Addressing COVID-19 Misinformation and Resiliency Among Latinos Living With HIV: Formative Research Guiding the Latinos Unidos Microgame Intervention

Victoria Orrego Dunleavy¹, Regina Ahn¹, Daniel Mayo², and Lindsay D. Grace¹

Abstract

Besides the risk of coronavirus disease 2019 (COVID-19) itself, the indirect and unprecedented effects of mitigation strategies including shelter-in-place orders and social distancing combined with the widespread COVID “infodemic” disseminated by media interacted synergistically to worsen already compromised mental health outcomes of Latino people living with HIV (PLWH). This funded project directly addresses the sources of health disparity in Miami Dade County: mental health and misinformation by developing a culturally tailored resilience and media literacy intervention for Latinos living with HIV. Extant research on resilience strategies and media literacy skills have documented their effectiveness in assisting individuals make realistic appraisals and informed decisions that could benefit their health outcomes and improve health-related challenges. We utilized a community-based approach by collaborating with two local community partners (Open Arms and Borinquen) and conducting 27 qualitative interviews with Latino PLWH, infectious disease providers, and community health workers who directly informed content of the Latino Unidos microgame intervention. This article describes the formative research process guiding the Latinos Unidos microgame intervention—a three-module gamified intervention. Study outcomes provide the foundation for media and educational strategies that increase adherence to health guidance and enhance mental health responses to adversity as a response to the COVID-19 pandemic.

¹School of Communication, University of Miami, Coral Gables, FL, USA
²College of Public Health, National Taiwan University, Taipei

Corresponding Author:
Victoria Orrego Dunleavy, School of Communication, University of Miami, 5100 Brunson Drive, Coral Gables, FL 33146, USA.
Email: vorrego@miami.edu
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Introduction

The emergence of the coronavirus disease 2019 (COVID-19) pandemic created another health burden for people living with HIV (PLWH) who face multiple morbidities and are at heightened risk for severe physical health illness from COVID19 (NIH Office of AIDS Research Advisory Council, n.d). Besides the risk of COVID-19 disease itself, the indirect and unprecedented effects of mitigation strategies including shelter-in-place orders and social distancing combined with the widespread COVID “infodemic” disseminated by media (Bridgman et al., 2020) interacted synergistically to worsen already compromised mental health outcomes and medical treatment of PLWH (Gwadz et al., 2021). This funded project directly addresses these sources of vulnerability for Latino PLWH by developing a community engaged media literacy intervention, designed to engender trust, during an evolving and confusing pandemic environment. Extant research on resilience strategies (Dulin et al., 2018) and media literacy skills (Austin et al., 2021; Jeong et al., 2012) have documented effectiveness in assisting individuals to make realistic appraisals and informed decisions that could benefit their health outcomes. We utilized participant triangulation of community educators (CE), infectious disease (ID) providers, and Latino PLWH to assist in the development of intervention content. Furthermore, we utilize an engaging and novel microgame platform (Grace et al., 2015) that could be mobilized to protect the mental health of Latino PLWH as well as promote HIV care during a pandemic. This article describes the formative research guiding the development the Latinos Unidos microgame prototype.

Pandemic-Related Mental Health Consequences Among Latino PLWH

Mental health and substance use concerns (e.g., depression, anxiety, alcohol, and other substance use; Clucas et al., 2011; Haldane et al., 2017; Sherr et al., 2011) disproportionally affect PLWH, compared to those living without HIV. Since the start of the COVID-19 pandemic, mental health and substance use concerns have increased among the global population of PLWH (Ekstrand et al., 2022; Parisi et al., 2022; West et al., 2022). Latino PLWH, in particular, have experienced increased anxiety, depression, and alcohol or substance use throughout the COVID-19 pandemic (Gutiérrez-Velilla et al., 2022; Harkness et al., 2022; Wang et al., 2022). Despite the increased challenges PLWH experience, resilient coping strategies help ease the impact of the COVID-19 pandemic on mental health (Baum et al., 2022; Guaraldi et al., 2022; Parisi et al., 2022). Similar findings have been identified among Latino PLWH in Argentina and Mexico (Ballivian et al., 2020; Pérez-Gómez et al., 2022).

