Research article

Resilience experienced by university students during the COVID-19 pandemic: A qualitative exploration based on focus-group interviews

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ABSTRACT

Purpose: University students have been one of the most affected groups worldwide during the COVID-19 pandemic, having experienced increased stress, anxiety, and depression. Resilience is reported as the most predictive factor in decreasing the impact of the threats of the COVID-19 pandemic. However, university students' resilience during the COVID-19 pandemic has not received much attention; this is a research gap that this study aimed to address.

Methods: Seventeen 2nd- and 4th-year South Korean students who had experienced at least one year of university life during the COVID-19 pandemic participated in this study between June and July 2021.

This study involved three focus-group interviews that were recorded and transcribed verbatim, and data were analyzed using qualitative content analysis.

Results: Eight conceptual categories emerged from the three main themes distilled from participants' responses: 1) factors impeding resilience: experience of loss, experience of a dangerous situation, expansion of uncertainty, and accumulated stress; 2) strategies to strengthen resilience: change and innovation, loss and confrontation, and transcendence; and 3) outcomes from strengthening resilience: adapting to the changing world ("the new normal").

Conclusion: s: This study found several factors that impede resilience and strategies to further support resilience. Universities and relevant community organizations can use these findings to develop educational programs and interventions to strengthen resilience in university students, helping them to better cope with future challenges and overcome adversity.

1. Introduction

In March 2020, the World Health Organization declared the COVID-19 outbreak a pandemic [1]. In August 2022, South Korea reported 16,452 new confirmed COVID-19 cases per one million people, the largest among 216 countries surveyed. Moreover, South Korea was the only place where the proliferation continued [2]. Unprecedentedly, the government enforced nationwide social distancing [3,4]. It was a time when it was unknown how long the crisis would continue [5].

The government's response to COVID-19, as well as the perturbing effects on mental health problems, such as loneliness, anxiety, depression, and suicidal ideation due to social isolation, along with financial uncertainty and fear of infection, greatly increased in the

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general population [6–8]. According to the COVID-19 National Mental Health Survey in South Korea, 48 % of the participants reported at least mild anxiety [9].

University students have been one of the most affected populations because of uncertainties around their studies, future career, and adaptation to university life [10–12]. Owing to vulnerability to sudden changes, concerns over technical problems related to online classes, social isolation, decreased family income, and uncertainty regarding future careers, many university students worldwide have experienced increased stress, anxiety, and depression [10,11]. A recent systematic review and meta-analysis examining changes in the mental health of youth before and after the COVID-19 pandemic found that adolescents in Korea, compared to middle-aged and older adults, have shown a more negative response to future employment prospects, with an increase in symptoms of anxiety and depression following the pandemic [13,14]. These results emphasize the need to prepare measures and measures for the mental health of youth, including college students, as we have just entered the post-COVID-19 era. In this regard, resilience is reported to positively impact academic and social stresses, anxiety, and depression in university students during the pandemic [11,15].

According to Ungar's social-ecological resilience theory, resilience is defined as the capacity to withstand frustration and adapt positively to adversity, as well as the ability to recover from challenges and adapt to changes [16]. To cope with the challenges posed by the COVID-19 pandemic, individuals require psychological resources [17,18], and resilience is a critical example [19].

Despite several prior works on resilience during the COVID-19 pandemic and its correlations with negative emotions such as stress, anxiety, and depressive mood, as well as its impact on university students [11,14,20], university students' experiences of resilience during the pandemic have not been thoroughly studied. In-depth exploration of the variety of resilience experiences university students have had during the pandemic is imperative to better support them in facing future adversities and this was the objective of our study.

2. Materials and methods

2.1. Design

This study was conducted using qualitative content analysis methodology. Qualitative content analysis focuses on understanding and gaining insights into the phenomenon of interest based on clear research questions, rather than any specific theoretical or philosophical backgrounds [21,22]. Specifically, our aim was to explore the lived experiences of college students' resilience amidst the COVID-19 pandemic through focus group interviews (FGIs). FGIs distinguish themselves from one-on-one interviews by fostering dynamic interactions among participants. They are a research design used to collect qualitative data around a topic predetermined by the researcher(s) [23]. Hence, FGIs and qualitative content analysis were useful for describing and explaining university students' experiences of resilience during the COVID-19 pandemic. The findings were expected to provide basic data for developing educational programs and interventions to strengthen resilience in university students in preparation for future adversities.

