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A Case Study of Peruvian Students in Home Isolation During the COVID-19 Pandemic

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The Directors of Maharishi Vedic Research Institute acknowledge the Yugambeh, Mununjali, and Bundjalung people, the Traditional Custodians of the Country where we live and work. The Directors pay respect to their Elders, past, present and emerging, and acknowledge all Aboriginal and Torres Strait Islanders and all First Nations people who work with MVRI.

SUMMARY

Most of the literature that has emerged about the impacts of home isolation during the COVID-19 pandemic suggests it causes mildly to acutely adverse psychosocial and physiological responses, particularly in children. Such responses relate to the separation children experience from their normal routine, including loneliness, anxiety, and depression, and adversities associated with school performance.

In this case study, we explore the intersection between three phenomena in Perú: (1) practice of Transcendental Meditation by school students at a (2) provincial school during (3) home isolation. The study conducted semi-structured interviews at a school in Puno with seven students, three parents, and two teachers. A proto-theoretical model of stress, the stress response, and outcomes in three psychosocial categories—cognitive, affective, and conative—guide the research. Findings suggest the practice had a salutary effect on student experience

and academic achievement, including multifactorial benefits related to learning, calmness, anxiety, and grades.

INTRODUCTION

In response to the COVID-19 pandemic, the Peruvian Government was "one of the first in Latin America to declare a national emergency and measures taken were among the strictest worldwide" (Reinders et al., 2020, p. 1). The impact of these measures on professional health services and their successful application by remote indigenous communities in the Peruvian Amazon have been documented (Reinders et al., 2020; Salas-Provance, Arriola, & Arrunátegui, 2020). However, by mid-2021, 2.14 million Peruvians had contracted and 198,000 died from COVID-19 (Johns Hopkins University, 2021), its impact on homicide and suicide had been recorded (Calderon-Anyosa & Kaufman, 2021), and 22% of Peruvian healthcare workers had experienced severe anxiety and 26% severe mental distress (Yáñez et al., 2020).

Modelling also suggested the pandemic in Perú would cause 92,000 children to be orphaned and 98,000 to lose primary care due to the death of parents, guardians and caregivers (Hillis et al., 2021). Moreover, evidence is emerging that home isolation of children may result in increased loneliness, anxiety, depression and possibly even post-traumatic stress disorder, self-harm and suicide (e.g., Cullen, Gulati, & Kelly, 2020; Kumar & Nayar, 2020). These detrimental impacts may extend to learning, educational underachievement, and reduced cognitive and emotional health (e.g., Kruglanski, Molinario, & Lemay, 2021; Orgilés et al., 2021), leading Schwalb and Seas (2021) to ask: what went wrong in Perú?

Questions associated with how these impacts might be ameliorated have also begun appearing in the literature. For example, Radhika, Rajendran and Sankar (2020) maintain that a positive association exists between mental health challenges during the pandemic and physical activity, music, yoga, and meditation. These types of interventions for children might lead to a "greater sense of awareness" and thereby create "positive emotions by buffering the negative emotions such as anxiety and depression" (p. 331) during home isolation.

Building on earlier pre-pandemic research in Perú conducted by these authors (Fergusson, Ortiz Cabrejos, & Bonshek, 2020, 2021a, 2022), this case study explores the intersection between three phenomena related to the COVID-19 pandemic and education: (1) *practice of*

meditation by primary and secondary students at a (2) *provincial school in Puno* during (3) *home isolation*. Our purpose is to capture these phenomena using second- and third-person student, parent, and teacher accounts to document life during this unprecedented moment in Peruvian educational history.

Practice of Transcendental Meditation

Taking our lead from Radhika et al.'s list of possible interventions to counter the adverse effects of home isolation, this research focuses on inclusion of meditation, specifically the Transcendental Meditation technique, in the curriculum of Peruvian 'basic education' because it is one of the most rigorously investigated and widely applied forms of meditation.

A simple, natural, mental technique, which does not require changes to one's lifestyle or belief system, Transcendental Meditation is designed to allow the conscious thinking mind to experience a state of restful alertness along with deep physiological rest, thereby allowing the body to release stress, resulting in the creation of balance and health in the psychophysiology of students. Such a conclusion is supported by evidence related to metabolic, biochemical, and cardiovascular changes as well as to parallel electrophysiological and electroencephalographic (EEG) changes (Dillbeck et al., 2020). To summarise the qualitative and quantitative research findings from 678 published studies, the following outline presents key results in three broad educational categories: cognitive; affective; and conative outcomes.

Cognitive Outcomes. Findings include favourable consequences for working memory and attention, moral development, cognitive flexibility and competence, and ability to concentrate and learn complex tasks, among other measures relevant to education. For example, using Piagetian conservation techniques, Warner (2005) showed that children who practice Transcendental Meditation when matched to controls have more advanced levels of memory (as measured by an ability to consciously attend to internal mental information), reflectivity (as measured by an ability to not act impulsively), and mental flexibility (as measured by reaction time).

Affective Outcomes. Findings include, for school children, reductions in anxiety, depression, loneliness, psychological distress, and attention deficit hyperactivity disorder, coupled with improved emotional intelligence skills and general well-being. For example, in a large-scale,

controlled, longitudinal study of 194 secondary school students, 25% of whom were Hispanic or Latino, Wendt et al., (2015) observed a range of psychological benefits from Transcendental Meditation, including a reduction in anxiety and increased levels of resilience, emotional intelligence, and general well-being reflected in improved sleep, happiness, and self-confidence.

