Understanding Well-being in Academia through Self-Determination Theory (SDT)

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Abstract

The current study aims to contribute to the existing literature by using the Self-Determination Theory (SDT) by Ryan and Deci (2000) as a framework to investigate the following two research questions: 1. How do students conceptualize well-being? 2. How does relatedness affect students' overall well-being, and what role do relationships play in the need-fulfillment of relatedness? The chosen method was a qualitative approach, employing both inductive and deductive methods of inquiry. Data for the study was collected through semi-structured interviews with 12 psychology students at the University of Groningen. According to the research questions, there were two main findings. First, students' conceptualization of well-being included a balance between mental health and physical health, along with competence and relatedness. The second finding was that relatedness is a critical need, especially for first-year students, and relationships play a vital role in fulfilling this need. The current findings enhance our understanding of well-being in the academic context. However, further research could expand this understanding by investigating the balance between mental and physical health in the academic setting. One of the limitations of the current study is the small sample size which makes it difficult to generalize. However, the current findings can be used to create interventions for student well-being in academic settings, especially during the first year.

Keywords: well-being, Self-determination theory, positive psychology, qualitative method, relatedness, context of academia.

Understanding Well-being in Academia through Self-Determination Theory (SDT)

In the wake of the covid 19- pandemic, the issue of well-being has become increasingly pertinent, particularly due to the surge in psychological distress following prolonged periods of isolation during quarantine(Sánchez-Martín et al.,2023; Van Der Sloot & Vauclair, 2023). This phenomenon has adversely affected not only the general populace but also, notably for this research, for the well-being of students. Important to note that the levels of distress among students have been increasing even before the pandemic (Stallman, 2010; Schofield et al., 2016; Larcombe et al.,2016; Baik et al.,2019; Allessandri et al., 2020). Nevertheless, this thesis will primarily delve into well-being within academia, with a specific focus on how students perceive and experience it. Moreover, addressing this topic is crucial for not only understanding the fragmented landscape of well-being literature but also for elucidating potential connections between disparate theories and definitions. By examining students understanding of psychological health and well-being in academia, this research aims to contribute to a better understanding of the subject and potentially offer insights into what contributes to well-being in an academic environment.

Moreover, this trend of student mental health deterioration is not limited to a specific region; rather, it is a widespread global concern (Osborn et al., 2022; Ibarra-Mejia et al.,2022). Students grappling with psychological distress often find it challenging to concentrate on their studies, end up with lower grade averages, and are more likely to drop out (Storrie et al., 2010). The substantial mental resources required to address and cope with such distress significantly impede their ability to thrive academically. Hence, it is imperative to investigate the factors contributing to this decline among this demographic, as well as what wellbeing is and how universities can support students in this regard.

The goal of this project is to come up with a theoretical model that can explain what contributes to well-being in academia, drawing from Ryan and Deci's (2000) Self-Determination Theory (SDT) and its basic psychological needs of autonomy, competence, and relatedness in addition to positive psychology and what leads to human flourishing (Seligman & Csikszentmihalyi, 2000). We will delve into these theories and concepts further in the subsequent sections of this introduction. By creating this model, we aim to extend SDT by adding factors that are important for wellbeing, gleaned from students' conceptualization of wellbeing. Another purpose of this study is to identify the factors that contribute to well-being and to understand the elements that lead to well-being in academia.

The World Health Organization (WHO) defines wellbeing as "a positive state experienced by individuals and societies, similar to health, it is a resource for daily life and is determined by social, economic and environmental conditions" (Health Promotion Glossary of Terms 2021, 2021, p10). While this definition captures several dimensions of well-being, it falls short of addressing the psychological aspect, which is crucial. What does psychological well-being entail? Some of the definitions emphasize that well-being transcends the mere absence of negative emotions or ill-being, a point underscored by positive psychology (Seligman & Csikszentmihalyi, 2000). Another potential definition of well-being is a balance between resources and challenges. This perspective considers psychological, social, and physical resources in contrast with the challenges required to meet those needs (Dodge et al, 2012). According to Self-Determination Theory (SDT), well-being is about optimal functioning and experience (Ryan & Deci, 2001). On the other hand, well-being also encompasses overcoming hardships and resilience (Mguni et al., 2012). Based on the literature, there is no clear definition of well-being; different theories and perspectives focus on various aspects.

Self-Determination Theory (SDT), introduced by Ryan and Deci (2000) is a psychological theory centered on human motivation and personality. SDT proposes the existence of three basic psychological needs (BPN): autonomy, competence, and relatedness. It operates under the underlying assumption that individuals possess an inherent inclination towards growth and fulfillment. According to SDT, optimal functioning occurs when these psychological needs are met (Ryan & Deci, 2000). The theory also underscores the significance of social environments and their influence on the fulfillment of these fundamental needs. Growing up in an environment or a household that facilitates the need for autonomy, for example, is more likely to lead to integration and internalization of the importance of that need (Ryan & Deci, 2000); having a better understanding of how this works in the context of academia is important for the current study.

The authors define a need as "an energizing state that, if satisfied, conduces toward health and well-being but, if not satisfied, contributes to pathology and ill-being"(Ryan & Deci, 2001, pp.74). The basic needs of autonomy, competence, and relatedness are ongoing needs that must be fulfilled throughout a person's life for someone to have a sense of well-being, as well as in the academic environment.

It is important to have a clear idea of these basic psychological needs. Deci and Vansteenkiste (2004) explained what the BPN entails. Firstly, the need for autonomy involves having a sense of volition and agency in one's own life, enabling individuals to make decisions that align with their sense of self. Next, the need for competence involves feeling effective and capable when interacting with one's environment. It pertains to a sense of mastery over the world around us, and it is an intrinsic need that must be fulfilled throughout the lifespan. Lastly, the need for relatedness pertains to a sense of belonging and connection with others, as well as the

inherent tendency for interaction and to care for others and feel cared for in return (Deci & Vansteenkiste, 2004). This is a helpful framework for understanding what the basic psychological needs are in academia.

Another perspective that sheds light on well-being is positive psychology (PP), introduced by Seligman and Csikszentmihalyi (2000). They point out that before World War II, psychology had three primary goals: to cure mental illness, to enhance fulfillment and productivity in life, and to nurture highly talented individuals (Seligman & Csikszentmihalyi, 2000). However, despite these three goals, psychologists have predominantly focused on the first objective of treating mental illness while neglecting the other two goals of the field. While psychologists have made significant progress in addressing the first goal of treating mental illness, they have not equally advanced in understanding what leads to human flourishing (Seligman & Csikszentmihalyi, 2000). Positive psychology centers around questions such as what makes life worth living and what contributes to optimal functioning. Themes include subjective well-being, happiness, strengths, meaningful life, and resilience (Hart & Sasso, 2011). Given these themes, positive psychology offers a valuable perspective to address the questions that this project seeks to answer.

Based on the primary research question we aim to address, how do students at different stages of their study conceptualize well-being in the academic context? From the student's conceptualization of wellbeing, we can get a better understanding of how they experience wellbeing, and what needs are important for them. By exploring this question, we seek to determine whether there are differences in how psychology students in different years perceive well-being. If such differences exist, our objective is to identify and understand the specific ways in which these conceptualizations diverge.

The second research question is: How does the fulfillment of the basic psychological need for relatedness affect students' overall well-being and what role do relationships in the need fulfillment? While all basic psychological needs (BPN) are important, relatedness is crucial for feeling connected and having a sense of belonging. Fulfilling the basic need for relatedness, competence, and autonomy can lead to intrinsic motivation and well-being (Ryan, 1995; Ryan & Deci, 2000). Additionally, we aim to explore the role that various types of relationships—romantic relationships, friendships, family connections, and acquaintances—play in fulfilling this need. Understanding the impact of these relationships on the fulfillment of relatedness is important for gaining a better insight into students' experiences of well-being in academia.

To answer these questions, we will employ a qualitative research method rather than a quantitative one. We chose this approach to gain a deep and meaningful understanding of how students experience well-being and conceptualize various aspects related to it. A qualitative method is better suited for this project as it allows for an in-depth exploration of students' subjective understandings of well-being in the academic context. Interviews were used to gather students' perspectives and to capture the nuances of their experiences. Additionally, a mixed method of inquiry was employed during the interviews, incorporating both inductive and deductive approaches.

Method

Participants

For our study, we collected a convenience sample of 12 students who are currently enrolled in the BSc. of Psychology at the University of Groningen. Each team member recruited two participants, ensuring that neither the interviewer nor the participant knew of each other before conducting the interviews. This step was important to ensure the confidentiality of the

participants. The decision to recruit 12 participants was grounded in the seminal work of Guest and colleagues (2006), which demonstrated that saturation, the point at which no new information (codes or themes) emerges, is frequently reached within the initial 12 interviews. Our participants (Table 1) consisted of six males, five females, and one participant who identified differently. Our twelve participants ranged in age from 20 to 28 years old, representing diverse nationalities, including seven from Germany, three from Romania, one from the Netherlands, and one from Luxembourg. Ensuring a comprehensive representation of experiences across various stages of the academic curriculum, we included five participants who were enrolled in the second year, three in the third year, and four participants who were in their fourth year of the three-year bachelor's program.

