

Understanding Well-Being in Academia: A Developmental and Motivational Approach

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Abstract

Students' well-being is vital to their academic success, yet the lack of consensus on its conceptualisation makes it challenging to assess and develop meaningful interventions. To address this issue, the present study examined how students conceptualise and experience well-being inside and outside academia through the lens of Self-Determination Theory (SDT). Additionally, it explored how perceptions of autonomy, competence, and relatedness evolve throughout their studies, framed within four of Chickering and Reisser's vectors: developing competence, managing emotions, moving through autonomy toward interdependence, and developing mature interpersonal relationships. Using a qualitative approach, we conducted semi-structured interviews with twelve university students. The findings revealed that general well-being is conceptualised as an interplay of physical, mental, and social factors, whereas academic well-being encompasses factors such as academic satisfaction, achievement, balance, and resilience. Additionally, autonomy, competence, and relatedness emerged as crucial components of students' academic well-being and success. The finding indicated that from the first to the third year, students develop competence, autonomy, emotion regulation, and the ability to form meaningful relationships, aligning with Chickering and Reisser's theory. This study builds on existing research on student well-being in academia and emphasises the applicability of Chickering's developmental framework in contemporary higher education.

Keywords: well-being, academia, student development, self-determination theory (SDT), vectors of identity development

Understanding Well-Being in Academia: A Developmental and Motivational Approach

Within academia, the quest for knowledge is often hindered by the challenges of stress and burnout experienced by university students, with extensive research indicating that university students are particularly susceptible to mental health issues (Eisenberg et al., 2013; Larcombe et al., 2016; Orgyen, 2017; Royal College of Psychiatrists, 2011; Stallman, 2010, as cited in Baik, 2019). These difficulties significantly influence various domains of a student's life, affecting their physical health, emotional state, cognitive abilities, and interpersonal relationships (Kitzrow, 2003). Notably, prolonged psychological distress is associated with academic dissatisfaction (Lipson & Eisenberg, 2018), low academic self-efficacy (Brackney & Karabenick, 1995; Grøtan et al., 2019), and poor academic performance (Agormedah et al., 2024; Chu et al., 2023; Eisenberg et al., 2009). However, the broader goal of addressing these challenges goes beyond merely improving academic achievement. It involves developing a better understanding of the factors that contribute to students' well-being, aligning with the aspirations of positive psychology to understand and cultivate those elements that support the growth of individuals and communities (Seligman & Csikszentmihalyi, 2000).

Defining Well-Being

Although there is no overall consensus in the academic community regarding the definition of well-being, most researchers now agree that it is a complex and multidimensional construct comprising emotional, social, and functional components, such as happiness, satisfaction, engagement, physical health, purpose, and positive social relationships (Forgeard et al., 2011; Huppert, 2009). Most of these elements can be divided into two general perspectives on well-being: the hedonic approach, which emphasises attaining pleasure and satisfaction (Kahneman et al., 1999), and the eudaimonic approach, characterised by personal growth and

purpose in life (Waterman, 1993). In addition to hedonic and eudaimonic elements of well-being, another relevant dimension to consider is social well-being, which incorporates a sense of belonging and connection with others (Keyes, 2007). Thus, this study embraces a comprehensive view of well-being, including hedonic aspects like satisfaction and positive affect, eudaimonic elements such as personal growth, and social factors like feelings of belonging and connectedness.

Similarly to general well-being, there is no general agreement concerning the definition of academic well-being (Korhonen et al., 2014). Most studies on academic well-being have emphasised its measurement rather than its conceptualisation, yet it is generally agreed to be a multidimensional construct involving positive and negative factors, such as achievement, stress, and academic satisfaction (Donohue & Bornham, 2021; Hossain et al., 2023; Shek & Chai, 2020). Students' well-being is undeniably crucial to their academic functioning, as it has been linked to better academic performance (Howell, 2009), increased engagement (Chaudhry et al., 2024), and greater satisfaction and persistence (Lipson & Eisenberg, 2018). However, the lack of consensus on the conceptualisation of academic well-being complicates both its assessment and the development of effective interventions, as there is no clear understanding of what academic well-being entails (Douwes et al., 2023). Therefore, this study aims to examine how students conceptualise academic well-being, as a comprehensive understanding of contributing factors is crucial to developing meaningful interventions.

Finally, there has been a remarkable shift in research over recent years from focusing on dysfunction to emphasising well-being and positive mental health, consistent with positive psychology, which views well-being as more than just the absence of disease (Seligman & Csikszentmihalyi, 2000). Our study aligns with the philosophy of positive psychology,

recognising the importance of understanding how various factors can help students thrive. Given that the research surrounding the positive side of student well-being remains scarce (Kiltz et al. 2020; Stanton et al. 2016), this study aims to address this research gap by examining the factors contributing to academic well-being, enhancing our understanding of the elements involved in successfully navigating one's educational journey.

Self-Determination Theory (SDT)

Well-being in academia can be examined through the lens of the Self-Determination Theory (SDT), a well-established framework that integrates human personality, motivation, and optimal functioning (Ryan & Deci, 2000). The theory asserts that the needs for autonomy, competence, and relatedness are essential for nurturing well-being and achieving optimal functioning.

Autonomy pertains to having control over one's behaviour and goals, reflecting the need for actions to be self-directed rather than influenced by external forces. Competence, on the other hand, can be characterised as a feeling of efficiency in one's endeavours, encompassing the belief in one's ability to accomplish desired goals. Relatedness refers to feeling connected to others, having nurturing relationships, and belonging to a community. Accordingly, SDT suggests that the fulfilment of these innate psychological needs leads to enhanced intrinsic motivation, self-regulation, and well-being, while the absence of these factors results in diminished motivation and well-being. Intrinsic motivation, deeply rooted in the fulfilment of these three basic needs, involves engaging in activities for the inherent enjoyment they bring, which stands in contrast to extrinsic motivation, where individuals are driven not by the activity itself but by external rewards or threats (Ryan & Deci, 2000).

This theory has been widely integrated into educational settings, as research has shown that autonomy, competence, and relatedness significantly affect students' well-being within academia (Kiltz et al., 2020; Stanton et al., 2016; Larson et al., 2017). Thus, Self-Determination Theory (SDT) provides a lens through which we can explore how students' experiences of these three factors impact their well-being, highlighting different approaches universities can take to support the fulfilment of those needs.

Student Development

Finally, the perceptions of autonomy, competence, and relatedness evolve throughout the years of the study programme. Initially, first-year students may struggle with new responsibilities of independent living, increased academic demands, or loneliness (Koplik & Devito, 1987; Levitz & Noel, 1989; Rice, 1992, as cited in Pancer et al., 2000), thus exhibiting lower levels of autonomy, competence and relatedness. Indeed, research has shown that first and second-year students generally display less self-determination and tend to be more driven by extrinsic motivation (Köseoğlu, 2013). In contrast, students become more autonomous and competent progressively throughout their studies (Baartman & Ruijs, 2011; Scott et al., 2015). Therefore, when examining the impact of autonomy, competence and relatedness on students' well-being, developmental progression is an important factor to consider, which in this study is conceptualised based on within-student experiences from their first to third year.