Resilience employs many adaptive coping strategies, including problem solving by taking on problems directly, realistic appraisals of problems, noticing and changing unhealthy emotional reactions, and avoiding adverse effects on the body (Rosenberg,
The buffering impact of adaptive coping reduces the potential for unmanageable depression and anxiety, both of which can increase the likelihood of poor behavioral (nonadherence) and immunological outcomes (Novotney, 2019). These strategies can be taught and learned and therefore underscore the benefits of offering resilience training to Latino patients living with HIV in the context of the COVID-19 pandemic.

**Misinformation and Media Literacy During a Pandemic**

The COVID-19 pandemic has also been accompanied by the “infodemic”—a global spread of misinformation that poses a serious problem for public health. Infodemics have the capacity to change transmission patterns and consequently the scale and lethality of a pandemic (Kim et al., 2019). Ubiquitous, heightened, and perpetual media exposure to the COVID-19 crisis may influence viewers to inadequately anticipate the seriousness to their families and friends, generating amplified anxiety, intense stress reactions that may generate long-term consequences on health, disorganized health-protective and help-seeking behaviors, congesting medical care facilities, and putting pressure on available resources (Garfin et al., 2020). In addition, public trust can by undermined via the dilution of reputable sources in the face of constant evolving new scientific pandemic information (The Lancet Infectious Diseases, 2020). During the lockdown period, citizens were isolated, relying heavily on digital media. As a result, individuals faced complex and contradictory misinformation and disinformation, which triggered mental health issues (Brørs et al., 2020).

Media literacy facilitates the ability to access, analyze, evaluate, create, and act using all forms of communication (see for more detail National Association for Media Literacy Education, n.d.; Potter, 2013). Media literacy interventions work by helping individuals become informed, active, and discriminating participants in the communication process rather than passive message targets. A meta-analysis concluded that media literacy interventions had positive effects on outcomes including media knowledge, criticism, perceived realism, influence, behavioral beliefs, attitudes, self-efficacy and behavior (Jeong et al., 2012). Incorporating media literacy interventions for PLWH has the potential to help them critically examine the COVID information available online and dispel myths or misinformation that may be available or portrayed. Factual accurate information seeking when confronted with insecurity is possibly an adaptive behavior, enabling individuals to make rational decisions regarding keeping themselves safe (Wiederhold, 2020). The pandemic may have a long-standing effect on the increased use of online HIV and health services, thus making it important for clinicians, researchers, and policymakers to quickly navigate and identify the large amounts of health misinformation online (Garett & Young, 2022). Therefore, as Austin et al. (2021) and Garett and Young (2022) conclude, the rise of misinformation during the COVID-19 pandemic necessitates including media literacy education as an important feature in forthcoming health promotion campaigns.
Games for Health

The widespread use of the internet among our sample for COVID-19 health information suggested that an online intervention platform is well suited as a media channel to reach Latino PLWH. Online interventions have been efficient, convenient, and salient platform through which to address HIV prevention needs (Muessig et al., 2018; Nelson et al., 2020). Therefore, we capitalized on the internet’s suitability to develop an engaging and novel media literacy and resilience intervention for Latino PLWH.