Table 1

Demographic Characteristics of Participants

Participants		Distribution	
		n	%
Gender	Male	6	50
	Female	5	42
	Other	1	8
Nationality	Dutch	1	8
	German	7	58
	Luxembourgish	1	8
	Romanian	3	25
Age	20	2	17
	21	4	33
	22	3	25
	23	2	17
	28	1	8
Currently enrolled in	Year 2	5	42
	Year 3	3	25

Participants	Distribution	
	n	%
Year 4	4	33

Procedure and materials

Prior to starting data collection, the Ethics Committee from the Psychology Department approved the planned methods of the research (PSY-2324-S-302) as well as the suggested ways of ensuring the anonymity and confidentiality of the participants. After the recruitment, participants received information about the research, the demographic questionnaire (see Appendix A), and the informed consent form (see Appendix B). Each participant was then assigned a number to prevent their personal information from being identified by others. Finally, each participant was randomly assigned to one of the interviewers.

The qualitative research entailed conducting semi-structured interviews lasting 45 to 60 minutes that followed the structure of the script (see Appendix C). Prior to the data collection, the research team conducted pilot interviews. This measure was crucial to ensure that the interviewers had sufficient skills to conduct the interviews and that each member had practiced with the script. The script (see Appendix C) was tailored to the pre-defined research questions of each researcher. It consisted of 15 questions with sub-questions that participants answered during the interviews. Self-Determination Theory (Ryan & Deci, 2000) served as a framework for building the script used to interview the subjects based on their subjective experiences. The experiences of interest were students' conceptualization of well-being in academia and factors contributing to it. All identifiable personal information was anonymized. Once the interviews were recorded and transcribed, the recordings were deleted. Each participant then received a

transcript of their interview to confirm the use of their input, with the option to exclude parts of the interview or withdraw from the study entirely.

Data Analysis

Our data analysis adhered to the thematic analysis approach, where the main focus lies in generating initial codes, followed by searching for themes and patterns (Braun & Clarke, 2006). To understand the role SDT has in well-being in academia, together with the underlying values and beliefs of the interviewed subjects, we have further employed the value-coding approach (Miles et al., 2013). The coding process was conducted utilizing the digital software designed for the analysis of qualitative data "Atlas.ti Scientific Software Development GmbH". Our analysis was both deductive and inductive, as the aim was to identify and generate new patterns and themes to understand student's conceptualization of well-being through the lens of SDT.

Coding procedure

Initially, all team members individually transcribed two interviews and then independently coded half of a transcript using open coding. As described by Williams and Moser (2019), the multi-stage coding approach helps researchers first identify distinct concepts and themes that can be categorized before attaching concrete interpretive labels. This first step was designed to improve the researchers' grasp of the topic and procedure and to uncover initial interesting findings.

In the second step, two interviews were collaboratively coded and used to create a preliminary codebook. Each segment of the transcript was discussed with the group and interpretations were compared to work towards a consensus on the most suitable codes and categories later used by each researcher in their independent analysis (Braun & Clarke, 2006). Thirdly, researchers paired up and coded two transcripts per pair according to the previously

established codebook. During this process each member coded both assigned documents individually before finalizing the codes in a collaborative session with their partner. After coding the first six interviews through the aforementioned process, the team got together to review the codes and adjust the codebook accordingly. To ensure inter-coder reliability and establish a final codebook (see Appendix D) each member proceeded to analyze a further two interviews with the established codes. In a final step, the members gathered in a joint session to discuss and agree on any last adjustments.

Results

In this section, we present the findings of our qualitative analysis, which aimed to explore how university students at different stages of their study conceptualize well-being in the academic context. Through a thematic analysis of the 12 interviews, several key themes emerged that provide insight into students' perceptions and experiences. The current findings are based on the following research questions: 1. How do university students at different stages of their studies conceptualize wellbeing? 2. How does the fulfillment of the basic psychological need for relatedness affect students' overall well-being and what role do relationships in the need fulfillment?

RQ1: How do university students at different stages of their studies conceptualize wellbeing?

In total, seven subthemes emerged when the participants were asked about their conceptualization of well-being. Balance, competence, content, mental health, physical health, positive experiences, and relatedness (see Table 2). Two of the basic needs derived from self-determination theory were mentioned: competence and relatedness. While autonomy was not explicitly mentioned by the participants, when autonomy was mentioned, it was in connection with the balance between psychological needs.

I think before we talked specifically about academia is when I said I would kind of want to have a balanced it'd be in wellbeing and I think it makes sense in this case also, like about the three topics that we talked about following this theory. Definitely. I think balance is good (*Participant 6)*

The most frequently reported sub-theme among the participants was 'balance '. This concept encompassed a sense of equilibrium not only between the three basic psychological needs—autonomy, competence, and relatedness—but also across different areas of life, such as studies, social activities, and part-time jobs. Furthermore, participants emphasized the importance of balancing mental and physical health. One participant eloquently described balance as follows:

I think that well-being for me means that I have a good balance between multiple different things. Good balance between things that actually bring me forward in life, and also things that are fun. And, for example, I think things that really helped me in my life and my careers as a university, for example. (Participant 1)

Next, the subtheme of content appeared nine times, and participants mentioned being comfortable and happy with where they are as the conceptualization of well-being. A sense of acceptance of the current state without constantly worrying about the future.

I guess just being content with where you are in your life right now. And like having the feeling like you can do, okay, in the future, like you don't have to excel necessarily, but just the feeling of being fine for the future. (Participant 7)

When participants discussed well-being, a sense of competence also emerged as a significant factor. They indicated that their general sense of well-being is closely tied to their academic performance, specifically when they achieve good grades or learn new things.

Consequently, students' feelings of competence fluctuate depending on the outcomes of exam periods, with successful exam results enhancing their sense of competence and poor results diminishing it.

> *The fact that my last exam in the last course went so well, showed me that I'm actually like, if I put into effort, I can be a good student. And it makes me feel better for my future because I plan on doing a masters like most of the students here, and it shows me that even though in like the past three years, I didn't necessarily always think I could do it, that I actually have what it takes to complete more studies. (Participant 7)*

Furthermore, mental and physical health emerged as important components of well-being. Participants noted that functioning well and effectively dealing with stressors was crucial. Taking care of mental and physical health was essential for students to excel academically. For the participants, prioritizing these aspects of their well-being was fundamental to their academic success.

> *I would define it as for myself as a sense of like, health first of all, like both physical and mental, and yeah, to certain to a certain degree of course, happiness, fulfillment, wellness, achievement, that … it's actually hard to define, but I will say that those are the pillars and if those are all good, at least, as good as possible, then I think I would say there is well-being, for me. (Participant 4)*

Participants also mentioned that having positive experiences and enjoying themselves contributed to their general well-being. This meant focusing on the university and engaging in activities outside of their studies that they enjoyed. For some, this included having a part-time job, while for others, it involved pursuing hobbies or spending time with friends.

Overall, I think, for me, it's always a state of balance where I feel like I kind of am on top

of everything that I want to do. Just like being content with what I do and then having

positive experiences, I would say. (Participant 6)

Relatedness was another theme that emerged when participants discussed well-being. They highlighted the importance of belonging to a group, having friends, and feeling supported by others. This aligns with the basic psychological need for relatedness posed by Ryan & Deci (2001). For participants, having others to relate to and share experiences with was relevant to their conceptualization of well-being.

And you're surrounded by people who support you and you feel loved by it's also really

important (Participant 9)

Here are the results from research question 1, summarized in Table 2.

Table 2.

Identified sub-theme	Description of sub-theme	Reported (*n*)	Example from participants
Conceptualizations of wellbeing			
Balance	Experiencing a balance between several aspects of their lives, including mental and physical health, and work-life balance among others.	13	"So general wellbeing includes, like, many different well beings that are, in a way, more stable, like, the balance is quite stable"

Content	Feeling content, being at ease, feeling comfortable	9	"I guess just being content with where you are in your life right now. And like having the feeling like you can do, okay, in the future, like you don't have to excel necessarily, but just the feeling of being fine for the future."
Competence	Being able to do the things one would like to do and/or have academic achievements	7	"Well, I do think a sense of achievement is very important. For me. It's yeah, it's, I like to feel like I've achieved something I'd like to also be knowledgeable about that, which, to me is honestly more important than, for example, a grade."
Mental health	Being free from mental disorders that hinder mental, emotional, psychological, and social well-being and functioning	8	"I guess physical and mental health kind of? Yeah, are like the two main things that are necessary for wellbeing for me. Yeah."
Physical health	Being physically healthy and functioning	9	"Okay, so there are two broad components to it, I would say, like a physical and a mental one. Physiological and psychological component."
Positive experiences	Having positive experiences and pursuing happiness	5	"Overall, I think, for me, it's always a state of balance, where I feel like I kind of am on top

			of everything that I want to do. just like being content with what I do, and then having positive experiences, I would say. "
Relatedness	Interacting with other people, having friends, and feeling supported.	5	"And you're surrounded by people who support you and you feel loved by it's also really important."

### *Internal and external factors*

In addition to these sub-themes, participants shared internal and external factors that affected their well-being. The internal factors included attitude/mindset, self-comparison to others, confidence/self-efficacy, mental health, and positive experiences. Participants mentioned more internal factors compared to external factors. Among the external factors, participants noted online education, parents, weather, and workload outside of their degree. Attitude/mindset was the most commonly mentioned internal factor, with one participant describing their attitude as follows:

> *Well, I just think I am an overall positive person so that even when something just doesn't go the way like, generally, I have this more or less innate internal belief that it's gonna work out somehow and there's no need to overly stress about it. (Participant 4)*

On the other hand, the most frequently mentioned external factor was online education, specifically how COVID-19 influenced their experience as students. Participants often discussed this in a negative context. This result is unsurprising, as most participants were third- or fourth-year students who had their initial student experiences during the COVID-19 pandemic.

And I think when I felt at least competent was my first year COVID, everything's online.

