

## **What does it mean to be less depressed? Perceived impact of a spirituality informed e-mental health tool as an intervention for major depressive disorder in adolescents and young adults: A qualitative study**

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### **ABSTRACT**

**Background:** Depression in adolescents and young adults is a major mental health condition that requires attention. It requires appropriate interventions given the potentially negative consequences related to interruption in the development process, interpersonal conflicts, academic under-performance, low self-esteem, and increased risk of suicide. The purpose of this qualitative inquiry was to supplement the pilot clinical trial ([ClinicalTrials.gov](https://clinicaltrials.gov/ct2/show/study/NCT00985686) NCT00985686) of an 8-week e-mental health intervention, the LEAP Project (re-named BreathingRoom<sup>TM</sup>), for youth with depression, through an exploration of the participants' experiences and perspectives regarding the impact of the intervention in relation to their depression.

**Methods:** Semi-structured interviews were conducted with a purposive sample of trial participants. All interviews were digitally recorded and transcribed verbatim. Data were analyzed using a constant comparison approach.

**Results:** Of the 62 trial participants, 18 agreed to complete the interview upon completion of the intervention and trial. The impact of the intervention on participants was multi-faceted. Participants described: higher energy levels, increased motivation, and reduction in negative feelings such as fear, anger, frustration, and reduced feelings of depression. Most participants identified learning new coping strategies, experienced a greater sense of control over emotions, being connected and the sense that they are not alone. Participants also reflected that the intervention led to shifts in perspectives. In a number of cases, the impact of the intervention went beyond the experience of depression alone - through LEAP, participants developed an understanding and/or skills that were applicable to various domains of their lives.

**Conclusions:** From the perspective of the participants LEAP had a positive impact on various facets that defined their wellbeing. This online program may be a useful and valuable resource in the treatment and prevention of depression in youth.

## 1. BACKGROUND

Over 1 million youth in Canada are living with a mental illness, with the occurrence of depression, a debilitating mental health condition, being one of the most common forms of mental illness [1, 2]. In Canada, prevalence of depression in the general population is 4.7% and highest among those between 15 and 24 years of age at 6.5% [3, 4]. These rates have remained relatively unchanged in Canada over the last two decades [5, 6]. Attention to depression in the adolescent population is particularly important given the negative consequences related to development processes, interpersonal conflicts, academic performance, low self-esteem and suicide [7, 8, 9, 10]. Addressing depression effectively is also critical given that the likelihood of its development in adulthood is greater with adolescent onset [4, 11, 12]. Considering the significant individual and societal burden of the condition [1, 13] and that most have limited access to appropriate care or resources [6,14], there is a need for access to interventions that are effective and acceptable to this young and particularly vulnerable demographic.

In response to the need for appropriate and accessible services for depressed youth, the project team at The Canadian Institute of Natural and Integrative Medicine (CINIM) designed (and evaluated) an innovative, spirituality-informed, e-mental health tool specifically targeting adolescents (13–18 years of age) and young adults (19–24 years of age). The tool (the LEAP Project, now re-named as BreathingRoom™) consists of eight modules, each focused on a distinct theme (Self-acceptance; Appreciation of Beauty and Creativity; Mystery of Life; Gratitude; Compassion and Giving; Acceptance; Forgiveness; Celebration). Each module is presented using video clips, music, visualizations, true stories and life practices.

The intervention is described in our published results of the clinical trial [15] and replicated in Appendix 1.

The spirituality orientation was informed by research indicating that specific spiritual factors, such as forgiveness, spiritual practice, hopefulness (having faith), self-identifying as religious or spiritual may play a role in reducing depressive symptoms in adolescents [16, 17, 18, 19]. Internet-based tools/interventions to support mental health, or e-mental health services, specifically to treat and/or manage depression or depressive symptoms [20, 21] have been identified as a key strategy for access to and provision of mental health services [21, 22]. Given the high use, access, and acceptance of the internet in youth [23], internet-based programming may be highly suitable to this population. Although potentially beneficial, many of the existing online programs lack sufficient evidence [21] and are not readily available. To our knowledge, our research investigating the LEAP intervention was the first to evaluate and report on the effectiveness of a spirituality informed e-mental health intervention for depressed adolescents (13–18 years of age) and young adults (19–24 years of age).

