuter (eds.), *Internet addiction: Neuroscientific approaches and therapeutic implications including smartphone addiction* (2nd. ed.) (pp. 141-150). Springer.
- Mygind, L., Kjeldsted, E., Hartmeyer, R. D., Mygind, E., Bølling, M., & Bentsen, P. (2019). Immersive nature-experiences as health promotion interventions for healthy, vulnerable, and sick populations? A systematic review and appraisal of controlled studies. *Frontiers in Psychology*, 10, 943. <https://doi.org/10.3389/fpsyg.2019.00943>
- Nivela-Cornejo, M. A., Echeverría-Desiderio, S. V., & Espinosa-Izquierdo, J. G. (2019). Los proyectos integradores de saberes en el aprendizaje adaptativo. *Espirales Revista Multidisciplinaria de Investigación*, 3(25), 124-144. <https://doi.org/10.31876/er.v3i25.635>
- Peter, J., Valkenburg, P. M., & Schouten, A. P. (2005). Developing a model of adolescent friendship formation on the internet. *Cyberpsychology & Behavior: The Impact of the Internet, Multimedia and Virtual Reality on Behavior and Society*, 8(5), 423-430. <https://doi.org/10.1089/cpb.2005.8.423>
- Pratomo, H. (2020). From social distance to physical distance: A challenge for evaluating public health interventions against COVID-19. *Kesmas: Jurnal Kesehatan Masyarakat Nasional (National Public Health Journal)*, 0. <http://dx.doi.org/10.21109/kesmas.v15i2.4010>
- Roque-Garay, A., & Segura-Segura, M. E. (2017). Promoción de estilos de vida saludable en el entorno familiar. *Nutrición Clínica y Dietética Hospitalaria*, 37(4), 183-188. <http://dx.doi.org/10.12873/374roquegaray>
- Salathé, M., Althaus, C. L., Neher, R., Stringhini, S., Hodcroft, E., Fellay, J., Zwahlen, M., Senti, G., Battegay, M., Wilder-Smith, A., Eckerle, I., Egger, M., & Low, N. (2020). COVID-19 epidemic in Switzerland: On the importance of testing, contact tracing and isolation. *Swiss medical weekly*, 150, w20225. <https://doi.org/10.4414/smww.2020.20225>
- Stiglic, N., & Viner, R. M. (2019). Effects of screentime on the health and well-being of children and adoles-

- cents: A systematic review of reviews. *BMJ Open*, 9(1), e023191. <https://doi.org/10.1136/bmjopen-2018-023191>
- Stringer, E. T. (2007). *Action research* (3rd. ed.). Sage.
- Tala, Á., Vásquez, E., & Plaza, C. (2020). Estilos de vida saludables: una ampliación de la mirada y su potencial en el marco de la pandemia. *Revista Médica de Chile*, 148(8), 1189-1194. <https://dx.doi.org/10.4067/S0034-98872020000801189>
- Watkins, D. C. (2017). Rapid and rigorous qualitative data analysis: The “RADaR” technique for applied research. *International Journal of Qualitative Methods*, 16, 1-9. <https://doi.org/10.1177/1609406917712131>
- White, M. P., Yeo, N. L., Vassiljev, P., Lundstedt, R., Wallergård, M., Albin, M., & Löhmus, M. (2018). A prescription for “nature” – the potential of using virtual nature in therapeutics. *Neuropsychiatric Disease and Treatment*, 14, 3001-3013. <https://doi.org/10.2147/NDT.S179038>
- Yorde-Erem, S. (2014). Cómo lograr una vida saludable. *Anales Venezolanos de Nutrición*, 27(1), 129-142. <https://www.analesdenutricion.org.ve/ediciones/2014/1/art-18/>
- Yousafzai, A. K., Rasheed, M. A., & Bhutta, Z. A. (2013). Annual research review: Improved nutrition—pathway to resilience. *Journal of Child Psychology and Psychiatry, and Allied Disciplines*, 54(4), 367-377. <https://doi.org/10.1111/jcpp.12019>

Cómo citar este artículo:

Pineda Castillo, K. A. (2022). Adolescents’ fight against the negative effects of the COVID-19 social lockdown: case of Culiacán, Sinaloa, México. *IE Revista de Investigación Educativa de la REDIECH*, 13, e1538. https://doi.org/10.33010/ie_rie_rediech.v13i0.1538



Todos los contenidos de *IE Revista de Investigación Educativa de la REDIECH* se publican bajo una licencia de Creative Commons Reconocimiento-NoComercial 4.0 Internacional, y pueden ser usados gratuitamente para fines no comerciales, dando los créditos a los autores y a la revista, como lo establece la licencia.