



COVID-19 University Experiences:

Coping, Resilience, and Burnout 'A University of St Andrews Case Study'

Authors:

Ivey-Elise Ivey

Mio Hisada

Ronnie Ben-Gal

Amberly Ying

Editor: Nina Harbison

EXECUTIVE SUMMARY

This online survey yielded valuable insights into four main facets of undergraduate students' experiences at St. Andrews during and after COVID-19. These included coping strategies, the utilization of university and community services, burnout, and resilience. During COVID-19, there was a breadth of adaptive and maladaptive coping strategies. The most commonly cited coping strategies were exercise and increased communication with loved ones, followed by self-imposed isolation and poor time management of responsibilities due to a lack of structure. The transition into a post-COVID-19 'back to normal' life appeared to be a challenging period of adjustment for students. Notably, some students continued to exhibit a 'do-it-later' mentality towards lectures and deadlines, even with the return of in-person teaching. The flexibility of administrative policies was considered as more valuable than other university resources, with students perceiving other services as only mildly effective. Post-COVID-19, there was a slight reduction in burnout ratings compared to during the pandemic, potentially indicating lasting effects. Additionally, increased resilience was observed post-COVID-19.

Moving forward, these student responses may inform policy on various scales. Government funding could be allocated to enhance online-based mental health services accessible to students both at home and on campus. Subsidies for universities are also recommended to address financial barriers and encourage student engagement in sports and societies. The university should maintain policies regarding recorded lectures and flexible administrative guidelines, promote physical exercise, and allocate resources to improve the capacity of student services.

Encouraging further research within the St. Andrews community, particularly in areas such as physical activity, peer socialization, student services, and changes to university policy, is important as these factors were frequently mentioned by students as impacting resilience and burnout.

This preliminary study highlights the importance of not only providing resources to assist students, but also the need to continuously reflect on and refine them. Policy changes at the governmental and university levels are crucial for the prioritization of student wellbeing.

TABLE OF CONTENTS

1.0 INTRODUCTION	3
1.1 Literature Review	4
1.2 Resilience and Coping Strategies	4
1.3 Burnout	5
1.4 The Scottish context: St Andrews	5
1.5 Procedure	6
1.6 Scales	6
1.7 Rationale	7
2.0 RESULTS: STUDENT COPING EXPERIENCES	8
2.1 Coping Strategies	8
2.2 Utilising University and Community Services	10
2.3 Burnout During and Post-COVID-19	
2.4 Resilience During COVID-19 and Post-COVID-19	15
3.0 RECOMMENDATIONS: SURVEY	
3.1 Maintaining recorded lectures and flexible administrative guidelines	
3.2 Promoting and providing opportunities for physical exercise	17
3.3 Improving universities' student services	
3.4 Survey limitations	18
4.0 RECOMMENDATIONS: LITERATURE	
4.1 Sense of belonging, collegiality, and cooperative systems	19
4.2 Government-scale recommendations	
5.0 FUTURE RESEARCH	
6.0 CONCLUSION	22
7.0 BIBLIOGRAPHY	
8.0 APPENDIX	-

1.0 INTRODUCTION

For communities globally, the COVID-19 pandemic signified a turbulent period of time characterised by fear and uncertainty. One main feature of this crisis was the enforcement of lockdown and containment measures across the globe which significantly impacted each aspect of everyday life (Lee et al., 2020). Across systems, it adversely affected health care, social and economic activities, and across individuals, it sparked or exacerbated mental health problems ranging from psychological distress to symptoms of depression, anxiety, or post-traumatic stress (McBride et al., 2021; WHO, 2022).

Amongst those severely impacted were students of all ages, where the crisis forced school closures in 188 countries and greatly disrupted the learning progress of more than 1.7 billion students (OECD, 2020). UNESCO has raised the possibility of a global learning crisis, consisting of a reduction in the amount of content students receive, the competencies they develop, and students' emotional and mental health (2020).

Of interest are university undergraduates. Traditionally, even without the influence of the pandemic, the novel experiences of university-life are sufficient to incite feelings of stress and discomfort amongst students; where the simultaneous life transitions of emerging as an adult and adjusting to college life can cause significant stress (Arnett, 2000).

It is therefore unsurprising that a rupture in the traditional mode of delivering knowledge face-to-face in adhering to strict national social distancing measures caused a significant depreciation in wellbeing amongst undergraduate students. When coupled with the run-of-the-mill academic challenges of school, financial, and relational issues, this drop in wellbeing due to COVID-19 related disruptions is especially understandable (Cameron & Rideout, 2020; Mall et al., 2018).

Although learning loss, associated with the implementation of a 'new normal' of virtual remote-learning may be regarded as a temporary measure for some, the long-term effects of the absence of traditional schooling, such as the curbing of educational aspirations or disengagement from academia, have yet to be comprehensively studied (Tesar, 2020; OECD, 2020). To avoid allowing a hysteresis effect to occur in university education, it is crucial to analyse and evaluate undergraduate experiences of the

pandemic by examining the efficacy of the short-to-medium education strategies adopted by universities. From this, policy improvements may be suggested.

1.1 Literature Review

Globally, there has been a healthy production of research investigating the pandemic's impact on students' academic performance, mental health, and social connectedness in China (Li et al., 2020), Italy (Villani et al., 2021), Germany (Gewalt et al., 2022), and the U.S. (Browning et al., 2021). Yet, it appears that there is little research examining the impact of the COVID-19 pandemic on undergraduate students in Scotland.

To address this gap, our team thought it necessary to focus on student experiences of burnout and resilience and how this influenced coping mechanisms during- and post-COVID-19. The effectiveness of university resources and support systems may then be adequately analysed.

The literature surrounding these topics regarding university populations have mainly been conducted in Spain (Morales-Rodríguez 2021; Sarmiento et al., 2021), Singapore (Kwan, 2022), and the Philippines (Valladolid, 2021). There is generally a very small amount of literature focusing on the experiences of undergraduate students in the United Kingdom, and even smaller still within Scotland. The main research areas in Scotland appear to focus on healthcare and social worker demographics (Cogan, 2022; Gillen, 2022; McFadden, 2021). Considering general findings of other university-based studies pointing towards changes in individuals' sleeping, eating, and exercise habits subsequently impacting their physical and psychological well-being, it is of utmost importance to investigate whether these same habits have been replicated amongst Scottish undergraduates (Wang et al., 2020).

