Online Mindfulness-Based Logotherapy Program: A Pilot Study Targeting Depressive Symptoms of Cyberbullied Adolescents During the Covid-19 Pandemic

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Abstract

The outbreak of the Covid-19 pandemic has led to the intensive use of the internet for educational and recreational purposes, leading adolescents to be more exposed to cyberbullying. Empirical studies indicate that cyberbullying has become a pervasive problem among adolescents causing negative consequences like depression. Moreover, the global pandemic lockdown and quarantine measures gave rise to the demand for telepsychology and teletherapy to virtually address the psychological needs of netizens. Thus, utilizing Conklin's program development model, we created and experimentally tested an online intervention program to target the depressive symptoms experienced by cyberbullied adolescents. We integrated logotherapy and mindfulness to develop an eight-modular, Online Mindfulness-based Logotherapy Program (OnlineMLP). After being validated by experts in various disciplines, we experimentally pilot tested the efficacy of the OnlineMLP in a 3-h session per module in four weeks to a group ($N = 10$) of cyberbullied adolescents in Tamilnadu, India. The pilot study showed significantly that the OnlineMLP had a positive effect on the participants reducing their depressive symptoms. Furthermore, it confirmed that the online program's concepts and structure are reliable, feasible, and efficacious for testing a more extensive base of cyberbullied adolescents experiencing depressive symptoms.

Keywords Covid-19 · Cyberbullying · Depression · Mindfulness · Logotherapy · Online therapy

Adolescents experience unique opportunities across social media to express their creativities and find people with the same talents and ideology whose interests differ from mainstream culture (Moreno & Kolb, 2012; O'Keeffe et al., 2011; Reid & Weigle, 2014). The Covid-19 pandemic led to an increase in adolescents using digital platforms for their educational and recreational purposes. This unprecedented period and more time spent online pave the ways for bullies to reach the victims at any time in the day and night. Cyberbullying happens via calling and sending offensive and threatening messages, calls, and e-mails, and morphing one's picture with disturbing images, excluding someone from the group, and spreading rumors. These are classified as written, verbal, visual, impersonation, and exclusion (Alvarez-Garcia et al., 2015; Nocentini et al., 2010). L1ght, an organization, conducted a survey (2020) deep dive into millions of websites, teen chat rooms, and gaming platforms and revealed a 70% increase in cyberbullying during these Covid-19 pandemic times. Mkhize and Gopal (2021) surveyed collecting data from Facebook, Twitter, and Instagram posts since the beginning of lockdown and revealed that most had been victims of cyberbullying with the increase of social media usage.

Cyberbullied adolescents experience internalizing problems such as stress, anxiety, depression, anger, suicidal ideation, somatic symptoms, and emotional issues; externalizing problems like conduct problems, drug, and alcohol use; and decreased prosocial behaviors. Similarly, the victims of cyberbullying experience a decrease in self-esteem, life satisfaction, and perceived support (Fisher et al., 2016; Kowalski et al., 2014). In addition, adolescents with severe depressive symptoms showed lower levels of functioning, a lack of meaning in life, and satisfaction in daily activities, role functioning, and social relationships (Kuehner,

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2002; Saarijarvi et al., 2002). Cyberbullying brings about significant strain to an adolescent's psychological state that leads to adverse outcomes. The general strain theory (GST) of Robert Agnew describes strain as "events or conditions that individuals dislike," and various forms of strains or stressors increase the likelihood of negative emotions such as anger, frustration, depression, and despair (2006, p.4; 1992). Agnew proposed GST and said that unfavorable conditions that generate strains might pressure individuals into engaging in crime through negative emotions if unaddressed. Agnew presented three significant types of strain (Agnew, 1992): the inability of individuals to achieve their goals, the loss of positively valued stimuli, and the presentation of noxious or negatively valued stimuli. The third strain explains individuals' unexpected exposure to events or conditions such as child abuse, bullying, cyberbullying, hostile relations with parents and teachers, or criminal victimization (Agnew, 1992; Jang & Agnew, 2015). The strain causes dysfunctional beliefs, which also leads to developing cognitive triad: (a) negative view of the self, (b) negative view of the world, (c) negative view of the future (Beck, 1976, p.11). Beck found that such thought happens automatically that the individuals might not even be conscious of their presence or realize that they occur (Sharf, 2016; Sue & Sue, 2008). The cognitive triad has been associated with vulnerability for depression in adolescents (Braet et al., 2015).