Conative Outcomes. Findings include, for schools and school children, improved grades and graduation rates, and reduced truancy and dropout rates, among other key academic performance indicators. In a matched-control study of 189 underachieving secondary school students, Nidich et al. (2011) found that Transcendental Meditation was associated with changes in the proficiency levels of students in mathematics and language. These findings were reflected in matched-control research by Colbert and Nidich (2013), which indicated secondary school students who practice Transcendental Meditation as part of the curriculum showed higher graduation rates, lower dropout rates, and higher rates of acceptance into postsecondary education.

Provincial 'Indigenous' Peruvian Schooling

Perú consists of a wide variety of ethnolinguistic groups and geographic boundaries which demarcate and identify them. Two key ethnolinguistic groups are the Quechua and Aymara people (Emlen, 2017), who are generally referred to as 'indigenous' in Perú (*indígena* is how locals describe themselves) because of their pre-Incan heritage dating to at least 12,000 years BCE (Narayanan, 2018). Our present study in Puno, high on the Andean Altiplano in the Lake Titicaca region of southern Perú, includes participation by *puneños* (or natives of Puno) from the Quechua and Aymara groups (of whom approximately 110,000 in a population of 250,000 are Aymara).

The history of the region for puneños is centered around the legend of *Manqu Qhapaq* and *Mama Aqlla*. Some locals propose that this couple was sent by the Sun God, *Tata Inti*, to 'civilize' the people of the Andes and unite them by founding the Inca Empire, but Vargas and Pérez (2019, p. 244) have documented how the Peruvian educational system has contributed to a "loss of the Quechua-Aymara cultural identity of the Puno region".

In the last 20 years, approximately 50,000 Peruvian primary and secondary students, teachers, and adult learners have been instructed in the practice of Transcendental Meditation. Research conducted on this

initiative has included examinations of the long-term practice of Transcendental Meditation in Puno (Fergusson, Ortiz Cabrejos, & Bonshek, 2020), as well as the practice in educational settings as diverse as the La Victoria district of central Lima, the Acomayo district of Cusco, and the Ventanilla district of the Constitutional Province of Callao.

The most unique of these settings has been the remote village of Huay-Huay, located in the Andean tundra at an altitude of 4,590m, where an average 80% of 91 randomly selected primary and secondary school children agreed the practice had improved their physical, cognitive, and emotional health, and their performance at school (Fergusson, Ortiz Cabrejos, & Bonshek, 2021b).

The present study, along with two earlier studies (Fergusson, Ortiz Cabrejos, & Bonshek, 2021a, 2022), was conducted at Institución Educativa Privada Prescott (IEPP), a private school located in Puno. IEPP, established in 1992 to offer primary and secondary education, seeks to develop the values of honesty, social sensitivity, responsibility towards the community, and respect for family, homeland, and people of the world. Approximately 300 students were enrolled in IEPP at the time of this study, with 2,000 students having been instructed in Transcendental Meditation since 1998.

Puno is a unique educational research environment. Firstly, while the city has an international airport and is a regional centre, it is uniquely situated (at 3,800m above sea level), cold (with an average temperature of just 8.4°C), and relatively dry (with just 750mm of annual rainfall). Secondly, Quechua and Aymara puneños are underrepresented in Latin American research.

Finally, almost no prior research on Transcendental Meditation has been conducted in non-Western, indigenous communities, and certainly none of it has considered children or their lives during a viral pandemic, making the present study important.

Home Isolation and Student Life

In the last 12 months, research about the adverse fallout from home isolation on school children has emerged, the cause of which is what Mosanya (2021, p. 159) calls "academic stress". For example, Xie et al. (2020) found 23% and 19% of Chinese school children respectively reported symptoms of depression and anxiety because of home isolation, and Kar, Kar and Kar (2020) observed 15% of those questioned reported moderate to acute depression, 21% moderate to acute anxiety, and 34%

probable post-traumatic stress disorder. In a sample of parents of Italian and Spanish children aged 3–18 years, 86% observed detrimental changes in their children's emotional state and behaviour compared to before home isolation (Orgilés et al., 2020), and Kumari and Mahla (2021, p. 343) reported home isolation adversely impacts sleep and contributes to "psychosocial health deprivation".

Moreover, Kumar and Nayar (2020) suggest home isolation may lead to an increase in loneliness, anxiety and depression, and Cullen, Gulati and Kelly (2020, p. 311) "anticipate a considerable increase in anxiety and depressive symptoms…with some [people] experiencing post-traumatic stress disorder in due course". Verger et al. (2021) have even gone so far as to suggest home isolation may affect the brain structures of children, and a large-scale survey across Europe, North Africa, Western Asia, and the Americas found home isolation was associated with a 30% decrease in life satisfaction (Ammar et al., 2020).

Consequences for learning and educational underachievement have also been reported. Due to replacing face-to-face schooling with online education conducted in the home, not only are physical, cognitive and emotional health factors impacted, but school performance, as measured by learning ability, academic achievement, and grades, might also be disadvantaged.

Of particular interest to the present study in Puno is the finding that home schooling during the COVID-19 pandemic has adversely affected parents due to the unstable financial circumstances, school closures, and suspended educational services for children it has caused (Fontanesi et al., 2020). Moreover, 38,000 cases of COVID-19 and more than 1,000 deaths (or 1% of the population) have been recorded in Puno since the beginning of the pandemic (Johns Hopkins University, 2021), adding to the enduring stress children in this study felt during this time.

Proto-Theoretical Model and Research Question

Further to these reported outcomes of the COVID-19 pandemic on student stress, psychophysiological health, and educational outcomes, the proto-theoretical model in Figure 1 conceptually shows the role Transcendental Meditation might play in the curriculum during home isolation. Highlighted elements of the model indicate the specific topics and pathways addressed by the present research, with the three circular elements to the left representing the source of primary data in this study.