You just feel like you're not even doing the study. So when you get a grade, you don't care

because, um, it kind of feels like you don't deserve that grade. (Participant 2)

Figure 1.
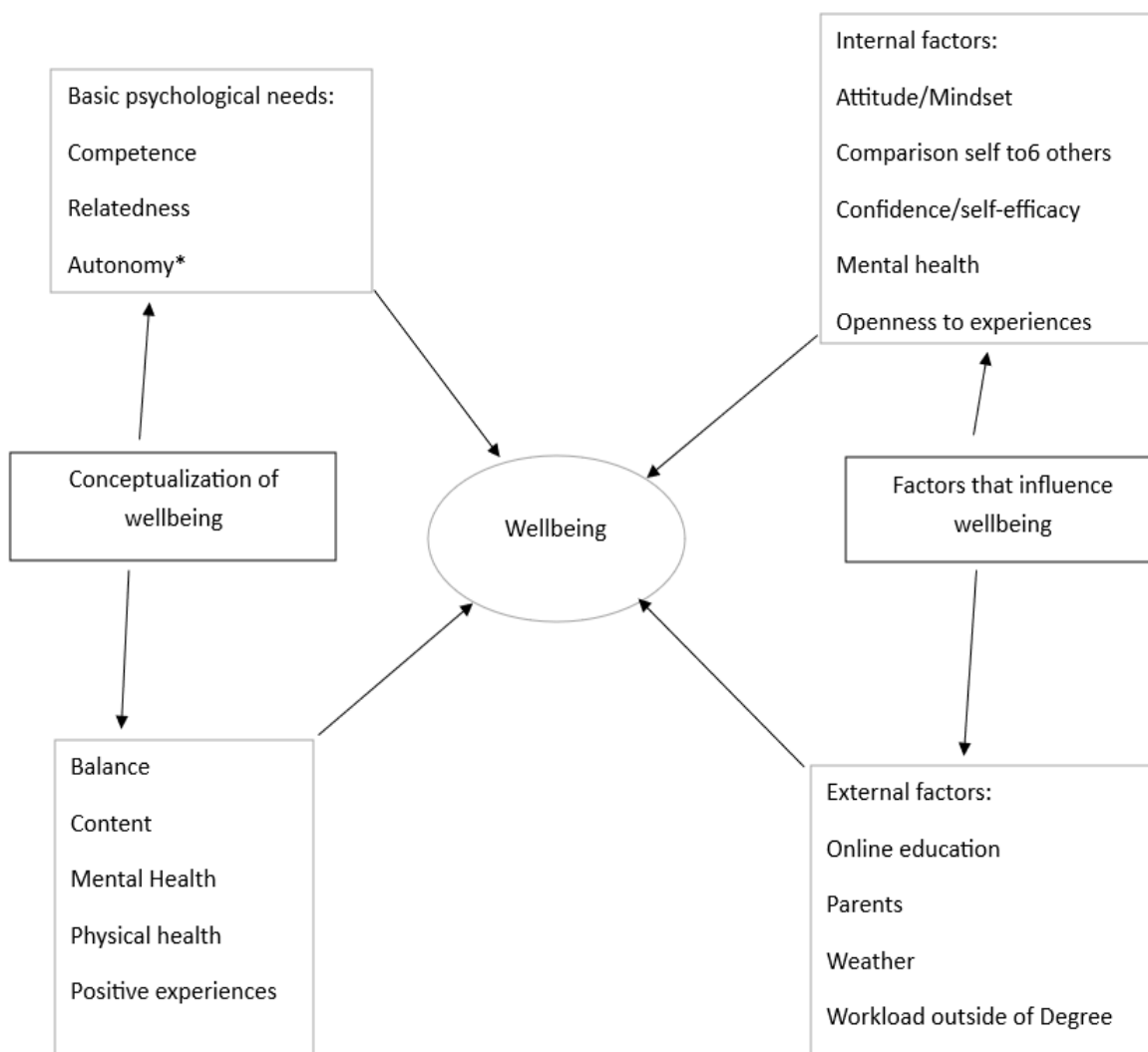
Based on the numerous responses we got from the students, figure 1 describes the

relationship between the student's conceptualizations of well-being, factors that influence well-

being, and the three basic psychological needs, in addition to themes that were mentioned, such

as balance. On figure 1, you can see the conceptualization and the factors that influence well-

being.

RQ2 How does the fulfillment of the basic psychological need for relatedness affect students' overall well-being and what role do relationships in the need fulfillment?

The current findings suggest that the need for relatedness is particularly important for participants during their academic studies. Eight out of twelve participants emphasized the significance of relatedness. Notably, participants reported that their need for relatedness was less fulfilled in their first year compared to their experiences in the second, third, and fourth years. To address the question at hand, we first asked participants to define what relatedness in academia meant to them. This helped us understand their conceptualization of relatedness. Then they were asked about a time when their need for relatedness was met and, lastly, the effect relationships had on their need for relatedness.

One third-year student conceptualized relatedness as the following:

Relatedness is for me, once feeling related with my fellow students, feeling of belonging, maybe also developing the identity of being a psychology student… also feeling related to the topics to the content that you actually feel intrinsically motivated to study this? Yes, that's also another part of relatedness. (Participant 5)

This participant's view clearly shows that connection with fellow students and a sense of belonging are key aspects of relatedness. They also noted that intrinsic motivation in their studies arises when they can relate to their study content. This was echoed by another third-year student when asked about what relatedness in academia meant for them.

I guess the subjects that I was passionate from the beginning, but also things that just sparked my interest towards the studies and things that I learned through just meeting people here, but also just like learning more about psychology in general (Participant 10)

In addition to the content, several participants mentioned connections with academic staff or the lack thereof. Wanting to connect with the professors but also feeling of distance.

I've never spoken to a professor, two years into these studies, and all I've been doing is looking at them from afar in the lecture halls. And so they're like, such a distant contact to me, like far away. It's not even like I would ever have a feeling of necessarily really relating to them. (Participant 6)

For this participant, connection with professors was not as important as connection with fellow students or having friends to study with. Many participants noted having friends not only to study with, but also outside of university. A second-year participant had this to share:

Relatedness? So, I think for me, mainly, this means having, having friends, having people that understand me that go through the same things I'm going through right now. And being able to connect to them, talk to them. (Participant 12)

Having friends was an important part of going through academia for this student, as was being understood when going through difficult times. For other students, having friends meant they had support and people with whom they could study. A fourth-year student shared this about friends' role in completing the education.

…having my friends and my boyfriend around me and supporting me throughout my studies made it possible for me to finish the bachelor's, because I would have probably given up if it hadn't been for them. (Participant 7)

A feeling of being supported by others, such as a partner or friends, was key to this participant's conceptualization of relatedness. They also shared how this support was crucial for completing their studies.

Conceptualizations of relatedness

Notably, we have seen several examples of how participants conceptualize relatedness. Next, we asked what participants perceived as their need for relatedness being met by asking them to share about a specific period when this need was fulfilled. One fourth-year student answered this question as follows:

Well, I think it's important I think the support I received like that was important. And I do think that definitely, being here being like present physically at the university at the student life like going to the lectures in person, that's also in a sense, part of connectedness.(Participant 4)

Being supported and feeling connected to others indicated that this student's need for relatedness was being met. For another third-year participant, having a sense of belonging was a key indicator that their need for relatedness was fulfilled.

I feel more of belonging because I am working in a small group together with the supervisor where I always look up to and we are on the same level, we can talk and exchange ideas, it's really nice. (Participant 5).

For this participant, the idea that there was a group of people to talk with and exchange ideas with, as well as a feeling of belonging in the group, gave a sense of their need for their needs being met. Another participant echoed this, understanding that his need for relatedness was being met when he felt understood by others who were going through similar experiences.

I think I would just say studying with my friends, Because it's kind of like the sense of how we are in this together we got this but they also do the same thing that they like, kind of gather the same skills that you do and be like, kind of very much on the same page. And having that and studying with two other people and you're just talk in this weird way

about all these concepts and theories. And I'm like, Yeah, we are actually doing this

together. And this is very nice. (participant 6)

Their peers' ability to understand and share their experiences was a significant part of

their connection with other students. Conversely, when asked about times when their need for

relatedness was unmet, most participants referred to their first year. During this time, they felt

their need for relatedness was unfulfilled, largely due to the impact of COVID-19 and the lack of

contact with other students because of online lectures and practicals. A fourth-year student had

this to say about their experience as a first-year student during the pandemic.

(I)n the first year, relatedness was quite low. Obviously, we had COVID. So everything

was online, you couldn't really go out and talk to people. We did have, I think, two bigger

meetings before the lockdon started. So I had like a few people that I knew by name, but

none of them I was really close to. (Participant 7)

Being isolated from fellow students made forming close connections difficult for this

participant. However, several key themes emerged when the participants were asked about the

role relationships played in need fulfillment. "Relationships affect positively", meaning

relationships have a positive impact on their need fulfillment, particularly by fostering a sense of

connection. This code appeared nine times in the dataset. A second-year student shared their

experience, emphasizing the positive influence of friendships on his motivation.

I also have friends that are like, very determined, and I think that can also, like has

definitely also motivated me to do more and like seeing how passionate they are about

the stuff also made me like a bit more excited, I guess about the study. So yeah, I think it

has helped me. (Participant 12)

Another code that emerged was "relationships affect negatively," indicating times when relationships hindered the fulfillment of the need for relatedness. This code appeared seven times. A fourth-year student shared how her experiences in a romantic relationship negatively affected her.