2.2. Participants

Participants were students attending a university in North Gyeongsang Province, South Korea. Inclusion criteria were students who were attending a university at the time and had completed at least two semesters since the first semester of 2020. First-year students were excluded as they had no pre-pandemic university experience. Students who met the inclusion criteria were selected using purposive sampling; they subsequently recruited peers to participate (snowball sampling). To determine the number of participants [20], we considered the level of structure in the research topic, the number of focus groups needed for data saturation, and the low level of heterogeneity among participants per focus group.

Seventeen eligible university students participated (7 male, 10 female; aged 22–27 years; mean age = 24.3 years). Four, eight, and five participants were in their 2nd, 3rd, and 4th years of study, respectively. Three focus groups were conducted, and each focus group comprised one or two 2 nd year students, two or three 3rd year students, and one or two 4th year students; that is, five or six participants per group.

2.3. Ethical considerations

The study was approved by the Dongguk University Institutional Review Board (no. 20210022). Before the interviews, we informed participants of the study purpose and procedures, that interviews would be audio-recorded and transcribed later, data would be kept strictly confidential, and they could withdraw from the study at any time without penalty. They were further informed that the data would be used for research purposes only and coded (for confidentiality), their quoted responses would be anonymized to conceal personal information, and audio-recordings and transcriptions would be permanently discarded upon study completion. Participation was voluntary and all participants provided written consent.

2.4. Researchers' qualifications

The researchers in this study had 8–23 years of experience in education and possessed rich and in-depth understandings of university students' lives. One researcher had held a position whereby their primary responsibility was counseling university students. Additionally, the researchers had taught qualitative research methodology to graduates, continued to improve their qualitative research competencies, developed their insights by participating in relevant academic conferences and workshops, and published

several qualitative research studies in which focus-group interviews had been used.

2.5. Data collection

2.5.1. Questionnaire development

To collect data, the researchers conducted a thorough review of previous studies related to the research topic, the research question was clearly identified and a questionnaire was drafted and reviewed based on the principles of questioning in focus-group interviews. Finalized questions were as follows:

Introductory question: What difficulties did you experience in university during the COVID-19 pandemic?

Main questions: What did you think when you experienced those difficulties? Did you have any noteworthy experiences while facing difficulties due to the pandemic? What efforts did you make to overcome the difficulties you had due to the pandemic? What helped you overcome the difficulties?

Concluding question: Do you have anything else to tell us about overcoming the difficulties you faced?

2.5.2. Focus-group interviews

Three rounds of focus-group interviews were conducted between June 16 and July 6, 2021. The interviewer was the principal investigator who led the focus groups using semi-structured questions. Additionally, two research assistants assisted with interviews and took notes. Interviews were conducted in a classroom or seminar room outside of the class schedule and lasted for an average of 1 h and 46 min (range: 1 h 40 min to 2 h 10 min). Tables and chairs in the interview rooms were arranged to form a circle such that participants could see one another and talk in a comfortable atmosphere. All interviews were audio-recorded using two recorders. The recordings were transcribed and analyzed immediately after each interview was over. Similar responses were repeated (i.e., data saturation) in the third round of focus groups.

2.6. Data analysis

We applied qualitative content analysis to the data—a method used to explore lesser-known phenomena around a preselected topic. First, to understand the overall meaning of the data, we iteratively read the full transcriptions without predetermining categories. Thereafter, we coded the data by selecting words, sentences, and paragraphs containing the main thoughts or concepts for inductive category analysis. We made notes regarding our thoughts and initial analyses, independently; subsequently, we read the texts together and labeled the codes after several rounds of a reflective process. Recurring words and phrases were highlighted, organized, and extracted as codes. Lastly, interrelated codes were classified into subcategories and final categories were derived. The codes underwent thorough review, and the themes and results were analyzed for reproducibility and consistency, reaching agreement through researcher triangulation. Triangulation enabled identification of inconsistencies among researchers and facilitated discussion to derive consistent results, as well as quantitatively measuring the reliability of the coding process [24,25]. To ensure reliability, we conducted member checking on the identified themes after the final interview and data analysis, and continued the interviews until data saturation was achieved. Throughout the data analysis process, the three researchers endeavored to maintain consistency and neutrality

Table 1
Resilience experienced by university students during the COVID-19 pandemic.

