Mental Health Problems among College Students in India during the COVID-19 Pandemic in the Context of Disruptions in Academics and Interpersonal Relationships

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Abstract

The COVID-19 pandemic has led to significant disruptions in daily lives, contributing to mental health problems around the world, with young adults being a particularly vulnerable population for mental health problems (Varma et al., 2021). In the current study, we explored perspectives on how the pandemic had affected their lives, and examined frequency of mental health problems among college students in India during the middle phase of the pandemic. Participants *(N = 455, 65% women, M_{age} = 20.62 years)* responded to open-ended questions and completed self-report measures of anxiety, depressive symptoms, emotion dysregulation, and dysfunctional coping, and skills use. Thematic analysis of open-ended responses yielded nine themes across three domains: Major concerns, impact on academics and learning, and impact on relationships. Mental health symptomatology was identified as the most common concern, and approximately 50% of the sample scored above the clinical cut off on the self-report measure for either anxiety or depression, indicating a moderately high level of distress. Difficulties in effectively regulating one's negative emotions and dysfunctional coping uniquely predicted higher anxiety and depression, whereas adaptive coping predicted lower depression. The findings demonstrate that college students in India are struggling with mental health during the pandemic. Facilitating emotion regulation and coping may be potential targets for intervention.

Keywords: COVID-19 pandemic, coping, emotion regulation, India, mental health

1. Introduction

Although mental health problems are experienced by people globally, the burden caused by these problems is highest in low-and middle-income countries where the gap between mental health needs and available resources is most pronounced (World Health Organization, 2018). Despite this, a bulk of the published research on mental health continues to be conducted with individuals residing in Western, high-income countries. The COVID-19 pandemic has exacerbated the mental health gap with added stress and anxiety related to one's health, along with isolation and disruption in daily lives due to social distancing requirements, all of which negatively impact mental health (Rishi et al., 2021). These challenges are heightened in countries with high population density that have needed to implement strict and extended lockdowns to reduce the spread of the virus. India, a country with the world's second largest population, has one of the largest numbers of college students (Gourtsilidou, 2020) with over 1000 universities spread across the country and approximately 37000 students enrolled in higher education (University Grants Commission, 2021). In India, college campuses were closed for all of 2020 with students staying at home engaging in virtual instruction and having limited peer interaction (Chopra, 2021). As the Indian population began to be vaccinated, and COVID-19 cases were under control, the public health requirements were being relaxed in the beginning of the year 2021 until April when a second wave caused many more deaths and quicker spread of the virus, leading to further lockdowns around the country (Kar et al., 2021). These lockdowns further reduced access to already limited mental health services in India. The purpose of the current mixed-methods study was two-fold: First, we explored college students' perspectives on how the pandemic had affected their lives to better understand the broader context of the impact of the pandemic. Our second aim was to assess the prevalence of anxiety and depressive symptoms among college students in India 10 months into the pandemic (i.e., early

2021), and to identify correlates of these symptoms to aid in intervention efforts.

1.1 Impact of the COVID-19 Pandemic on College Students

Beginning of March 2020, college campuses in India were closed with a complete shift in the way academic instruction was being delivered. Traditional brick and mortar classrooms moved completely to a virtual space. This shift to online learning was accompanied by sleep disruption, somatic pain and increased screen exposure among college students in India (Majmudar et al., 2020). In addition, concerns about oneself or family members being infected with the virus, being sick, or potential death can lead to significant anxiety. Lockdowns, quarantine, and social distancing requirements can lead to significant social isolation as individuals may not be able to leave home to go to work, attend school, or socialize with others (Xiong et al., 2020). Exploring the major challenges experienced by college students along with the impact of the pandemic on learning and relationships from the perspective of college students is critical to fully understand the impact of the pandemic, and to inform interventions to support college students.