To frame these changes in a developmental perspective, a relevant framework for deepening our understanding is Chickering and Reisser's (1993) Seven Vectors of Identity Development, describing psychosocial student development in stages of growth, including developing competence, managing emotions, moving through autonomy toward interdependence, developing mature interpersonal relationships, establishing identity, and

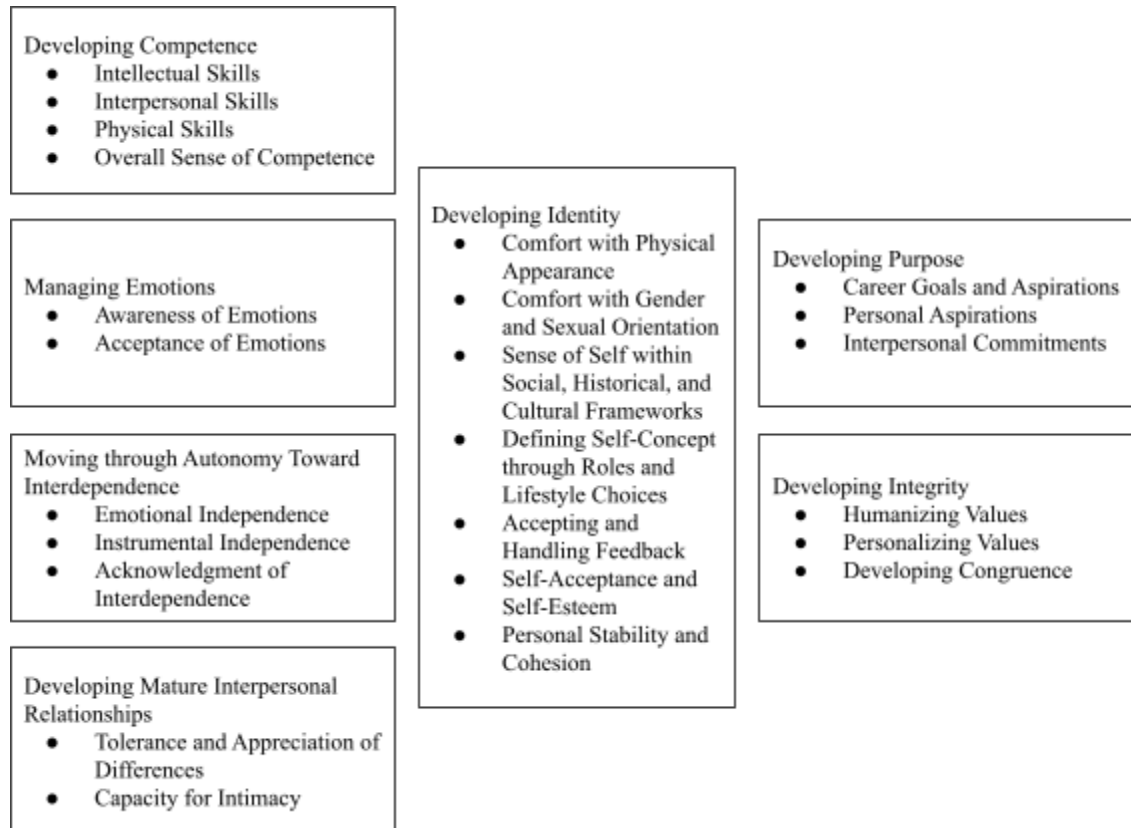
developing purpose and integrity (for an overview of the vectors, see Figure 1). Although not strictly linear, the authors suggested that the earlier vectors establish the foundation for later ones, emphasising that the university experience primarily impacts the first four vectors (Chickering & Reisser, 1993; Foubert et al., 2005). Thus, our study will narrow its focus to these vectors, namely, developing competence, managing emotions, moving through autonomy toward interdependence, and developing mature interpersonal relationships. Developing competence entails intellectual, interpersonal, and physical skills, which contribute to a sense of confidence in one's ability to accomplish goals (Chickering & Reisser, 1993; Patton et al., 2016). Managing emotions pertains to the ability to recognise and embrace different emotional states, including negative and positive feelings. Moving through autonomy toward interdependence involves progressing from limited self-direction to developing greater persistence and direction, and recognising the importance of interconnected relationships with others. Finally, cultivating mature interpersonal relationships involves learning to appreciate differences and developing healthy and enduring connections. Despite being empirically based, Chickering's framework has faced criticism for its imprecise nature, especially because the latest vectors are difficult to understand and measure (Patton et al., 2016). However, according to the authors, the broadness of the framework is intentional, allowing it to be flexibly interpreted and applied to various contexts, which fits well with the exploratory nature of our study (Chickering & Reisser, 1993, as cited in Goldberg, 2016).

Overall, while SDT focuses on satisfying the basic psychological needs of autonomy, competence, and relatedness to foster well-being, Chickering's theory of student development frames these changes in a developmental perspective, enhancing our understanding of the psychosocial development that occurs within the university. Thus, this integrated approach,

involving both the motivational and developmental dimensions of student well-being, allows us to examine how the development of these three basic needs impacts student well-being and how students navigate their overall developmental journey in academia.

Figure 1

Chickering and Reisser's Seven Vectors



Note. Adapted from *Student Development in College: Theory, Research, and Practice* (p. 300), by L. D Patton, K. A Renn, F. M Guido & S. J Quaye, 2016, John Wiley & Sons, Incorporated. Copyright 2016 by John Wiley & Sons.

The Present Study

Using the framework of Self-Determination Theory (SDT), this study investigates how students define well-being inside and outside academia and, more specifically, how students conceptualise and experience the influence of autonomy, competence, and relatedness on their

well-being. Additionally, we aim to explore how the perception of these three factors changes based on a student's development through a framework of Chickering and Reisser's Vectors. Our belief is that the dual developmental and motivational approach can enhance our understanding of student well-being and offer valuable insights for interventions within academia.

Method

Participants

A sample of twelve university students participated in this study, which aligns with the guidelines for qualitative research suggesting that twelve interviews are sufficient to create an extensive codebook and draw meaningful conclusions (Guest et al., 2006). Participants were recruited using a convenience sample of fellow university students, ensuring that every participant was interviewed by a different person than the one who recruited them. Our sample consisted of four first-year, one second-year, six third-year, and one fourth-year student, with equal representation of male and female participants. All participants were aged between 18 and 24. Among the twelve participants, four were first-generation students, and five were Honours College students. All participants, except one from Minerva Art Academy, studied at the University of Groningen in the Netherlands, including the Faculty of Behavioural and Social Sciences (n = 4), the Faculty of Science and Engineering (n = 4), the Faculty of Arts (n = 1), University College Groningen (n = 1), and the Faculty of Economics and Business (n = 1). The sample comprised individuals of different nationalities, including four from the Netherlands, two from Germany, one from Bulgaria, one from Romania, one from Slovenia, one from Slovakia, one Jordan-Palestinian participant, and one French-Mauritian participant. Participation was voluntary, and participants did not receive any compensation. The interviews were conducted in April 2024 as part of the bachelor thesis course.