Games designed to address educational goals and serve as interventions to a myriad of health needs is nothing new (Wei & Lio, 2009). Prior work has helped shape a global perspective on what works and what does not for topics ranging from the complexities of cancer (Gerling et al., 2011) to behaviors in dental health (Rikawarastuti et al., 2018). The best practices for such work have been developed through iterative design practices that match the specific needs of the support community with specific game design propensities (Thompson, 2012). Games designed under the weight of these more traditional design approaches require significant resource outlay and time. They also tend to produce larger games, as the additional superficial and design features bloat the game experience and may sometimes distract from the core goals of the project (Grace et al, 2015). Much like the evolution experienced in the entertainment games industry, large educational games are in need of a lean process and design approach (Grace et al, 2015). In contrast to the trend toward large-scale, immersive games that aspire toward the polish and experience of conventional commercial games, we opted for a leaner and more adaptive microgame platform (Grace et al., 2015). Given the growth of simple mobile games as its model, this project utilizes the small-scale game experience, which forms the common basis of many leading contemporary mobile games (Grace et al., 2015). Microgames target very specific knowledge and skills, are easy to understand, and can be delivered across a variety of platforms (desktop, mobile, web-based, or apps). Microgames are smaller than average games that seek efficacy through short burst of play (Rahmadi, 2021). They are similar to public service announcements in scale. In comparison to traditional games, which may take hours to play, these games are designed to be played in minutes, repeatedly. They are the Wordles (n.d.) of game design experiences. Microgames have been successfully evaluated in educational assessment contexts (Grace et al, 2015) and as a general tool for creative social impact (Grace, 2019). Given the evolving nature of the pandemic, which requires rapid communication of health and prevention-related information whose content changes over time, microgames are well suited for this context. This work embraces a novel opportunity for health intervention design using a microgame platform in the context of COVID-19 misinformation and adaptive coping strategies.

Therefore, we developed Latinos Unidos, a media literacy and resilience skill intervention leveraging visual and technological microgame application to increase engagement and efficacy. We utilized a community-based approach by working with two local community partners (Open Arms and Borinquen) and by conducting
interviews from three perspectives: Latino PLWH, ID providers, and community health workers. The objective of the present study was to uncover the necessary features to guide intervention content. This is a descriptive study, and we do not offer formal hypotheses. In particular, we identified responses pertaining to existing levels of media literacy levels surrounding COVID-19 information and misinformation, and coping strategies used during the pandemic. We developed three microgame modules addressing media literacy needs and reflecting adaptive coping strategies used in response to stressful pandemic scenarios. All content was created in collaboration with our community partners from this triangulated participant formative data.

**Method**

**Sample**

Two members of the research team conducted 27 in-depth, semi-structured interviews in English or Spanish. Participants consisted of (1) Latinx PLWH recruited from a local HIV clinic (n = 12), as well as (2) CE (n = 10) and ID providers (n = 5) from two partner organizations in Miami (Borinquen and Open Arms) who work with Latinx PLWH. Among PLWH (M = 41.57; SD = 8.81), approximately half of the identified as White (58%), heterosexual (58%), male (50%) and non-US-born (50%). CE and ID providers worked with the PLWH community for an average of 11.00 years (8.14), and more than half identified as male (53%) and heterosexual (67%; see Table 1 for more demographic information).

**Procedure**

All 27 qualitative interviews were be conducted by the two trained research assistants via Zoom. Interviews were recorded, transcribed, and translated into English for further analysis. About 12 interviews were with Latinx PLWH, 5 interviews with ID providers (IDP), and 10 with community health workers, respectively (N = 27). To confirm cultural congruity, the interview guide was reviewed by our local partners: Borinquen and Open Arms. Volunteer sampling was used to recruit the 12 Latinx PLWH interview participants. They were recruited from the consent-to-contact database of University of Miami/Jackson Memorial Hospital (UM/JMH) HIV Clinic Patients. The interviews were conducted in either Spanish or English, depending on participant preference. Volunteer sampling was used to recruit Borinquen and Open Arms community health staff working with Latinx PLWH. Five IDP were voluntarily recruited from UM/JMH HIV clinics. IDP were compensated $50 and PLWH and community outreach workers were compensated $35 for their participation.