1.2 Mental Health Problems during COVID-19

An emerging body of literature has shown that people around the world have experienced mental health problems during the COVID-19 pandemic (Gao et al., 2020; Xiong et al., 2020). In particular, longitudinal studies from the UK (Pierce et al., 2020) and USA (McGinty et al., 2020) demonstrated an increase in depressive symptoms from 2018-19 to April of 2020 after lockdowns were implemented in both countries. Notably, the researchers found greatest increase in depressive symptoms among 18-24-year-olds, and women. A systematic review of studies examining mental health during the early part of the COVID-19 pandemic also concluded that people under the age of 40 were at the highest risk for mental health problems (Xiong et al., 2020), including college students (Copeland et al., 2020). Relatively fewer published studies have examined mental health during the pandemic in India, a country with the world's second largest population. Findings from India during the early part of the pandemic (i.e., early to mid-2020) show that students and healthcare professionals reported more anxiety, depression, and stress than others (Rehman et al., 2021). Similarly, a majority of college students reported at least mild anxiety and depressive symptoms (Verma, 2021). Although these findings highlight the mental health impact during the early part of the pandemic, given the continuation of lockdowns with college campuses closed for all of 2020 in India, it is important to assess college students' mental health during later time periods of the pandemic.

Demographic risk factors (e.g., being female, younger, low income) and COVID-19 related factors (e.g., exposure to social media and news coverage, having a family member infected with the virus, Wathelet et al., 2020) have been investigated in relation to mental health problems during the pandemic. However, intrapersonal factors have been rarely assessed, which can be critical treatment targets in reducing psychiatric symptoms. In particular, coping and emotion regulation are critical to examine given their associations with lower internalizing and externalizing psychopathology in Western samples (Compas et al., 2017).

1.3 Coping and Emotion Dysregulation as Potential Correlates of Mental Health

The COVID-19 pandemic has been a major stressor for over a year, and different individuals have likely employed different approaches to coping with this stressor. The construct of coping captures individuals' ongoing efforts to manage internal processes or external situations that are taxing and beyond the available resources (Lazarus, 1993). Some of these coping efforts are adaptive (i.e., problem-solving, distraction, focusing on the positive) and others may be maladaptive (i.e., avoidance, not accepting the situation, blaming) (Carver et al., 1989). Decades of research in the USA has shown that dysfunctional coping is associated with poor well-being (Chao, 2012), as well as anxiety and depressive symptoms (Taylor & Stanton, 2007).

Dysfunctional coping strategies have also been associated with mental health problems in India. For example, college students with high depressive symptoms reported more avoidant coping than those with lower symptoms of depression (Sawhney et al., 2018). In another study, adaptive coping was associated with resilience among social work students (Stanley & Bhuvaneswari, 2016). Only one published study has examined coping strategies in India during the pandemic in which participants endorsed a range of functional and dysfunctional coping approaches (i.e., acceptance of the pandemic, distraction, remaining calm, or difficulty coping) (Rishi et al., 2021). However, this study did not examine the association between coping and mental health. Given that COVID-19 pandemic has continued to be a major stressor, it is important to examine coping strategies being employed and how they relate to mental health.

In addition to coping, problems related to emotion-related processes have been considered to be both a risk factor and a characteristic of a wide range of psychiatric symptomatology (Gross & Jazaieri, 2014). In particular, emotion dysregulation that involves failure to use emotion regulation strategies, or using an emotion regulation strategy

that does not match the situation well, has been identified as a key risk factor for anxiety, depression, and other mental health problems (Mennin et al., 2007). Poor understanding of emotions, negative reactivity to emotions, and maladaptive regulation of emotions have been associated with anxiety and depressive symptoms in US-based samples (Mennin et al., 2007).

Emotion dysregulation has been associated with mental health problems in samples from India as well. For example, college students who engaged in more self-injurious behavior reported lower clarity and acceptance of emotions, greater difficulties with impulse control and goal-directed behavior, and limited strategies for effective emotion regulation (Kharsati & Bhola, 2016). Further, individuals diagnosed with Borderline Personality Disorder reported more negative emotions, limited use of effective emotion regulation strategies and higher use of maladaptive strategies than a matched control group (Alafia & Manjula, 2019). Emotion dysregulation has been associated with college adjustment problems (Snow et al., 2013). However, there is no published research examining associations of emotion dysregulation to anxiety and depression during the pandemic.