A systematic review of school-based cyberbullying prevention and intervention programs that were carried out in 9 countries and 17 studies revealed that programs that address cyberbullying effectively reduce cyberbullying among school-aged youth irrespective of the theory, sampling, or design (Tanrikulu, 2018). The global pandemic with its consequences of lockdown and quarantine measures has led to the emergence and increased demand for telepsychology and teletherapy. In-person or face-to-face therapies and interventions have been pushed to be converted into an online strategy to be executed and administered virtually. After implementing telemental health service in the U.S. Department of Veterans Affairs (VA), patient's hospitalization between 2006 and 2010 was approximately reduced to 25% (Godleski et al. 2012; Caver et al., 2019). In addition, a study conducted among 768 US mental health professionals regarding telepsychology during the Covid-19 pandemic resulted in 39% respondence that used telepsychology before Covid-19, which became 98% during Covid-19 (Sampaio et al., 2021). Furthermore, for the patients with chronic pain during the Covid-19 outbreak, remotely supported (eHealth) service positively helped pain management (Eccleston et al., 2020). Thus, to provide this growing need for telemental health services through online or virtual therapies and intervention programs to provide psychological services remotely and safely amidst the Covid-19 threat, we developed an online intervention program to target the depressive symptoms experienced by adolescents who have been bullied, combining mindfulness therapy and logotherapy.

The mindfulness theory of Shapiro guides us to stand back and witness rather than be immersed in the life story. In perceiving, the "subject" becomes "object." The individual will realize, "this pain is not me," "this depression is not me," and be able to connect moment-to-moment experience and understand what is, instead of a commentary or story about what is. Shapiro and his colleagues defined mindfulness with three axioms: intention (I), intentions as dynamic and evolving, which allows them to change and develop with deepening practice, awareness, and insight; attention (A), paying attention involves observing the operations of one's moment-to-moment, internal and external experience; and attitude (A), the qualities one brings to attention have been referred to as the attitudinal foundations of mindfulness (Shapiro et al., 2006, p. 376). This model gives a shift in perspective, which is termed *reperceiving*.

On the other hand, logotherapy of Victor Frankl says life has meaning in all circumstances, and people can discern the meaning potential in every passing moment; people have an innate desire and motivation to find purpose in life; everyone has the freedom of attitudinal choice, even in situation of unalterable condition, respectively (Devoe, 2012; Frankl, 2006). Therefore, he emphasized *dereflection*, meaning attention, which helps to refocus on the proper object (Devoe, 2012; Schulenberg et al., 2008), and also in the treatment instead of hyper-intention (forced intention), Frankl insists on hyper-reflection (excessive attention). Therefore, while practicing *reperceiving and dereflection*, the adolescent victims of cyberbullying can view self, world, and the future and get relieved from the depressive symptoms.

On this premise, we hypothesized that the Online Mindfulness-Based Logotherapy Program (OnlineMLP) will have a positive effect on the cyberbullied adolescents by reducing their depressive symptoms. Thus, the present study integrated mindfulness therapy and logotherapy in developing the Online Mindfulness-Based Logotherapy Program (OnlineMLP) and pilot tested its efficacy in reducing the depressive symptoms of adolescent victims of cyberbullying.

Methods

Design

The present study employed Conklin's (1997) program development model that consists of three phases: (1) planning, (2) design and implementation, and (3) evaluation and validation in constructing the Online Mindfulness-Based Logotherapy Program (OnlineMLP). Using a program development model

enhances program relevance and allows for concentrated resources to be focused on the most severe, contemporary needs of many people (Boyle & Mulcahy, n.d.). We designed the OnlineMLP as a group activity and pilot tested it utilizing a true experimental research design, particularly the one-group pre-test and post-test (Myers et al., 2012), to evaluate the efficacy of our online intervention.