Table 1*Demographic Information of Participants*

Demographic Characteristics	Distribution	
	<i>n</i>	%
Gender		
Male	6	50
Female	6	50
Prefer not to say	0	0
Nationality		
Dutch	4	33
Other	8	67
Year of Studies		
First	4	33
Second	1	8
Third	6	50
Fourth	1	8
Honours College		
Yes	5	42
No	7	58
First-Generation Status		
First-Generation	4	33
Continuous-Generation	8	67

Procedure

Participants engaged in individual, semi-structured interviews to collect qualitative data on our research questions. An original script, inspired by similar studies (e.g., Hoeve et al., 2018), was created to guide the interviews. The interview script contained questions about the conceptualisation and experience of well-being, specific SDT factors as described by Ryan and Deci (2000), and other related factors and ideas about well-being interventions within the university setting. Within the conceptualisation of well-being, we attempted to find information regarding how individuals understood well-being, both in general and within academia. For SDT factors, we investigated how participants experience these factors and how this relates to their perceptions of well-being. Furthermore, we explored other related factors such as resilience, stress, value attainment, and achievement, as well as their effects on participants' experiences of well-being. Lastly, we asked our participants for ideas about potential interventions within the university. Additionally, Honors College, first-generation, and third-year students were asked specifically tailored questions to inspect the experiences within these distinct groups more closely.

Our research received approval from the Ethics Committee of the Faculty of Behavioural and Social Sciences, and all participants agreed to participate after receiving detailed information about the study (PSY-2324-S-0302). In addition, informed consent and demographics forms were provided to and filled out by the participants before the interviews were conducted (see Appendices A and B).

The length of the interviews varied between 27 minutes and 90 minutes. Each interview was recorded, transcribed, and subsequently anonymized to protect the participants' identities. After the transcription process, all audio recordings were deleted. Additionally, in the Results section, fictitious names of participants are used to protect their anonymity.

Data Analysis

Our analysis integrated both deductive and inductive approaches, as our aim was twofold: to assess the reflection of our theoretical framework, particularly SDT, and explore other potential factors in our participants' responses. We employed predefined codes deductively, derived from the codebook of Kunnen and Krom's (2017) study, and grounded in the theoretical foundations outlined above. Furthermore, we implemented Braun and Clarke's (2006) inductive thematic analysis approach, which prioritises uncovering underlying patterns of meaning over emphasising frequency measures. This approach enabled our analysis to remain receptive to responses and patterns not anticipated by our study's theoretical framework, potentially enriching our understanding and providing deeper insights into our participants' experiences. The coding process was conducted using Atlas.ti, a qualitative data analysis software.

Coding Process

To ensure the analysis maintained consistent coding and internal validity, we followed the intercoder reliability approach outlined by O'Connor and Joffe (2020). This involved a systematic cycle of code generation, code application to the data, and coding evaluation until saturation was achieved (Williams & Moser, 2019). To enhance reliability, we alternated between individual and group work throughout these steps.

Following the coding scheme developed by Kunnen and Krom (2017), we initiated the coding process by systematically applying existing codes deductively to six transcripts, assigning one to each researcher. Simultaneously, we engaged in inductive coding to identify and create new codes for aspects not covered by our existing framework. After finalising the initial coding phase, the research team jointly coded two interviews. This collaborative effort aimed to review and consolidate the existing codes into coherent categories and themes, laying the groundwork

for a preliminary codebook to direct subsequent coding. During this phase, we also integrated theoretical concepts guiding our research, such as SDT (Deci & Ryan, 2000). Using the preliminary codebook as a reference, all interviews underwent a second round of coding. To ensure reliability, two group members independently analysed the same four interviews each, ensuring that every interview was coded according to the preliminary codebook. Subsequently, the group convened to discuss the codebook again, further refining and elaborating on the emerging themes. This iterative approach continued until saturation was achieved for all significant aspects of participants' responses. This process was repeated 2 times, adhering to the concept of a non-linear coding process (Williams & Moser, 2019) until the group reached a consensus on a finalised codebook. The finalised codebook (see Appendix C) was subsequently employed to code each interview independently by two researchers, thereby reinforcing inter-coder reliability.

Results

The findings of our study are presented below, organised according to the research questions. First, the conceptualisation of well-being inside and outside academia is explored. Furthermore, the impact of autonomy, competence, and relatedness on students' well-being is conceptualised and examined. Finally, the changes in the perception of these three factors, based on students' development, are investigated.

RQ1. How do University Students Conceptualise Well-Being Inside and Outside Academia?

Conceptualising Well-Being Inside and Outside Academia

Our results demonstrate a multifaceted conceptualisation of well-being that includes physical, mental, and social factors. When asked to conceptualise well-being, most participants

defined it as an interplay between physical and mental well-being. However, some participants conceptualised it in more comprehensive terms, including hedonic and eudaimonic aspects: “I would define it as a balance between physiological and mental states, that I feel content about who I am, having an autonomous, authentic life, and [...] that I am happy with my life” (Lisa). The social dimension was no less important, as participants frequently highlighted the importance of belonging and relatedness: “I would say well-being means to me [...] that I feel like I belong somewhere, and I have a good social circle” (Mai). Hedonic aspects, such as happiness and feeling good, were also mentioned: “If you feel good, if you feel happy, it's well-being” (Robert). General balance between different life aspects was another common theme: “Well-being would mean being comfortable in the present situation I'm in. Just feeling like I can manage all the parts of my life equally” (Manaia). Overall, participants conceptualised well-being as a combination of mental and physical well-being, complemented by social, hedonic and eudaimonic aspects, emphasising the balance between these different dimensions.

Regarding well-being in academia, the importance of balance emerged again, as participants emphasised the importance of managing academic demands without feeling overwhelmed. For instance, Mai noted: “I think well-being in academia for me would be [...] that I feel like I can handle the content, I can keep up with everything, and that I don't feel too overwhelmed.” The absence of stress was repeatedly mentioned as a determinant of academic well-being, as noted by Bart: “Just being able to do your studies without being super stressed out and getting into a burnout.” Additionally, the importance of resilience and emotional regulation was also mentioned: “[...] so it's really knowing that it's not the end of the world if I can't complete an assignment, or I do it wrong” (Manaia), “[...] everybody has good times and bad times. You just need to rearrange yourself and get through it” (Robert).

Moreover, gaining knowledge, succeeding and achieving good grades were also conceptualised as indicators of well-being within academia: "In academia, I think for me not to take many resits. Getting good grades, being active in academia" (Nina). Generally, while some participants defined academic well-being as the absence of negative elements, such as stress or academic pressure, others conceptualised it in terms of positive factors, such as gaining knowledge and achieving academic success.

RQ2. How do Autonomy, Competence, and Relatedness Influence Student Well-Being?