The results of the LEAP clinical trial (Trial registration: ClinicalTrials.gov NCT00985686) indicate a significant reduction in the levels of depression of LEAP study participants (adolescents 13-18 years of age and young adults 19-24 years of age). These results have been reported on and published in our quantitative report [15]. Here we report on the qualitative study we conducted as part of the overall LEAP evaluation. The purpose of the qualitative component of the evaluation was to supplement the quantitative analysis of outcomes through a more in-depth investigation of how the trial participants - depressed adolescents and young adults –

perceived the impact of the LEAP intervention in relation to their depression. The primary research question was: what are the lived experiences of depression before and after the LEAP Project of adolescents and young adults who completed the LEAP clinical trial.

## **2. METHODS**

A qualitative study design employing an interpretative description approach [24, 25] was used. Interpretative description enables an in-depth exploration of participants' experiences and perceptions regarding the LEAP Project and their depression. Going beyond description alone, interpretative description aims to explore meaning, understanding and explanations to generate application implications [26]. Reporting in this manuscript follows the Consolidated Criteria for Reporting Qualitative Research (COREQ) guideline [27].

### **2.1 Context**

The trial was conducted at The Canadian Institute of Natural and Integrative Medicine (CINIM), which is located in Calgary, Alberta, Canada. CINIM is a non-for-profit, community-based, mental health research and care center. Using evidence-based solutions and an integrative approach, CINIM develops, evaluates and makes available programs that aim to support individual wellness and serve the wider community.

### **2.2 Recruitment and data collection**

We generated a purposive sample of LEAP trial participants. We initiated recruitment with a convenience sampling strategy. Upon completion of the LEAP Project, all trial participants completed a final assessment (for the quantitative analysis), during which each was invited by the study coordinator and/or registered nurse to participate in the interview. As we also aimed to capture the

experiences of the different types of participants in the trial; as such, as the interviews progressed, we applied a diversity sampling strategy determined by participants' characteristics (demographic information).

Participation was voluntary and not a requirement of the study. Contact information for all who expressed interest in the interview and provided consent or assent to be contacted was provided to the researcher leading the qualitative component of the LEAP evaluation (Author). Each was then contacted via telephone to further discuss the interviews, address any questions and arrange an interview time. Consent for participation in the interview was obtained prior to the initiation of each interview. For participants under 18 years of age, signed parental permission was obtained for participation.

All participants completed one semi-structured in-person interview within four weeks of completing the trial. The interviews were conducted in a private office at CINIM by Author and took place between May 2011 and May 2012. An interview guide was used based on a topical framework which included open-ended questions that aimed to explore experiences related to LEAP, perceptions of LEAP, and perceived impact of the intervention, in relation to the depression specifically and more broadly. Recruitment continued until the purposive sample reflected the characteristics of the trial sample and data saturation was determined, the point in the qualitative analytic process when new themes or categories were not identified in subsequent interviews. All interviews were audio recorded and transcribed verbatim for analysis.

### **2.3 Data analysis**

The analysis was conducted iteratively, initiated upon completion of the first two interviews. Based on the constant comparison approach, textual data were systematically

analyzed (28). During the first analytical round, three team members (AKR, SMO, SMO) read the initial two interview transcripts, making notes and broadly coding content in response to the study objective and emergent categories. This step informed minor revisions to the interview guide and initiated the development of the coding framework. Subsequent interviews were analyzed and coded by Author. Once all interviews were analyzed, the coding framework was finalized with feedback from team members PP, CD and SMO. All interview transcripts were then re-analyzed applying the codes, and categories of the final framework. NVivo 9.0 was used to manage the qualitative data and facilitate the analysis.