Participants

We selected 10 adolescents (males = 4; females = 6) to participate since about 10 to 30 participants are suggested for a pilot study (Hill, 1998; Isaac & Michael, 1995). The participants studied in different colleges in Tamilnadu, India, ages 18 and 19 years ($M = 18.50$; $SD = 0.527$). Participants were randomly selected from a participant pool with the following characteristics: (a) 18 and 19 years old, (b) adolescent boys and girls, (c) had smartphones, (d) understood the English language, (e) experienced cyberbullying victimization as revealed by CYVIC, and (f) had severe depressive symptoms as revealed by BDI-II. All ten participants gave their consent to voluntarily participate in the pilot experiment without compensation or academic credits.

Measures

Demographic Information Form (DIF)

The personal data sheet is a researcher-made demographic questionnaire used to obtain the participants' socio-demographic profiles. It provided relevant information and helped in the process of inclusion and exclusion of the participants. The datasheet contained personal and professional information such as age, gender, education status, owning a smartphone or not, and staying at home or relatives' house or hostel. Data collected from the DIF had no identifying features which protected the personal identity of the participants.

Cybervictimization Questionnaire for Adolescents (CYVIC)

CYVIC is a standardized self-reported questionnaire of Alvarez-Garcia et al. (2017) to assess the severity of cyberbullying victimization over the last 3 months (e.g., "I have received calls on my mobile that are not answered, I guess to annoy me."; "Someone has made false complaints about me in some forum, social network, or online game, which have caused me to be expelled."). It comprises 19 items evaluated in a 4-point Likert scale ranging from 1 = never to 4 = always. The higher score indicates the higher degree of cyberbullying victimization.

Beck Depression Inventory-II (BDI-II)

The BDI-II is a self-report 4-point Likert scale with 21 items (e.g., "I feel quite guilty most of the time"; "I do not feel that I look any worse than I used to.") to assess the severity of depressive symptoms. The score is ranging from 0 to 3. While adding up all the responses, a total score of 0–13 is considered minimal range, 14–19 is mild, 20–28 is moderate, and 29–63 is severe (Beck et al., 1996; Cinarbas et al., 2011; Al-Turkait & Ohaeri, 2010; Tusiime et al., 2015; Community-University Partnership for the Study of Children, Youth, & Families, 2011).

Procedure

The UST Graduate School Ethics Review Board approved this research before data collection. Due to the Covid-19 pandemic, we created a google form with the questionnaires and forwarded it via Facebook, WhatsApp, and Messenger to college-going adolescents in Tamilnadu, India. The participants voluntarily completed the google form, which contained the questionnaires, brief description of the study, procedures, benefits, and risks, and gave consent to participate in this study. Of the 612 participants who came within the inclusion criteria, 281 (45.91%) had higher cyberbullying victimization and severe depressive symptoms. We randomly selected ten adolescents for the pilot study from this pool of participants. Following the government regulation during the Covid-19 pandemic, we conducted the OnlineMLP in a 3-h module in 4 weeks via secure version of zoom. Homework was given to practice what they were learning in the sessions. We ran each session with all 10 participants attending all the sessions the entire time. During the program, all participants used laptops, and for every session gave their informed consent to participate and be recorded; they were assured that the recorded sessions are confidential and will be safely secured, adequately deleted, and discarded after completion of the study. On the last day, program evaluation form was given to the participants to get their feedback about the program. In addition, a distress protocol was in place if participants would need them during and after participation. Crisis hotlines (cellphone numbers) were also provided to the 10 participants after completing the online intervention program. The recorded sessions helped us get more information to update this program for the final phase of the program development. All recordings were securely deleted after and participants were informed accordingly.