1.2 Resilience and Coping Strategies

Whilst the American Psychological Association (2022) defines resilience as the ability to adapt well when faced with adversity, trauma, or significant sources of stress, Connor & Davidson (2003) approach their definition of resilience from a different angle, where resilience is a process that allows an individual to *thrive* in adversity through the skills they practise to overcome traumatic circumstances. This ability is

therefore contingent on the interaction between an individual and their *coping strategies*. These refer to conscious efforts in moderating emotions and behaviours as a response to stress caused by daily events or current circumstances (Compas et al., 2001; Frydenberg & Lewis, 1993). Typically, there are three main coping strategy styles: (1) problem-focused strategy positively focuses on solving the problem, and striving and succeeding; (2) relational behaviour associated with seeking social support, to belong, to make close friends; (3) unproductive, avoidance or ignorance of the problem, and keeping it to oneself (Frydenberg & Lewis, 1996; Maghan, 2017).

1.3 Burnout

Comprising 3 separate dimensions, burnout is a syndrome characterised by exhaustion, task-related cynicism, and reduced professional efficacy (WHO, 2019). In an academic setting, this would translate into cynicism towards studying and potential feelings of inadequacy as a student (Salmela-Aro & Read, 2017).

1.4 The Scottish context: St Andrews

It is prudent to contextualise the circumstances of students' experiences with COVID-19. During the course of the pandemic, countries implemented their restrictions at differing levels. For Scotland, a strict nationwide lockdown was initiated with breaches punishable by law (Ingram, 2022). In conjunction with Scotland's more stringent policies, the University of St Andrews also enacted their own university-specific regime, where, in certain instances, the university surpassed government restrictions in severity.

The unique makeup of the St Andrews student population is also an important consideration within this report. As 45% of the student body consists of international students according to UCAS, student status, when combined with year of entry, are both essential factors when considering how to apply lessons from their experiences towards helping future students. Most respondents of our survey (77.3%) entered university during 2020, at the peak of severity of civilian restrictions implemented by both the Scottish Government and the University of St Andrews. By September 10th (the semester's first week of classes), all indoor and outdoor gatherings were restricted to a maximum of 6 people from 2 households (SPICe, 2023). By the end of September,

national 6pm curfews for gatherings and venue openings were imposed across the country. This meant that the earliest experiences of newcomers in St Andrews were plagued by forced isolation and lack of opportunities to create new social connections at a critical point in their university experience.

Thus, it is important to consider this context as our survey respondents may have endured more severe experiences of isolation and restriction compared to their UK-based university peers, particularly in their 2020-2021 entrant year. This sets the stage for our understanding of the survey answers regarding coping, resilience, and burnout in the following section of the report.

1.5 Procedure

An online survey was disseminated through researchers' personal social media and the Political Institute of Action Research social media page (see Appendix A). This survey stayed open for one week allowing for data collection. Out of a total of 22 respondents, 77.3% were 2020 entrant students, 68.2% were international students and 31.8% had UK home status.

1.6 Scales

Considering time-limitations and the importance of encouraging full student engagement with the survey, our team developed and modified two short self-report inventories whilst attempting to preserve the construct validity of each scale.

In gaining inspiration from a breadth of shortened resilience (Amat et al., 2014; Vaishnavi et al., 2007; Wagnild, 2009) and burnout (Salmela-Aro & Read, 2017; Tomaszek & Muchacka-Cymerman, 2022) scales, we modified items that we believed would etymologically capture the principle elements of self-perceived resilience and burnout suited for a university population. For the resilience and burnout inventories respectively, we devised a 4-item, 5-point Likert-type scale for data collection.

As this report was conducted after the peak of pandemic literature production from 2020-2022, we decided to investigate student self-perceptions of resilience and burnout presently *and* during COVID-19. Not only is this a unique method in research, it also

helps us gain a baseline with which to compare students' psycho-social states during COVID-19.

1.7 Rationale

Few studies regarding resilience, coping strategies, and burnout have used a sample from the UK and even fewer have focussed on Scottish students. Due to the importance of student wellbeing, especially in times of unprecedented crisis, new research that strengthens or adds to existing findings is crucial. We therefore seek to contribute to this discussion with our own case-study of undergraduates from the University of St Andrews. We hope not only to consolidate existing literature, but also to provide actionable insights that can guide research and policies at the local, university, and state levels to foster resilience, encourage healthy coping habits, and center wellbeing for future students.

While we understand that many of the students we will hear from in the report will soon leave the university system, younger students in the coming years will have had similar experiences as students during COVID-19 at the secondary or sixth-form level that follow them into their university careers. Thus, our report's suggestions will remain highly relevant for future students in order to improve and cultivate coherent and protective policies moving forward. The measure of a university and nation's response to a crisis should not merely be restricted to actions during the crisis but also to actions undertaken afterwards, as long-term impacts will continue to be felt years later.

The following section of the report is dedicated to presenting the findings of our team's survey. By analysing and summarising the data gathered from the survey responses, we hope to provide an in-depth appreciation of University of St Andrews' students' experiences during and after the COVID-19 pandemic, particularly through the lens of coping mechanisms, the use of university and community resources, and students' self-reports of 'resilience' and 'burnout.'

2.0 RESULTS: STUDENT COPING EXPERIENCES

2.1 Coping Strategies

When asked "What coping mechanisms did you use to deal with experiencing university during COVID-19?", there were a wide range of responses. Namely, implementing exercise or outdoor walking was mentioned in over 35% of the responses and topped the list compared to all other categories. Some mentioned that they developed a growing interest in at-home workouts or live-stream exercise classes, while others honed in on outdoor activities that would allow them to get fresh air and see family and friends. This coping strategy was closely followed in popularity by the report of increased communication with family and friends. Present in 28% of the responses, many students said they utilized Facetime calling or the two-household rule to spend time connecting with friends and family. Some indicated that their motivation to seek out friends was to combat loneliness, to try to meet new people at university, or to occupy their newfound free time.

Specifically, this experience of free time or emptiness of time was a recurring theme. One profound description of this experience came from a student who described the sensation by saying, "I had so much time that I never did anything." Others said that the lack of daily structure caused a sense of anxiety "that made it feel like I was never resting" and further meant students actively worked to "try to pass the time." This seemed to be closely linked to changes in time management strategies.

The third most frequent coping strategy reported was isolation and/or low mood, mentioned in 22.7% of the responses. While isolation was undoubtedly a symptom of the set legal restrictions, many framed their experience of isolation as a *choice* or as "self-implemented". Respondents specifically described depression, increased sleep, lack of daily routine, and "fear" as attributing to their perceived choice of coping through isolation.