1.4 Aims of the Current Study

The first aim of this study was to explore college students' major concerns during the COVID-19 pandemic in their own words. The qualitative data may help accentuate areas of concern in student subjective wellbeing and inform intervention development specific and relevant to circumstances in India. The second aim of this study was to assess the prevalence of anxiety and depressive symptoms by self-report among college students in India during early 2021 after 10 months of the pandemic with college campuses closed for the entire duration, and to examine associations of emotion dysregulation, functional and dysfunctional coping with anxiety and depressive symptoms among college students. We expected emotion dysregulation and dysfunctional coping to predict higher anxiety and depression, and adaptive coping to predict lower symptomatology.

2. Method

2.1 Participants

Participants (N = 455) included undergraduate and graduate students aged 18 to 38 years (M = 20.62 years, SD = 4.23) from a university in Bengaluru, India where the primary language of instruction is English. The sample was 65% women, and 74% of participants were undergraduate students. A tenth of the sample (10.8%) reported having been diagnosed with a mental illness/condition. Only 4.6% reported they were currently receiving psychotherapy from a mental health treatment provider while 12.5% reported that they had received psychotherapy in the past. 2.6% of participants reported they were currently taking psychiatric medications.

2.2 Procedure

The study was approved by the Research Conduct and Ethics Committee at CHRIST (Deemed to be University), Bengaluru (approval number: CU: RCEC/21/12/20). Participants were recruited through emails sent to all the students on three campuses of the university, which provided an overview of the study, stated that participation was voluntary, and contained an online survey link. Those interested in participating were directed to click on the survey link, read an informed consent form, and if they clicked to provide consent, they could access the survey. All study materials were provided in English given that this is the primary language of communication at this university.

2.3 Measures

2.3.1 Demographics

Demographics questions assessed participants' age, gender, psychiatric diagnoses, history of receiving psychosocial interventions and medication.

2.3.2 COVID-19 Impacts

To explore the impact of the pandemic on participants' lives, three open-ended questions were asked: 1) What are the 3-5 major challenges you have experienced due to the COVID-19 pandemic? 2) How has the pandemic affected your academics and learning? and 3) How has the pandemic affected your relationships with others (family, friends)?

2.3.3 Anxiety Symptoms

Generalized Anxiety Disorder- 7 (GAD-7, Spitzer et al., 2006) is a 7-item questionnaire designed to assess the frequency and severity of anxious thoughts and behaviors over the past 2 weeks. Based on the Diagnostic and Statistical Manual of Mental Disorders-5 criteria for GAD, each of the 7 items are rated on a scale from 0 (not at all) to 3 (nearly every day). Total possible score ranges from 0 to 21, with scores of 0-4, 5-9, 10-14, and 15-21

signifying a minimal, mild, moderate and severe level of anxiety, respectively. The GAD-7 had good internal consistency in our sample (α = .88).

2.3.4 Depressive Symptoms

Patient Health Questionnaire -9 (PHQ-9, Kroenke et al., 2001) is a 9 item, self-report questionnaire that assesses the frequency and severity of depressive symptoms within the previous 2 weeks. It is a widely used, reliable, and validated measure of depressive symptoms based on the DSM-5 criteria for major depressive disorder. Items are scored on a 0 (not at all) to 3 (nearly every day) scale. Scores ranging from 0-4 indicate no symptoms of depression, and scores of 5-9, 10-14, 15-19, and 20 to 27 representing mild, moderate, moderately severe, and severe depression respectively. A PHQ-9 score of greater or equal to 10 has a sensitivity of 88% and a specificity of 88% for major depression. The PHQ-9 had good internal consistency in our sample (α = .88).

2.3.5 Coping

Dialectical Behavior Therapy Ways of Coping Checklist (DBT-WCCL, Neacsiu et al., 2010) is a 59-item self-report questionnaire that includes subscales for DBT skills use and maladaptive coping skills use. Specifically, the maladaptive coping skills use has two subscales: general dysfunctional coping and blaming. The DBT-WCCL had good internal consistency in our sample (α .79 to .91).