Themes	Categories	Subcategories
Factors impeding resilience	Experience of loss	Direct or indirect experience of death
		Loss of physical contact (isolation)
		Loss of self-control
		Loss of hopes and dreams
		Loss of learning motivation
		Ruined university life
	Experiencing a crisis	Risk of infection
		Livelihood and financial instability
		Inequality due to social disparity
	Increased uncertainty	Ambiguity in the route of infection
		Guilt about the possibility of infecting others
	Accumulated stress	Bleak reality without a light at the end of the tunnel
		Loneliness and alienation
Strategies to strengthen resilience	Change and innovation	Giving meaning to the pandemic experience
		Having hope
		Positive personal growth
		Time to discover: enlightenment about what was lost and what was gained
	Confronting the loss	Adapting to loss
		Strengthening interpersonal relationships
		Self-reflection
	Transcendence	Releasing energy
Outcomes from strengthening resilience	Adapting to the changing world ("the new normal")	Moving forward

while revealing participants' experiences and continually performed self-reflection to ensure the absence of biases to establish confirmability. We discussed and agreed on the results of the focus-group interview analysis through maintaining a research log and holding a research meeting once or twice a week.

2.7. Trustworthiness

To ensure the trustworthiness of study findings, Lincoln and Guba's criteria for evaluating qualitative research were used: credibility, auditability, fittingness, and confirmability [26]. First, to increase credibility, we recruited university students who had experienced at least one year of university life during the COVID-19 pandemic. The results were reviewed by three participants who had consented to perform a final review. Second, to ensure auditability, data collection and analysis processes were recorded in detail such that other researchers could trace them back. Third, to ensure fittingness, participants' demographic characteristics were incorporated in the findings. Finally, regarding confirmability, when vagueness arose during interviews, the interviewer promptly asked the participant for clarification to minimize researcher bias and maintain neutrality.

3. Results

3.1. Content analysis results

Data from the three rounds of focus-group interviews were qualitatively analyzed and 193 meaningful statements around three topics were extracted. Open coding was performed on the statements, from which 74 concepts and phrases were derived. These were further synthesized into 22 subcategories. Finally, eight categories were derived (Table 1). Below, study findings are described according to the three topics: factors impeding resilience, strategies to strengthen resilience, and the outcomes of the strategies that university students used to strengthen resilience.

3.1.1. Factors impeding resilience

3.1.1.1. Experience of loss. Participants experienced a feeling of loss as the efforts they had made thus far had no meaning, and they lost the motivation to study owing to difficulties associated with online classes. University life was disappointing and obtaining a job after graduation was expected to be challenging.

> I was doing clinical practice at a hospital, and the hospital ward where COVID-19 patients were admitted was frantically busy. I heard that a young woman who tested positive (for COVID-19) at a clinic that morning expired during CPR [cardiopulmonary resuscitation] as soon as she arrived at the hospital. I saw her husband leaning against the entrance door and crying, and their six-year-old daughter running around, not aware of what was happening. Suddenly, I could not breathe, as though something had become stuck in my throat, and my tears were flowing; so, I ran into the bathroom. Her family couldn't even say a final good-bye. I was very sad. My heart was heavy, and I didn't feel like doing anything. (Focus group 3 [F3], Participant 1 [P1])

> This is not the university life I was expecting. I was looking forward to making new friends. I felt that I was not doing what I was supposed to do, and this gave me a sense of loss, which ruled my daily life and seems to have made me lose interest in my studies. (F2, P2)

3.1.1.2. Experiencing a crisis. Participants reported experiencing pain and risk, stating that they and the families who worked in frontline positions struggled to make a living and were repetitively exposed to the virus.

> I work part-time doing deliveries. So, I always have to wear a mask and often have breathing difficulty, albeit briefly, because I ride a bicycle when making deliveries. I am often worried whether I can continue working the part-time job. (F1, P3)

3.1.1.3. Increased uncertainty. Participants experienced uncertainty because of unclear causal relationships regarding the route of the virus spread and whether particular deaths were due to the COVID-19 virus. This made them depressed and anxious. Additionally, they felt shame or guilt because of uncertainty whether they themselves might have been infected.