The development and pilot testing of the Online Mindfulness-based Logotherapy Program (OnlineMLP) had three phases: (1) planning, (2) design and implementation, and (3) evaluation and validation. Phase 1 is planning which entailed identifying program goals, conducting a needs assessment, and setting program

priorities. It also involved identifying target audiences, writing program objectives from the extensive study of the available related literature, and analyzing data from surveys, interviews (10), and focus group discussions (10) from the pool of participants. Phase 2 involved designing and implementing the OnlineMLP; selecting and developing themes, delivery methods, and resource materials; and constructing an implementation timeline. The logical flow of the program followed with introducing OnlineMLP and its objectives to the adolescents, educating the participants to understand the interconnection between body, mind, and spirit. This second phase also involved guiding them to notice dysfunctional thoughts, debrief the suffering, engage them to nurture the meaning, establish attitudinal change, and relieve them from depressive symptoms. The third phase, evaluation and validation, involved expert validation and a pilot study to determine the program's efficacy.

Results

The present study was able to develop an online intervention program that integrated logotherapy and mindfulness to target the depressive symptoms experienced by cyberbullied adolescents using Conklin's program development model.

Table 1 describes the Online Mindfulness-based Logotherapy Program's eight modules and their objectives.

A team of seven mental health experts, such as clinical psychologists, counselors, and psychiatrists, evaluated the OnlineMLP. Then, using the standardized evaluation guidelines, which was an adapted form of the tool developed and used by United States Agency for International Development (2016), the experts unanimously graded the program with an overall score of "A," indicating the soundness, relevance, and feasibility of the OnlineMLP. Though all the experts are in complete agreement and gave an overall score of "A," they still gave corrections, modifications, and suggestions to further improve the program. In addition, the inter-rater reliability resulted in a coefficient of 0.709. Thus, the experts' validation assured that the program is reliable and predicts a high chance of bringing about affirmative changes.

Ten adolescent participants were randomly selected for the pilot study to test the feasibility through a one-group pretest and post-test experimental design. In the Appendix shows the schedule of the 3-h module over 4 weeks. And Table 2 shows the pre- and Post-test scores of the participants on depression as measured by BDI-II. Statistical analysis was carried on with the pre- and post-test scores using the "Wilcoxon signed-rank test," and the study results are shown in Table 3. The result confirmed that the OnlineMLP

Table 1 Online Mindfulness-based Logotherapy Program (OnlineMLP) modules

S.N	Modules	Objectives
1.	Building rapport and Introducing OnlineMLP	Get to know about other participants; explore expectations and set ground rules; educate about cyberbullying and benefits of mindfulness; introducing the OnlineMLP and its importance
2.	Connecting body, mind, and spirit	Identifying the connection between body, mind, and spirit; becoming aware of negative thoughts; and picking one item in each dimension (mind, body, spirit) and working on it throughout the day
3.	Acknowledging thoughts	Acknowledge whatever is arising in mind; recognize the tragic triad; using paradoxical intention; practicing self-distancing; guiding to improve self-esteem and self-efficacy; teaching various strategies to create positive vibes
4.	Your suffering is not you	To enhance participants, treat themselves with as much kindness as they would when another person is in pain; discuss existential frustration, despair, and loss of hope; make them understand an internal pulling force; help to improve social skills self-acceptance
5.	Explore and express innate power	Motivate the participants to scull out the moments that they miraculously solved the problems; encourage, explore the meaning, and express their creativity; guide to reperceive the facts; help to understand that freedom is an innate need
6.	Attitudinal change	To encourage the participants to change attitudes in the face of life's difficulties; motivate them to follow "selfless compassion"; encourage them to connect with their inner resources and develop and strengthen a sense of inner calmness; enable the participants to reduce aggressive thinking and building trust
7.	Respond than react	Help to practice non-judgmental and let go; encourage to understand and practice a quick exercise that will help bring back positive energy to life; help to practice loving-kindness; allow them to switch from the usual mode of doing to non-doing
8.	Stabilizing the change	To enable the participants to feel better about themselves, being accepted and loved; help them be present and be mindful at every moment; prepare the participants for termination

Table 2 The BDI-II pre- and post-test scores of the participants

Participants	Pre-test	Post-test
1	40	18
2	50	16
3	50	23
4	49	15
5	49	24
6	41	18
7	39	19
8	42	16
9	45	30
10	42	31

is reliable, feasible, and efficacious in targeting depressive symptoms of the cyberbullied adolescents.