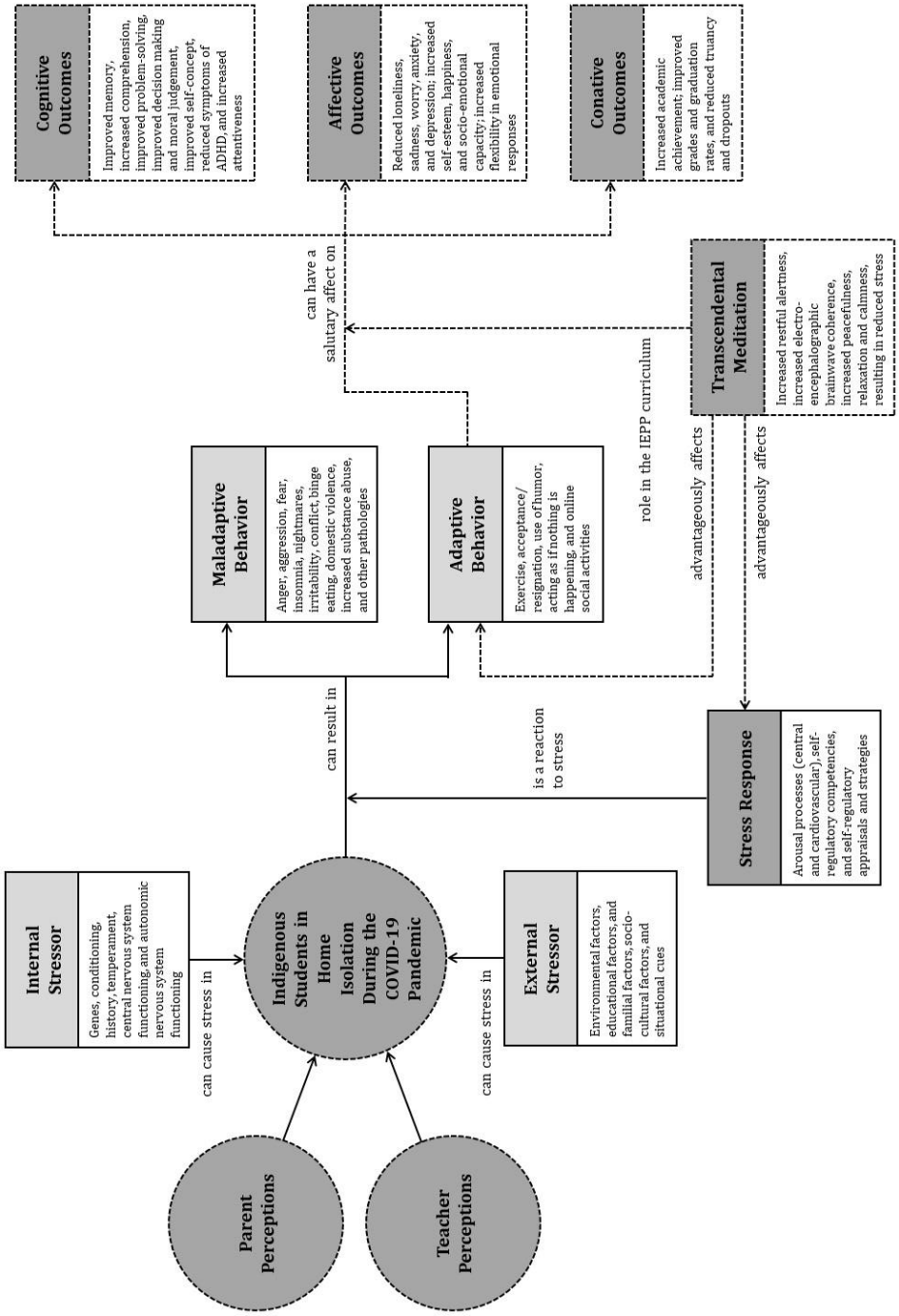

Figure 1: Proto-theoretical model of key research concepts and sources of primary evidence in this study.

The model exemplifies the internal and external stressors which can cause stress in a student's psychophysiology (e.g., Clemente-Suárez et al., 2020). The stress response effected by the external stressors of home isolation and community sickness and death may be advantageously affected by practice of Transcendental Meditation. And while various maladaptive and adaptive coping mechanisms and behaviours remain possible, the emphasis by children who meditate may shift toward frames of mind and states of resilience associated with improved coping during home isolation, leading to a variety of salutary cognitive, affective, and conative outcomes.

To better understand the relationship of Transcendental Meditation to health and school performance in Puno during the COVID-19 pandemic, we asked the following research questions: At IEPP, RQ1—how do indigenous students who practice Transcendental Meditation self-report their experience of home isolation, and RQ2—how do parents and teachers perceive impacts of the practice on the cognitive, affective, and conative health of these children?

METHODOLOGY

Research Context and Method

Action research of this type allows for investigation of real-world phenomena, in this case practice of Transcendental Meditation by indigenous Peruvian students during home isolation from the informed viewpoints of students (second-person perspectives) and parents and teachers (third-person perspectives). This approach was deemed appropriate in order for participants to tell their story in their own way and in their own language, enabling a sufficiently broad, but also in-depth, explanation of the intersecting phenomena.

As shown in Figure 2, using Yin's (2018) Type 2 case study model, primary and secondary home schooling in Perú during COVID-19 lockdowns was the *research context*, IEPP was the *research case*, and qualitative student, parent, and teacher accounts of student experience during lockdown were the *embedded units of analysis*. Adoption of a Type 2 model conforms to three of the five rationales provided by Yin for using this type of design.