> I heard that there was a cluster of confirmed cases in my parents' neighborhood and because the first case was not identified, suddenly the neighbors were suspicious of one another regarding the routes of infection and were hostile to each other. (F2, P5)

> I volunteer teach at a regional child center and an elementary school student I teach was confirmed positive. While I recalled my whereabouts and the people I saw since the day I contacted the student, I felt agony at the thought that they were probably blaming me. (F2, P3)

3.1.1.4. Accumulated stress. As the daily number of confirmed cases surged in many regions of South Korea, most participants had an experience similar to riding a roller coaster in coping with the course of the pandemic. They felt discomfort, isolation from interpersonal relationships, worry, and fear owing to increasing stress.

As I spend increasingly more time at home, I feel more uncomfortable because of conflicts with the family that were nonexistent when I lived in the dorm, and also because of an atmosphere not conducive to studying. Stress from family relationships and academic stress are steadily increasing. (F3, P2)

3.1.2. Strategies to strengthen resilience

3.1.2.1. Change and innovation. The participants turned the experience of the COVID-19 pandemic into an opportunity for reflecting on the purpose of life and re-assessing the foundation and direction of their lives. Rather than waiting helplessly for what would happen in the future, they were hopeful and expressed a willingness to proactively make choices, and were trying to resolve agony stemming from negative situations that had persisted.

I started to think "What am I doing?" and "Can I afford to spend time senselessly like this?" I feel it's unfair to spend my 20s like this, but I can't say that there were only negative experiences. As I spent most of the time with my family, I formed a strong bond with them that is incomparable to the past. I can say that it was an opportunity to realize the preciousness of my family, which I had forgotten as an adult. (F1, P4)

3.1.2.2. Confronting the loss. Participants discussed ultimately adapting to the challenging context in which they experienced loss by confronting it, making efforts to resolve painful situations, and help others overcome pain in the end.

I cannot meet my friends in person, I spend more time contacting them and talking on the phone. I play games with my friends and talk on the phone. When we just talk, we either share the screen or use a video chat app to talk while looking at each other's face and having snacks at home. (F3, P4)

3.1.2.3. Transcendence. Participants mentioned that while feeling anxiety and pain for a long time owing to COVID-19, they found their own ways, like exercise, reading, and artistic activities, to release energy and develop transcending power.

I began exercising. After about a week, I was able to think positively and sleep regularly at night. (F1, P2)

As I spend most of my time at home, I am able to enjoy a variety of hobbies that I can do at home, like reading, writing, and drawing. I am healthier than before. (F2, P6)

3.1.3. Outcomes from strengthening resilience

3.1.3.1. Adapting to the changing world ("the new normal"). Participants felt that the change in lifestyle owing to COVID-19 became "the new normal" and that adapting to the changed environment was important.

A new term, the "new normal," was coined. Many things changed owing to COVID-19. In the beginning, it was quite difficult for me as well as my friends to adapt to the changes, but I think that this might be a new world to live in from now on. It is said that infectious diseases like COVID-19 will occur more often in the future, and this is a world changed in response to an infectious disease. So, I think it is the right course of action to adapt to current changes and prepare to take on a different set of changes that will come in the future, rather than looking back into the past. (F3, P2)

4. Discussion

This qualitative study used focus-group interviews and qualitative content analysis to understand university students' experiences of resilience during the COVID-19 pandemic. Resilience is defined as the competency to endure frustration induced by adversity, adapt positively, and recover [27,28].

Data from three rounds of focus-group interviews were analyzed. Participants' experiences of resilience were analyzed around three topics—factors impeding resilience, strategies to strengthen resilience, and outcomes of said strategies to strengthen resilience. Eight categories and 22 subcategories were extracted from these topics.

Experiences of loss and crisis, increased uncertainty, and accumulated stress were identified as factors impeding resilience in participants. The pandemic could have constituted serious adversity to university students, considering the grave changes they experienced in all facets of daily life and detrimental influences on their academic achievements and mental health [29]. Furthermore, the outbreak of the COVID-19 pandemic exacerbated unemployment, intensifying students' anxiety about job prospects [30]. These findings coincide with previous ones showing that because of changes in daily life [28], university students experienced increased anxiety, depression, maladjustment, and showed reduced resilience [31–33]. Based on these findings, the COVID-19 pandemic is comparable to a "perfect storm," wherein people are bound to experience serious crises and loss, confusion in many facets of daily life, and continuous stress in multiple areas owing to changes in the environment [34].