Autonomy and Well-Being

Most participants highlighted the positive impact of autonomy on their well-being. For example, Julia stated: "Yeah, so it (well-being) definitely increases if I can make my own decisions." Mai echoed this statement, adding, "If I feel like I am in control and I can manage everything myself, I think that does positively influence my well-being." However, the significance of autonomy for their well-being varied among students, as for instance, Andrey noted, "It's obviously nice to be able to choose what you do [...], but I wouldn't say it's a big factor in all of it."

Many participants also emphasised the importance of autonomy-supportive university structures for their well-being and motivation. David, for instance, talked about the flexibility within his programme to choose the courses that he wants and its positive impact on his well-being: "I have the autonomy to fill in quite a lot of things for myself. There's quite a lot of freedom there for me. And it makes it very enjoyable, [...] very motivating to do." Similarly, Bart mentioned the autonomy offered by his university as an important factor in maintaining his well-being:

I think there's a pretty big connection between the two (well-being and autonomy)... In my university, you're really in control of what you do, how you do it, and when you do it. You have the freedom to explore your own way of working.

Finally, a common theme among participants was the negative impact of a lack of control on well-being. Both Lisa and Mai mentioned that feeling in control helps prevent feelings of overwhelm and failure, which negatively influence well-being. Lisa shared: "If I feel like I'm not in control, everything is overwhelming, and I feel like I'm failing academic life." Thus, the importance of autonomy and autonomy-supportive university structures clearly emerged from these findings.

Relatedness and Well-Being

A recurring theme was the positive impact of having a supportive social network. Participants shared that spending time with friends contributed to their well-being: "We hang out every week and it just helps me because then we can talk about things and just relax together" (Nina). Not only the relatedness aspect, but also the importance of belonging was mentioned as well: "I know a lot of people now and just seeing them on the street fosters that sense of belonging. I think it contributes to my well-being" (Sophie). Additionally, the importance of regular social interactions in acting as a buffer against negative feelings emerged: "I had difficult times this year, so having someone with me I will see every day definitely helps me" (Najeeb).

The impact of relatedness contributed to the ease within academia as well. Participants mentioned that having friends within their study programme made seeking help whenever academic difficulties arose easier: "Being able to ask somebody for help, if you don't understand something, is much easier if you know those people" (Andrey). Additionally, studying with others and exchanging different perspectives significantly contributed to academic well-being:

“He asks questions [...], I ask questions [...], and then we discuss it together, and find new answers. So I think that the role of another person is a very important role in my studying” (Sophie).

Finally, some participants highlighted the negative impact of the lack of relatedness on their well-being. For instance, David remarked: “I think my well-being would have been higher on the social part if I was more part of the group.” The degree to which relatedness impacted well-being also varied among participants. Kiran stated: “I’m not very connected to my peers in my studies. Yeah, maybe it would be better if I knew some more people, but I don’t think it’s that important.” To conclude these findings, relatedness played an important role in students’ well-being.

Competence and Well-Being

Many participants highlighted the importance of competence to their well-being, as, for instance, Mai remarked: “I think it’s a nice feeling to know that I have certain skills... I feel like I’m learning things.” This sentiment was echoed by David, who stated: “I see myself as able to do the things that I have to do. It contributes to my well-being.”

Additionally, students expressed that perceiving themselves as academically competent boosted their confidence and self-esteem, whereas poor performance had a negative impact. Bart illustrated this by saying, “If I would only get super bad grades or fail every test, you obviously start to doubt yourself.” Similarly, Najeeb felt reassured knowing he was performing well academically: “I know that I’m on the right track and I’m going to get all the points most probably.”

Several participants discussed the relationship between competence and stress. Julia emphasised how her perceived high level of competence reduced stress, allowing her to tackle

challenging tasks without feeling overwhelmed: “I don't get stressed because even if I'm faced with relatively big, stressful tasks, I'm just like, oh yeah, I'll be okay, I can do it.” The importance of overcoming challenges and learning from failures as part of developing competence was also recognised. Robert reflected on this process, stating, “After failing some things, you always learn from your failures. Right now, I know how to structure my stuff.” Thus, competence emerged as an important factor in well-being, boosting confidence and self-esteem and protecting against the negative effects of stress.

RQ3. How Does the Perception of the Three Factors Change Based on a Student's Development?

Autonomy

Regarding the development of autonomy, most participants noted an evident change from the first to the third year of their studies. Participants commonly described feeling uncertain about navigating university life in the first year, but gradually gaining more control over their studies. For instance, Mai noted: “I think at the beginning I was really overwhelmed... Now I feel like I got the hang of it, and I know what I need to do and what's expected of me.”

In the first year, some participants admitted to neglecting their academic responsibilities. For instance, in her first year, Julia prioritised fun over her academic duties: “In the first year, I just didn't make any (decisions) because I was just like, I'm here for fun. So I didn't go to lectures.” However, as their studies progressed, their need for autonomy increased: “I would say I definitely experience way more agency now, but that's also because I have a way higher need for that” (Julia).

The shift towards better organisation of academic responsibilities was also emphasised. During the first year, participants held a more passive role rather than a proactive one in their

academic journey. For instance, according to Sophie: “I really was just going with the flow. I was trying to figure out how I was going to study for university.” However, by the third year, participants had figured out how to better organise themselves in terms of studying and felt more in control of their academic experience. Nina described this transition: “In the first or second year I wasn't organised at all, and it was really, really stressful during the exam weeks. This year, I actually started being organised.”

Finally, an important factor was the autonomy-supportive university structure in the final year, which allowed flexibility in choosing courses, in contrast to the mandatory courses of the first year: “We had assigned courses, and I didn't really like the courses in the first year because they were really about research and that stuff” (Nina). Most participants felt that having this choice increased their sense of control over their studies: “In the first year, there was no factor of control... Now, I feel like I have my own flow of studying” (Sophie). Thus, the development of autonomy was evident for most participants, reflected in the increased control over their academic journey, proactive management of academic duties, and the positive impact of autonomy-supportive university structures.

Relatedness

The development of relatedness was mostly characterised by changes in how students formed and maintained relationships. In the first year, many participants aimed to meet and connect with numerous people, especially international students who were new and did not know anyone. Sophie reflected on her experience: “In the first year, because I came to a new country, I was feeling lost. You obviously want to connect to people as fast as you can.” However, some, like Julia, prioritised quality over quantity from the beginning: “Even in the first year, I wanted

genuine friends and not just to meet as many people as possible. Over the years, we've definitely grown a lot closer.”

As their studies progressed, there was a shared experience of transitioning from having numerous superficial connections to forming a core friend group. For instance, Mai shared: “At the beginning, it was loose contact with people I would meet up with once a week. And now, it's like a second family.” This shift from shallow acquaintances to a core group of close friends also reflected the change in priorities. For instance, Bart noted:

I feel like there are also a lot of people that I would really enjoy spending time with, but I don't, 'cause I just do not have the time. I want to spend that time with the people that I am very close with.

For some, there were initial challenges in developing close relationships, mainly due to differences in backgrounds or opinions. For example, Mai shared: “It's also interesting trying to find my own opinion coming from a different background and then socialising with people who are also very different, and then figuring out my own perspective on things.”