> *I don't think anything crazy like even now, um, three weeks ago, actually, I broke up with my boyfriend, who I had, like, for a very long time. So throughout my entire study period, so that kind of, you know, I feel like at the moment changes a lot all of the sudden. Um, but and that of course like I see that it puts a lot of stress on my body and my ability to focus and so on. (participant 8)*

In line with Ryan and Deci (2001), the participant identified that a lack of support from relationships often leads to a diminished sense of well-being. Conversely, when participants felt supported and experienced a sense of belonging, they reported a greater sense of well-being.

In sum, their conceptualization of well-being included a sense of overall balance and contentment with their current state. The participants also mentioned the basic psychological needs of relatedness and competence. Although the participants did not explicitly mention autonomy, it was indirectly referenced when discussing the importance of balance.

Discussion

The current study aimed to investigate two primary questions: how university students at different stages of their studies conceptualize well-being, and how the fulfillment of the need for relatedness affects students' wellbeing, including the role relationships play in this need fulfillment. To address these questions, we used various frameworks, primarily self-determination theory, along with concepts from positive psychology. The findings are particularly relevant to understanding wellbeing in academia because we gathered data from

psychology students across different academic years. These students were interviewed using a script specifically designed for this research project, which yielded substantial data and provided valuable insights into well-being in the academic context.

Students' conceptualization of well-being in academia

Competence was one of the basic psychological needs explicitly mentioned by participants. They conceptualized competence as doing well or excelling in their studies, which contributed significantly to their sense of well-being. Participants also noted that when the need for competence was not fulfilled, especially during their first year amid the challenges posed by COVID-19, their overall well-being was negatively impacted. These findings are consistent with Ryan and Deci's (2000) Self-Determination Theory, which posits that fulfilling the need for competence is crucial for a higher sense of well-being.

The next frequently mentioned conceptualization of well-being by participants was relatedness. Participants described this need as interacting with others, having friends, and feeling supported. A sense of belonging was particularly important, especially in the first year when they were new to the academic setting and had not yet settled into the environment. Compared to other years, this need was the most unmet during the first year of study. This can be attributed to the uncertainty of starting an academic career at a university, often in a new country without a familiar support network of parents or friends from home. In line with the findings of Van den Broeck et al. (2016), the need for relatedness was crucial for participants' motivation. Having a sense of belonging and friends to study with was vital for many participants' sense of well-being, aligning with the Self-Determination Theory (Ryan & Deci, 2000).

Autonomy was the one basic psychological need that participants did not explicitly mention. It was indirectly referenced by a few participants when discussing the balance between the three

basic needs. This finding is surprising given that autonomy is often linked to subjective well-being (Yu et al., 2018; Jeno et al., 2023sand). While autonomy is indeed a fundamental psychological need that should be fulfilled, the current findings suggest it may not be the primary concept that comes to mind when participants conceptualize well-being. It is important to acknowledge that, given more time to reflect, participants might have included autonomy in their conceptualizations of well-being.

In addition to the three basic psychological needs, several themes emerged as part of the participants' conceptualization of well-being. Similar to recent findings by Turner and Holdsworth (2024), our study identified factors that positively impact students' perceived well-being. In the current study, these factors were categorized into internal and external factors. Additionally, some factors were found to have a negative impact on students' perception of well-being. Parental support was an external factor frequently mentioned in the data, with participants sharing that having support from their parents was crucial for them. Financial support was also highlighted as a key factor in helping them complete their studies without worrying about financial issues. This finding aligns with existing research indicating that students with lower financial capabilities experience a lower sense of well-being (Liu et al., 2024). Mental health, on the other hand, was frequently mentioned as an internal factor. Although it is not within the scope of this study to discuss mental health in depth, it is a crucial element of a person's overall health and well-being (Baik et al., 2019). Participants noted that when they are mentally overwhelmed, their sense of well-being decreases. In addition to these factors, there was another factor that came up several times in the literature, namely spirituality. Our findings did not reveal any connection between student well-being and spirituality, which contrasts with prior literature (Nonis et al., 2024; Anwar & Rana, 2024). Participants were not specifically asked about

spirituality when discussing their conceptualization of well-being. Previous studies suggest a link between spirituality and psychological well-being, which could be explored further in future research.

Based on the participants' conceptualizations of well-being, we developed a model illustrating how various factors and conceptualizations relate to well-being (see Figure 1). The model features six small tables connected to well-being, with arrows indicating the direction of the relationships. The conceptualization of well-being and the factors influencing well-being do not have a direct relationship with well-being but affect it indirectly through basic psychological needs (BPN) and conceptualizations. Mental health appears twice in the model because participants mentioned it on two different occasions: once during their conceptualization of well-being and again when discussing factors influencing well-being. Given its significant importance to the participants, mental health is included twice to reflect its dual impact on well-being.

The need fulfillment of relatedness and the role of relationships in wellbeing

Our findings align with existing literature on the importance of peer and teacher interactions (Baik et al., 2019). Students emphasized the significant role of relationships in their overall well-being. Relationships can positively impact relatedness when they are supportive, but they can also negatively affect relatedness when they are absent or unsupportive. These results are consistent with positive psychology, which highlights the importance of positive relationships for well-being (Seligman, 2018). Conversely, when positive relationships were absent, the need for relatedness was unmet.

Implications

The current study has enhanced our understanding of wellbeing in the academic context by exploring how students conceptualize wellbeing in academia. This insight fills some of the

gaps in the existing literature, providing a deeper understanding of student experiences and needs in academia. The findings can inform the creation of interventions aimed at improving student wellbeing. For instance, workshops where students discuss their well-being could be beneficial. Participants noted that they had not previously considered their well-being within the academic setting before participating in the study. These workshops could provide a structured opportunity for reflection and discussion, potentially leading to better well-being strategies and support systems within universities.

Strengths and Limitations

One of the strengths of this study is the qualitative method used to conduct research. By using this approach, we were able to delve deeply into the complex topic of student wellbeing and gain rich insights into students' perspectives. We employed interviews as our primary data collection instrument, allowing participants to share their individual views on wellbeing. This approach is a significant strength because the interviews were highly individualized, encouraging participants to express their experiences and views within their specific academic contexts. Additionally, the qualitative method facilitated a comprehensive understanding of well-being by capturing the nuanced and subjective experiences of students. This depth of insight enabled us to create a model that extends Self-Determination Theory (SDT) and the concept of basic psychological needs. By focusing on the individual voices of students, the study could highlight the diverse factors contributing to well-being in academia, offering a detailed and context-rich understanding of the topic.

While the current study has several strengths, it also has limitations that need addressing. First, the small sample size of 12 participants limits the generalizability of the findings. We mitigated this by adhering to literature standards indicating that 12 participants can provide

sufficient insight for qualitative interviews and reach saturation of codes (guest et al., 2006). The potential for researcher bias in the subjective coding process is another limitation. To reduce this bias, we had pairs of researchers independently code the interviews and then reach a consensus on the relevant codes, ensuring greater reliability in our analysis.

Additionally, the study's focus is on relatedness rather than all three basic psychological needs autonomy, competence, and relatedness may limit the understanding of the broader role these needs play in student wellbeing. Despite this, our in-depth focus on relatedness allowed us to gain a deeper insight into the importance of relationships in fulfilling this need. This tradeoff between depth and breadth was deliberate, as it enabled us to thoroughly explore the specific aspects of relatedness and its impact on wellbeing. Overall, while the study provides valuable insights into the role of relatedness in student well-being, future research could expand the scope to include a more comprehensive examination of all basic psychological needs.

Conclusion

The findings of the current study are divided into two research questions: the first addresses the conceptualization of well-being, and the second focuses on the fulfillment of the need for relatedness and relationships. The theme of balance was an emergent finding in the conceptualization of well-being. Participants frequently mentioned a balance between physical and mental health when asked about their understanding of well-being. Furthermore, the study investigated how relatedness and fulfillment of this basic need are connected to well-being. The need for relatedness emerged as the most fundamental need for first-year students. Another noteworthy finding was that relationships can both positively and negatively impact fulfilling the need for relatedness, particularly during challenging times. This study contributes to the growing body of literature on well-being, specifically within academia, by proposing a model that can

extend self-determination theory (SDT) (Ryan & Deci, 2000). Furthermore, the findings can inform the development of interventions to understand well-being in academic settings, based on students' expressed needs. The current study also had some limitations, including a small sample size, which was addressed by conducting in-depth interviews with each participant. Future research could investigate the connection between physical health and mental health in the context of academia, as well as the role of balance in fulfilling basic psychological needs.

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Appendix A

Demographics Questionnaire

Demographic Questionnaire Study: Understanding Well-being in Academia through Self-Determination Theory (SDT)

Participant _____ (filled out by the researcher)

We kindly request some brief socio-demographic information from you as a participant. This information will assist us in understanding your responses within context.

1. I am ☐ male ☐ female ☐ other ☐ prefer not to say

2. Age _____ years

3. Nationality _____

4. Concerning my studies

    a. I'm currently enrolled in the

    ☐ Bachelor ☐ Master

    b. I am in my

    ☐ 1st year ☐ 2nd ☐ 3 ☐ r 4th year

If you have any further questions concerning the interview study, do not hesitate to ask. Again, thank you very much for participating in our study and helping us get better insights into well-being at the university.