2.3.6 Emotion Dysregulation

Difficulties with Emotion Regulation Scale-18 (DERS-18, Victor & Klonsky, 2016) is an 18-item self-report questionnaire designed to assess difficulties in emotional regulation across six dimensions: a) lack of awareness of emotional responses, b) having a hard time establishing goal-directed behavior, c) difficulties with impulse control, d) lack of acceptance of emotions, e) shortage of emotion regulation strategies, and f) inadequate emotional clarity. Items are rated on a scale of 1 (almost never) to 5 (almost always) with higher scores indicating increased difficulty in emotion regulation. The full 36-item version of DERS has demonstrated adequate reliability and validity in samples from India (Bhatnagar, Shukla, & Pandey, 2020). The DERS-18 had good internal consistency in our sample (α = .88).

3. Results

3.1 Perspectives on the Impact of COVID-19 Pandemic

Responses to open-ended questions were analyzed using Willig's (2008) theoretical thematic analysis that is driven by research questions and/or analyst focus. One researcher conducted the analysis following these steps (Maguire & Delahunt, 2017): familiarization with data, generating initial codes, search for themes, reviewing themes, and defining themes. For further credibility, data analysis involved multiple re-readings, annotations, and varied lenses of interpretation.

3.1.1 Major Concerns During the Pandemic

Participants' responses to the question about major concerns during the pandemic were coded into four themes: varied mental health symptomatology (65%), adapting to changed circumstances (62%), concerns related to being exposed to COVID-19 (14%), and time-related concerns (19%).

References to mental health symptomatology included low motivation, loss of interest, anxiety, stress, depressive symptoms, biosocio-rhythm dysregulation, low frustration tolerance, withdrawal, amongst others. For example, as one participant stated, "Feeling suffocated, frequent headaches, frequent fights, irritated, wanted to try new things and talk to new people but hesitant, feeling down, shouting, crying on little things, sleepy, lethargic." Another participant described changes in routine as contributing to mental health challenges: "Change in eating habits and sleeping patterns leading to the deterioration of mental health. Higher stress levels, regular hygiene and routine stopped." A third participant described mental health problems stemming from being confined into one's home:

> I've been forced to live at home with my family again which is a toxic environment for me. I've been diagnosed with bipolar disorder and it's been difficult for me to receive treatment at home. My motivation to do anything has plummeted and I've lost interest in studies.

References to changed circumstances included a loss of routine activities, not being able to participate in social gatherings, disruptions in academics and higher education plans, family welfare issues, and loss of access to outdoor spaces. As one participant illustrated:

> The pandemic robbed me the once normal routine of waking from sleep, bag-packing, catching bus to college, living, learning, achieving the most at college, pilgrimaging to college library with the desire to understand the human and their world from reading books. This theft of my routine was felt to be theft from me of my

life's known purposes, and that left me struggling mentally, physically, oh, in every way, until I found new purposes, new meaning of life.

Another participant described disruptions in future plans for higher education: "[…] I was preparing to go for studies in Canada. Then pandemic hit and the lockdown delayed my IELTS exam thrice and the prospects of finding a job to break even after studying abroad seemed bleak."

Relatively few expressed a neutral or positive attitude regarding their circumstances. For example,

Overall I'm grateful because my quarantine has been much easier compared to many other people who had it really hard during this time. I really had some problems with my mental health (overthinking, spent too much time with my own thoughts) but this [is] slowly becoming a way of life for me and I'm adapting to this situation and working on my mental health.

References to concerns about COVID-19 exposure included thoughts of proximity, and contracting COVID-19 exacerbated negative affect and/or stress. For example, as one participant stated, "Occupied by overwhelming thoughts" and another expressed, "Uncertainty and fear that the precautions are not enough." A third participant described family members being hospitalized and hearing about death due to COVID-19:

It was emotionally very draining when my father was admitted to the hospital as he had Covid-19. We were not allowed to see him, made it very challenging for us. Wearing masks and face shields becomes very irritating sometimes. My best friend's father [...] expired due to Covid which [made] me and my family mentally disturbed.