Aside from these three main coping strategies, the remaining categories identified are: increased screen time (18.2%), increased drinking/substance use (13.6%), online event participation (13.6%), schoolwork procrastination (13.6%), and schoolwork hyperfocus (9.1%). Particularly interesting is the direct contrast between reports of schoolwork procrastination and schoolwork hyperfocus. Reports of procrastination were more

popular and consisted of apathy towards university responsibilities. One participant said that "School work was like background noise", while another said:

"It was hard to take my studies seriously with all classes online. It was difficult to

adapt to a university lifestyle when it was all done from my small bedroom, on my own. I once watched 10 lectures in a day because I had procrastinated them so much."

In contrast, many students reported a hyperfocus on work. Respondents recounted experiences such as "I worked at all times because I felt like I had nothing else to do" and "I would just immerse myself in Uni work for hours on end but to an unhealthy degree". Further, another student said, "I didn't need coping mechanisms to deal with work - in the absence of anything else to do it was easy to get my work done". Although hyperfocus was a less popular experience compared to procrastination, it was nonetheless present in many responses.

The next question asked students to evaluate their aforementioned strategies based on their "effectiveness at helping you adapt to university during COVID-19" and on whether "any of them are particularly positive or negative adjustments". Over 72% of the responses focused on the negative impact of coping through isolation and/or coping through lack of time management. Regarding isolation, they repeatedly expressed the negative impact this had on their maintenance of friendships, poor mental health, growing introverted tendencies, and weaker support systems for university. When highlighting time management, almost all responses referred to the ability to watch lectures online: "the habit of only working at night and doing nothing during the day", "I didn't have the structure of in person classes to schedule my life", "I often didn't watch them at all, or would cram them", and finally that "I would sleep in late and wouldn't feel motivated to do schoolwork until it was around the deadline".

Further, we asked students to reflect on which of these coping mechanisms have followed them into their post-COVID-19 university life. There was a nearly even mix of positive and negative residual coping strategies reported. Some said that the "do-it-later" mentality regarding lectures and deadlines has persisted as a self-handicap even with the return to in-person learning. Others said that because they were restricted to

only socialising with people on their hall, they feel that their post-COVID-19 university friend groups are not genuine, citing that they were only based on initial forced circumstances and/or had a level of toxic dependency because of the copious amounts of time spent together during COVID-19. Regardless, many felt obligated to prioritize student societies, student events, and new social opportunities post-COVID-19 to make up for lost time. Some regarded this as a positive residual, while others said it negatively pulled their focus away from classes and assignments.

At the top of the list was, once again, habits surrounding exercise. Many students developed their exercise routine to cope during the pandemic by finding structure, maintaining health, or getting outside of the house. Lots of students have maintained their lifestyle habits surrounding exercise, noting that they feel this continues to be beneficial for their overall health and wellbeing considering their increased in-person university responsibilities and related stressors. In closing, it is clear from the varied mix of positive and negative residual coping strategies that the transition into post-COVID-19 university life was an overwhelming period of adjustment "back to normal".

2.2 Utilising University and Community Services

As this survey focused on University of St Andrews students, we provided a list of the different resources that the university made available to students during the pandemic and asked them to pick a maximum of 3 services (if any) that positively contributed to and 3 services (if any) that negatively contributed to their management and adaptation strategies as a university student during COVID-19 (see **Table 1**). Some were new services, such as flexible administration policies or hosting outdoor events in the "COVID-19 Can-Do Tent", and others were resources that existed prior to COVID-19 such as student societies, Nightline mental health hotline, and the St Andrews Sports Center.

Question 1: Did any of the following university resources <u>improve or contribute to</u> your management and adaptation strategies as a student during COVID? This support could have been virtual or in person. Please select a maximum of three.

Question 2: Did any of the following university resources <u>negatively or insufficiently contribute to</u> your management and adaptation strategies as a student during COVID? This support could have been virtual or in person. Please select a maximum of three.

- 1. Student Services
- 2. Nightline
- 3. Sports / Recreational Society Membership
- 4. Sports Center Gym Membership
- 5. The "Can-Do Tent" events
- 6. Charity / Volunteering Society Membership
- 7. Cultural / Ethnic / Religous Society Membership
- 8. Flexible university administrative guidelines (e.g. S-code, deadline extensions, recorded lectures)
- 9. I did not use any of these resources

Responses revealed that "flexible university administrative policies" was chosen as a resource that improved adaptation strategies in almost 65% of the overall responses, overshadowing the other resources available. Three other responses were commonly highlighted by respondents: student services (29.4%), can-do tent events (29.4%), and sports center gym memberships (23.5%). When students were asked to rank how effective these positively contributing services were on a scale from 1 (not effective) to 5 (very effective), 52.9% of responses were three (neutral). When looking at how many responses fell in the upper and lower quartiles, only 17.6% of responses were above neutral while 29.4% were in the less effective quartile.

Interestingly, when evaluating which services negatively or insufficiently contributed to student adaptation strategies, student services and flexible administrative policies again made up the largest percentage of overall responses with student services at 64.3% and flexible policies at 28.6%. At first glance it seems contradictory for these

resources to simultaneously make up the majority of both the positive and the negative evaluations, yet it is arguable that these resources may have been utilized most often compared to others. Thus, students' more frequent use of the services may mean there were positive aspects to their experiences alongside aspects with room for improvement. Students further had the option to elaborate if needed on any of their previous rankings of university resources and services, and when examining these responses it echoes that notion.

One response commented on flexible deadlines saying that they, "only encouraged procrastination and bad habits" while another said that the policy "removed any sense of structure we had left." In regards to student services, some specific examples of this were: "Their support for COVID related racism was really bad" and "When reaching out to student services about my mental health there was a lacking response". One student gave a detailed explanation of their mixed effectiveness evaluation:

"Student services and Nightline are great and they're doing the best they can, but they're always always stretched so thin. At best you're getting 1 student services appointment per month and it just isn't quite enough. I get that they don't have that many resources- but what they can give kind of isn't enough."

In the second portion of this section of the survey we provided a list of the different types of community members that St Andrews students may have relationships with and asked them to pick up to three community members (if any) that they felt comfortable seeking support from during COVID-19 (see **Table 2**). "St Andrew's peers" made up 63% of the overall responses, while 26% of the responses were "None". A much smaller portion of the responses were "academic family members" and "tutors/professors". Compared to the effectiveness evaluations of university resources, the evaluations of community member support was much more positive. Participants were asked to rank how effective the support they received from engaging with the community members was on a scale from 1 (not effective) to 5 (very effective). While the majority of responses again fell neutral at three (42.9%), the remaining responses were overwhelmingly positive. Overall ratings of 4 and 5 together comprised 50% of the responses- with only one person responding below neutral. So while sadly 26% of students reported having no support from community members, it seems that the

students who did engage with the community had a relatively positive and effective experience.