**Interview Guide**

The interview guide was developed by the research team to identify factors that could enhance competencies in media literacy and resilience skill building among Latinx
Table 1. Participant Characteristics.

|                      | People living with HIV (n = 12) | Medical providers and CE (n = 15) |
|----------------------|---------------------------------|---------------------------------|
| **Age**              | 41.75 (8.81)                    | 47.07 (11.30)                   |
| **Gender identity**  |                                 |                                 |
| Male                 | 6 (50.0%)                       | 8 (53.3%)                       |
| Female               | 5 (41.7%)                       | 7 (46.7%)                       |
| Decline to answer    | 1 (8.3%)                        | 0 (0.0%)                        |
| **Sexual orientation** |                                 |                                 |
| Heterosexual         | 7 (58.3%)                       | 10 (66.7%)                      |
| Gay                  | 2 (16.7%)                       | 4 (26.7%)                       |
| Bisexual             | 1 (8.3%)                        | 0 (0.0%)                        |
| Unsure               | 1 (8.3%)                        | 0 (0.0%)                        |
| Decline to answer    | 1 (8.3%)                        | 0 (0.0%)                        |
| **Education level**  |                                 |                                 |
| Less than high school| 3 (25.0%)                       | 0 (0.0%)                        |
| High school diploma or equivalent | 4 (33.3%) | 1 (6.7%)                      |
| Some college         | 5 (41.7%)                       | 2 (13.3%)                       |
| College or university degree | 0 (0.0%) | 12 (80.0%)                   |
| **COVID-19 vaccination** |                                 |                                 |
| Yes, at least one dose | 7 (58.3%)                       | 13 (86.7%)                      |
| No, but plan to get it | 3 (25.0%)                       | 1 (6.7%)                        |
| No, will wait to see how it works | 2 (16.7%) | 0 (0.0%)                      |
| Decline to answer    | 0 (0.0%)                        | 1 (6.7%)                        |
| **Race**             |                                 |                                 |
| White                | 7 (58.3%)                       | —                               |
| Black                | 1 (8.3%)                        | —                               |
| Decline to answer    | 4 (33.3%)                       | —                               |
| **Employment status** |                                 |                                 |
| Full-time (>30 hours) | 5 (41.7%)                       | —                               |
| Part-time (<30 hours) | 1 (8.3%)                        | —                               |
| Looking for work     | 1 (8.3%)                        | —                               |
| Disability           | 4 (33.3%)                       | —                               |
| Decline to answer    | 1 (8.3%)                        | —                               |
| **Income level**     |                                 |                                 |
| $200–$499            | 1 (8.3%)                        | —                               |
| $500–$999            | 5 (41.7%)                       | —                               |
| $1,000–$1,999        | 1 (8.3%)                        | —                               |
| $2,000 or more       | 3 (25.0%)                       | —                               |
| Decline to answer    | 2 (16.7%)                       | —                               |
| **Insurance status** |                                 |                                 |
| Obama care           | 1 (8.3%)                        | —                               |
| Medicaid and/or Medicare | 4 (33.3%)                     | —                               |

(continued)
Table 1. (Continued).

|                                | People living with HIV (n = 12) | Medical providers and CE (n = 15) |
|--------------------------------|---------------------------------|----------------------------------|
| Pvt/HMO from work/spouse       | 1 (8.3%)                        | —                                |
| Ryan White                     | 5 (41.7%)                       | —                                |
| Decline to answer              | 1 (8.3%)                        | —                                |
| Nativity                       |                                 |                                  |
| Argentina                      | 1 (8.3%)                        | —                                |
| Cuba                           | 2 (16.7%)                       | —                                |
| Nicaragua                      | 1 (8.3%)                        | —                                |
| Peru                           | 1 (8.3%)                        | —                                |
| USA                            | 6 (50.0%)                       | —                                |
| Decline to answer              | 1 (8.3%)                        | —                                |
| US citizenship                 |                                 |                                  |
| US citizen                     | 9 (75.0%)                       | —                                |
| Permanent resident             | 1 (8.3%)                        | —                                |
| Awaiting residency             | 1 (8.3%)                        | —                                |
| Decline to answer              | 1 (8.3%)                        | —                                |
| Role within organization       |                                 |                                  |
| Infectious disease physician   | —                               | 5 (33.3%)                        |
| Social worker/case manager     | —                               | 4 (26.7%)                        |
| Outreach/CE                    | —                               | 2 (13.3%)                        |
| Other health care professional | —                               | 3 (20.0%)                        |
| Years in role                  | 11.00 (8.14)                    |                                  |