Participants' responses regarding time focused on a loss of sense of time, slowed time, and varied reactions to others' use of time.

"[…] coping with time and the fact that life is going to go on like this. Lockdown felt like a pause in time and space, it felt like the world had paused due to the pandemic which can be a different experience. But when everything started back again it felt really unsettling, as despite everything being wrong and facing a pandemic after a century life is still going on and this is the norm now. It feels very sudden and leads to anxiety...time seems like a very bizarre concept."

3.1.2 Impact on Academics and Learning

Participants' responses to the question about the impact on academics and learning during the pandemic were coded into three themes: difficulties transitioning to online learning (78%), reflections on the process of learning (63%), and consequences of increased screen time (16%).

Difficulties transitioning to online learning included lack of internet connection, lack of power or electricity, stable devices, external disturbances, lack of expertise with technology, lack of collaborative learning opportunities and a feeling of disconnection with peers and faculty. As one participant eloquently described:

The introduction of online college classes and being needed to attend them to keep moving through my bachelors' programme has challenged me the most because I have aversion to devices, tech, as they infamously lead to wasteful time consumption, eye-strain among other ailments and most concerning a sedentary living, dangerously bereft of meaningful human-to-human connection.

Another participant also shared similar challenges with online learning:

Back home, attending online college classes has been demotivating because I can't see my peers, can't see them learning. The learning, no, rather practicing of soft skills, in terms of talking to students on campus, showing our gratitude to teachers and non teaching staff, observing and then incorporating acts of kindness, creating human connections, took the back seat.

In addition to sharing challenges with online learning, participants also offered broader reflections on the process and meaning of learning:

Since the pandemic took birth, I have got promotion from one semester to the next, I am doing assignments, doing recommended readings, writing exams, but the pandemic seems to have infected all that, resulting [in] their lifelessness, which has made them meaningless tasks for me to carry.

Another participant reflected on how the change in the format has led to decline in learning:

The difference is striking. Everything that one would associate with the feeling of being in an 'institution', can now be questioned. I utilized dishonest means for the first time during the pandemic, and that, I feel, serves as an accurate pin-point for the situation. There is a major decline in the gravity of the exams, as all of

them can be very easily passed. My marks will probably remain the same, but my learning has gone downhill.

Relatively few expressed a neutral or positive attitude.

The lockdown has helped me focus on my studies a bit more since most of the distractions are outside the house. Though constant eyesores and backaches are a problem when attending classes for prolonged periods, they have not affected my academic progress much.

Participants also articulated challenges associated with increase in screen time:

[...] My screen time increased and increased and my eyes started feeling the pressure due to the laptop light. Sometimes, due to the lack of sleep at night, I usually fell asleep during the class after attending to my attendance. Sometimes, I even missed out on my attendance due to inactive state of mind. This impacted negatively on my end semester examinations. Had it be offline classes, I am quite sure that I would have been serious towards my studies. I sometimes even forgot about my assignments and activities assigned online. Due to the technological and network issues, academics and learning was highly impacted.

3.1.3 Impact on Relationships

Participants' responses to the question about the impact on relationships during the pandemic were coded into two themes: changes in interpersonal relationships (80%) and revaluation of relationships (31%).

Students reported difficulties in maintaining friendships:

I do not enjoy talking to people for more than 10 minutes and somehow it has become a burden for me. I still feel the need to have friends and conversations but I just don't seem to enjoy them anymore.

Participants described not being able to maintain friendships and a dual impact on familial relations, feeling closer to family members but also lack of privacy and annoyance:

I completely got cut off from my friends as we weren't able to meet, which indirectly made our relationship non-existent. I and my family enjoyed a lot early by making different kinds of dishes. Lockdown due to pandemic made us closer but depressed at the same time. First, we used to go out and come back after sometime, but constantly seeing each other's faces 24/7 got annoying after few months. Also, financial problems made the mood of family members stressful and worse.