Table 2

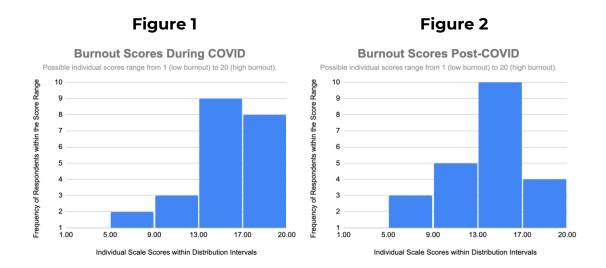
Did you feel comfortable seeking support from any of the following university community members?
1. School Wellbeing officers
2. Tutors/Professors
3. Wardens/Hall staff
4. COVID-Saints
5. Student Mentors Andrews Scheme
6. Academic family members
7. Religious community members
8. None

2.3 Burnout During and Post-COVID-19

The final section of the survey, we used two 4-item scales which we adapted to evaluate dimensions of burnout and resilience specifically in an academic university setting. Each scale was presented twice. The first round asked students to consider how often the following statement applied to them *during* COVID-19. The second then asked students to consider the same statements, yet how the statements apply to them today post-COVID-19. Both the burnout and resilience scale response options were from 1 (never) to 5 (almost daily). Results are culminated by summing participants 1-5 rankings across all 4 questions, resulting in an individual score ranging from 1 (low burnout or resilience) up to 20 (high burnout or resilience).

Analysing the results of the burnout scale, the mean score during COVID-19 was 14.8 out of 20. The median fell at 15, and the mode scores were 15, 17, and 18. Thus, student respondents overall seemed to fall on the higher end of burnout experiences (see **Figure 1**). When looking at the same metrics of the burnout scale responses post-COVID-19, the mean score was 13.1 out of 20. The median score was 14 while the

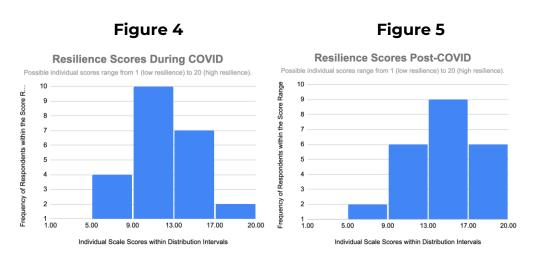
multiple modes were 9, 13, 14, and 16 (see **Figure 2**). Although marginally, the mean burnout score is lower post-COVID-19 by 8.5%.



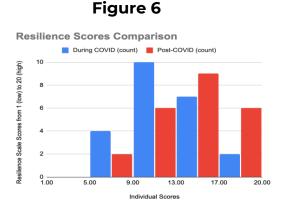
When comparing the results from both measures, 17 individual results fell in the upper two score distribution quartiles (13-20) during COVID-19, and 15 individual results fell in the same distribution in the post-COVID-19 measure (see **Figure 3**). The decrease in burnout experiences post-COVID-19 is positive, but the marginality of the burnout decrease could reflect the fact that burnout is a prominent experience for university students under academic pressure outside of the impact of the pandemic.

2.4 Resilience During COVID-19 and Post-COVID-19

Finally, when analysing the resilience scale during COVID-19, the mean score was 11.8 out of 20. The median fell at 12, and the mode score was 15. Results demonstrate a score distribution close to a normal bell curve with the majority of the responses falling in the mid-point quartiles, with 10 responses inside the 9-13 range (see **Figure 4**). Looking at the same metrics of the resilience scale responses post-COVID-19, the mean score was 14 out of 20. The median score was 14 while the multiple modes were 12, 15, and 12 (see **Figure 5**).



When comparing students' resilience experiences during and post-COVID-19, the distribution bell curve has shifted to the right, a clear indication of higher reported resilience at university post-COVID-19. 9 individual results fell in the upper two score distribution quartiles (13-20) during COVID-19, and 15 individual results fell in the same distribution in the post-COVID-19 measure (see **Figure 6**). The mean resilience score post-COVID-19 is 11% higher; a more apparent variation than the 8.5% difference reported on the burnout scale results.



3.0 RECOMMENDATIONS: SURVEY

The present survey enables further understanding of current university services and external coping mechanisms that positively or negatively influence students' resilience. More importantly, the survey allows for derivation of potential future methods that universities may implement to increase mental wellbeing post-COVID-19. We hope that the recommendations provided will serve as a form of guidance to addressing burnout in universities across Scotland.

3.1 Maintaining recorded lectures and flexible administrative guidelines

An issue commonly raised in the survey was the influence of online lectures and events on students' time management. During COVID-19, since online lectures were recorded, there was no obligation for students to attend lectures at the assigned time, leading to an "I can do it later mentality", as described by one respondent. Some respondents commented that this freedom in watching lectures at their own time impaired their time management, often leading to completing all lectures at once, while others argued that recorded lectures allowed them to "take really in depth notes".

To prevent this unhealthy behaviour, we recommend that universities provide further resources assisting students in studying at a healthy pace that is comfortable for them. This may involve implementing additional discussion forums within students to help each other out, as well as between students and lecturers. Maintaining recorded lectures is also crucial in allowing students to work at their own pace, subsequently improving mental wellbeing and reducing burnout. Moreover, this will accommodate students with disabilities and neurodivergencies, further supporting this recommendation.

Flexible administrative guidelines were also found to benefit students greatly while studying during COVID-19. Therefore, it is crucial for universities to maintain this flexibility for the following years, particularly for those impacted by COVID-19 during university life. Results obtained from the survey suggest that the combination of these methods may improve students' resilience to burnout.

3.2 Promoting and providing opportunities for physical exercise

Respondents mentioned that regular physical exercise positively impacted their mental wellbeing during COVID-19 and that these habits reduced burnout symptoms post-COVID-19. Considering the benefits of exercise on mental wellbeing, we recommend that universities dedicate more resources in promoting regular physical exercise. This is furthered by the fact that instances of playing sports and exercising decreases significantly during the transition from high school to university, causing an increase in fatigue levels (Bray & Born, 2004). Many Scottish universities currently still require students to pay for gym or sport memberships, which may contribute to the decrease in instances of physical exercise during university life. These prices may deter students, hence governments should provide further funding for students to encourage physical exercise. Alternatively, universities may introduce free-entry sport games and events to promote participation in sports.