## 2.4 Ethics

Ethics approval was obtained from the Conjoint Research Ethics Board at the University of Calgary (Ethics ID: E22549); Child Health Research Office, Alberta Health Services, (Ethics ID: 22549); Human

Research Ethics Board, Mount Royal University (Ethics ID: 2011-39). Participation was voluntary and not a requirement of the study. Interested participants first provided consent to be contacted the researcher leading the qualitative component of the LEAP evaluation (AKR). Consent for participation in the interview was obtained prior to the initiation of each interview. For participants under 18 years of age, signed parental permission was obtained for participation.

## 3. RESULTS

Of the 62 participants who completed the LEAP trial and were invited to participate in the interview, 18 consented to complete the interview.

### 3.1 Participant characteristics

The characteristics of the interview participants who completed the interviews and a comparison to the full study sample are provided in Table 1.

**Table 1: Characteristics of interview participants (n=18) and those who enrolled in and completed the LEAP trial (n=62)**

	<b>INTERVIEW PARTICIPANTS (n=18)</b>	<b>FULL STUDY SAMPLE (n=62)</b>
<b>Gender</b>		
Females	89% (16)	71% (44)
Males	11% (2)	29% (18)
<b>Age</b>		
12-18 (adolescent)	50% (9)	31 (50%)
19-24 (young adult)	50% (9)	31 (50%)
<b>Randomization</b>		
Study group	44% (8)	55% (34)
Wait list	56% (10)	48% (29)

<b>Depression score</b>		
Lower	100%	90.5%
No change	0%	0%
Higher	0%	3.2%
<b>Religious affiliation</b>		
None	50% (9)	50% (31)
Christian	38% (7)	34% (21)
Muslim	0	3 (5%)
Multiple (more than one option)	12% (2)	3 (5%)
Other	0	4 (6%)
<b>Place of living</b>		
With both parents	50% (9)	53% (33)
One parent	39% (7)	27% (17)
Partner	6% (1)	6% (1)
Roommate	0	12% (2)
Alone	0	12% (2)
Other	6% (1)	39% (7)
<b>School</b>		
High school	44% (8)	45% (28)
Post-secondary	44% (8)	40% (25)
Not in school	12% (2)	15% (9)
<b>Use of other treatments during intervention</b>		
None	44% (8)	55% (34)
Anti-depressants only	22% (4)	16% (10)
Counselling only	0% (0)	16% (10)
Anti-depressants and counselling	33% (6)	12% (2)

The age of participants ranged from 13 to 24 years, with nine participants in the adolescent category (between ages 13-18) and nine in the young adult category (19-24 years of age). Sixteen of the participants were female. Sixty-six percent of the participants were not taking any treatment (anti-depressants or counselling during the LEAP trial). Half of the participants did not identify with a religious affiliation and half lived at home with both parents. Two participants were not in school during the LEAP trial; the rest were attending either high school or a post-secondary institution. The LEAP trial utilized a parallel group, randomized, waitlist controlled, assessor-blinded clinical trial design. Eight of the interview participants were in the waitlist group. Depression decreased after the completion of the LEAP Project for all interviewed participants as measured by Children's Depression Rating Scale (CDRS-Revised) for participants 13 to 18 years of age and Hamilton Depression Rating Scale (HAMD) for those 19 to 24 years of age. Based on proportions, overall the characteristics of the purposive sample (n=18) is comparable to, the trial sample (n=62) and is reflective of the diversity of the individuals who participated in the LEAP trial.

### **3.2 Thematic findings**

The perceived impact of LEAP on participants' experiences of or in relation to depression is encapsulated in three overarching themes – perceptions, feelings, and actions - which are described in detail below.