Note. HIV = human immunodeficiency virus; CE = community educator; COVID-19 = coronavirus disease 2019; HMO = health maintenance organizations.

PLWH living through the pandemic. Bilingual/bicultural interviewers asked participants about their perceptions surrounding COVID-19 risk perceptions, media literacy, mental health, resilient coping, and suggestions for intervention messaging, theme, and platform for dissemination. NVivo 12.0 was used to sort and analyze interview the data. Constant comparative analytical method was used to identify themes, reflecting the participants’ responses (Corbin & Strauss, 2008). During the first state of coding, two researchers read the transcripts independently and then worked together using open coding to develop initial themes surrounding the interview themes. After completing open coding, researchers worked individually again, using axial coding. Axial coding provided more focused comparisons between themes in order to identify unique properties of each theme. The research team met frequently and compared their results in order to ensure congruency. The team shared results with the community partners who confirmed their accuracy as witnessed in their experiences with patients and community members they serviced. Interviews were conducted from June through August 2021, a year into the pandemic and during the vaccine roll out.
Results

We identified several emerging themes that directly informed intervention content: COVID-19 information and beliefs, sources of COVID-19 information, media literacy (access, understanding, appraisal, and application of media), sources for COVID-19 campaign, platform for delivering COVID-19 campaign, messaging for COVID-19 campaign, and themes surrounding resiliency: coping skills, and resilience. For the purposes of this article, we report collapsed data across our three groups, as there was a great amount of overlap in responses. We will use Latino PLWH as the reference group confirmed by the IDP and CE.

COVID-19 Information and Beliefs

Analysis yielded three central concerns PLWH held regarding COVID-19 and their HIV status. First, there was a concern about COVID vaccine and how it would affect HIV status, “Just that they’ll die. They believe it’s a death sentence. That if they catch covid that’s it it’s the end for them. You know, which increases their anxiety and their isolation.” (207, CE). Second, participants noted the vast amount of misinformation about COVID-19. “There was someone that kind of put in my head that since I already take antivirals that I have a benefit.” (102, PLWH). Third, participants noted the seemingly contradictory information on the COVID-19 vaccine, which lead to confusion “You know, changing of information, as we find out more about the virus every week, and it was hard to keep up with what was going on.” (303, IDP)

Sources of COVID-19 Information

Providers were mentioned as the most common information source. This is understandable as all our PLWH were obtained through an existing clinical database, so patients were all currently linked to HIV care. The news (on television and online) as well as social media was next cited. Followed by family and friends then state and local agencies that were accessed online.

Media Literacy

We analyzed the presence of four aspects of media literacy surrounding COVID-19 information: access, understanding, scrutinizing, and applying. Regarding access, all respondents noted that the amount of information received from their sources was sufficient. They did not feel the need for additional information. They were able to easily access the internet and conduct online searches for information. However, participants characterized that information as difficult to understand, and more clarity and explanation was needed, “I don’t think that the information is easy to understand for everybody. When they talk about the RNAs or when they talk about the percentage of coverage, I think that is very complex information. It’s not until they sit with someone that understands that like a doctor or the pharmacist that they are able to fully understand it. I don’t think that they
Participants also reported a level of distrust and uncertainty with the information they received,