This idea is further supported by a study exploring influences of physical exercise on burnout in university students in Ecuador (Rosales-Ricardo & Ferreira, 2022). Reductions in burnout were observed in university students of varying academic backgrounds following aerobic and strength exercises. This suggests that various forms of physical exercise can reduce burnout symptoms and improve mental wellbeing, and that it is worth investing further resources to provide opportunities for physical exercise.

3.3 Improving universities' student services

Several respondents have stated that though the university's student services does provide assistance to student coping, these resources are considerably limited. One respondent stated that "at best you're getting 1 student services appointment per month and it just isn't quite enough", suggesting that further funding should be dedicated to increasing student service resources. This may be through increasing staff or number of appointments dedicated to each student.

Alternatively, we recommend that more services led by St Andrews peers can be created. A majority of respondents felt most comfortable seeking support from their peers, suggesting that support groups led by individuals of their own age would encourage students to seek support. This is particularly useful as evidence has shown

that peer support is an effective coping mechanism for university students (Chang, Eddins-Folensbee & Coverdale, 2012).

3.4 Survey limitations

Online surveys often pose the risk of desirability biases displayed in participants. Some participants may be able to derive hypotheses of the study through the brief description at the beginning of the survey and adjust responses based on this, which may be intentional or subconscious. Furthermore, the limited platforms the study was advertised on means that the sample obtained may not be representative of the University of St Andrews' population. Moreover, the majority of students completing the survey are expected to graduate in 2024. These students may feel greater pressure to do well post-COVID-19, not because their resilience has been impacted by COVID-19, but because they are in their final year of studies. This would majorly influence data obtained in the "Burnout During COVID" section of the survey.

4.0 RECOMMENDATIONS: LITERATURE

Beyond data provided by the survey, research from existing literature explores coping mechanisms for increasing resilience in university students. This provides further recommendations that can be implemented to improve student wellbeing.

4.1 Sense of belonging, collegiality, and cooperative systems

Burnout has been found to be inversely correlated with work engagement and sense of belonging (Puranitee et al., 2022). The study found significant results in reduction of burnout following an increase of these factors. Participatory strategies and programs implemented by universities, such as revision groups, were also found to be effective in creating a more welcoming and pleasant environment of study. These revision groups may further increase peer support networks as well, highlighting the importance of universities to use participatory strategies to provide students with a sense of belonging.

Cooperative systems have also been found to improve mental wellbeing, reducing burnout (Hwang & Kim, 2022). These cooperative systems may be developed through cultural, hobby, or subject-based societies, for example. This will not only create a greater sense of belonging, but may assist students in reaching out to others when struggling to complete assignments. The combination of these recommendations may result in reduced burnout and increased resilience in university students.

Despite these results, most further literature has been conducted on university students with medical or nursing backgrounds. This means that their coping mechanisms may not be applicable to students studying other subjects. Moreover, most studies investigating burnout so far have been conducted in Asia. These methods have not been explored thoroughly in the UK, requiring further research for greater validity. Finally, studies currently conducted on burnout are very recent and lack peer review, hence there is no way of knowing whether these methods are truly effective. Subsequent research replicating these studies is crucial to explore coping mechanisms and resilience with the hopes of producing greater reliability.

4.2 Government-scale recommendations

Following these recommendations, there are several ways in which the Scottish government may fund resources to increase resilience in university students. One suggestion is to provide grants to families, particularly those that live in more rural areas of Scotland, to ensure students have high quality access to the internet from home. This will be beneficial to students as it will provide greater access to resources such as peer support and student services, improving mental wellbeing. Furthermore, government funding could focus on additional online-based mental health services that can be accessed by students at home or at university. Finally, as mentioned previously, it is important for governments to provide subsidies for universities to fund university students to join more sports and societies.

5.0 FUTURE RESEARCH

This survey has highlighted areas which may particularly benefit from future research in the context of Scottish universities. Areas like physical activity, peer socialization, student services, and changes to university policy were frequently mentioned and seem to have impacted resilience and burnout in various ways. Some potential areas for further research in St Andrews are:

- Reducing barriers to engaging in physical activity in university.
- Supporting structures that encourage safe and healthy peer interaction and bond-forming.
- Increasing the capacity and resources of student services.
- Providing assistance (such as workshops and increased guidance in sub-honours years) for time-management, so that students can develop healthy habits and to ensure accommodating measures (such as recorded lectures) can continue to be used by those who benefit from them and those who need them.

Potential way to find solutions that would benefit the student body would be to first send another survey and ask for student opinions about what changes they would like to see implemented on these fronts. Doing this in multiple Scottish universities could help produce more individualized and effective solutions at the university level.

After these results have been gathered and reviewed by university administration to produce feasible solutions, a secondary survey could be sent out to determine which solutions are most popular among the student body. In St Andrews, for example, the Student Union has physically conducted large-scale polls on matters such as housing and class scheduling, and this could be adapted in other universities to increase sample size for such a survey. It is important to invest time, effort, and finance into researching metrics that would increase reliance and prevent burnout in Scottish universities.

6.0 CONCLUSION

The COVID-19 pandemic was a global event that caused significant structural change at every level of society, including university education. In undergraduates, where the transition into adult stages of life already causes stress, it is particularly important to study the impact of COVID-19. This has been investigated in undergraduate populations in other countries, but rarely in Scotland. To begin researching the impact of COVID-19 on Scottish students and use this research to implement policy that improves university students' wellbeing, this study surveyed University of St Andrews students (primarily those who began university in 2020, at the height of the pandemic) using the metrics of resilience and burnout. Established measures of resilience and burnout were adapted to create appropriate measures of resilience and burnout for the sample of the St Andrews student population.

The survey revealed different coping mechanisms and services used by students, as well as their effectiveness. Exercise and interacting with student peers were shown to be particularly effective coping mechanisms at improving wellbeing during COVID-19. St Andrews student services and some structural changes made to the education system in St Andrews (such as lecture recordings and deadline flexibility) were shown to have a mixed impact. Slightly reduced burnout ratings were found for post-COVID-19 as opposed to during, potentially reflecting lasting effects of the pandemic. Increased resilience was found post-COVID-19 compared to during the pandemic. In light of these results, it is important to provide resources to assist students with timemanagement, increase accessibility of physical activity in university, increase the capacity of student services, and encourage peer interactions among students. Policy changes at governmental and university levels are necessary to facilitate student wellbeing, which should be informed by previous literature, the present survey, and future research on the experiences of Scottish university students.