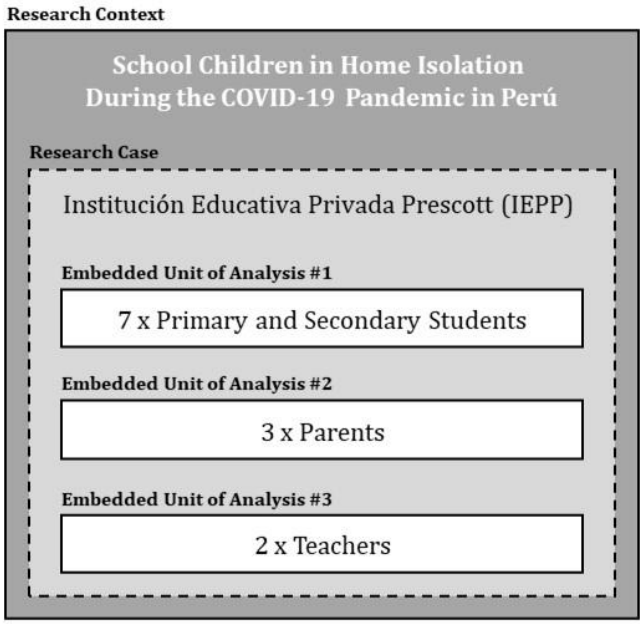

Figure 2: The case study design used in this research.

First, IEPP is a *critical case* because the set of circumstances within which propositions of the proto-theoretical model in Figure 1 are believed to be true. Second, IEPP is a *common case* in that it represents the circumstances and conditions of an 'everyday situation' of indigenous schooling in Perú during the COVID-19 pandemic. Third, IEPP can be considered a *revelatory case* because it has the potential for observation and analysis of phenomena previously inaccessible to social science inquiry.

Participants

A total of 12 student, parent, and teacher volunteers from the IEPP community were purposively sampled to participate in this study. The size and composition of this group follow the rationale provided by Braun and Clarke (2021, p. 15) for "informational or meaning sufficiency". Participants were blind to the purpose of the study, and none declined to participate on invitation. Inclusion criteria included: for students, enrolment in IEPP and practicing Transcendental Meditation in home isolation at the time of data gathering; for parents, having at least one child enrolled in IEPP but studying at home; and for teachers, to be an active teacher of online courses at IEPP. Whereas prior to the pandemic, IEPP

students meditated together in a group as part of their daily school routine, in home isolation they still practiced the technique at the same time in a group, but the face-to-face activity was replaced by online engagement.

Student #1: MM, born in Puno, was an 11-year-old female in 5th grade primary who spoke Spanish and Quechua at home. *Student #2*: IV, born in Lima, was an 11-year-old female in 5th grade primary who spoke Spanish, Aymara and English at home. *Student #3*: LH, born in Puno, was an 11-year-old male in 6th grade primary who spoke Spanish and English at home. *Student #4*: GR, born in Puno, was a 14-year-old male in 2nd grade secondary who spoke Spanish and Quechua at home. *Student #5*: KC, born in Puno, was a 14-year-old female in 3rd grade secondary who spoke Spanish, Quechua and Aymara at home. *Student #6*: DC, born in Puno, was a 14-year-old male in 3rd grade secondary who spoke Spanish and Quechua at home. *Student #7*: JQ, born in Puno, was a 17-year-old male in 5th grade secondary who spoke Spanish and Aymara at home.

Parent #1: MCT was a 43-year-old female sociologist and parent of two daughters who attended IEPP, one of whom is Student #1; MCT spoke Spanish and Quechua at home. *Parent #2*: GC was a 41-year-old female lawyer and parent of a son and daughter who attended IEPP; GC speaks Spanish, Quechua and Aymara at home. *Parent #3*: MVI was a 47-year-old businesswoman and parent of one daughter who attended IEPP; MVI spoke Spanish and English at home.

Teacher #1: LER was a 49-year-old female teacher, director, and current principal of IEPP; LER spoke Spanish and Quechua, as well as sign language, and taught specialty courses in language, literature, and psychology. *Teacher #2*: VE was a 70-year-old female teacher and former principal of IEPP; she held a Ph.D. and spoke Spanish and Quechua.

Procedure

Data collection occurred in December 2020, when schools in Perú were closed and students studied from home while self-isolating. Data were derived from semi-structured interviews of approximately 20-45 minutes in length conducted in Spanish by the second author via Zoom. Interview questions included demographic questions and six non-leading, open-ended questions for students related to their experience of Transcendental Meditation during home isolation, and of parent's and teacher's perceptions of their children or students during this time. Interview questions were not pilot tested beforehand, although some of

the questions had been used in a previous study (Fergusson, Ortiz Cabrejos, & Bonshek, 2020).

Questions for students included: have you noticed any changes in your personal experience of practicing Transcendental Meditation before and during home isolation; and have you noticed any change to your self-confidence during home isolation? Questions for parents and teachers included: please describe the behaviour of your children/students when they were practicing Transcendental Meditation at school before the pandemic; and please describe the behaviour of your children/students when they were practicing Transcendental Meditation during home isolation?

Trustworthiness was maintained by asking the same set of questions to each participant cohort in the same order following the same research protocol (to address reliability) and by developing the line-of-inquiry and interview questions consistently with previous research findings, addressing rival explanations and using a logic model (to address internal validity), namely the interview protocol and structure related to previous social science research constructs (Fergusson et al., 2019).