Contact: L.Ballato@rug.nl   Bachelor Thesis Project
University of Groningen   Well-being in Academia

Appendix B

Informed Consent

Informed Consent for Interview Study within the Project: Understanding Well-being in Academia through Self-Determination Theory (SDT)

April 2024

I, [Participant's Name], hereby consent to participate in the current research conducted by [Researcher's Name], a student at the University of Groningen. Contact: [Researcher's Contact Information]

I have agreed to participate in the study "Understanding Well-being in Academia through Self-Determination Theory (SDT)," understanding that my participation is entirely voluntary. I acknowledge that my data will be kept confidential. I reserve the right to withdraw from this study at any time without penalty and to request that my responses not be used. The researcher is responsible for the secure storage of the data.

I will have the opportunity to review a summary of my interview and indicate whether I wish particular parts not to be considered in the analysis. The data will be only used for educational purposes and will not be published.

I read and understood the information form, which provides more detailed information about the research.

Date: [Participant's Date]

Signature Participant:

Date: [Researcher's Date]

Signature Researcher:

Contact: Dr Laura Ballato
l.ballato@rug.nl
University of Groningen

Appendix C

Script

Q nr.	Conceptualization of Well-Being
1	In general, what does well-being mean to you? (When you hear "well-being" – what comes to mind?)
	Self-Determination-Theory
	Now let's move on to Self-determination-theory. Self-Determination Theory, or SDT, is a psychological theory of motivation that explains how people strive for growth, connection, and well-being. At its core, SDT suggests that everyone has three basic, innate needs: autonomy, competence, and relatedness. • Autonomy is about feeling in control of your own actions and decisions. • Competence involves feeling skilled and capable in what you do. • And relatedness is about having meaningful connections with others. According to SDT, fulfilling these three needs is essential for psychological health, motivation, and happiness. For the questions that follow, please try your best to stay within the framework of academia and the three psychological needs of SDT competence, relatedness and autonomy. Do you have any questions about SDT?
2	What is autonomy within academia for you?
	When you look back at your studies, were there certain periods during which you felt more or less autonomous? • How was this need (not)met in your first year compared to now?
	What importance did autonomy play over the course of your studies?
3	What makes you feel competent within academia?
	When you look back at your studies, were there certain periods during which you felt more or less competent? • How was this need (not)met in your first year compared to now? • How do exam periods impact your feelings of competence? • How do you feel your personal level of resilience, your ability to bounce back, influences your feelings of competence?
	What importance did competence play over the course of your studies?
4	What is relatedness within academia for you?
	When you look back at your studies, were there certain periods during which you felt more or less relatedness?

	● How was this need (not)met in your first year compared to now? How has your relationships influenced your persistence in academia? ● Can you describe a time when you felt a sense of belonging in academia? ● Have there been any experiences where your relationships posed difficulties or distractions during your studies? *(In case they have answered this earlier can be omitted)*
	What importance did relatedness play over the course of your studies?
Values and Identity	
5	What does an important decision look like to you?
	What do you prioritize when making important decisions during your study years? ● Did it change through the years of study? If so, how?
6	What motivates you within academia? ● Why?
7	How did you choose your third-year courses? *(For first and second year students: how will you choose…?)*
8	What does it mean for you to be a student?
9	In what ways do you think your student identity influences your overall well-being in academia? *(If the student is unsure what is meant with student identity, refer them to their answer to the previous question, as this captures their student identity.)* (Identity: How you see and express yourself)
10	How easily do you bounce back from a stressor such as not passing an exam within your academic life? ● How do you feel this has impacted your sense of well-being within academia?
Influencing well-being	
11	Think of a moment where you had the feeling your well-being was fulfilled. ● How did your perception of being a student contribute to feeling well-being in that very moment? ● Were there some other <u>internal</u> factors that contributed to that feeling of fulfilled well-being?
Who is responsible for student well-being	
12	Who do you think is responsible for student well-being? *(Ask this open question first, before asking specifically about themselves or university. If they already talk more about one or the other, let them, don't redirect them into talking about one thing first.)*

13	To what extent are you responsible for your own well-being in academia?
	What are the actions you have taken to enhance your experience of well-being? (*If the student does not really know what to say, remind them of the three needs.)* ● What motivated you to take this initiative?
	Are there any behaviors that you wanted to implement, but have not done so so far? ● Why?
14	To what extent is university responsible for student well-being?
	What is the university doing right now to foster student's basic psychological needs? *(If the student does not really know what to say, remind them of the three needs)*
	What do you think the university can do to further enhance student's basic psychological needs? (*If the student does not really know what to say, remind them of the three needs)*
	What were you missing from the university with regards to fostering the three needs in your first year?
15	Is there anything else that we haven't talked about yet that you think influences your well-being?
	Is there anything else you would like to add?

Appendix D
Codebook

Conceptualization Well-Being

Category	Code	Description	Example
Well-Being	CONC WB: Balance	Experiencing a balance between several aspects of their lives, including mental and physical health, and work-life balance among others.	"So general well being includes, like, many different well beings that are, in a way, more stable, like, the balance is quite stable"
	CONC WB: Competence	Being able to do the things one would like to do and/or have academic achievements	"Well, I do think a sense of achievement is very important. For me. It's yeah, it's, I like to feel like I've achieved something I'd like to also be knowledgeable about that, which, to me is honestly more important than, for example, a grade."
	CONC WB: Content	Feeling content, being at ease, feeling comfortable	"I guess just being content with where you are in your life right now. And like having the feeling like you can do, okay, in the future, like you don't have to excel necessarily, but just the feeling of being fine for the future."
	CONC WB: Mental health	Being free from mental disorders that hinder mental, emotional, psychological, and social well-being and functioning	"I guess physical and mental health kind of? Yeah, are like the two main things that are necessary for wellbeing for me. Yeah."
	CONC WB: Physical health	Being physically healthy and functioning	"Okay, so there are two broad components to it, I would say, like a physical and a mental one. Physiological and psychological component."
	CONC WB: Positive experiences	Having positive experiences and pursuing happiness	"Overall, I think, for me, it's always a state of balance, where I feel like I kind of am on top of everything that I want to do. just like being content with what I do, and then having positive experiences, I would say. "
	CONC WB: Relatedness	Interacting with other people, having friends and feeling supported.	"And you're surrounded by people who support you and you feel loved by it's also really important."
Autonomy	CONC AUTO: Being in control	Being in control of your own actions and choices	"I feel like it is quite important because you want to feel like you have control of your studies, right? You want to feel like this is what you want to do and what you chose to do"
	CONC AUTO: Decision-making	Making decisions how to study, prepare for an exam, or how to engage with the material.	"And like, the less I can choose which materials to use, the less autonomy I feel like I have, somehow"
	CONC AUTO: Freedom	Having the freedom to do what you would like in your studies, like participating in	"You choose your own path, and you feel the freedom"

Category	Code	Description	Example
		extracurricular activities etc.	
	CONC AUTO: Independence	Feeling like you can do something by yourself, without needing support from others	"Yeah, and to not need, like to rely on someone else. Like of course, you need the professor to like in the lecture and everything, like provide you with the materials and then that you don't need additional or great additional amounts of help like a tutor outside of that you can with the help from the professor and like the normal materials, develop your own grasp material without additional offset."
Competence	CONC COMP: Comparison to others	Comparing own achievements, skills, grades, etc. to those of other people.	"I would compare myself maybe to glimpses of what I would see, how other people would deal with the situation"
	CONC COMP: Deeper understanding	Being able to go beyond the passive receiving of information from courses, to being able to have deeper discussions about the material.	"Seeing what you think about things and just being like very engaged in the academic world"
	CONC COMP: Effort	Putting genuine effort into your studies and trying to complete courses successfully.	"I think a competence that I have is I know how much I can do and what is enough. And I can really just put enough effort into it. So there's something that is satisfying for me."
	CONC COMP: Extracurricular activities	Participating in activities (academic and not) outside of the normal curriculum..	"I think that grades are probably the biggest source of feeling of competence and from academia. But like for me, probably also being in the Honors College just because obviously, you need to have certain grades to get in and you obviously also need to apply and then get accepted and do more things next to all the other things you already have to do."
	CONC COMP: Grades	Understanding competence in connection to grades	"Yeah, I guess I mean, the framework of grades, for example, and it's already contributing to feeling competent... "
	CONC COMP: Having the resources	Having resources available that allow the student to live up to their full potential.	"It helps me when there's a thorough proper syllabus, and when the, when the people around me like my mentor, my teacher, as well is willing to put in the effort to help me and to give me like the space and the time and the effort that to make the sessions well."
	CONC COMP: Learning	Being able to successfully study and retain the information gained during one's studies.	"I felt like non competent, like, so bad, because I did nothing like nothing. That showed off, you know, I only mean, if I, for example, read a book, but don't talk about this book. And I don't feel I learned something."
	CONC COMP: Personalized feedback	Receiving personalised feedback from a professor or teaching assistant.	"If you have like smaller courses, and then you get feedback, that's actually really good. And then you see, okay, I can improve here. I'm already doing good here, but maybe I can improve."