#### **3.2.1 Theme 1 - Shift in emotional states**

The experience of depression was described by majority of participants as a heaviness that was constantly present. It was also associated with a range of emotions. Very

commonly, it was linked to anger. Other emotional states identified by participants were sadness, disconnect, being lost, loneliness, helplessness, shame, guilt, fear, worry, and a sense of feeling awful. For some it was also linked to a sense of worthlessness. For many it also manifested as a loss of interest in activities and relationships (e.g. with friends) and tendency towards withdrawing and 'doing nothing' for extended periods of time. A few participants also described depression as a 'vicious cycle', where feeling depressed makes one feel bad and frustrated, which further feeds into or reinforces the depression. For some, the experience of depression led to a numbness or a disconnect - from how they felt altogether – irrespective of whether the feelings were good or bad. The depth of despair that may be experienced is captured by the voice of Participant 13:

I don't feel anything. There isn't anything that makes me sad. There isn't anything that makes me happy. And maybe that's my mechanism of self-defense – I disconnect from myself. I disconnect, I don't dream, I don't eat, I don't sleep, I don't do anything. Nothing gives me a smile or a cheer. It's horrible. It's despairing. You feel hopeless all the time. You feel disappointed of you all of the time. You feel like things aren't worth the time or the effort or even the energy.

Participants identified that working through the LEAP modules, and in particular processes related to acceptance, finding purpose, forgiveness, and gratitude, prompted or led to a positive shift in emotions that was characterized as calm, hopeful, peaceful, relaxed, and happy.

Several participants described the improvement they experienced as a decrease in how often or how long they felt

depressed. For some, the experience of coming out of the heaviness or darkness of depression created a sense of relief whereas for others it was marked by inspiration – that they too can get through it (depression). As explained by Participant 2: “I was inspired in terms of what she (narrator) was kind of going through and the different ways that she coped with it”.

The theme of connection was particularly prevalent amongst the participants. Many expressed feeling connected or re-connected as a result of LEAP. The opportunity to relate their lived experience to another (individuals appearing in the videos) appeared to reduce the sense of isolation or disconnect. Further, for some it was marked as a realization that they were not alone; specifically, that their experiences related to depression were not unique and were shared by others. This is captured in the reflections shared by Participant 5:

...see that is something that I really struggled with (feeling alone), and the LEAP Project was really good because (the narrator) like shared so much of her experiences and it really hit home. All kinds of experiences. Like break ups and feeling alone and I don't know and what she wanted to do in life. It seems like she was one of my friends. It's like it's either they couldn't understand what I was going through because they've never been through it or they did know what I was going through but they did not want to talk about it because it was too awkward for them. And it was just so frustrating.

Participants' experiences indicated that the sense of disconnection became prevalent as feelings of sadness or anger preclude connection to those around them that appeared to be “happy and normal”.

However, feeling connected appeared to lead to a deeper satisfaction in the interactions they had with others. Through LEAP, some participants began to experience empathy and compassion which impacted how they perceived or interacted with friends and/or their families. This was expressed as paying attention to or being interested in or caring about what others said and felt, which led to a better understanding of others.

The shift in emotions also seemed to directly lead to initiation or uptake of activities that further contributed to an improved sense of wellbeing. As described above, feeling passionate or inspired led participants to play music (again), create videos or make bracelets. A sense of hope enabled Participant 11 to return to school:

I'm going to start school hopefully in January. Yeah...well I wanted to in the fall, but I just wasn't ready. I clearly wasn't ready. I was procrastinating and didn't do anything about it. I mean, I really didn't do anything before (LEAP). And I really didn't have a desire to 'cause I had no hope. And I became hopeful. That I can go to school. And make my parents proud of me (laughter).

Another participant began to volunteer at the humane society, which was seen as a way of expressing kindness inspired by completion of the forgiveness module.

Lastly, for several participants, feeling better was directly associated with feeling more energized. This was linked to feeling passionate, hopeful and inspired, but more directly, it was linked to sleep. Participants' experiences suggest that the alleviation of the negative thoughts or state of mind, facilitated by the stories shared in the LEAP modules and meditation exercises, resulted

in participants' ability to sleep. This was reported to have a direct impact on an improved sense of wellbeing.