Although most participants shared the experience of becoming closer with their peers by the third year, the flexible course selection in the final year impacted some students' ability to maintain earlier friendships. Andrey observed:

For the second half of the first year, second year as well, I was very close to people from my program. This year, less so because we've been split up into different courses [...], we don't see each other as often.

However, not all experiences were marked by significant changes. David described his social life as relatively consistent throughout his studies, stating, “I have a little more social contact right now than in the first year. But overall, it's quite the same.” Overall, although the

experiences varied for every participant, a common theme was moving from loose contacts to close friendships.

Competence

Regarding competence development, many students initially questioned their abilities, but their confidence grew over time. In the first year, participants commonly described feeling overwhelmed and doubting themselves: “Also, I think, self-doubt and all these emotional burdens, you know” (Lisa). Impostor syndrome was mentioned by some participants, who initially felt less competent compared to their peers due to different social or educational backgrounds. For instance, Mai, a first-generation student, reflected: “In the first year, I felt so overwhelmed. I think I felt like it's so hard to pass anything and am I even smart enough to do this? Is it where I belong?”. This sentiment was also shared by Sophie, who initially felt inferior coming from another country: “I was feeling a little bit inferior... And as a result, I also didn't feel as competent when it came to my studies.”

However, as students progressed in their studies, they developed a stronger sense of competence. A common theme was the increased confidence in their abilities as they realised they could successively handle the academic workload. For instance, Mai observed that passing exams and achieving good grades increased her confidence: “And I think seeing that I passed and got relatively good or okay grades, I think that was really a confidence boost, it was like, okay, you're capable.” Similarly, Sophie progressively became more assured in her ability to effectively manage her academic duties: “I did become a lot more secure in my own ability to study, to stand on my own feet, to effectively tackle problems in comparison to the first year.” The levels of competence increased with the experience of handling more responsibilities and challenges over time, as noted by Julia:

So I think because I've experienced that I am able to handle those things, and do two degrees, do honours, do Dutch, do committee and things like that, I now have a high level of competence that also kind of spills over to other areas of my life.

Furthermore, some participants faced challenges that increased their resilience and competence. Nina, who experienced difficulties in her second year, felt more competent by her third year: "I feel really confident because this year I'm trying to do 75 points in one year and for now I'm on track." A common factor was a shift in mindset, or reframing, such as learning to embrace both positive and negative feelings and recognise the importance of negative experiences as well. For instance, Andrey remarked: "Feeling completely incompetent about something is not necessarily a bad thing."

However, there were also some contrasting experiences. Contrary to the general consensus of feeling incompetent at the beginning at then progressively becoming more confident in one's abilities, David discussed the Dunning-Kruger effect, where initially feeling overconfident, he gained a more realistic understanding of his abilities: "At first, I felt very competent... Then I failed everything or didn't understand a single thing... Now, I would say that I'm definitely more competent." Additionally, some participants felt confident from the very start due to their passion for and enjoyment of the study programme. Bart revealed: "I already felt quite competent with what was expected of me." Overall, the development of competence was marked by an initial phase of self-doubt, gradually leading to increased confidence as students successfully navigated their academic endeavours.

Discussion

This study aimed to deepen our understanding of well-being through the lens of Self-Determination Theory (SDT) using qualitative methods. It examined how students

conceptualise well-being inside and outside academia and investigated the impact of autonomy, competence, and relatedness on their well-being. Additionally, it explored how these factors evolve from the first to the third year of university, highlighting the role of student development in shaping these perceptions.

Our findings suggest that university students conceptualise general well-being as a multidimensional state encompassing such factors as physical wellness, positive relationships, purpose, happiness, satisfaction, and balance, which aligns with our theoretical assumptions, demonstrating a multifaceted conceptualisation of well-being that includes physical, mental, and social factors (Forgeard et al., 2011; Huppert, 2009). When it comes to academic well-being, participants similarly emphasised the importance of balance, seen as managing academic workload without experiencing burnout, and the negative impact of stress on well-being was repeatedly mentioned, aligning with the theoretical foundation that academic stress has a significant negative effect on one's mental health (Barbayannis et al., 2022; Li & Lin, 2003). Additionally, achieving good grades, succeeding, and gaining knowledge were also mentioned by participants, which aligns with extensive research indicating a positive association between academic achievement and well-being (Bücker et al., 2018). The importance of resilience in managing stress and overcoming challenges was also evident, supporting previous findings that resilience is crucial for counteracting the negative effects of academic stress (Li & Hasson, 2020; Mulati & Purwandari, 2022; Yu & Chae, 2020). Thus, similarly to general well-being, academic well-being was conceptualised as a multidimensional construct involving factors such as academic satisfaction, achievement, balance, resilience, which partially supports and complements our theoretical foundation (Donohue & Bornham, 2021; Hossain et al., 2023; Shek & Chai, 2020).

Beyond the conceptualisation of well-being within academia, our research examined the impact of autonomy, competence, and relatedness on students' well-being. We found that autonomy, defined as having control over one's academic journey, positively affected participants' well-being, whereas a lack of autonomy led to feelings of overwhelm and stress, which negatively influenced their well-being. Participants shared that autonomy-supportive university structures increased their engagement and intrinsic motivation, resonating with research showing that autonomy support is associated with greater student engagement and motivation (Johansen et al., 2023). Therefore, providing students with greater autonomy in their academic journey can enhance their engagement and intrinsic motivation, thus improving their well-being.

Similarly to autonomy, students shared that being able to succeed in their tasks and goals, which pertains to competence, positively impacted their well-being. Conversely, low perceived competence, reflected in poor academic performance, fostered self-doubt and negatively affected self-esteem and well-being. Furthermore, a link between competence and resilience emerged, as participants noted that overcoming challenges and learning from failures are integral to developing their sense of competence. This perspective aligns with research showing a positive association between resilience, perceived competence, and intrinsic motivation, suggesting that resilient students effectively cope with academic and personal challenges, which in turn can positively impact their well-being (Miguel et al., 2023).

Lastly, relatedness also played a central role in students' well-being, as participants emphasised that feeling part of a community and forming meaningful relationships positively contributed to their well-being. In addition to mitigating the negative effects of stress, relatedness also contributed to ease and success within academia, reflected in the exchange of resources and

different perspectives with peers. Supporting these experiences, research has shown that peer support and a sense of belonging within the university community are related to increased academic self-efficacy, engagement, and overall positive well-being (Bowman et al., 2018; Gillen-O'Neel, 2021). Hence, creating an environment that enhances relatedness can significantly contribute to students' well-being and academic success.