Data Analysis

Following the guidelines of Braun and Clarke (2021), data analysis was grounded in established theory, as explained by Fergusson et al. (2020, 2021b), to meet the 'adequate conceptualisation' criterion of thematic analysis. For the purposes of brevity, the present study does not reiteratively detail the conceptualisations or theory underpinning the interview process or structure, but Figure 1 goes some of the way to so doing.

Interview data were initially transcribed, translated, and thematically analysed through a process of open coding by the first author. Preliminary codes were clustered conceptually to reflect similar emergent themes. The transcriptions, translations, and thematic grouping of data were verified for accuracy and reliability by the second author. This process generated 94 student codes, 98 parent codes, and 77 teacher codes, for a total of 269 codes (CDs) which led to 12 clustered codes or generic themes organised *ex post facto* into three research categories—cognitive, affective, and conative—as shown in the Figure 3 coding tree. Generic themes were then formalised to form the narratively descriptive themes.

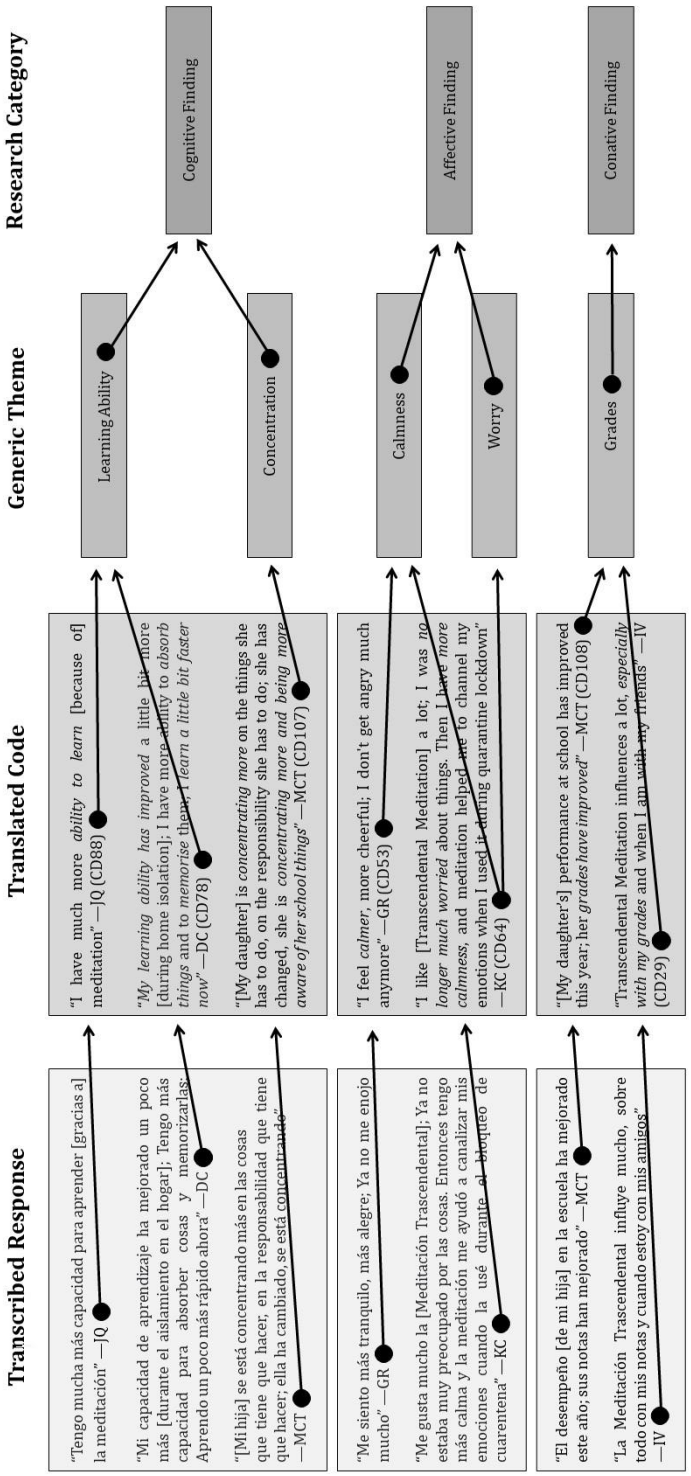

Figure 3: Example of the data analytic process from initial Spanish response > English code > generic theme > research category.

Research Ethics

This project was approved in December 2020 by the Research Ethics Approval Committee (REAC) of Maharishi Vedic Research Institute (MVRI) in Australia, in accordance with MVRI's *Code of Research Practice and Procedure* and was conducted under the strictest terms of research integrity. The MVRI Code conforms to both the *Australian Code for the Responsible Conduct of Research* and the *National Statement on Ethical Conduct in Human Research* and was conducted under approval number MVRI-2020-20.

The MVRI Code requires researchers to submit a proposal to the REAC, which did not include any of the authors, outlining in detail the aims of the research, recruitment procedure, description and identification/de-identification of participants, benefits and risks of the research, risk mitigation procedures, Participant Information Sheet (PIS), and Consent Form. The project was also sanctioned in advance by administrators of IEPP and Instituto Maharishi de Ciencia y Tecnología del Perú; all participants (or their guardians) provided prior informed consent.

RESULTS AND DISCUSSION

This section combines both the results of thematic analysis as well as a discussion of each theme and, where appropriate, any links to established literature on the theme. Italics have been used to highlight the key finding within each theme. The nine themes have been organised into their respective category and are presented in Table 1.

Cognitive Findings

Findings go beyond the generic definition of cognition as a 'thought process', to consider other forms of mental activity, like problem solving, learning, listening, analysing and justifying, concentration, memory, and attention.