### **3.2.2 Theme 2 – Taking action**

Although passive viewing of the content in the LEAP modules occurred, it was evident that for most participants, the LEAP content facilitated or led to action directly aimed at addressing depression or related experiences. In fact, there were a number of different ways that participants actively applied what was presented or what they learned through LEAP to change their behaviours or attitudes that were directly linked to their depression. Several participants discussed undertaking specific activities or tactics when they found themselves in a depressive episode or situations that triggered or exacerbated emotions related to their depression (e.g. anger or helplessness), which aimed to re-focus or shift their focus to something else as a way of managing their emotions. For example, Participant 9 explained that they “do not wallow in misery for hours anymore...thinking about how bad a situation is”. Instead, “they tackle the misery” by distraction - making themselves engage in an activity to get themselves to focus or think about something else. A couple of other participants reported that this approach was effective in managing negative ruminating thoughts that occurred during a depressive episode. The distractions ranged from fun and creative activities to returning to the LEAP modules or specific content (e.g. a video in one of the modules). Another (Participant 8) described a process of removing themselves from a given situation, calming down, and then continuing with a refreshed perspective that enabled them to better address the issue at hand. Several participants reported applying the breathing techniques taught in the relaxation exercises and visualizations as a

way of managing stimuli (e.g. stress) that triggered negative emotional states. Some reported consciously “taking time” for themselves as a means of nurturing and re-establishing self-worth. Lastly, some began to seek additional help (e.g. counselling) in order to work through the issues that were recognized as contributing to or a source of their depression.

The process of being actively engaged in something resulted in the emergence of a sense of control for many of the participants. This was connected to one's ability to understand and manage their emotions, which led to a sense of emotional stability and a recognition of what they can and cannot control, as reflected in the experience of Participant 3: “I cannot control what happens to me but I can decide how I react to things”. This in and of itself was recognized as a valuable experience that provided relief and an improved sense of wellbeing.

### **3.2.3 Theme 3: Change in perspectives and understanding**

A key change discussed by almost all participants was coming to a new understanding of their experience of depression, and by extension, of themselves. For many this involved gaining clarity about what they were feeling and reasons or a basis for those feelings. The stories and examples shared by the narrators in the LEAP modules appeared to provide participants with an opportunity to relate and therefore connect with how they were feeling, creating a recognition or conscious acknowledgement of their emotional state(s). Several participants recognized that although depression was still present, it did not preclude them from experiencing happiness or relief from feelings associated with the depression. Some also reflected that a “life lived” involves experiencing many



emotions including sadness or feeling down, often associated with states of depression. This appeared to lead to a greater acceptance, and at times tolerance, of negative feelings and a recognition that they are often transient and frequently context specific.

Several participants expressed feeling frustrated with suggestions from friends and family that they should “simply cheer up” or that how they felt was their choice. The frustration arose because they did not see being depressed as a choice they actively made. However, many recognized that their state of mind, attitude towards their situation or perspective on things influenced how they felt, and hence their state of depression. For some this led to an appreciation of creating or having what was labelled as a “positive spin” on life or specific situations. This was evident in participants’ reflections on the importance of being happy with what they have and/or recognizing what they are experiencing is ‘not that bad’. This appeared to be connected to the development of a relational perspective – tempering their situation and/or related feelings in relation to other circumstances presented through LEAP. An example of such a perspective shift is captured by Participant 12:

...it’s not about the money. As long as you can make a good living and be happy. Because that’s the most important thing. Like, there’s always a comparison, like living in a 3rd world country where they grow their crops and don’t have fresh water all of the time, but they are still happy. And then there is someone like in this sort of world that has everything and you are still not happy. Because you have to be happy with the little things. Which is what I learned.