Participants also reported reevaluating their relationships:

It has made me realise that the most relation I have is with myself and no other. Being 24/7 with someone definitely made me feel bored of that person and was irritating as well. Friends were of no great help as no one was bothered to stay in connection.

3.2 Quantitative Data: Coping, Emotion Dysregulation, and Psychiatric Symptomatology

3.2.1 Preliminary Analyses

All variables were normally distributed (skew < |2.00| and kurtosis < |4.00|). Overall, 8.6% of data were missing. Variables with the highest amounts of missingness were within the DBT-WCCL subscales. Total mean item scores for analyses were only calculated if participants completed 75% of items. Little's MCAR test (χ^2 (385) 233.68, p = .631) suggested data were missing completely at random. For bivariate analyses, missing data were handled with the recommended multiple imputation (n = 40 imputed datasets using all primary variables and demographic variables in estimating algorithm; Graham, 2009). Bivariate correlations were derived from the "pooled" results of the combined 40 datasets. For regression analyses, missing data were handled with full-information maximum likelihood.

3.2.2 Prevalence of Anxiety and Depressive Symptoms

Using the total scores on the GAD-7 and PHQ-9, 51.9% of the sample scored above the clinical cut off GAD-7 ($\geq$ 10), and 46.9% of the sample scored above the clinical cut off on the PHQ-9 ($\geq$ 10), and 29.2% of the sample scored above the clinical cutoff on both GAD-7 and PHQ-9 (Tables A1 and A2). Further, 40.8% and 46.8% of participants had moderate to severe levels of anxiety and depression, respectively.

3.2.3 Correlates of Anxiety and Depressive Symptoms

Bivariate correlations indicated that both dysfunctional coping and difficulties regulating emotions were positively correlated with reports of anxiety and depression (Table A3 for intercorrelations and descriptive statistics). All of the DERS-18 subscales (lack of awareness, inadequate clarity, lack of goal-directed behavior, difficulties with impulse control, lack of acceptance, and shortage of emotion regulation strategies) were positively associated with anxiety and depressive symptoms with one exception: Lack of awareness of emotional experiences was not

significantly correlated with anxiety symptoms. Moreover, DBT skills use negatively correlated with reports of anxiety and depression.

Two separate multiple regression analyses were run with skills use, emotion dysregulation, general dysfunctional coping, and blaming others as predictor variables, and participant age and gender as covariates. The outcome variable for the first model was anxiety (GAD-7 total score), and the outcome variable for the second model was depression (PHQ-9 total score). Emotion dysregulation and dysfunctional coping significantly predicted higher anxiety symptoms. Emotion dysregulation and dysfunctional coping also significantly predicted higher depressive symptoms, whereas DBT skills use predicted lower depressive symptoms (Table A4).

4. Discussion

Our qualitative and quantitative findings converge in demonstrating that mental health was significantly impacted during the COVID-19 pandemic for college students in India. College students in India identified mental health as among the major concern, along with needing to adapt to changes, concerns about getting exposed to COVID-19, and loss of a sense of time, concerns similar to youth in other parts of the world (Scott et al., 2021). Overall, qualitative findings provide a broader context to understand mental health challenges as situated within disruptions in academics and relationships. Quantitative findings demonstrate high rates of anxiety and depressive symptoms with nearly half of our sample scoring above the clinical cut off for either anxiety or depression. Further, over 40% of our sample reported moderate to severe anxiety or depressive symptoms suggesting a high level of distress. These findings are consistent with other studies. For example, a study conducted in Wuhan, China at the beginning of 2020 demonstrated prevalence of anxiety to be 22.6%, prevalence of depression as 48.3% and prevalence of comorbid anxiety and depressive symptoms to be 19.4% (Gao et al., 2020). Another study of 63 countries demonstrated that 59% of the sample reported clinically significant anxiety and 39% reported moderate depressive symptoms in mid-2020 (Varma et al., 2021). Similarly, a systematic review reported high rates of anxiety and depression (ranging from 6.33 to 50.9%, and 14.6 to 48.3%, respectively) during the first half of 2020 in samples from Asia, Europe, and North America (Xiong et al., 2020). Consistent with this literature, our findings suggest that emerging adults in India report struggling with mental health problems 10 months into the pandemic. After our data were collected, India experienced a second wave of COVID-19 cases in April 2021 (Kar et al., 2021). In this context of continuation of the pandemic and worsening health outcomes, attending to the mental health needs of young people in India is warranted.