Table 3 shows the outcome of the statistical analysis using pre-test and post-test mean scores and standard deviation. The results indicated a decrease in depressive symptoms among the adolescent participants after the feasibility test. The level of decreased depression is shown from the pre-test mean and standard deviation score of 44.70 (4.42) to the post-test mean and standard deviation score of 21.00 (5.79). In addition, there is a significant difference in the pre-test and post-test scores of BDI-II ($z = -2.805$; $p = 0.005$).

The ten adolescents who participated in the 4-week-long eight-modular OnlineMLP perceived the experience positively and expressed satisfaction and appreciation for being part of the pilot study. In addition, everybody qualitatively reported improved mindful attention, reperceiving the facts, and decreased depressive feelings. One participant said "Yes, through this program, I have learned a lot to look into the facts as an 'observer' rather than an active participant. It helps me to move on from my negative thoughts." Another participant said "this program helped me cultivate attitudes to find meaning in life and get away from the depression."

Discussion

At present, no online intervention study to address cyberbullying and reduce depressive symptoms has been available. Nonetheless, the Online Mindfulness-based Logotherapy Program (OnlineMLP) development integrated

Table 3 Wilcoxon signed-rank test results before and after the intervention ($n = 10$)

Scales	Pre-test mean (*SD*)	Post-test mean (*SD*)	*z* pre vs post	*p* value pre vs post
Depression	44.70 (4.42)	21.00 (5.79)	−2.805*	0.005

$p = 0.05$; *based on positive ranks

the theories of mindfulness and logotherapy to target the depressive symptoms among the cyberbullied adolescents during the Covid-19 pandemic. The OnlineMLP was pilot tested with ten participants for 4 weeks to assess its feasibility and usability for a larger population. The intervention outcome statistically supported and validated the impact and efficacy of the OnlineMLP as an intervention program. Furthermore, the result shows substantial implications that the mindfulness theory and logotherapy concepts are efficacious and have achieved the program objectives.

Before the pilot test, we carefully examined the research conditions and the demographic profile of the participants to ensure homogeneity of research conditions. This examination revealed that the participants had a high degree of cyberbullying victimization and had severe depressive symptoms. This outcome supported the need for intervention programs like OnlineMLP to address the depressive symptoms of cyberbullied adolescents comprehensively.

The pilot study result is consistent with the evaluation and validation of the seven mental health experts which indicates that the OnlineMLP is scientifically sound and may positively influence change when implemented among adolescents. The adolescents were able to learn to be mindful in each moment, to have positive energy, happiness, and meaning in life. Becoming aware of the connection between body, mind, and spirit has shown changes in seeing the facts as an "observer" rather than an active participant. The adolescents also expressed that *reperceiving* and *dereflection* enhanced their capacity to take another person's perspective and facilitate empathy. They were able to identify that freedom is an innate need they all have and want to acquire. These positive changes were reflected in the post-test score and showed a decrease in the depressive symptoms.

Conclusion

We successfully integrated mindfulness therapy and logotherapy in developing the Online Mindfulness-Based Logotherapy Program (OnlineMLP) and tested its efficacy in reducing the depressive symptoms of adolescent victims of cyberbullying through a true experimental research design, specifically the one-group pre-test and post-test. The OnlineMLP had a significant positive effect on the participants and was able to reduce their depressive symptoms. Moreover, our online program's concepts and structure are reliable, feasible, and efficacious for testing a more extensive base of cyberbullied adolescents experiencing depressive symptoms.

Limitations and Future Directions

We designed the OnlineMLP program as a group activity. Yet, it can also be implemented on an individual level. During the pilot test, the participants expressed shyness and uneasiness to share their life events with other adolescent participants. Thus, the OnlineMLP must be tested on a one-on-one engagement held in few sessions. The purpose of OnlineMLP as an intervention program was mainly to address the depressive symptoms caused by cyberbullying victimization during the Covid-19 pandemic. However, we acknowledge that other factors may also contribute to causing depressive symptoms, such as loneliness, pressures from the school or parents, and family issues. Therefore, to maximize the benefits of the OnlineMLP, it may be further tested on a larger base of individuals with extensive planning and among different cultures. The function of gender differences on either variable was not an objective of our study, as such future research could explore and investigate on this.