What also emerged from participants’ experiences was a recognition that the perspective shift they experienced related to not only their ability to deal or cope with their depression but more generally how they approached day to day life and situations. As reflected in the words of Participant 2: “... yeah, I think it does help. Not only towards depression, but also towards regular life, just like everyday life, everyday stresses...more than some other programs”. Several examples were shared by participants: how they interacted with individuals with whom they had strained relationships (e.g. boyfriend, parents) or shifting perceptions of a situation from being stressful (e.g. testing situation) to seeing it as an opportunity to “improve one’s work”. For one participant (Participant 7), it was a realization that getting older did not mean the fun had to stop. In fact, to stay happy as one got older having child-like fun was a necessity:

...the fact that she (narrator in the LEAP videos) said that life isn’t all serious...that adults have to grow and stop being imaginative and stuff like that. And that’s what makes us so serious because - we lose our imagination and creativity. And that sometimes is what makes us unhappy...We need to have some fun and games or we are going to go crazy and fail as a society basically. That’s pretty much what I got out of it.

Learning and applying principles of acceptance and forgiveness was key in shifting how some participants perceived or understood situations or themselves when faced with challenges. As captured by Participant 5:

...they just talk about like looking at things

in a different perspective. And I think that really hit me too. Because that was something I like really struggled with. And I talked to a lot of my counsellors about but, I don't think they really understood me...or something. I don't know...like I knew I needed a different perspective on things but I just didn't know how to get there. But I felt like the LEAP Project...One of their modules, I think it was module six. It was like responding to setbacks. Acceptance. And there was another one – Module 7 – forgiveness....

For a few, acceptance and forgiveness was directly linked to coming to terms with past experiences such as bullying, parental divorce, abuse, and the death of someone close. The experience and reflection of Participant 12 captured this idea:

...And looking back, it was so sad that I would forget who I was because of her. But she doesn't matter to me anymore, and it's nice now that I can look back and understand that you can't just focus on what someone did to you. And you really have to look forward to what you are going to become. Because if I didn't look forward to what I was becoming, I would've not survived. And yeah. And I wouldn't have survived without that...

Lastly, for several, the perspective shift led to a new or better understanding of themselves that facilitated self-actualization or potential for self-actualization. This was reflected in participants describing moments where they experienced full expression of themselves, or as several participants described it: "the real me". This resulted in their engagement in activities that enabled self-expression which had been lost due to depression. The LEAP content facilitated

this process as it appeared to create a space where one could step back and explore different views or aspects of themselves.

Regardless of what the perspective shift was, it appeared to provide a grounding through which participants were better able to address or cope with their depression or situations associated with depressive episodes. This is captured succinctly by Participant 9: "...when you look at yourself from a different perspective it really helps you see how you can counteract the depression".

The experiences of the LEAP trial participants also suggest that the benefits gained through LEAP were often not direct or linear. For many, LEAP resulted in the initiation of a process of change that was marked by stages of awareness, processing and integration. Awareness involved seeing or understanding something, and at times for the first time. Processing involved playing with and possibly testing ideas presented in the LEAP modules. Integration was marked by these ideas or activities becoming part of the individual and their regular day to day existence. It was the moment when it was not perceived as an external or foreign notion but rather something that belongs to them or had become a component of their daily life.

### **3.2.4 Variability of LEAP impact**

Although the positive results of the clinical trial [16] and experiences described by most participants during the interviews indicate that LEAP was a beneficial intervention, it is important to recognize that there were some participants who felt that LEAP did not have a meaningful impact on their depression – neither alleviating it nor improving their coping abilities. One reason appears to be that the information and ideas presented through LEAP were not new or novel; they

were packaged in a different way, through a framework based on core spiritual principles, but participants had already been exposed to them through other sources (e.g. a counsellor). Although acknowledged as a good refresher of what they were already familiar with, it was not effective as it did not add anything new. However, for some, this corroboration either enabled recall or reinforced the messaging, which functioned to facilitate engagement with the LEAP content and led to improvements related to depression. For instance, Participant 13 commented:

... Because I think many of the things the LEAP Project teaches I already knew or I already saw before. But for me the LEAP Project helped me remember them. So for me that was really great because I had a chance to return to all of those things because when I came here, like I said, I forgot all of the positive things I did, thinking some values. And this remind of these. And I think this is really helpful for other people struggling and trying to see life in a different way.