4.1 Broader Context of Mental Health during the Pandemic

A critical aspect of addressing these mental health needs is to identify targets for intervention. Our qualitative findings suggested that mental health challenges were grounded in loss of a routine, being confined to one's home, disruptions in current academic activities and future plans, and disruptions in relationships within and outside the family. Our quantitative findings suggested that difficulties with coping and with effectively regulating one's emotions were critical, as they predicted higher anxiety and depressive symptoms. In contrast, effective coping predicted lower depression. Findings pertaining to the negative association between dysfunctional coping and anxiety and depressive symptoms in our emerging adult sample in India are consistent with prior literature from USA (Taylor, & Stanton, 2007) and India (Sawhney et al., 2018). Benefits of adaptive coping for enhancing psychological well-being have also been documented in samples from India (Stanley & Bhuvaneswari, 2016), similar to our finding of the relevance of DBT skills use for depressive symptoms. The COVID-19 pandemic has been a major stressor impacting people all over the world, including college students in India. It is not surprising that Indian college students' efforts to manage the stress associated with the pandemic may be taxing and beyond the internal and external resources they may have available. It is likely that stressful conditions of the pandemic contributed to college students resorting to dysfunctional coping, which may then contribute to higher internalizing problems. Alternatively, it is possible that college students who lacked effective coping strategies prior to the pandemic were at a higher risk for using dysfunctional coping, which then contributed to internalizing problems. Regardless, psychosocial interventions that facilitate adaptive coping (e.g., acceptance of the situation, distraction) and reduce the use of dysfunctional coping (e.g., engaging in impulsive behavior, rumination) may be particularly relevant in reducing internalizing problems.

Findings pertaining to the negative association between emotion dysregulation and anxiety and depressive symptoms in our sample are also are consistent with previous studies with samples from the (Mennin et al., 2007) as well as India (Raval et al., 2018). All facets of emotion dysregulation, including inadequate clarity, lack of goal-directed behavior, difficulties with impulse control, lack of acceptance, and shortage of emotion regulation strategies were associated with higher anxiety and depression, and lack of awareness of emotional experiences was also associated with higher depressive symptoms. These findings suggest emotion dysregulation as another

potential target for intervention. In particular, psychosocial interventions that focus on increasing one's awareness of emotional experiences (e.g., identifying and labeling emotions), and acceptance of emotional states, along with teaching skills for effectively regulating one's emotions (e.g., how to change unwanted emotions through problem-solving, cognitive reappraisal, attentional strategies, engaging in different actions) to expand one's repertoire of skills may be relevant.

4.2 Limitations and Future Directions for Research

Our data are cross-sectional, and collected from a single respondent via self-report. Thus, for our quantitative data, it is possible that shared method variance contributed to overestimation of associations among our study variables. In future research, prospective longitudinal studies are needed that collect data at multiple time points during the pandemic to assess change in anxiety and depressive symptomatology, as well as to examine associations of emotion dysregulation and coping with internalizing symptomatology over time. In addition, clinician ratings of psychiatric symptomatology may provide a more objective assessment of mental health. Our qualitative data were limited to a few open-ended questions. Future researchers may consider in-depth interviews with participants that provide rich and comprehensive narratives of their experiences. Finally, our data are collected from college students in a metropolitan city in South India, and may not be generalizable to all college age adults across India, particularly those living in rural areas. Future research may consider examining mental health problems among young adults in living in urban and rural areas, and across socioeconomic strata.