Category	Code	Description	Example
	CONC COMP: Resilience	Being able to bounce back from setbacks such as bad grades.	"If I would feel less resilient, I would feel less competent. Um, Yeah, I guess it made me it made my feeling of competence more stable."
	CONC COMP: Self-development	Enhancing one's academic and personal skills.	"I definitely also had a learning curve on how to approach them and how to interpret certain things. So kind of as a scientist. I think I've definitely gained some skills that helped me navigate in the academic sphere."
	CONC COMP: Self-efficacy	Knowing what one is capable of doing and believing that one is able to live up to that level of skill.	"I think a competence that I have is I know how much I can do and what is enough. And I can really just put enough effort into it. So there's something that is satisfying for me."
Relatedness	CONC RELA: Belonging	A sense of connection with and feeling that one fits in the group.	"Relatedness is for me, once feeling related with my fellow students, feeling of belonging, maybe also developing the identity of being a psychology student."
	CONC RELA: Having things in common	Sharing common fate, similar interests, opinions, and having similar worldviews.	"And so I would say that that's part of relatedness that you like are working together with others. But I also think in lectures for example, it can be when you because oftentimes lectures, a bit more interactive that you can see that other people share your point of views or have similar ideas and thoughts about things as you do."
	CONC RELA: Connections fellow students	Having peers to exchange ideas with, learn from, and study with. these peers also be friends who support each other.	"...Ask my friends if they understood something that I might not have understood. Exchange notes, like things that people will use to study for exams and everything like that. So it helped with having a support system, but also to help with the studies because you have someone there going through the same exact thing. "
	CONC RELA: Connections teachers	Being able to approach, talk to the teachers, asking them questions about the content.	"...and then probably also having connections to researchers having connections to, to lectures having, feeling like I can approach them and ask questions. Just probably the opposite of just feeling alone and feeling ostracized."
	CONC RELA: Content of classes	Having a sense that the content of the class is interesting and meaningful. Sparking a curiousity to learn more about the subject.	"The content, actually, the content, because when I read the content, meaning also, it's really interesting, and I liked it a lot. But the negative part of it is sometimes the extrinsic motivation, I would love to engage way more"
	CONC RELA: Having friends	Fostering meaningful connections with friends within and outside academia that one could relate to and connect over positive and negative experiences.	"I think for me, mainly, this means having, having friends, having people that understand me that go through the same things I'm going through right now. And being able to connect to them, talk to them."
	CONC RELA: Familiarity	Being acquainted with people in the lectures,	"I also think lectures help if there are people, a lot of people showing up. It's nice to be in this

Category	Code	Description	Example
		faculty and having the comfort of recognizing the place.	big group and then have your own little group that you always sit with, but you recognize all the faces and it's comfortable."
	CONC RELA: Empathy	Ability to understand and share the feelings, thoughts and experiences of another person.	"I'm in the Red Cross, in a committee, and we wanted to do like a party thing and we wanted to like the donations to go to mental health (...) I think we already like, quite like a bunch of like just more human people, if that makes sense."
	CONC RELA: Physical presence	Attending university in person, having face-to-face interactions as opposed to online education and communication.	"Like at this point, I'm in Heyman's like every day and I'm meeting my friends here and I'm having meetings and I'm kind of connected to a lot of people because of the activities I'm doing within academia. So then I think both on a like very kind of physical hands on way that really, really, really helps with my sense of belonging for compared to the beginning where I was just at home, but never really at uni."
	CONC RELA: Studying with other people	Having people one could study with to stay connected and motivated.	"Having friends in your, that you can study with, um, or just chill with think, um, it really helps me. It really, like I need social pressure to study as well."
	CONC RELA: Support	Having supportive others within and outside of academia to help deal with setbacks, persevere; engaging in the mutual aid with others in the pursuit of current goals.	"Ask my friends if they understood something that I might not have understood. Exchange notes, like things that people will use to study for exams and everything like that. So it helped with having a support system, but also to help with the studies because you have someone there going through the same exact thing."

Influencing Factors Well-Being

Category	Code	Description	Example
Internal factors		Things about the participant more internally that affects their well-being (in academia)	
	INT F: Achievement oriented	Being hardworking, goal-oriented and/or aiming for high grades	"It's really important, like I don't know this is like a belief that has been instilled in me by my parents for so long. It's just like okay, work is the most important thing. You need to work you need to earn you need to like just be a hardworking person. "
	INT F: Attitude / mindset	Participant's perception that mindset one adopts can shape one's perceptions, attitudes, and reactions to life	"I'm a bit of an over thinker, and then I'm having sometimes those kind of downward spirals, where I think, just because this doesn't work well right now, or I'm so stressed, how will I ever get out of this acute phase of stress? And then I'm

Category	Code	Description	Example
		events, and thus affects one's overall well-being	also kind of thinking five steps ahead and then like in a negative direction. "
	INT F: Comparing self to others	Participant's tendency to compare themselves to other people	"Yeah, because I thought that everybody else had already their groups and their people and stuff, and then I was a bit like, I don't know, like, not the odd one out, but like, like, I did know some people, but I wasn't so close friends with them that I thought, okay, or I thought, okay, they're in person friends already, and I kind of need to join in and stuff, and in the end it worked. But also, like, at first I remember that was very intimidating as well."
	INT F: Confidence / self-efficacy	Participant's general sense of confidence and self-efficacy, their perception of their ability to succeed in a given situation	"But there was definitely a moment where I trusted myself and had self-confidence that I can actually do it. And that felt really good. And trusting then I had a lot of motivation for the next block and kind of carried that momentum. to actually staying on top this time and not pushing it to the end again."
	INT F: Mental health	Mental health (problems) including e.g., depression, ADHD.	I think, so, my ADHD diagnosis is something that made me insecure through, and still does, makes me insecure throughout life, because you kind of get a stamp, like, you're less capable than the rest of the people. So that really bothered me in the beginning, because you start a new thing, you start new studies, you start new things every year, even though it's one bachelor's. And then you're like, okay, so this is different for me than for other people, but what does that mean for me? Does that mean that I cannot do this, maybe? But I really got over that now, I think. I think that will start again when I do a master's.
	INT F: Openness to experience	Participant's openness to experience, learning and sense of curiosity	"Openness for experiences. Yeah, those experiences then contributed to the well-being. And yeah, being curious also. It's kind of the same, they both play into that, like having new experiences"
External factors		External factors affecting well-being in academia	
	EXT F: Online education	Participants perception that online eduction had a critical role in their well-being in academia	"And I think when I felt at least competent was my first year COVID, everything's online. You just feel like you're not even doing the study. So when you get a grade, you don't care because, um, it kind of feels like you don't deserve that grade."
	EXT F: Parents	Participants perception that parents had a critical role in their well-being in academia	"I just saved myself the money of renting and stayed at home which was the right decision in my opinion for me"
	EXT F: Weather	Participants' perception that weather influences	"the weather that's definitely, also a very important factor, obviously"

Category	Code	Description	Example
		their well-being in academia	
	EXT F: Workload Outside Degree	Particpants perception that a workload outside their psychology degree had a critical role in their well-being in academia	"Because I, for me, I'm working right now. Quite a lot, probably more than I should. But then doing honours College, everything, that's not really possible."

BPN Fulfillment

Category	Code	Description	Example
Autonomy	BPN: AUTO: Fulfilled	Expression of an experience/situation within their studies in which their need for autonomy was met.	"Yeah, I think that especially now, like in my third and fourth year, where I could actually choose subjects and so on, that also played a big role because, um, I could do what I was interested in and I could also try out different subjects and so on. So I think I really enjoyed that. So then I think that was good."
	BPN: AUTO: Not fulfilled	Expression of an experience/situation within their studies in which their need for autonomy was not met, either being too low or too high.	"But I would have still preferred if I didn't have to repeat statistics this many times. And this whole thing caused like a study delay, and then it affected like the whole rest of my studies, and it made it quite chaotic. So I, yeah, I really didn't like that part. I would have liked to choose to study that life on myself if I really wanted it, right."
Competence	BPN: COMP: Fulfilled	Expression of an experience/situation within their studies in which their need for competence was met.	"My feeling of competence was quite high during the whole first year. And that was definitely getting more in the first weeks. Like when I started, I thought, okay, well, I'm not sure if I'm going to pass all these courses, and it's going to be so hard. And then, after the first exams, I thought, okay, well, I'm fine. Alright."
	BPN: COMP: Not fulfilled	Expression of an experience/situation within their studies in which their need for competence was not met.	"When you study for something, and then you feel okay, it was alright. But then you get the results back and it was just not right at all. So I think that was definitely one of my low points in terms of competence."
Relatedness	BPN: RELA: Fulfilled	Expression of an experience/situation within their studies in which their need for relatedness was met.	"I think it's not hard for me to fit in or to at least have the feeling that I belong, and I think that also makes me feel very safe and secure "
	BPN: RELA: Not Fulfilled	Expression of an experience/situation within their studies in which their need for relatedness was not met.	"I didn't have any bond within my academic skills mentor group in the first year, like none. I wouldn't even recognize over half of the people that were in there. Uh, even though it's really meant to be a learning

Category	Code	Description	Example
			community, right? Like you're meant to be kind of like a friend group, support each other. So it was really lonely."

Importance of BPN

Code	Description	Example
Importance autonomy	Personal evaluation of the need for autonomy in academia to be of high or low importance	"I would say it's quite important for me, just because that, again, makes it way more interesting for me if I have autonomy, that makes sense, if I don't have autonomy, I feel like a lot of times it feels forced and then I get bored by the tasks."
Importance competence	Personal evaluation of the need for competence in academia to be of high or low importance	"Relatedness I think, from a social aspect is very important to me, but from an academic life perspective, not so important, I don't really link it to the concept of my academic self."
Importance relatedness	Personal evaluation of the need for relatedness in academia to be of high or low importance	"It's something I think about a lot, because I compare myself a lot to other people and friends. And if I don't feel competent in my studies, I start spiraling."