Theme 1: *An improved ability to learn and understand complex knowledge, including analogical texts.*

A significant number of CDs related to learning and understanding. These included IV who said: "[My understanding of complicated aspects of a topic] was not very good [before home isolation], but my *ability to learn*

has improved" (CD22); LH who said: "My *learning ability* is faster and has increased" (CD48); and JQ who said: "I have much more *ability to learn* [because of] meditation" (CD88). These reports reflect both minor ("Yes, little by little I'm making progress in this [*ability to learn*]", GR, CD59) and major ("My ability to *understand complex things* has changed a lot", GR, CD57) changes during home isolation.

In literature and language, evidence suggests that comprehension was affected: "[My understanding] has changed a lot because in literature we have to analyse literary texts and I passed [the subject before] but I didn't understand anything, [especially] the poems that have weird words and [require] interpretive depth. Meditation teaches me quite a bit; it helped me *understand analogical texts better*", said KC (CD70).

This finding is consistent with experimental data of Nidich et al. (2011). IV added: "Learning has improved; I've *improved a lot in history*" (CD23). Such an outcome was also observed by teachers who said, for example, that the students "have *improved their level of learning* quite a bit. There is a willingness to do things, to learn more and to adapt" (LER, CD208).

Theme 2: *Changes to memory and the absorption of information.*

Some students linked learning ability with memory, such as LH who said: "I can *memorise* things more and I am also *better in my studies*" (CD33), and KC who said: "My *learning ability has improved* a little bit more [during home isolation]; I have more ability to *absorb things* and to *memorise them*; I *learn a little bit faster* now" (CD71).

JQ contrasted his prior feelings of being overwhelmed with having to memorise facts when he said: "More than all previous years, when I started reading two biology books [I felt overwhelmed]; but now, with many more books, I have a *little more knowledge* compared to last year" (CD89).

Memory and knowledge retention have been previously highlighted in the literature on Transcendental Meditation. For example, while memory typically declines with age, Nidich et al. (2005) observed higher levels of fluid reasoning, verbal intelligence, long-term memory and speed of processing in meditating elders compared to controls, and in a controlled longitudinal study, Dixon et al. (2005) found evidence in primary school children of improved intellectual performance associated with memory, conceptual maturity, and the ability to see and remember complex relationships among simple elements.

Table 1: Summary of themes and examples of results according to three levels of findings.

Research Category	Theme	Example of Coded Response
Cognitive	**Theme 1:** An improved ability to learn and understand complex knowledge, including analogical texts	"I have much more *ability to learn* [because of] meditation" —JQ (CD88) "My understanding] has changed a lot because in literature we have to analyse literary texts and I passed [the subject before] but I didn't understand anything, [especially] the poems that have weird words and [require] interpretive depth. Meditation teaches me quite a bit; it helped me *understand analogical texts better*" —KC (CD70)
	Theme 2: Changes to memory and the absorption of information	"[My understanding of complicated aspects of a topic] was not very good, but my *ability to learn* has improved" —IV (CD22) "I can *memorize* things more and I am also *better in my studies*" —LH (CD33)
	Theme 3: Awareness, attention, adaptation, and concentration	"[My daughter] has improved a lot, and she *concentrates* better" (CD93) and "She *thinks* and *analyzes* things [more now]" —MCT (CD93 and 94)
Affective	**Theme 4:** Increased feelings of calmness and relaxation; an ability to 'handle' the situation	"[My son] sleeps very well; he *is very calm*. Two or three years ago he was depressed and anxious. He has overcome his depression 100%" —GC (CD152) "I have been able to notice big changes, a certain *peace* and *tranquillity*" —LER (CD191)
	Theme 5: Reduced worry and feelings of stress, while learning to value myself	"I am *not stressing out* as much [as before the pandemic]" —MM (CD5) "I feel well, *very well*; and when I felt maybe *more upset at some point before*, now with the pandemic and before the exams time, *I feel normal, not being pressured*" —IV (CD28)
	Theme 6: Transcendental Meditation helps channel emotions, like empathy and feelings of liberation	"I like [Transcendental Meditation] a lot; I am *no longer very worried about things*. Then I have more *calmness*, and meditation helped me to *channel my emotions* when I used it during quarantine lockdown" —KC (CD64)
Conative	**Theme 7:** Improved grades and academic skills and competencies	"My *grades have improved* and I am happy with my *achievements* at school, but I want to achieve more" —DC (CD80)
	Theme 8: More energy to do homework, more determination to succeed, and decreased sickness	"They [students] have much *more energy to do homework* (CD223) they are *more determined to fulfill the duties* they have as students" —VE (CD224)
	Theme 9: Holistic personal growth by expanding the brain's capacity and 'cleaning the home'	"Transcendental Meditation helps us to *find ourselves*" —MCT (CD126) "I started to *expand my brain* [with Transcendental Meditation during home isolation]" —JQ (CD84)

Theme 3: *Awareness, attention, adaptation, and concentration.*

The development, or at the very least application, of awareness, attention, adaptation, and concentration is considered essential for learning. Indeed, Rosaen and Benn (2006) explain how self-awareness, along with attributes like internal calmness and awareness of others, directly affect academic achievement and well-being. The findings of this study in Puno suggest all four aspects—awareness, attention, adaptation, and concentration—were affected during home isolation.

For example, MCT said: "[My daughter] has improved a lot, and she *concentrates* better" (CD93), "She *thinks* and *analyses* things [more now]" (CD94), and "She *thinks for a while* and now she has a certain *sense of things*" (CD95). MCT concluded that: "[My daughter] is *concentrating* more on the things she has to do, on the responsibility she has to do; she has changed, she is *concentrating more* and being more *aware* of her school things" (CD107).