The OnlineMLP has been pilot tested via a virtual platform and has been proven as an efficacious intervention program to reduce the depressive symptoms among the cyberbullied college-going adolescents in Tamilnadu, India. However, we acknowledge the importance of human contact and recommend that the OnlineMLP be tested in a face-to-face or in-person setup. No matter how hard we try to transfer human communication to be entirely virtual, nothing can replace human contact.

Appendix

Schedule of the 3-h module over 4 weeks

	Module	Section	Time frame
Week—1	1—Building rapport and introducing OnlineMLP	**Session 1: Meet and greet**	
		Breathing exercise	10 min
		Connect with others	10 min
		Aware of auto pilot	20 min
		Exercise: Eating one raisin	20 min
		Interval	10 min
		Session 2: Knowing the way	
		Psycho-education	30 min
		Body scan	60 min
		Debriefing session	10 min
		Explaining about homework: Mindful Journal	10 min
	2—Connecting body, mind, and spirit	**Session 1: Mind guides the body**	
		Role of the mind	30 min
		Listening a recorded talk	30 min
		Walking Meditation	30 min
		Interval	10 min
		Session 2: Locks are made with keys	
		Man—combination of body, mind, and spirit	30 min
		Fantasy meditation	30 min
		Debriefing session	10 min
		Explaining about homework: Daily "Check-In with Yourself" method	10 min
Week—2	3—Acknowledging thoughts	**Session 1: The tragic triad**	30 min
		Exercise: Paradoxical Intention; Stretch and Relax Meditation	50 min
		Interval	10 min
		Session 2: Mind Traps	30 min
		Mindful yoga	40 min
		Debriefing session	10 min
		Explaining about homework: Awareness of pleasant events calendar	10 min
	4—Your suffering is not you	**Session 1: Your suffering is not you**	40 min
		Meditation: A short Breathing Space to cope with difficult situations/ experience	20 min
		Interval	10 min

	Module	Section	Time frame
		Session 2: The Neurotic Triad	30 min
		Body Scan	60 min
		Debriefing session	10 min
		Explaining about homework: Awareness of Unpleasant Events Calendar	10 min
Week—3	*5—Explore and express innate power*	**Session 1: Meaning of life**	
		The power of meaning	10 min
		Watch video and share	20 min
		Creativity	30 min
		Walking Meditation	30 min
		Interval	10 min
		Session 2: Will to meaning	15 min
		Socratic dialogue	15 min
		Guided Mountain Meditation	30 min
		Debriefing session	10 min
		Explaining about homework: Read about UN Food Program, as well as Ryen Well Foundation. Write a journal of your 'meaning'	10 min
	6—Attitudinal change	**Session 1: Ability to take a stand**	
		Freedom of will	20 min
		Knowing the fundamental	20 min
		Selfless compassion	20 min
		The experiential value	20 min
		Interval	10 min
		Session 2: Defiant power of the human spirit	
		Video about Amberley Snyder	30 min
		Appealing technique	30 min
		Walking Meditation	30 min
		Debriefing session	10 min
		Explaining about homework: Read the book, Vaazhvai Thriakkum Saavi (in Tamil language). Write down your own success stories	10 min
Week—4	*7—Respond than react*	**Session 1 – Mindful Attitudes**	30 min
		Body scan	60 min
		Interval	10 min
		Session 2: Mindful Activities	30 min
		Meditation on Loving-kindness	30 min
		Debriefing session	10 min
		Explaining about homework: Practice the above leaned techniques and meditation that you like	10 min
	8—Stabilizing the change	**Session 1: I am Mindful!**	1.20 h
		Interval	10 min
		Session 2: Termination	1.20 h
		Explaining about homework: Continue to practice	10 min

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