Aspects Linked to Students' Identities

Code	Description	Example
IDENTIY	Aspects that are linked to students' identities	
ID: COMM HIGH	Showing a high commitment to plans and decisions	"Yeah. I mean, I would like to do therapy. So I would choose my courses according to that."
ID: COMM LOW	Showing a low commitment to plans and decisions or not having concrete plans	"But overall, I think I just chose it based on what sounds interesting in a moment. One course I chose just for the vibes because all of my friends took it"
ID: EXPL HIGH	Demonstrating a high level of curiosity and a strong tendency to explore in one's decisions and actions.	"I'm just here to kind of maximize the whole experience but also really, like, I took my time going to university (...) I'm here because I want to learn stuff here because I want to see what's out there and I think there's kind of motivation"
ID: EXPL LOW	Demonstrating a low level of curiosity and a weak tendency to explore in one's decisions and actions.	"Then I did forensics, sexology, CBT, also just because I wanted to really dive into it. And yeah, so I didn't even look at the other courses."
ID: Student	Identifying as a student and acknowledging that	"I have like a positive image of being a student. Like, it's not like I think being a student is a burden or something. So

Code	Description	Example
	this conceptualization influences other aspects of their lives	like, overall, I think it's cool learning experience. I think that does, like positively influence my academic well being."
ID: Belonging	feeling accepted, valued, and connected to a group or community	"And then like, giving the presentation about it felt like really good. And everyone was like, That was so good. And then I felt like okay, maybe this is something that I that I do like belong to also."
ID: Being student relates to WB	Explicitly mentioning how being a student influences well-being	"Being a student gives me a good feeling, a good place in life right now."
ID: Development	Expressing that one developed mentally	"hink coming from where I came from, anxious little first year girl, I'm just really proud of myself for everything that I've done."

Aspects Linked to Students' Values

Code	Description	Example
VALUE: Achievement	Valuing ambition and personal success by striving for competence and social recognition	"I feel like it's also a lot about proving people you're competent, which is a shame. Yeah, but it's qualities you need. In order to get this bachelor, masters to go do a PhD. It's really important."
VALUE: Balance Present and Future		
VALUE: Hedonism	Prioritising enjoyement and instant gratification; demonstrating a tendency towards pleasure-seeking	"I would never say no to a social gathering, and also the first two years were hedonistic, so always like seeking fun and immediate pleasure over the future orientation and maybe like reaching a long term goal."
VALUE: Knowledge	Perceiving knowledge, learning, and acquiring skills as intrinsically motivating	"I love learning new things. I love, it's really exciting to me to come as close to a truth as possible, even though that also doesn't exist, you know? Being so close to the newest developments really excites me and motivates me. I like knowledge."
VALUE: Relationships	Perceiving belongingness, connections as important; being mindful of others' needs and personal impact on others	"I focus a lot on my boyfriend, because we plan to have a future together. So I try to, like consider how what I choose might affect him. Because if we plan on actually living together later, I don't know what but if we want to keep this relationship going, I can't be selfish in my decisions because somebody else also is going to be affected by it."
VALUE: Security	Inclination towards safer and more familiar options and/ or predetermined path and structure	"But like freedom is good in theory, but for me, I feel like it gives me too many options and it's so scary."
VALUE: Self-Direction	Placing a high importance on freedom, exploration, independent choices and actions	"I really don't like when I don't have the feeling that I can do what I want to do. I don't know, I really feel like I want to work to be able to do what I feel like, in a way that makes sense. Like, I want to have the freedom to choose my next step."

Code	Description	Example
VALUE: Self-Transcendence	Striving for a positive change for something larger than just oneself, contributing to the enhancement of others' welfare	"I really need to like feel like just find something meaningful to my life that I can use. I dedicate myself to and will help people and help myself."
VALUE: Stimulation	Preference for novelty, challenge, as well as displaying oppenness to experience	"Openness for experiences. Yeah, those experiences then contributed to the well-being. And yeah, being curious also. It's kind of the same, they both play into that, like having new experiences and also the, I don't know how to call it, the need for change. It's something that's not going good. I'm like, okay, I need to change something. I want to change something."

Aspects Linked to Students' Resilience

Code	Description	Example
Motivational strategies	Students use bad grades as a motivator to do better	"When I get a bad grade, that's a big motivator for me...it's like a rush, almost like a dopamine rush"
Active problem solving	Students act on their willingness to change	"I think generally, um, when something bad happens, um, after like a moment of shock and of letting it out and so on, I'm also usually always already thinking, okay, what to do after that situation"
Emotional regulation	Students are not overly emotional about setbacks and remain calm	"Just having the faith that is going to be fine because it will be if you just keep working on it"

Factors Influencing Relatedness in Academia

Category	Code	Description	Example
RELA HIGH		Positively affecting relatedness.	
	RELA HIGH: Connection to others	Feeling connected to other people.	"I think it's really important to feel like you're not alone. I think if I felt very lonely, I don't know if I could have made it through this degree, because I think it's so important to have friends that you can just complain to, um, and that are going through the same thing as you."
	RELA HIGH Institution	This can be interpreted as the university, faculty or current year of study(i.e first, second year etc.)	"Like first, I just had the student assistant job for like a year and then beginning of last year I started the teaching job...but like I'm creating, creating and changing education like on a kind of daily basis with my jobs and I think that also really really helped me helped with my sense of belonging and also kind of forming that identity"
	RELA HIGH:Support network	Having a support network, such as	"Well, I think it's important I think the support I received like that was important. And I do think that definitely, being here being like present

Category	Code	Description	Example
		family, friends, and/or a partner	physically at the university at the student life like going to the lectures in person, that's also in a sense, part of connectedness."
RELA LESS		Negatively affecting relatedness.	
	RELA LESS: (Lack of) Connection to others	Feel disconnected from other people.	"I think it's like almost impossible to do it without having people around you. And of course it's about psychology, but I want to compare to [Censored second Bachelor study] because like, I feel a lot less related to the people there, they're younger."
	RELA LESS: Exam period	The exam season	"When it's exam phase? Less, because I'm in the library a lot. And I know other students, they sometimes learn in groups, but I haven't found a good one yet. So I was always like studying for myself. Yeah, so on that period, I feel less."
	RELA LESS: Practical groups	Assigned groups in the practical courses for the bachelors	"...Everything when we had to, like contribute something ourselves, we pretty much had to do it individually. So there wasn't really a lot of relatedness. And it was just me and this paper that I had to write for my academic skills or something."
	RELA LESS: Unsure about future	Uncertainty about the future	"...Sometimes I felt like everyone was so sure of like, what they're doing in their study. And, like, already, like, a lot of people have plans, what they're going to do in their masters. And even after in this, like, very clear vision of what they want to do with the bachelor. And for me, I was always like, yeah, I don't really know."

Types of Connections in Academia Described by Participants

Connections	Description	Quote
Fellow students	Having peers to exchange ideas with, learn from, and study with. These peers can also be friends who support each other.	"It helped with having a support system, but also to help with the studies because you have someone there going through the same exact thing."
Teachers	Being able to approach, talk to the teachers, asking them questions about the content of courses.	"Also having connections to researchers, having connections to lecturers, feeling like I can approach them and ask questions."
Content of classes	Having a sense that the content of the class is interesting and meaningful, sparking a curiosity to learn more about the subject.	"The content, because when I read the content, meaning also, it's really interesting, and I liked it a lot.
University/faculty	Feeling like one belongs with the university, within the faculty and the university buildings.	"I am having the sense of belonging to my uni and having the sense of belonging to my faculty"

Influence of Relationships on Well-Being

Code	Description	Example
RELATIONSHIPS affect negatively	Relationships had a negative impact on their wellbeing	"I don't think anything crazy like even now, um, three weeks ago, actually, I broke up with my boyfriend, who I had, like, for a very longtime. So throughout my entire study period, so that kind of, you know, I feel like at the moment changes a lot all of the sudden. Um, but and that of course like I see that it puts a lot of stress on my body and myability to focus and so on."
RELATIONSHIPS affect positively	Relationships had a positive impact on their wellbeing	"...I also have friends that are like, very determined, and I think that can also, like has definitely also motivated me to do more and like seeing how passionate they are about the stuff also made me like a bit more excited, I guess about the study. So yeah, I think it has helped me."
RELATIONSHIPS no affect	Relationships had no impact on their wellbeing	"Yeah. Not really, like it's all stable."

Responsibility of, Acts by, and Wishes for University Observed by Participants to Foster Student Well-Being

Category	Code	Description	Example
RESP UNI:		What is the university responsible for regarding student well-being?	
	RESP UNI: Basis of social safety	Providing an environment that prioritized social safety, limits discrimination and takes student well-being into account.	"I think a big factor is overall the university plays a big part in how they design a programme, how they, the professor's they hire the environment that you created. Is it more of a hostile environment? is it caring environment?"
	RESP UNI: Good quality of education	Providing good quality of education, including organization of courses as well as hiring capable teachers.	"The education needs to be good by capable people. I think that's sometimes difficult because not everybody within academia wants to teach. But I think good education gives students feel the competence, give students the motivation because they see a competent person, it's inspiring"
	RESP UNI: WB Resources	Providing well-being resources, including study advisors, student psychologists, and accomodations for disabilities.	"There should be student doctors, student psychologists, very important, mentors, very important, study advisors, those are base things that the university has to provide"
ACT UNI:		Acts by, or features of the university observed by participant to foster student well-being	