Similarly, several students self-reported that: "[Having to concentrate on the computer during home isolation] has *helped me pay more attention* and to *understand things better*" (DC, CD78); "When [someone] was talking in another room, I would get distracted [before], but now *I don't get distracted anymore*" (MM, CD9); and "I felt stressed when I discovered the classes were going to be virtual and I was not going to see more of my classmates; I got sad. But now I feel much better; much happier and more *lively*. Meditation helped me in that sense; I have *adapted* to studying at home" (IV, CD25).

This type of adaptive behaviour related to the practice of Transcendental Meditation had been observed earlier in fifth grade primary students by Benn (2003), and Rani and Rao (2000) had also identified greater attention regulation through Transcendental Meditation.

Affective Findings

Findings in this category, which clearly relate to (and are an extension of) the cognitive findings, include not only 'moods' or 'feelings', but also deeper qualia associated with subjective, conscious understandings and sense-making.

Theme 4: *Increased feelings of calmness and relaxation; an ability to 'handle' the situation.*

Student, parent and teacher accounts of a growing sense of calmness, tranquillity, quietness, and serenity in the IEPP students during home isolation were ubiquitous throughout the codes. Such qualia are surprising given the number of COVID-19 cases and deaths in Puno and are suggestive of feelings of inner security. These reports run counter to the popular narrative of increased anxiety and unease in children during home isolation. For example, Fitzgerald, Nunn and Isaacs (2021) documented the 'grief' of children in isolation, as characterised by feelings of "heaviness, hardship, burden, sorrow, sense of grievance and protest that the world is what it is".

In this present study, representative student reports which counter the popular narrative include: "This year [during home isolation] I felt *calmer*, *more relaxed* than normal" (GR, CD51); "[I experience] *calm* melodies; [Transcendental Meditation] helped me *physically* and *emotionally*; same as last year, but deeper" (MM, CD2); "I feel more *relaxed*, more *calm*, and I am more calm with my studies; *not feeling so much pressure*" (KC, CD63); and "I have been able to notice big changes, a certain *peace* and *tranquillity*" (LER, CD191).

Representative parent and teacher comments also included: "[My son] sleeps very well; he is very *calm*. Two or three years ago he was *depressed* and *anxious*. He has overcome his *depression* 100%" (GC, CD152), and "Each time [he meditates] he is more mature and *calmer*, no longer *depressed*" (GC, CD165); "[Transcendental Meditation] has improved [the students'] *emotional development*, in their *intelligence* and *anxiety*" (LER, CD198).

MCT's comments about her daughter are even more insightful: "[My daughter] is *handling* [home isolation] well, and now in the pandemic she is in a very *quiet state*" (CD96); "She is not *anxious*, and that is *affecting our family*; she gives us her *tranquillity*" (CD97); and "She is *calm*, *relaxed*, *serene*, without any kind of *anxiety*, *despair*, or *sickness*" (CD99). In summary, GR stated: "I feel *calmer*, more *cheerful*; I don't get *angry* much anymore" (CD53).

Theme 5: *Reduced worry and feelings of stress, while learning to value oneself.*

Theme 5 provides evidence which directly bears on the proto-theoretical model because students specifically reported experiences associated to the stress response. For example, MM said: "I am *not stressing out* as much [as before the pandemic]" (CD5), and DC who said: "Seeing my inner self *getting all my stress out* was very excellent" (CD75). Such responses apparently led to adaptive behaviours like: "I used to get *very angry*, but now I *let it go*; I *take it easy*" (MM, CD6).

Such responses resulted in accounts from both students and parents of adaptive outcomes: "I feel well, *very well*; and when I felt maybe *more upset at some point before*, now with the pandemic and before the exams time, *I feel normal, not being pressured*" (IV, CD28); "I learned [during the pandemic] to *value myself emotionally and physically*" (MM, CD7); and "They [my children] had no problem with *anxiety* crises, or *depression* or *anguish*" (MCT, CD123). These adaptive accounts of stress management are reminiscent of earlier findings in students, such as those of Burns, Lee, and Brown (2011) in university students.

Theme 6: *Growing confidence and self-esteem, and trusting oneself more.*

With increased feelings of calmness, reduced worry, and an ability to manage the stress response and keep emotions naturally in check, themes began to emerge associated with growing confidence and self-esteem. Thus, "[My *self-esteem*] has radically changed; I used to feel confident with what I was doing and [then during the start of home isolation] I didn't feel confident in myself anymore. I was always thinking that I had the wrong answer and I wouldn't get through the week. [But] now I *feel more confident* getting that one answer right and it's okay; I *trust myself*, and I know that the answer is right" (KC, CD68).

As a result of feeling more confidence ("I feel more *confident*" [GR, CD54]), "I have higher *self-esteem*" (LH, CD44) students reported "I now *trust myself* more" (GR, CD55). MM also pointed out that she "was a little shy to chat with people, but now I don't have the *shyness* that I had before" (MM, CD8). Findings associated with greater confidence, self-discipline, trust, and acceptance have been featured previously in research in India and elsewhere (e.g., Sridevi & Rao, 1998).

Conative Findings

Findings in this category refer to those outcomes associated with a desire or will to action. They are performance related, and express endeavour and effort for change which occur because of changing personal cognitive and affective characteristics.