Finally, important findings emerged concerning student development. Participants' feelings of autonomy, competence, and relatedness evolved considerably from the first to the third year of their studies. First-year students commonly experienced self-doubt, found it difficult to adjust to the increased workload, and questioned their abilities. However, by the third year, students described a significant boost in confidence and self-efficacy, facilitated by successful management of their academic duties. Although some participants experienced fewer difficulties than others, coping with initial challenges proved to them that they were indeed able to succeed and increased their resilience and competence. The described changes align with Chickering's vector of developing competence, which involves moving from a low level of competence and lack of confidence in one's abilities to increased competence and confidence (Chickering & Reisser, 1993). Although the development of intellectual competence, pertaining to the ability to understand and analyse, and interpersonal competence, involving working effectively with others, was evident from students' experiences, manual and physical skills were not mentioned, mainly due to the academic nature of the participants' studies.

Regarding autonomy, first-year students felt little control over their academic endeavours but gradually experienced an increased sense of agency due to gained experience, improved skills, and increased flexibility in adjusting their academic experience to their liking. Additionally, students learned to better cope with their negative emotions, reframing them in a

positive way and acknowledging the importance of challenges to their personal and academic growth. Accordingly, these experiences reflect Chickering and Reisser's (1993) vectors of managing emotions and moving through autonomy toward interdependence. They illustrate the evolution from having little control over one's emotional states to learning mature ways of handling emotions and from lacking control to obtaining increased autonomy while still acknowledging the importance of belonging to a community.

The ability to be autonomous while recognising the importance of connectedness also relates to the fourth vector, which pertains to mature interpersonal relationships (Chickering & Reisser, 1993). Participants gradually moved from having shallow interactions to developing meaningful relationships, overcoming initial differences and embracing the intimacy that is a part of nurturing sustainable friendships. Interestingly, these four vectors share similarities involving interpersonal aspects, such as gaining interpersonal skills, learning to be independent while acknowledging the need to belong and connect, and learning to develop healthy, sustaining relationships. Indeed, Chickering and Reisser (1993, as cited in Patton et al., 2016) noted that meaningful connections encourage development along all vectors. Considering that relatedness was mentioned more than any other factor by the participants, we can conclude that learning to work with others and forming meaningful bonds are crucial factors for students' academic well-being and success. Aligned with our findings, longitudinal research has shown that a sense of belonging predicts better academic performance, persistence, engagement, and mental health (Gopalan & Brady, 2019), and, along with academic self-efficacy, is the most significant predictor of both academic performance and persistence (Swanson et al., 2021).

Overall, our findings imply that universities should aim to provide a learning environment that supports the psychological needs of autonomy, competence, and relatedness, as

maintaining intrinsic motivation requires supportive conditions (Ryan & Deci, 2000). Possible interventions could include offering more flexibility in course selection, both providing and seeking feedback, and fostering student-centred classrooms, as these approaches target multiple needs (Badiozaman et al., 2019; Escandell & Chu, 2021). Most importantly, interventions should acknowledge and address the needs of various student groups, such as first-generation students, who might experience increased difficulties in adapting to an academic environment (Rubio et al., 2017). The implementation of such interventions, targeting the needs of diverse student populations, can help cultivate an environment where students feel supported and motivated.

Strengths and Limitations

The strength of our research lies in addressing gaps in the literature, such as the lack of contemporary studies on student development during university years and the limited focus on the positive side of student well-being, thus adding valuable insights to the existing body of knowledge on students' well-being and development. Additionally, the qualitative nature of our study allows for an in-depth analysis of students' experiences, facilitating the generation of hypotheses for quantitative research and the development of better measurement instruments for examining well-being in academia. Furthermore, the diversity of our sample in terms of nationality and socioeconomic background enhances the generalisability of our findings to various demographics. However, despite these strengths, there are some limitations to acknowledge. Differences in interviewer approaches and personal biases may have affected how the interviews were conducted, potentially introducing bias into the data collection (Anderson, 2010). Moreover, the qualitative nature of this study does not allow for quantitative conclusions, suggesting that future research could benefit from mixed-method designs to increase the validity and reliability of the findings. Finally, while this study aimed to compare the development of

perceptions of autonomy, competence, and relatedness within students, the retrospective nature of our research may not have fully captured the extent of their experiences. Future studies should consider a longitudinal design to provide a more comprehensive understanding of how well-being evolves from the first to the third year of university.

Conclusion

The present study aimed to deepen our understanding of students' well-being and psychosocial development using the frameworks of Self-Determination Theory (SDT) and Chickering and Reisser's Vectors of Identity Development. Our findings reveal that general well-being is conceptualised as a multifaceted construct involving physical, mental, and social factors. Similarly, academic well-being is a multidimensional construct encompassing elements such as academic satisfaction, achievement, balance, and resilience, with autonomy, competence, and relatedness significantly affecting well-being and success within academia. Moreover, the differences in perceptions of autonomy, competence, and relatedness align with Chickering's vectors, broadening our understanding of psychosocial development within academia. These insights suggest that universities can enhance students' well-being by fostering an environment that nurtures the psychological needs for autonomy, competence, and relatedness. Future research should consider longitudinal studies to further examine student development and well-being throughout their academic journey, providing deeper insights into the evolution of these factors.

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Appendix A

Informed Consent Form

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

April 2024

I, _____, hereby consent to be a participant 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 titled "Enhancing Well-being in Academia through Self-Determination Theory (SDT)" understanding that my participation is entirely voluntary. I acknowledge that my data will be kept strictly confidential and anonymous. 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 have been informed of the following:

The data will be used to achieve the study's goals, specifically to gain insight into the state of students' well-being in academia. Participation in this study aims to enhance understanding of how students effectively cope with their university studies and the role of the learning environment in this regard.

I will be asked to discuss my personal experiences of well-being at the University of Groningen, factors that could enhance well-being and potential improvements the university could make to promote well-being.

The interview for this study will last approximately 60-90 minutes. At the conclusion of the study, the researcher will provide a detailed explanation of the research.

My responses will be treated confidentially, and my anonymity will be preserved. Therefore, my responses cannot be traced back to me as an individual.

The researcher will address any questions I may have about the study, both now and in the course of the study.

The interview will be audio-recorded to ensure accurate data capture.

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. Additionally, the researcher has the right to publish the study's findings.

Date:

Signature researcher:

Date:

Signature participant

Appendix B

Demographic Form

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

Participant _____ (filled out by the researcher)

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

1. I am male female

prefer not to say

Define it yourself: _____

2. Age _____ years

3. Nationality _____

4. Concerning my studies

a. Faculty: _____

b. Department: _____

Bachelor

Master

1st year

2nd year

3rd year

5. Academic Background: Do your parents have a university degree?

yes

no

6. Are you enrolled in the Honours College of the University of Groningen?

yes

no

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.