“I think a lot of people, a lot of my patients have lost a lot of trust over the system and the government and who’s best interest the government or the system is looking forward to.” (208, CE) (see Table 2 for list of unknown information). Regarding the appraisal dimension, participants reported wanting assistance with identifying misinformation and how to verify sourcing and accuracy of messages, “I’ve had the experience of buying into misinformation and then getting owned for lack of a better term on the Internet. Like here are my opinions and here’s why I’m right and then someone goes actually you’re wrong and here’s links proving why you’re wrong.” (112, PLWH). They mentioned the need to practice fact checking and dispelling myths, “I definitely don’t take what they to be the full truth, you have to take it easy, take that in, and then rip in and then compare it to something else that you heard of.” (102, PLWH; see Table 3 for list of myths held). In terms of application of information, participants did mention the goal of wanting to share correct information so that their family and community could comply with the preventive measures, “Well, I know, most of my friends and family don’t want to get it, because they’re scared of the side effects, but like I tell them you know, everybody’s body is different, don’t be scared because it’s better to get vaccinated, you’ll be a little bit more protected.” (110, PLWH).

**Coping Skills**

Respondents stated that the pandemic caused much stress, anxiety, and uncertainty. Consequently, they reported a variety of adaptive coping strategies ranging from practicing self-care, receiving health care, to utilizing preventive measures, turning to spirituality, and family/community (see Table 4).

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**Table 2.** Module I.

| List of common questions |
|--------------------------|
| Which vaccine is the best for HIV positive people? |
| How does the vaccine affect HIV status? |
| What is the difference among the three types of vaccines? |
| How effective (e.g., duration, new variants) is the vaccine? |
| Why is a booster dose of vaccine needed? |
| How often will I need to get the vaccine? |
| What are the side effects of the vaccine? |
| Why do I have to wear a mask again? |
| How much does the vaccine cost? |
| Why do we still need to social distance? |
Table 3. Module 2.

List of myths

HIV antiretroviral medication will protect from COVID-19
People with O blood type are protected from severe COVID-19 infection
Vaccine will alter DNA
A microchip is implanted at vaccine site
Magnetic field is implanted at vaccine site
Nanobots implants and activated by 5G use
Vaccine causes infertility
COVID-19 is not that severe
Hospitals inflate because get paid for COVID-19 deaths
Vaccine was made too quickly and is not safe
Johnson & Johnson vaccine causes blood clots and illness

Table 4. Module 3.

List of coping strategies

COVID-19 mitigation strategies (e.g., masks, distancing)
Information seeking
Spiritual and religious activities
Leisure activities (e.g., exercise, television)
Social assistance and support services
Financial assistance and support services
Behavioral health services (e.g., therapy, support groups)
Supportive network of family and friends

Resilience

Participants shared their resilient approaches ranging from being adaptive and proactive to maintaining a positive outlook and avoiding adversity (see Table 5).

Sources for Campaign Content

Participants reported a preference for credible medical and governmental agencies, “I usually go to the CDC website because it’s the CDC. But I figure that if it’s there, it should be pretty accurate versus going to just Googling it.” (104, PLWH). “We get it from the CDC, so I mean it’s not like we’re just kind of making these things up to make them believe or persuade them into getting the vaccine so. I mean above all we’re just trying to keep everyone safe and healthy.” (203, CE).

Campaign Platform

The preferred campaign platform was an online medium that could be easily reached by the community. Use of social media or web applications was also mentioned.
Respondents expressed a desire for more engaging and entertaining content that could be easily understood and motivate preventive behaviors, “I think that utilizing social media. Because it’s the same way that they receive the other information. Because in today’s word to make a flyer, doesn’t work. People will see it, they may take it, but they won’t read it. If you put it on social media, then they’ll pay attention. I think that’s the best route.” (211, CE).

Aside from the internet, participants mentioned working with their medical providers and their local community outreach centers, “they trust their doctors; they believe in them and believe in medicine.” (207, CE).