Theme 7: *Improved grades and academic skills and competencies.*

On the most basic level, conative outcomes relate to academic performance and achievement, one of the key forms of which is grades. Hence, many CDs relate to grades and their reported improvement: "Transcendental Meditation influences a lot, especially with my *grades* and when I am with my friends" (IV, CD29); "My *grades have improved* and I am happy with my *achievements* at school, but I want to achieve more" (DC, CD80); and "[My daughter's] performance at school has improved this year; her *grades have improved*" (MCT, CD108). LER linked academic performance to competency: "A lot of improvement in their *grades* [during home isolation], in their *academic skills* and *competencies*" (CD201). The conative findings related to grades are consistent with those of Nidich et al. (2011).

Theme 8: *More energy to do homework, more determination to succeed, along with decreased sickness.*

The only theme to directly link Transcendental Meditation with psychophysical states, Theme 8 concerns energy and sickness. Some of the students stated: "Last year I got sick several times, but this year *I haven't been sick once*" (GR, CD61); "I got sick about six times [last year] and now I only *got sick once this year*, so I did very well and I got out of the illness very quickly" (JQ, CD90); and "I don't get tired as much anymore. I have been *sick less* than last year" (MM, CD14). Teacher VE also concluded that: "[The students] have much *more energy to do homework* (CD223); they are *more determined to fulfill the duties* they have as students" (CD224). This report of increased energy in students is reflective of the findings of Yoshimura et al. (2015) who also found a reduction in asthenia due to the practice of Transcendental Meditation.

The need for brevity disallows a fulsome analysis of health and Transcendental Meditation research findings. Indeed, another more detailed model of theory and research would be required to do justice to

this topic. However, Dillbeck et al. (2020) have surveyed the studies on changes to hormone levels and physiological stress responses, cardiovascular functioning, EEG patterns, evoked potentials and cortical plasticity, as well as reductions to ambulatory blood pressure and hypertension, which collectively result in improved health and well-being and a reduction in medical care utilisation.

While many of these findings do not draw directly from the experiences of school children, earlier research on adolescent health by Barnes, Treiber and Davis (2001) does suggest Transcendental Meditation has a salutary effect on childhood health, energy, and stress.

Theme 9: *Holistic personal growth by expanding the brain's capacity and 'cleaning the home'.*

The broadest and most encompassing of themes, Theme 9 emerged from multiple participants and is the aggregate of many CDs which capture the spirit of 'holistic student development.' For example, of her son, GC reported: "[Transcendental Meditation] helps him, *it pushes him*. I think that it has been good for my son's state of mind because it helped him to know a very basic tool, something that I really didn't know. I did not really like to hear Transcendental Meditation [was being incorporated into the curriculum] at the school, and I almost did not support its validity. Until my son taught me practically that meditation was worth knowing. It is worth practicing, not for myself but he says: 'for me to *grow*; Mom, I want to be great and not only great as a *professional*, but also *spiritually*'" (CD138).

This conclusion was also expressed by VE, who said: "Practicing Transcendental Meditation means that each student *reflects a knowledge of their own person*, reflects the value every day of *more of their Being* [i.e., their awareness], of being a human person" (CD219); "We have talked with the parents several times that during meditation we have to support each other because each student is going through a *process of cleaning the home* [i.e., reducing stress in the body], of illuminating the home, of protecting the home, of protecting the child" (CD245); and "We will always remember with great joy and satisfaction the experiences of a small school with many limitations but with a great vision of forming *quality citizens* for tomorrow's society" (CD270).

MCT, a psychologist, concluded that: "It is the *mind*, your *whole body*; I think [Transcendental Meditation] helps you in *massive concentration* and she [my daughter] has also changed her way of studying in this last

year, her style of studying has changed [during home isolation]" (CD105); "Transcendental Meditation *helps us to find ourselves*" (CD126). Students also self-reported a similar view: "Transcendental Meditation made me *feel much better*. We feel very *happy* that you are sharing this with us and many other children in the world; they will also know this and will be *inspired by our experience*" (IV, CD31). JQ went so far as to claim: "I started to *expand my brain* [with Transcendental Meditation during home isolation]" (CD84).

Counterfactual Findings

In addition to the aforementioned evidence, six counterfactual CDs (or divergent codes) were observed, including LH who said: "I am a bit more *aggressive* than before (CD41) and "I feel *angrier* than before" (CD42), and KC who said: "I get [a little] *stressed out* because of being locked up [during home isolation]" (CD65), but these CDs did not cohere into themes. Perhaps not surprisingly, counterfactual CDs were related to feelings of anger and stress during home isolation.

DISCUSSION AND CONCLUSIONS

The findings of this case study in Puno mostly support the theoretical propositions advanced in the proto-theoretical model regarding the possible influence of Transcendental Meditation on student experience in home isolation during the COVID-19 pandemic.

Based on this preliminary evidence from Puno, we tentatively conclude that incorporation of the Transcendental Meditation technique into the primary and secondary curriculum at IEPP has produced a broad range of salutary cognitive, affective, and conative outcomes, and may therefore be a useful tool to manage, and perhaps even overcome, the effects of home isolation by school children in Perú.

This sentiment has been captured in the views of one of the IEPP parents: GC said she was "very proud of [her son] because this year [during home isolation] made him *grow as a child* despite all the difficulties he has faced. I have seen my son *grow academically* and *emotionally*" (CD169). But more importantly, "What a mother wants for her children is not [only] knowledge; my son already knows mathematics and language. [What we want is for him to become] a *better person* and meditation achieves that" (CD161).

GC went on to highlight pride in her son because "he always tells me: 'Mom, I am doing my meditation; I'm *learning to study*; I'm learning to be *a good man*'" (CD157), and "'I want to be *good for my society*, I don't want to be mediocre; *I want to be something*'. I feel proud to be his Mom" (CD172).

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