Appendix C

Codebook

Code	Definition	Sample Quotes
Basic Needs		
Housing	Participants described the need for shelter that provides safety and comfort	<i>“I need to have a good place where I live, where I feel comfortable.” (Mai)</i>
Food	Participants emphasised the need for nutritious food to maintain energy and motivation	<i>“If I eat good food, then I am more likely to sit down and study.” (Sophie)</i>
Sleep	Participants highlighted the need for adequate rest to function well	<i>“Sleep for me is very important. If you're not well rested, obviously you're not gonna recollect anything.” (Sophie)</i>
Safety and Security	Participants emphasised the need for financial security and a safe environment	<i>“I need to have enough money to buy food and drinks.” (Mai)</i>
Belonging/Relatedness	Participants underscored the need for interpersonal relationships and being a part of the group	<i>“Outside academia, I need some friends to talk to, to hang out with.” (Robert)</i>
Routine	Participants talked about the need for a structured schedule	<i>“My day-to-day can look very similar; I enjoy getting into a</i>

Code	Definition	Sample Quotes
	that provides consistency	<i>good routine.” (Kiran)</i>
Free/Leisure Time	Participants emphasised the need to engage in activities for relaxation and enjoyment	<i>“I need a little bit of outside life, hobbies, like doing sports.” (Nina)</i>
Conceptualization of Well-Being		
Comfort	Participants spoke about finding oneself in a pleasant situation	<i>“I need to have a good place where I live, where I feel comfortable.” (Manaia)</i>
Satisfaction	Participants talked about a general state of contentment with one’s life	<i>“I think it's to a large extent being satisfied with what you're doing.” (Andrey)</i>
Happiness	Participants named happiness as a positive mental state, often named in combination with well-being	<i>“Well-being in general, I think it means that how you feel, like if you feel good, if you feel happy, its well-being.” (Robert)</i>
Physical Well-Being	Participants described physical well-being as a state in which one is free from disease and is getting adequate exercise	<i>“I think it’s important to stay active, I play football at a club and if for some reason I haven’t been training (...) it does have an effect on my mood.” (Kiran)</i>
Values and Well-Being	Participants described the importance of fulfilling their	<i>“I feel like when I don’t fulfil those (values), (...) I feel like it</i>

Code	Definition	Sample Quotes
General Balance	values to in order to feel well Participants expressed the importance of having a proper balance between the challenges of academia and their personal lives	<i>negatively influences me.”</i> <i>(Mai)</i> <i>“If I take too many classes then I get really stressed and then I don't really have a life outside of school anymore and then my mental health goes bad.”</i> <i>(Nina)</i>
Holistic Well-Being	Participants described well-being as a combination of many different factors, most often mental and physical well-being	<i>“I would say well-being means to me that I feel physically and emotionally healthy, and I can do things that I want to do and that I'm not limited.”</i> <i>(Mai)</i>
Perception/Experience of Well-Being		
Positive Well-Being	Participants described an experience of positive well-being	<i>“I think I'm very content with my life at the moment, and then I wouldn't say that there's a situation that can change that would make me feel better now.”</i> <i>(David)</i>
Negative Well-Being	Participants described an experience of negative	<i>“Especially if there's a high workload. (...) then I don't have</i>

Code	Definition	Sample Quotes
	well-being	<i>a lot of well-being because I don't like what I'm doing.” (David)</i>
Satisfaction with Uni Positive	Participants described being satisfied with a certain aspect of the university	<i>“I could easily go to a study advisor or something like that. It makes them very approachable. So that's the main thing to be “proud of””. (David)</i>
Satisfaction with Uni Negative	Participants described being dissatisfied with a certain aspect of the university	<i>“So, I honestly don't really feel like the university is doing that many things to enhance my well-being.” (Mai)</i>
Well-Being Development	Participants described how their well-being has developed during their studies	<i>“I think the first year was really the hardest emotionally, I studied a lot. The second year I started to be more chill about it.” (Andrey)</i>
Autonomy		
Autonomy Positive	Participants defined autonomy as having control over their workload	<i>“If I feel like I have everything in control, I'm managing my deadlines on time, I feel like everything's going well.” (Lisa)</i>
Autonomy	Participants defined it as a lack	<i>“In the second year, I always</i>

Code	Definition	Sample Quotes
Negative	of control over their academic endeavours	<i>felt like I was not on top of my material, so as a result, I was never in control.” (Sophie)</i>
Autonomy Development	Participants talked about progressively gaining more control over their academic journey throughout their studies	<i>”I think at the beginning I was really overwhelmed... Now I feel like I got the hang of it, and I know what I need to do and what’s expected of me.” (Mai)</i>
Autonomy Support	Participants talked about the impact of autonomy-supporting university structures on their sense of autonomy	<i>“I have the autonomy to fill in quite a lot of things for myself. And it makes it very enjoyable, very motivating to do.” (David)</i>
Autonomy and Well-Being	Participants talked about the impact that a sense of control and agency had on their well-being	<i>“If I feel like I am in control and I can manage everything myself, I think that does positively influence my well-being.” (Mai)</i>
Competence		
Competence Positive	Participants defined competence as being able to succeed in their tasks and goals	<i>“This year, I’m trying to do 75 points in one year and for now I’m on track, so that makes me feel really competent”. (Nina)</i>
Competence Negative	Participants defined it as struggling to succeed in their	<i>“I’m not really good at managing the stuff for</i>

Code	Definition	Sample Quotes
	tasks	<i>university". (Robert)</i>
Competence Development	Participants defined it as progressively becoming more self-efficient and confident in their abilities	<i>"I did become a lot more secure in my own ability to study, to effectively tackle problems in comparison to the first year." (Sophie)</i>
Competence and Well-Being	Participants talked about the impact of perceived competence on their well-being	<i>"I see myself as able to do the things that I have to do. It contributes to my well-being." (David)</i>
Self-Esteem	Participants talked about having a positive sense of self-worth	<i>"And this way, I can be more my authentic self, be more assertive as well, because I respect my needs." (Lisa)</i>
Self-Confidence	Participants defined it as a belief in their abilities	<i>"I know that if I would try something completely different, I kind of feel like I would still get a good grade in the end." (Bart)</i>
Impostor Syndrome	Participants talked about feeling inadequate and uncertain about their abilities compared to their peers	<i>"I think I felt like it's so hard to pass anything and am I even smart enough to do this? Is it where I belong?" (Mai)</i>

Code	Definition	Sample Quotes
Relatedness		
Relatedness Negative	Participants experienced a lack of connection to their peers, family and/or studies	<i>“I’m not very connected to my peers in my studies (...), since I changed my bachelor's there's a couple of guys there that I do some projects with but I don't talk to anyone outside of school.” (Kiran)</i>
Relatedness Positive	Participants described a fulfilling and meaningful interpersonal relationship with their friends and/or family	<i>“Some friends here, yeah. But I mostly talk to my friends back home that I have for life. And also my parents are really helping me with situations like this because they also went through kind of the same thing.” (Robert)</i>
Relatedness Development	Participants described how their relationships have developed over the years within their bachelor studies	<i>“First and second year, we were spending the whole day together, and now it's really, maybe on the weekends, or if we have time in between classes or something... Especially this year, some of my friends I haven't seen at all, nowhere near as much as compared to the previous years.” (Andrey)</i>