7.0 BIBLIOGRAPHY

Amat, S., Subhan, M., Marzuki Wan Jaafar, W., Mahmud, Z., & Suhaila Ku Johari, K. (2014). Evaluation and Psychometric Status of the brief resilience scale in a sample of Malaysian International Students. *Asian Social Science*, *10*(18). https://doi.org/10.5539/ass.v10n18p240.

American Psychological Association. (2022). *Resilience*. American Psychological Association. https://www.apa.org/topics/resilience.

Arnett, J. J. (2000). Emerging adulthood: A theory of development from the late teens through the twenties. *American Psychologist*, *55*(5), 469–480. https://doi.org/10.1037/0003-066x.55.5.469.

Bray, S. R., & Born, H. A. (2004). Transition to university and vigorous physical activity: Implications for health and psychological well-being. *Journal of American College Health*, *52*(4), 181–188. https://doi.org/10.3200/jach.52.4.181-188.

Browning, M. H., Larson, L. R., Sharaievska, I., Rigolon, A., McAnirlin, O., Mullenbach, L., Cloutier, S., Vu, T. M., Thomsen, J., Reigner, N., Metcalf, E. C., D'Antonio, A., Helbich, M., Bratman, G. N., & Alvarez, H. O. (2021). Psychological impacts from covid-19 among university students: Risk factors across seven states in the United States. *PLOS ONE*, *16*(1). https://doi.org/10.1371/journal.pone.0245327.

Cameron, R. B., & Rideout, C. A. (2020). 'it's been a challenge finding new ways to learn': First-year students' perceptions of adapting to learning in a university environment. *Studies in Higher Education*, *47*(3), 668–682. https://doi.org/10.1080/03075079.2020.1783525.

Chang, E., Eddins-Folensbee, F., & Coverdale, J. (2012). Survey of the prevalence of burnout, stress, depression, and the use of supports by medical students at One school. *Academic Psychiatry*, *36*(3), 177. https://doi.org/10.1176/appi.ap.11040079.

Cogan, N., Kennedy, C., Beck, Z., McInnes, L., MacIntyre, G., Morton, L., Tanner, G., & Kolacz, J. (2022). ENACT study: What has helped health and social care

workers maintain their mental well-being during the covid -19 pandemic? *Health & Social Care in the Community*, *30*(6). https://doi.org/10.1111/hsc.13992.

Compas, B. E., Connor-Smith, J. K., Saltzman, H., Thomsen, A. H., & Wadsworth, M. E. (2001). Coping with stress during childhood and adolescence: Problems, progress, and potential in theory and research. *Psychological Bulletin*, *127*(1), 87–127. https://doi.org/10.1037/0033-2909.127.1.87.

Connor, K. M., & Davidson, J. R. T. (2003). Development of a new resilience scale: The connor-davidson resilience scale (CD-RISC). *Depression and Anxiety*, *18*(2), 76–82. https://doi.org/10.1002/da.10113.

Frydenberg, E., & Lewis, R. (1993) Adolescent Coping Scale: Administrator's Manual; Australian Council for Educational Research: Hawthorn, Victoria, Australia.

Frydenberg, E., & Lewis, R. (1996). A replication study of the structure of the adolescent coping scale: Multiple forms and applications of a self-report inventory in a counselling and research context. *European Journal of Psychological Assessment*, *12*(3), 224–235. https://doi.org/10.1027/1015-5759.12.3.224.

Gewalt, S. C., Berger, S., Krisam, R., & Breuer, M. (2022). "effects of the COVID-19 pandemic on university students' physical health, Mental Health and learning, a cross-sectional study including 917 students from eight universities in Germany". *PLOS ONE*, *17*(8). https://doi.org/10.1371/journal.pone.0273928.

Gillen, P., Neill, R. D., Mallett, J., Moriarty, J., Manthorpe, J., Schroder, H., Currie, D., McGrory, S., Nicholl, P., Ravalier, J., & McFadden, P. (2022). Wellbeing and coping of UK nurses, midwives and allied health professionals during COVID-19-A cross-sectional study. *PLOS ONE*, *17*(9). https://doi.org/10.1371/journal.pone.0274036.

OECD. (2020, June 29). *Education and covid-19: Focusing on the long-term impact of school closures - OECD*. OECD, Better Policies for Better Lives. https://www.oecd.org/coronavirus/policy-responses/education-and-covid-19-focusing-on-the-long-term-impact-of-school-closures-2cea926e/.

Hwang, E., & Kim, J. (2022). Factors affecting academic burnout of nursing students according to Clinical Practice experience. *BMC Medical Education*, *22*(1). https://doi.org/10.1186/s12909-022-03422-7.

Ingram, J., Hand, C. J., Hijikata, Y., & Maciejewski, G. (2022). Exploring the effects of covid-19 restrictions on wellbeing across different styles of lockdown. *Health Psychology Open*, *9*(1), 205510292210998. https://doi.org/10.1177/20551029221099800.

Kwan, J. (2022). Academic burnout, resilience level, and campus connectedness among undergraduate students during the COVID-19 pandemic: Evidence from Singapore. *Technology and Education. Innovation and Hindrances*, *5*(Special Issue). https://doi.org/10.37074/jalt.2022.5.s1.7.

Lee, V. J., Chiew, C. J., & Khong, W. X. (2020). Interrupting transmission of COVID-19: Lessons from containment efforts in Singapore. *Journal of Travel Medicine*, *27*(3). https://doi.org/10.1093/jtm/taaa039.

Li, W. W., Yu, H., Miller, D. J., Yang, F., & Rouen, C. (2020). Novelty seeking and mental health in Chinese university students before, during, and after the COVID-19 pandemic lockdown: A longitudinal study. *Frontiers in Psychology*, *11*. https://doi.org/10.3389/fpsyg.2020.600739.

Maghan, M. (2017). Problem solving style and coping strategies: Effects of perceived stress. *Creative Education*, *08*(14), 2332–2351. https://doi.org/10.4236/ce.2017.814160.

Mall, S., Mortier, P., Taljaard, L., Roos, J., Stein, D. J., & Lochner, C. (2018). The relationship between childhood adversity, recent stressors, and depression in college students attending a South African University. *BMC Psychiatry*, *18*(1). https://doi.org/10.1186/s12888-017-1583-9.