4.3 Clinical Implications

Our findings provide critical information regarding the prevalence of self-reported internalizing symptoms during the pandemic in a country with the world's second largest population, and identify potential targets for intervention. In particular, short-term skills training interventions that focus on teaching adaptive coping and emotion regulation skills may be effective during the highly stressful time of the pandemic. Over 80% of Indians reported needing professional help for their mental health needs during March 2020 (Roy et al., 2020), suggesting openness to receive psychosocial interventions. Skills training interventions may be effectively delivered through virtual platforms (i.e., videoconferencing, text-messaging), which is helpful during the pandemic.

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Appendix A

Table A1. Total scores on GAD-7 (N = 426; 6.37% missing)

Severity (total score range)	N	*%*
Minimal Anxiety (0-4)	115	27
Mild Anxiety (5-9)	138	32.4
Moderate Anxiety (10-14)	106	24.9
Severe Anxiety (15-21)	66	15.6

Clinical cut off score for GAD-7 ≥ 10.

Table A2. Total scores on PHQ-9 (N = 431, 5.27% missing)

Severity	N	*%*
No Depression (0-4)	104	24.1
Mild Depression (5-9)	125	29
Moderate Depression (10-14)	95	22.1
Moderately Severe Depression (15-19)	56	12.9
Severe Depression (20-27)	51	11.8

Clinical cut off score for PHQ-9 ≥ 10.

Table A3. Intercorrelations, means, and standard deviations of all study variables

		1	2	3	4	5	6	7	8	9	10	11	12
1.	GAD-7 Total	--											
2.	PHQ-9 Total	.71**	--										
3.	DBT Skills Use	-.07	-.16**	--									
4.	Dysfunctional Coping	.54**	.59**	.11*	--								
5.	Blaming others	.40**	.35**	.08	.55**	--							
6.	DERS-18 Total	.66**	.67**	-.22**	.61**	.45**	--						
7.	DERS Awareness	.07	.14**	-.41**	.17**	.06	.34**	--					
8.	DERS Clarity	.53**	.54**	-.19**	.44**	.27**	.72**	.31**	--				
9.	DERS Goals	.56**	.55**	.01	.51**	.35**	.73**	-.07	.37**	--			
10.	DERS Impulse	.47**	.47**	-.07	.42**	.44**	.76**	.04	.45**	.57**	--		
11.	DERS Nonacceptance	.50**	.53**	-.06	.49**	.33*	.78**	.15**	.46**	.52**	.48**	--	
12.	DERS Strategies	.62**	.66**	-.18**	.54**	.42**	.83**	.07	.52**	.64**	.63**	.61**	--
	Variable *M(SD)*	8.56 (5.37)	9.94 (6.83)	2.70 (.43)	2.8 (.56)	2.26 (.65)	45.48 (14.06)	8.45 (3.03)	7.35 (3.10)	9.22 (3.46)	7.09 (3.57)	6.55 (3.56)	7.05 (3.46)
	erved Range	0-21	0-27	1-4	1-4	1-4	18-84	3-15	3-15	3-15	3-15	3-15	3-15
	nbach's α	.88	.88	.91	.85	.79	.88	.77	.84	.87	.90	.87	.82

Note. GAD-7 measures anxiety, PHQ-9 measures depression, DERS-18 measures difficulties in regulating emotion including both total score and each individual subscale. ** = <.01, *= <.05.

Table A4. Multiple Regression Analyses

DV= GAD-7 total score	$F(4,324) = 65.68, p < .000, R^2 = .45$		
	B	t	p
Skills Use	-.01	-.23	.82
Dysfunctional Coping	.25	4.27	.00
Blaming Others	.07	1.38	.17
Emotion Dysregulation	.44	7.63	.00
DV = PHQ-9 total score	$F(4,329) = 82.84, p < .000, R^2 = .50$		
	B	t	p
Skills Use	-.11	-2.52	.01
Dysfunctional Coping	.31	5.72	.00
Blaming Others	-.02	-.44	.65
Emotion Dysregulation	.46	8.60	.00

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