**Campaign Messaging**

Participants suggested enhancing correct COVID-19 information to educate and reduce fear, “promoting the vaccine is something to help get back to normal. To basically help the world move past this I think is a little more effective than saying like get the vaccine, so you don’t die or more fear-based stuff.” (301, IDP). Some themes expressed optimism by getting back to normal, “I think that if we are able to send the message that it will take us back to a normal life that you can visit your friends and have more in contact with them.” (305, IDP). Another theme was having more family time and enhancing the health of the Latino Community, “Okay, so I know that the Latino community are big on family, and they’re just social people, they just want to be able to socialize. So if we can do tailoring to that, like the family.” (207, CE). Respondents also mentioned using English and Spanish to ensure reach to as many Latinos in their communities, “I would speak English and Spanish with them, and I have a Creole navigator. We can talk in patients’ language for sure” (304, IDP).

**Discussion**

The current study takes a community-engaged approach to identify factors to enhance media literacy and resiliency, centering the voices of Latinx PLWH members and individuals who provide services to the Latinx PLWH community. To achieve a culturally congruent campaign design, we have formed partnerships with two local community centers in Miami (Borinquen and Open Arms), who are assisting in intervention

| Table 5. Module 3. |
|--------------------|
| **List of resiliency strategies** |
| Need to be strong and adaptive to new challenges |
| Self-sufficiency mitigates stress |
| Ability to acknowledge issues and problems |
| Flexible and growth-oriented mindset |
| High threshold for stress |
| Positive and optimistic outlook |
| Social connectedness |
development, and they will assist in the second phase of the study that tests acceptability and feasibility. The researchers have used this data to design a culturally appropriate microgame prototype, including a logo, title, and slogan (see Figure 1).

Formative data amplifying the themes of optimism, family, and culture led to our logo and slogan, “Latinos Unidos Contra COVID-19,” which represents the participants’ desires for community empowerment through learning how to use media literacy and adaptive coping strategies to effectively navigate through the COVID-19 pandemic while living with HIV. Study results also indicated that the target population prefers an online platform that would be engaging and entertaining. Misinformation poses a threat for Latinos, who are large consumers of social media content that quite often is not fact checked and spread rapidly (Nielsen, 2021). Latinos are also seeking to prioritize their health and manage COVID impacts while being bombarded with large amounts of health information online (Nielsen, 2021). It is important to meet them where they are already encountering much of their COVID health information with a novel strategy that could engage them actively through play. Therefore, we developed three preliminary microgame prototype modules: covid quiz, myth busters, and making health choices.

Module 1 (COVID quiz) is designed to test participants’ knowledge of verifying sources and information as well as knowledge about COVID-19 transmission and preventive behaviors. Content was obtained directly from data assessing participants present media literacy skills of access and understanding. Our participants have access to online sources and are linked to care, so pandemic information was accessed and already available to them. However, there were still items of doubt and uncertainty. We included content that participants were uncertain about (see Table 2). The COVID quiz is designed to reinforce correct answers and point respondents to credible sources and verification processes in a gamified quiz platform where players earn points and high scores. This module emphasizes accessing trusted sources with accurate information and to keep abreast of the evolving scientific information.
Module 2 (Myth busters) is designed to reinforce content from the COVID quiz by having players appraise information and remove false information from correct information set in a social media context (i.e., message board). This module addresses the media literacy skill of appraising information (judging for accuracy of information). Formative data identified commonly held myths that were the basis for this second module’s content (see Table 3). Module two content is designed to build a player’s confidence in identifying misinformation, a skill that was specifically requested from respondents. The goal is to reduce uncertainty and bolster confidence in accurate information so individuals can share with others, adopt, or continue enacting preventive behaviors. COVID information is shared and spread widely. We look at our participants as potential community advocates for sharing accurate health information by directly discussing information or sharing the links to our microgame modules.