A few of the older participants reported that LEAP was geared at a younger age group, and hence, not helpful as it did not apply to their older experiences. Although it may have helped them when they were 12 or 13 years old, the issues or topics that were described or addressed did not resonate with their experiences as young adults. Several participants commented that although they worked through the modules and felt that they understood the messages, this did not translate into having an impact on their depression or related feelings. Although there was improved or increased awareness of the issues at hand, several felt that they were ‘not quite there yet’ in terms of feeling better or alleviation of the depression. Some

were left struggling with not knowing how to address or approach the issues - how to ‘fix the problem’. For example, Participant 4 reflected:

I don’t know...some of them talked about how to like deal with feeling like lonely and stuff like that I guess. That kind of helped but didn’t really ... it wasn’t really like how to fix it. I don’t know...yeah, I still don’t really know how to control it myself.

Lastly, the benefits gained through LEAP appeared to be short term or transient in some instances. A few participants noted improvements (as described above) in the moment, when doing specific exercises or during the eight weeks when they were immersed in the program. However, during the weeks following LEAP, they experienced fluctuations and some reported that although LEAP helped, they felt that they were still depressed or had returned to where they had started. For some this came with a realization that LEAP was not ‘a fix’ and working through depression is a process that requires maintaining or building on what they had gained through LEAP. This meant that they had to keep “working on it”, continuously doing the various exercises and/or activities and consciously applying the learnings.

#### **4. DISCUSSION**

This study was conducted to supplement the quantitative results of the LEAP clinical trial [15] to gain a more comprehensive and in-depth understanding of the impact of the innovative e-mental health intervention – the LEAP Project, now re-named as BreathingRoom™. Depression being a complex concept and phenomenon, it was determined that an analysis of what a change in depression meant to the participants and how it manifested in their lived experiences,

was crucial to fully understanding the value of this intervention.

The conclusion of the trial and quantitative analysis was that the LEAP Project resulted in a significant decrease in depression, measured as a score on the CDRS-R scale and HAMD scale for adolescence and young adults, respectively. The decrease was significant (in comparison to baseline) upon completion of the LEAP Project at eight weeks and post-LEAP at 16 and 24 weeks. The qualitative findings reported here clearly demonstrate the complexity of what a decrease in depression means in context of the lived experience of the young people who participated in the trial.

There was a range of associated emotions with feeling less depressed. There was a change in the level and type of activity that participants began to engage or re-engage with as a direct result of feeling better. Many reported connecting or re-connecting to themselves and others, which was perceived to be a positive outcome. Lastly, the shift in perspective and learning that, through the process of completing the LEAP modules, was often deeply impactful for the participants, and in a number of cases, went beyond depression; the shifts experienced affected their entire person and not only the isolated experience of depression. Participants recognized that, through LEAP, they developed an understanding and/or skills that were applicable to various domains of their lives.

The sense of connection appeared to be central to the experience of many of the participants captured through this qualitative inquiry. Many identified themselves and/or their situations in the stories and narrations presented by individuals in the LEAP module videos. In addition, the connection to the LEAP characters/narrators and their stories provided a sense of validation for

participants and, for some, a sense of belonging in that their experience was shared by others or not an isolated occurrence. This was perceived as positive by participants and appeared to precipitate other positive consequences such as engagement in activities or alleviation of distress related to their situation. This element appears to be critical as research shows that lack of connection (or social isolation) is a key predictor of depression risk, relapse, and poor responsiveness to treatment [29]. Connectedness has also been proposed to function as a moderator between stressful events and poor mental health outcomes in youth [30, 31]. In research on social identification and depression, it is reported that it is through identifying with another that a sense of acceptance and belonging is generated, which in turn contributes to one's sense of self [32]. And it is this factor that has consequences on wellbeing, since, as asserted by Cruwys et al. 2014 [33], is at the core of depressive conditions. It is also possible that this sense of improved connectedness lead to a de-stigmatization of the individual's mental illness which has been reported in the literature for young adults [34].