McBride, E., Arden, M. A., Chater, A., & Chilcot, J. (2021). The impact of Covid-19 on Health Behaviour, well-being, and long-term physical health. *British Journal of Health Psychology*, *26*(2), 259–270. https://doi.org/10.1111/bjhp.12520.

McFadden, P., Gillen, P., Moriarty, J., Mallett, J., Schroder, H., Ravalier, J., Manthorpe, J., Harron, J., Currie, D., & Ross, J. (2021). Health and Social Care

Workers' quality of working life and coping while working during the COVID-19 pandemic: Analysis of positive coping and work-related quality of life as resilience and protective factors impacting on wellbeing. *Proceedings of The 3rd International Electronic Conference on Environmental Research and Public Health — Public Health Issues in the Context of the COVID-19 Pandemic*. https://doi.org/10.3390/ecerph-3-09011.

Morales-Rodríguez, F. M. (2021). Fear, stress, resilience and coping strategies during COVID-19 in spanish university students. *Sustainability*, *13*(11), 5824. https://doi.org/10.3390/su13115824.

Puranitee, P., Kaewpila, W., Heeneman, S., van Mook, W. N., & Busari, J. O. (2022). Promoting a sense of belonging, engagement, and collegiality to reduce burnout: A mixed methods study among undergraduate medical students in a non-Western, Asian context. *BMC Medical Education*, *22*(1). https://doi.org/10.1186/s12909-022-03380-0.

Rosales-Ricardo, Y., & Ferreira, J. P. (2022). Effects of physical exercise on Burnout Syndrome in university students. *MEDICC Review*, *24*(1), 36. https://doi.org/10.37757/mr2022.v24.n1.7.

Salmela-Aro, K., & Read, S. (2017). Study engagement and burnout profiles among Finnish Higher Education Students. *Burnout Research*, 7, 21–28. https://doi.org/10.1016/j.burn.2017.11.001.

Serrano Sarmiento, Á., Sanz Ponce, R., & González Bertolín, A. (2021). Resilience and covid-19. an analysis in university students during confinement. *Education Sciences*, *11*(9), 533. https://doi.org/10.3390/educsci11090533.

SPICe. (2023, May 10). *Timeline of coronavirus (covid-19) in Scotland*. SPICe Spotlight | Solas air SPICe. https://spice-spotlight.scot/2023/05/10/timeline-of-coronavirus-covid-19-in-scotland/.

Tesar, M. (2020). Towards a post-covid-19 'new normality?': Physical and social distancing, the move to online and Higher Education. *Policy Futures in Education*, *18*(5), 556–559. https://doi.org/10.1177/1478210320935671.

Tomaszek, K., & Muchacka-Cymerman, A. (2022). Student burnout and PTSD symptoms: The role of existential anxiety and academic fears on students during the Covid 19 pandemic. *Depression Research and Treatment*, *2022*, 1–9. https://doi.org/10.1155/2022/6979310.

UNESCO. (2020). UNESCO COVID-19 Education Response. Education Sector Issue Notes. "Supporting Teachers and Education Personnel during Times of Crisis"; UNESCO: Santiago, Spain.

UNESCO. (2020). UNESCO COVID-19 Education Response. Education Sector Issue Notes. "Crisis-Sensitive Educational Planning"; UNESCO: Santiago, Spain.

University of St Andrews: Stats. UCAS. (n.d.). https://www.ucas.com/explore/unis/81fe3292/university-of-st-andrews/stats?studyYear=current.

Vaishnavi, S., Connor, K., & Davidson, J. R. T. (2007). An abbreviated version of the Connor-Davidson Resilience Scale (CD-RISC), the CD-RISC2: Psychometric Properties and applications in Psychopharmacological Trials. *Psychiatry Research*, *152*(2–3), 293–297. https://doi.org/10.1016/j.psychres.2007.01.006.

Valladolid, V. C. (2021). The role of coping strategies in the resilience and well-being of college students during COVID-19 pandemic. *Philippine Social Science Journal*, *4*(2), 30–42. https://doi.org/10.52006/main.v4i2.342.

Villani, L., Pastorino, R., Molinari, E., Anelli, F., Ricciardi, W., Graffigna, G., & Boccia, S. (2021). Impact of the COVID-19 pandemic on psychological well-being of students in an Italian University: A web-based cross-sectional survey. *Globalization and Health*, *17*(1). https://doi.org/10.1186/s12992-021-00680-w.

Wagnild, G. (2009). A review of the resilience scale. *Journal of Nursing Measurement*, *17*(2), 105–113. https://doi.org/10.1891/1061-3749.17.2.105.

Wang, C., Pan, R., Wan, X., Tan, Y., Xu, L., Ho, C. S., & Ho, R. C. (2020). Immediate psychological responses and associated factors during the initial stage of the 2019 coronavirus disease (covid-19) epidemic among the general

population in China. *International Journal of Environmental Research and Public Health*, *17*(5), 1729. https://doi.org/10.3390/ijerph17051729.

World Health Organization. (2019). *Burn-out an "Occupational phenomenon": International Classification of Diseases*. World Health Organization. https://www.who.int/news/item/28-05-2019-burn-out-an-occupational-phenomenon-international-classification-of-diseases.

World Health Organization. (2022). *The impact of covid-19 on mental health cannot be made light of.* World Health Organization. https://www.who.int/news-room/feature-stories/detail/the-impact-of-covid-19-on-mental-health-cannot-be-made-light-of.