Module 3 (Making health choices) engages players with real life scenarios of coping with pandemic related stress (see Tables 4 and 5). Module 3 takes players on five pandemic scenarios where the player has to make a choice on how to cope. The making health choices module provides context and consequences associated with each coping decision. This module addresses the application of behavioral choices and reinforces the importance of adaptive coping strategies to enhance resilient outcomes. This module builds on our formative data and prior research demonstrating that resilient coping strategies help ease the impact of the COVID-19 pandemic on mental health (Baum et al., 2022; Parisi et al., 2022; Guaraldi et al., 2022). As survivors of HIV, our participants have some knowledge over pandemics and ID management, which helped them adapt to COVID-19 prevention policies (Gwadz et al., 2021).

It is important to note that these models are in prototype development and have not moved beyond that at present. Currently, our community partners have viewed two of the modules as the third is still in development. The feedback is positive and notes the novel, entertaining, and engaging nature of the platform as nothing like this has been utilized before. We have kept up with the evolving scientific information and have modified content as needed. An advantage to this microgame platform is that it lends itself to the flexible nature of evolving pandemic information. Upon completion and viewing of the third module by our local partners, we will then move to phase two of this study, which is assessing acceptability and feasibility.

The study design faced some limitations. The study recruited Latino PLWH from a database of patients using the UM/Jackson Health Care System. Receiving care and services during the pandemic illustrated that this cross section of participants had access to reliable internet and interfaced with their providers and online information regularly, which may not be representative of the larger PLWH population who is not linked to care. In a similar vein, this study is being conducted in an urban high-risk area with an established HIV prevalence that has a service-rich environment, and results may not generalize to other regions of the country that do not have the same level of services. Regardless, we were able to use respondent triangulation to include medical providers and community health workers directly involved in HIV care during the pandemic. These multiple perspectives function to validate our results through cross-verification (Rothbauer, 2008).
In addition, this prototype intervention is not intended to be comparable to or replace traditional media literacy and psychological resilience interventions that are far more instructional, interactive, content, and skill focused. Instead, we are adapting to an environment of online misinformation requiring a flexibility to address the evolving science information with people who are already familiar with handling health care (HIV care). The selection of the microgame may be a suitable platform for disseminating rapid communication of health and prevention related information whose content changes over time.

In sum, the novel corona virus SARS-CoV-2 requires novel approaches to combat the unprecedented mental health burdens of a global pandemic. Formative data revealed these important features and is reflected in the Latinos Unidos community partnerships, content, and platform. Pandemic response will continue to evolve, and it is necessary to document the multifaceted sources of stress that inform risk perceptions and health decision-making during a pandemic. Our formative data provided information underscoring how an at-risk and vulnerable group, Latinx PLWH, can persevere during COVID-19. This intervention could be adapted to similar urban Latinx communities, and it is in line with the NIH priority of reducing health disparities among individuals at the intersection of HIV and COVID-19 related health risks. Study findings highlight key factors that need to be addressed and concrete, actionable suggestions in order to develop and deliver culturally relevant information strategies to improve Latino PLWH’s media literacy and resiliency in a novel and engaging microgame platform.

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**ORCID iD**

Victoria Orrego Dunleavy [https://orcid.org/0000-0002-7106-9449](https://orcid.org/0000-0002-7106-9449)

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Author Biographies

Victoria Orrego Dunleavy is Associate Professor of Communication at the University of Miami School of Communication Department of Communication Studies. Dr. Orrego’s research focuses on addressing health disparities in HIV prevention and maternal health utilizing a community engaged approach.

Regina Jihea Ahn is an Assistant Professor in the Department of Strategic Communication at University of Miami School of Communication. Dr. Ahn’s research aims to explore how to educate media effects and media literacy skills to people from different backgrounds and cultures.
Lindsay Grace is Knight Chair in Interactive Media, Director of the MFA in Interactive Media and Associate Professor at the University of Miami School of Communication. His research focuses on the design and development of persuasive play, social impact games and ludic education.

Daniel Mayo is a master’s student in the College of Public Health at National Taiwan University. His research interests include HIV prevention among sexual minority men and the role of structural factors on HIV risk.