Although traditionally research in the area of child and adolescent mental health has focused on identifying and addressing vulnerability and risk factors, recently the attention is shifting to the concept of resilience [35,36,37,38]. Resilience broadly refers to abilities or patterns of functioning that enable a return to or maintenance of a positive mental state in the context of risk or adversity that contribute to positive or good psychological outcomes [34,35,39,40]. It is a process, involving use of assets and resources that enables modification of negative effects or stressors, which is associated with reduction in depressive symptoms [41] or preventing the development of mental health issues or

disorders [35]. Therefore, resilience has been described as a protective mechanism that enables one to more effectively endure or deal with challenges or adversity that are associated with negative mental health outcomes. Three major categories of protective factors that characterize resilience have been defined in the literature: individual attributes or personal disposition, relationships or social cohesion (e.g. friendship, family relations), and external support mechanisms (e.g. community, social networks) [42,43]. Our research objectives were focused on depression and the experience of depression. Yet what emerged through the interviews was that through a guided exploration and application of concepts such as gratitude, acceptance and forgiveness, it appears that LEAP may facilitate the development of characteristics and qualities that are reflective of resilience. Participants in our study described a range of emotions and activities associated with their depression. However, they also described scenarios that aligned with each of these protective factors. For example, a change in perspective or understanding that enabled a more positive approach or shift in attitude was a dominant theme in our findings. This may also be attributed to individuals becoming more confident in their own identity, which is the psychological developmental struggle of this age demographic. The formation of a secure identity leading to improved mental health has established in the literature [44]. A number of participants also discussed the positive impact of LEAP on their close or personal relationships, which likely facilitated the development of healthier relations and social cohesion. This fits well with research that has linked more mature defense mechanisms to be protective in depression and suicide in adolescents [45]. The comments of our participants indicating that learning “how to breathe” or distract

themselves when stressed may be examples of mature defenses, such as sublimation or suppression, respectively. Participants’ experiences also suggest that LEAP may have functioned as a virtual community for participants, providing insights and resources that supported their needs not only in relation to depression directly but their life more holistically. As such, LEAP may function effectively as a resiliency building program, through which participants were better able to manage depressive symptomology and develop the skills, or protective resources, to better address situations that may trigger depression in the future. This is of particular importance given recent evidence that suggests interventions that enhance protective factors may be more effective in supporting mental health in youth than reducing risk factors [31,45].

#### **4.1 Strengths and limitations:**

Our goal was to generate a sample that reflected the diversity and richness of the participants’ experiences and of the trial sample. The qualitative inquiry substantiates the quantitative results of the LEAP trial. However, additional effects of the intervention emerged which were not captured in the quantitative analysis – namely the multi-dimensional emotional aspect of depression, the importance of connection, and resiliency development. There are several limitations that require consideration when interpreting the findings of this study. Although, there was an effort to recruit demographically and match individuals that reflected the quantitative results of the first study, it is important to recognize the risk of a sampling bias for individuals who have a positive experience in the study to be willing to participate in the follow-up study. The male voice is under-represented; only two males in the trial agreed to participate in the interview. Our purposive sample is only of participants

whose depression scores were lower post LEAP. Therefore, the perspective of those whose depression did not improve or worsened over the course of the trial (3%) is not reflected here. The data collection and analysis were led by an experienced qualitative researcher (AKR); however, the robustness of the analysis may have been strengthened through activities aiming to corroborate the findings such as member checking.

## **5. CONCLUSION**

This e-mental health intervention based on eight universal spiritual constructs has broad applicability to a range of life situations, beliefs and backgrounds. While the clinical trial results indicated that depression severity decreased in all 18 participants, immediately post and at follow up (up to one year), through the qualitative evaluation we identified the multi-faceted changes which occurred, which were beyond the change in or alleviation of depression. These included a broad range of emotions, activity levels, perspective shifts, connectedness, and resiliency building. The LEAP Project appears to provide the foundations or principles that enable participants to address the various challenges faced/encountered by adolescents and young adults in a more effective manner. As a web-based resource, LEAP provides a virtual community and enables easy access to useful resources on

an as needed basis, which is beneficial to and needed by youth.

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