8.0 APPENDIX

Appendix A: Survey Questions

1.	This survey is designed to gather information about experiences of student 'burn-	11/10/23,9:	58 PM	COVID University Experience Survey: Coping and Resilience
	out' and 'resilience' during COVID-19 and how that has influenced your coping mechanisms post-COVID. You have been invited to take part in this survey because you have been or are currently enrolled as a student at the University of St. Andrews. This survey is created by members of the Political Institute of Action Research (PIAR), an independent student-run think tank, at the University of St.		2.	Please indicate your gender below:
	Andrews.			
	The full survey responses are only available to our team members, and your anonymous, non-identifying survey answers will not be shared out with the PIAR team. Response data will be briefly stored by our team for up to 1 year. After data collection through the survey is completed (once the "submit" button is pressed), your data and consent can no longer be withdrawn as it will have been already submitted and contributed to the analyses.		3.	What faculty is your degree associated with? Mark only one oval. Faculty of Arts Faculty of Divinity
	The responses will be used to generate summaries of anonymous suggestions to write a research paper on the influences of COVID-19 on coping mechanisms for 'burn-out' and 'resilience'. These summaries and suggestions will then be given in a final literature report to the PIAR committee and potentially published and distributed thereafter.			Faculty of Medicine Faculty of Science
	This information page has been written to help you decide if you would like to take		4.	Are you an undergraduate or post-graduate student?
	part in the survey. It is up to you and you alone whether you wish to take part. If you do decide to take part, you will be free to withdraw at any time without providing			Mark only one oval.
	reason, and with no negative consequences before pressing the submit button. You will be asked to complete a questionnaire which contains 25 questions. Many of these questions are multiple choice and succinct, so we anticipate this will take a			Undergraduate Postgraduate
	maximum of 15 minutes to complete.			
	In compliance with The Data Protection Act of 1998, we must receive your explicit consent to participate in this survey as some of the questions may consist of information about your current or past conditions of mental wellbeing. Please indicate your consent below.		5.	What is your student status?*
	Mark only one oval.			Mark only one oval.
	I have read the survey information above and consent to participate.			International
	I have read the survey information above and do not wish to participate.			UK
6.	What year did you start your studies at St. Andrews? Mark only one oval. 2019 2020 2021 2022 2023	* 8.	F0 - "I - "I	** ** ** ** ** ** ** ** ** ** ** ** **
7.	When is your (expected) graduation year?	q	We	ere any of your strategies or habits more or less effective at helping you adapt to *
	Mark only one oval.	,	un	iversity during COVID? Were any of them particularly positive or negative iustments?
	2020			
	2021			r example: Even though I know that drinking more isn't good for me, I felt like it helped me
	2022			h"
	2023			My time management changed negatively because I began watching all of my
			lec	tures at one time before an assessment rather than weekly"
	2024			
	2025			
	2026		_	
	2027		_	
	2028		_	

10.	today, post-COVID? Why do you think some habits/strategies were maintained and others were discarded?	12	. How neiptul were these university groups and resources? Mark only one oval.
	For example: - "I sought out student societies to make friends during COVID. I really enjoyed being involved and socially connected, so I've continued my participation in groups."		1 2 3 4 5 Not
		13	. Did any of the following university resources negatively or insufficiently contribute to your management and adaptation strategies as a student during COVID? This support could have been virtual or in person. Please select a maximum of three. Tick all that apply.
Ur	niversity and Community Resources	-	Student Services Nightline Peer support networking Sport / recreational society membership Sports center gym membership
11.	Did any of the following university resources improve or contribute to your management and adaptation strategies as a student during COVID? This support could have been virtual or in person. Please select a maximum of three. Tick all that apply.		The can-do tent events Charity / volunteering society membership Cultural / ethnic / religious society membership Flexible university administrative guidelines (e.g. S-code, deadline extensions, recorded lectures)
	Student Services Nightline Peer support networking		Other:
	Sport / recreational society membership Sports center gym membership The can-do tent events Charity / volunteering society membership Cultural / ethnic / religious society membership Flexible university administrative guidelines (e.g. S-code, deadline extensions, recorded		OPTIONAL: If you feel the need to elaborate more specifically on any of your previous three answers regarding university resources and services, feel free to do so here.
	lectures) Other:		
15.	Did you feel comfortable seeking support from any of the following university community members? Tick all that apply. School Wellbeing officers Tutors/Professors		Estimate how often the following statement applied to you as a university student during COVID: In times of stress, I know there are resources or people I will turn to for help. Mark only one oval.
	Wardens/Hall staff COVID-Saints Student Mentors St Andrews Scheme Academic Family members St Andrew's peers Religious community members NONE		1 2 3 4 5 Nev
16.	Other: How effective was the support that you received from engaging with those community members?		Estimate how often the following statement applied to you as a university student during COVID: I believe I can achieve my university goals, even when there are obstacles.
	Mark only one oval.		Mark only one oval.
	1 2 3 4 5		1 2 3 4 5
	Not Very effective and supportive		Nev Almost daily
Re	ssilience During COVID		
17.	Estimate how often the following statement applied to you as a university student during COVID: Under pressure, I stay focused and think clearly on my coursework.		Estimate how often the following statement applied to you as a university student * during COVID: I can adapt to whatever comes my way.
	Mark only one oval.		Mark only one oval.
	1 2 3 4 5 Nev		1 2 3 4 5 Nev

21.	Estimate how often the following statement applies to you as a university student * today: Under pressure, I stay focused and think clearly on my coursework.	24.	today: I can adapt to whatever comes my way.
	Mark only one oval.		Mark only one oval.
	1 2 3 4 5		1 2 3 4 5
	Nev Almost daily		Nev Almost daily
		Е	Burnout During COVID
22.	Estimate how often the following statement applies to you as a university student *		
	today: In times of stress, I know there are resources or people I will turn to for help.	25.	. Estimate how often the following statement applied to you as a university student during COVID: I feel emotionally drained by coursework.
	Mark only one oval.		Mark only one oval.
	1 2 3 4 5		1 2 3 4 5
	Nev Almost daily		Nev. Almost daily
23.	Estimate how often the following statement applies to you as a university student * today: I believe I can achieve my university goals, even when there are obstacles.	26.	Estimate how often the following statement applied to you as a university student during COVID: I feel overwhelmed by the pressure to do well in my studies.
	Mark only one oval.		Mark only one oval.
	1 2 3 4 5		1 2 3 4 5
	Nev Almost daily		Nev. Almost daily
27.	Estimate how often the following statement applied to you as a university student during COVID: I experience brain fog or difficulties focusing.		Estimate how often the following statement applies to you as a university student * oday: I feel overwhelmed by the pressure to do well in my studies.
	Mark only one oval.		Mark only one oval.
	1 2 3 4 5		
	Nev Almost daily		1 2 3 4 5
			Nev Almost Daily
28.	Estimate how often the following statement applied to you as a university student during COVID: I have lost care about the quality of my work because my goals feel unattainable.		Estimate how often the following statement applies to you as a university student * oday: I experience brain fog or difficulties focusing.
	Mark only one oval.	٨	Mark only one oval.
	1 2 3 4 5		1 2 3 4 5
	Nev Almost daily	-	Nev Almost Daily
P.	rnout Post-COVID		
Du	32	. Е	Estimate how often the following statement applies to you as a university student
29.	Estimate how often the following statement applies to you as a university student *today: I feel emotionally drained by my coursework.		oday: I have lost care about the quality of my work because my goals feel ınattainable.
	Mark only one oval.	٨	Mark only one oval.
	1 2 3 4 5		1 2 3 4 5
	Nev Almost Daily		Nev Almost Daily