Resilience plays a fundamental role in maintaining mental health. Hence, a top priority in public health during the COVID-19 pandemic should have been strengthening resilience in university students [34]. Change and innovation, confronting the loss, and

transcendence were identified as strategies to strengthen resilience. A subcategory of change and innovation was hope, which co-incides with Walsh's [35] statement that hope is the most crucial element in an era of overwhelmingness and despair such as the COVID-19 pandemic. Being willing to proactively make decisions and maintain hope about future possibilities, rather than waiting helplessly for what will happen in the future, is an essential resource for long-term resilience.

A subcategory of confronting loss was strengthening interpersonal relationships. This finding is consistent with previous ones that close relationships with others were linked to lower levels of stress during the COVID-19 pandemic and that social support from loved ones was associated with high levels of resilience [35,36]. Also similar to this study, another study conducted in Asia also found that individuals can enhance resilience through organizational support and social support [37]. That is, humans, as relational beings, need and depend on one another for survival; recognizing our interdependence is critical to being resilient.

Transcendence, the third category under strategies to strengthen resilience, is a valuable resource supporting people to adjust, appreciate what is lost, express sadness, and move on [38]. Specifically, the transcendent power of music, creative arts, and the like increases resilience and helps individuals express unbearable sorrow and triumph over adversity [34]. Transcendence included a subcategory of releasing energy, wherein participants mentioned finding solace in exercise, writing, music performance, and drawing. This finding supports William et al.'s [34] findings, which reported that during the COVID-19 pandemic, being active outdoors and exposed to the sun for a few minutes daily was linked to greater resilience.

Finally, adapting to the changing world ("the new normal") was identified as an outcome of strengthening resilience, and "moving on" was extracted as a subcategory. From a systemic perspective, COVID-19 and the strategies we employ to cope with it may evolve in ways that are neither predictable nor controllable. This uncertainty may heighten fear and anxiety [39]. However, the outcomes of such uncertainty depend on how we manage the situation. Fook [40] argued that openness can positively approach the 'vulnerability' of uncertainty. Therefore, uncertainty can lead to negative reactions such as fear and anxiety, but it can also produce hope and optimism. Walsh's [35] opinion that facing an uncertain future in the era of COVID-19 can be helpful is similar to the current results. When a large-scale event like the COVID-19 pandemic occurs, we cannot return to our past "normal" lives and should adapt according to the changes in the world. Resilience, a competency to overcome adversity, has valuable applications in a large-scale catastrophe, group trauma, or loss situation.

Students in higher education settings, much like the participants of this study, often encounter mental health issues due to factors associated with emerging adulthood, such as transitioning away from home, forming new relationships, managing heavier academic loads, securing employment, and assuming additional responsibilities [40,41]. Particularly, university students have been significantly impacted by the rapid life transitions brought about by the COVID-19 pandemic [42]. The increase in mental health issues observed among college students during the COVID-19 pandemic highlights the need to provide them with better services, prepare for issues associated with early adulthood, and reassess strategies for coping with crisis situations [43–45]. The significance of this study lies in its identification of resilience enhancement strategies aimed at preventing and improving mental health issues among college students in potential future pandemics or other crisis situations, as well as confirming the outcomes of resilience enhancement. Furthermore, these research findings are expected to serve as foundational data for the development of interventions and policy formulation aimed at assisting college students' mental health issues during potential pandemics or other crisis situations.

However, our study had several limitations. Our study was conducted specifically at a university in a province of Korea. Therefore, during the COVID-19 pandemic period, there have been major and minor differences in social distancing measures and university curriculum and teaching methods in each region, which may result in different experiences. This may restrict the transferability of our findings to other autonomous regions in Korea and other countries. Considering the limitations of using a cross-sectional design, we suggest that follow-up studies recruit participants from various regions with different cultural backgrounds and study them over time.

5. Conclusions

This study demonstrated that resilience was one of the most important resources for university students' mental health challenges due to the COVID-19 pandemic, and showed specific ways in which this critical ability was employed. Our findings can be used as foundational data by universities and relevant community organizations when coordinating to develop educational programs and interventions to strengthen resilience in university students, allowing them to more quickly adapt to and overcome adversities.

Data availability statement

Data sharing does not apply to this article.

CRediT authorship contribution statement

Younghee Park: Writing – review & editing, Writing – original draft, Visualization, Validation, Supervision, Resources, Project administration, Methodology, Investigation, Formal analysis, Data curation, Conceptualization. **In Hong Kim:** Validation, Resources, Investigation, Data curation. **Yeo Won Jeong:** Validation, Resources, Formal analysis, Data curation.

Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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