Category	Code	Description	Example
	ACT UNI: Autonomy	Fostering student autonomy	"So I think that is like the academic autonomy that the university does give, of course, more or less by default, by the way it's structured."
	ACT UNI: Competence	Fostering student competence	"With the competence, I mean, there's a lot of programs on like, external facility, study associations, all of that, that you can be a part of, and I think that can increase your competency. So I think there's a lot of university or more like slightly external organizations that are provided"
	ACT UNI: Relatedness	Fostering student relatedness	"I really do think that there is usually an attempt of the university to foster some more relatedness even within courses by encouraging course, group work. I like to create group projects within certain courses that people work together. It doesn't always work out to a very like to like the extent that many people want it to and not liking having to do all of the coursework, but I do think it's the attempt in this case, like on this sense that counts like and it is this an opportunity to meet new people like to get to know like other people, of course, that you maybe haven't known if you were like randomly assigned to like some small group project with Yeah, I think that's so think they're doing a lot."
	ACT UNI: Structure courses	Features of the structure or content of specific courses	"Because we did have like a lot of like, we did have some mentors that throughout the year, I think the first year was a lot of mentors, like for academic skills for the research part, for statistics"
	ACT UNI: Structure curriculum (large scale)	Features of the curriculum at a larger scale, degree wide	"Well, the fact that you get to choose first of all your degree that you've gone for, and then that you have some, ok here in the first two years less but in the third year more choice of subjects, electives. And that kind of stuff."
	ACT UNI: WB resources	Well-being resources that the university provides, including study advisors and student psychologists among others	"I mean, like I just said, they have therapists. I really liked the fact that they offer study advisors. Yeah. Cuz with the whole study delay thing I really appreciated having somebody to go to who could help me figure out what steps I have to take next, for me to actually be able to do what I want to do"
WISH UNI:		Aspects the participant thinks the university could improve on to foster student well-being	
	WISH UNI: Autonomy	Changes that would improve student autonomy	"Giving more freedom with like, projects and choosing courses earlier, or just, yeah, project stuff. I think that would help me a lot to feel happier in the studies."

Category	Code	Description	Example
	WISH UNI: Communication	Changes regarding the communication with / from the university to students	"but they should have had clear rules for every course, the same thing, because this was just confusing. And it was almost like, they didn't even explain why things change sometimes."
	WISH UNI: Competence	Changes that would improve student competence	"I remember within statistics three, they were like, if you failed two, you cannot pass, which is bullshit, I think, because there are so many reasons why students fail courses, which is, I think, almost most of the time, not related to if they were capable to do the course. I kind of believe if you get in university, you're capable. Maybe that's naive, I don't know. But I think saying that takes away a lot of feeling of competence of a student"
	WISH UNI: Assessment and grading	Changes regarding the mode of assessment, types of exams, grading and feedback on assignments.	"I don't think realistically, but just in some utopian thing, like, get rid of the multiple choice tests, just do essays, or open questions."
	WISH UNI: Financial	Changes that addressed students' financial situations.	"Increasing the number of student jobs because a lot of students need jobs, and a lot of students will be fit to do the job."
	WISH UNI: Pressure	Changes regarding the pressure on students, including workload and course prerequisites among others	"When I compare what my friends say, and what younger students say, there are a few classes that repeatedly share the same sentiment of this was way too much. It's too much reading and too many lectures. And I just don't understand but you don't get any extra help."
	WISH UNI: Relatedness	Changes that would improve student relatedness to each other and from teacher to student	"I would prefer if there was a bit more personal interaction, at least possible with not just the other students because that is possible but also to like the staff"
	WISH UNI: Structure courses	Changes regarding the structure of or setup within courses.	"I would say that some of the courses can probably be restructured. But I don't know if that will directly influence student wellbeing. In terms of being a bit less stressful, less workload, but still teaching somewhat of the same amount of material. I think there are probably ways to do that, which is obviously hard but not undoable."
	WISH UNI: Structure curriculum	Changes regarding the curriculum on a larger scale, including the length of study blocks among others.	"to do it like in the biology bachelor where you're like, have a course for a few weeks and then have an exam for that one course. That you're doing it one at a time because that would help me a lot personally, so so much to just focus on one thing at a time and I would have like, it's so straightforward, and it makes so much more sense that I didn't just have the exam and move on"

Category	Code	Description	Example
	WISH UNI: Understanding	Changes regarding the university's (and teacher's) understanding and empathy towards students, including force majeure circumstances, mental health, and feedback on courses.	"They don't care about the people with chronic illness, who can't show up to class, there's courses who require your mandatory participation, and just like one time, you can miss it, and they see like, Okay, if someone died, or if you're ill, but like, they, again, don't care about people, with chronic illness, no matter if it's mental or physical."
	WISH UNI: WB resources	Changes regarding the well-being resources that our university offers, including extra resources and the availability of those resources	"But I think, for example, it takes a while to get into the study advisors here. I think that's terrible. I think you should be able to make an appointment very quickly because it's already very anxiety-provoking to go there and that you have to wait for weeks."

Responsibility of, Acts by, and Wishes for the University Observed by Participants to Foster Student Well-

Being

CATEGORY	CODE	DESCRIPTION	EXAMPLE
ACT OWN		Acts taken by the participant themselves to foster their student well-being.	
	ACT OWN AUTO	Fostering own autonomy.	"I kind of feel like I made a decision in my third year. I started in other studies, and I spread out my third year a little bit because I'm doing my thesis in my fourth year, which gave me even more autonomy and time to decide."
	ACT OWN COMP	Fostering own competence.	"I feel achieved or feel competent when I [...] present myself in meetings in a professional way, or the sessions [that I am teaching] go well."
	ACT OWN RELA	Fostering own relatedness.	"If I see somebody in a lecture and I think, oh, they seem cool, I actively try to talk to them."
	ACT OWN: Self-compassion	Treating yourself with kindness, understanding and support.	"Over the years, I've grown to accept the fact that bad things can happen. I have bad reactions to the bad things. But that is just human."

	ACT OWN: Checking in on yourself	Taking a moment to assess ones current mental, physical and emotional state.	"I think I'm good at detecting when I'm not doing so well, like just from a well being perspective. Um, and then usually also realize, okay, I need to find a solution for this. I need to calm down and to prioritize my well-being."
	ACT OWN: Taking responsibility	Taking responsibility for the outcomes of ones actions.	"I'm like, okay, I need to change something. I want to change something. This can't continue like this. Like, I'm having like a down phase. I can't get up to study. Okay, what do I need to change?"
	ACT OWN: Therapy	Seeking out professional psychological help.	"I did go to therapy at some point. So I did get a package of knowledge that I can use. And I know that somehow I have to do those things to be okay."
WISH OWN		Aspects the participant thinks they themselves could improve on to foster their student well-being.	
	WISH OWN: RELA	Action to increase sense of relatedness that the student wishes to take in the future	"Finding a study group would be something that I want to do."
	WISH OWN: COMP	Action to increase sense of competence that the student wishes to take in the future	"I would just like to stop the comparison, because I am my own person. And my success is independent of how well [my friends] do. Even if they do better, I still do good."
	WISH OWN: AUTO	Action to increase sense of autonomy that the student wishes to take in the future	"I want to get back in touch with my hobbies, just to stay anchored in my identity and develop it a bit more. I also need to put effort into something else [than school]."
	WISH OWN: Self-compassion	Wishing to be more compassionate towards oneself in the future	"I feel like there is still room for more acceptance towards my grades."
	Wish OWN: Work/Life balance	Wishing to have more balanced life in the future	"I am always saying that I want to have weekends off, I think that is a big thing."

Appendix E

Usage of ChatGPT for language

No content generated by AI technologies has been presented as my own work.

I acknowledge the use of <ChatGPT3.5, https://chatgpt.com/ > to generate materials that are included in my work in a modified form.

Because of the initial feedback that my sentence structure and grammar were lacking, I used ChatGPT solely to correct my language and the cohesion in parts of my text. Which I listed below.

Prompt : Rewrite this text below into a more cohesive and grammatically correct

The goal of this project is to come up with a helpful definition on wellbeing with the help of the literature and also to create a dynamic model that can explain what leads to wellbeing in academia. From the lens of Self determination theory (SDT) and the basic psychological needs of Autonomy, competence and relatedness.

Output:

The aim of this project is to craft a comprehensive definition of well-being by synthesizing existing literature and developing a dynamic model elucidating its determinants in academia. Drawing from Self-Determination Theory (SDT) and its fundamental psychological needs of Autonomy, Competence, and Relatedness.

Change:

The goal of this project is to come up with a theoretical model that can explain what contributes to well-being in academia drawing from Ryan and Deci (2000) Self-Determination Theory (SDT) and its basic psychological needs of Autonomy, Competence, and Relatedness in addition to positive psychology and what leads to human flourishing (Seligman & Csikszentmihalyi, 2000).

Prompt: Rewrite this text below into a more cohesive and grammatically

The point of this model is to point out what contributes to wellbeing and predict what leads to well-being amongst students

Output:

The purpose of this model is to identify the factors that contribute to wellbeing and to predict the elements that lead to wellbeing among students.

Change

By creating this model, we aim to extend SDT by adding factors that are important for wellbeing, gleaned from students' conceptualization of wellbeing. Another purpose of this study is to identify the factors that contribute to well-being and to understand the elements that lead to well-being in academia.

Prompt: Rewrite this text below into a more cohesive and grammatically

Psychological distress amongst students has been on the rise in recent years (Larcombe et al. 2016). This is also not an isolated case either, on the contrary it is a global issue.

Output:

The prevalence of psychological distress among students has been escalating in recent years (Larcombe et al., 2016). Moreover, this trend is not limited to a specific region; rather, it is a widespread global concern

Change:

Moreover, this trend of student mental health deteriorating is not limited to a specific region; rather, it is a widespread global concern (Osborn et al., 2022; Ibarra-Mejia et al.,2022). Students grappling with psychological distress often find it challenging to concentrate on their studies, end up with lower grade averages, and are more likely to drop out (Storrie et al., 2010).