Code	Definition	Sample Quotes
Relatedness and Well-Being	Participants experienced how connections with people influence their well-being	<i>“It’s positive for me. We hang every week and it just helped me because then we can talk about things and just relax together.”</i> (Nina)
Family/Partner Support	Participants talked about their experiences of support from their families or partners	<i>“My partner is also finishing up their degree right now. So that’s also really helpful. Like when I’m feeling stuck, then I talk to her and then she kind of gets me out of it again.”</i> (Bart)
Peer Support	Participants talked about the importance of a trustworthy and reliable peer support network	<i>“Like I said, the UCG, so my faculties, the community, the community is very tight-knit and they’re very supportive of each other and the teachers as well. They’re very close with the students, so it’s a really nice environment to be in honestly.”</i> (Manaia)
Teacher Support	Participants talked about their teachers’ willingness to help them in their academic journey	<i>“A very important factor is that I can go at the end of the lecture and ask the professor questions that I have, and then they answer.”</i> (Sophie)

Code	Definition	Sample Quotes
Teacher Relatedness Positive	Participants recalled positive experiences with teachers in which they could relate to them	<i>“With the teachers? Well, compared to what I’ve had before, they’re super engaging. They’re very calm, but that also might be because we’re in uni, so I guess they treat us more like adults here or something.”</i> (Manaia)
Teacher Relatedness Negative	Participants recalled unpleasant or alienating experiences with teachers in which they could not relate to their teachers	<i>“I feel like we didn’t have that much close contact with teachers, and I can, I don’t know, reflect on it, because I think a lot of times it was also just other students that taught practicals.”</i> (Mai)
Community	Participants stressed the importance of a network of people one can rely on and seek emotional support from if needed	<i>“Well, we all live in the same building, actually. So we’re very, very close, I would say. They’re very easy people to talk to. Obviously, there’s groups here and there, but usually they’re really easy to enter, like the groups and friends of different people across the years as well.”</i> (Manaia)

Code	Definition	Sample Quotes
Dealing with Stress		
Communication/Relatedness	Participants reported talking with peers or family as a method of dealing with stress	<i>“Now it's more communicating with people, because, like I said, people here are a lot more open-minded and more willing to talk about issues and problems.” (Maniaia)</i>
Art	Participants reported creating art as a method of dealing with stress	<i>“I also like to use my poetry a lot.” (Maniaia)</i>
Solitude	Participants reported spending time alone as a method of dealing with stress	<i>“And also spend time just by myself or just go for a walk by myself. Or just have a day where I'm alone. I think that's very helpful.” (Lisa)</i>
Stress Avoidance	Participants described avoiding stress as way to cope with stress	<i>“I was just like, I don't have time for this. I don't have time to stress over it.” (Sophie)</i>
Mindfulness/Meditation	Participants reported the use of meditation or a focus on mindfulness as methods of dealing with stress	<i>“I like mindfulness. I don't know, I meditate a lot.” (Julia)</i>
Solution-Focused Coping	Participants reported taking action against stressors as a	<i>“So going to the library and then having stress is OK and</i>

Code	Definition	Sample Quotes
Reframing	method of dealing with stress Participants reported taking a new stance on stressors as a method of dealing with stress	<i>just working through it and then when I get home then I'll just relax again.” (Nina)</i> <i>“I can see it in the context, and I can see okay, well, I'm feeling shit now. But you feel horrible every once in a while. That's also what makes you able to feel good. So yeah, I've been able to deal with it more.” (David)</i>
Physical Activity	Participants reported being physically active as a method of dealing with stress	<i>“I did go sometimes on some walks throughout the city at night, for like one hour, two hours with just my headphones and my thoughts alone and that was rather nice, rather refreshing.” (Sophie)</i>
Being Outside	Participants reported spending time outside or in nature as a method of dealing with stress	<i>“Uh, lately, (...) going on a walk.” (Andrey)</i>
Time Management	Participants reported preventing stressful situations by making use of effective time management	<i>“I definitely manage organizing myself, especially during exam season. I have a schedule which I follow so I can manage my time effectively.” (Najeeb)</i>

Code	Definition	Sample Quotes
Stress Others		
Positive/Functiona l Stress	Participants described a stressor as functional or positive	<i>“If I’m not stressed at all, I feel like I’m not doing the right thing. I feel like I’m not doing that much.” (Najeeb)</i>
Negative Effects of Stress	Participants spoke about the negative impact of stress	<i>“I’m really overwhelmed by the stress, and I really don’t know what to do. I often can’t really do any more work after that for the rest of the day, or for a couple of hours.” (David)</i>
Stress and Well-Being	Participants described the relationship between the experience of stress and feeling well in academia	<i>“I was so mentally drained, like under stress that I couldn’t even study.” (Sophie)</i>
Resilience	Participants described their ability to withstand stressors	<i>“Then I just communicated (the stressor) with some of my friends here. There’s really nothing hard to get rid of.” (Maniaia)</i>
Uni Workload Positive	Participants experienced the university workload as manageable or realistic	<i>“Yeah, only positively because the workload was not quite a lot extra. But I did get the advantages.” (David)</i>

Code	Definition	Sample Quotes
Uni Workload Negative	Participants experienced the university workload as unmanageable or unrealistic	<i>“I had my quantum physics exam on Thursday and then an exam next Wednesday. And then I only had four days to study.” (Sophie)</i>
Pressure to Perform/Fear of Failure	Participants experienced stress to achieve certain results within their studies	<i>“In my second year, I just always felt like I'm underperforming. Although, like on paper I really wasn't. But I had this state of mind that everything is going bad.” (Sophie)</i>
Absence of Stress	Participants reported experiencing no stress at all	<i>“Everyone knows that I don't stress as much because I know that I'm going to study, do my best and hope for the best.” (Najeeb)</i>
Time Pressure	Participants reported feelings of stress due to deadlines or upcoming exams	<i>“I would say right now I'm probably the most stressed that I've been in my studies so far, because a lot of really important stuff is coming up.” (Bart)</i>

Code	Definition	Sample Quotes
Conceptualising Achievement		
Importance of Grades	Participants highlighted the importance of grades, discussing their impact on academic goals, self-esteem, and future opportunities	<i>“I think talking about high achievement would be for me to pass everything without having any resits, and ideally passing with a good grade.” (Mai)</i>
Comparison with Others	Participants compared themselves with others, reflecting on their relative academic performance and achievements	<i>“I'd say that it's all about (...) grades relative to peers.” (David)</i>
Fulfilling Expectations	Participants described their experiences with fulfilling expectations, including academic, personal, and external standards	<i>“I just automatically expect that I can get everything done.” (Julia)</i>
Recognition	Participants discussed the recognition they received for their achievements, including praise from peers, family, and faculty	<i>“The words of my teachers. Their words, they make me very happy. Vividly sometimes I remember their feedback.” (Lisa)</i>
Achievement as a Tool	Participants viewed achievement as a tool for advancing future goals and gaining novel opportunities	<i>“For me, grades don't have an inherent value. It's just a tool to get to where I want to get.” (Julia)</i>

Code	Definition	Sample Quotes
Effort	Participants emphasized the role of effort in achieving success, highlighting the importance of hard work, perseverance, and dedication.	<i>“You can get a good grade without working hard (...) but like high achieving actually working on what you're doing and even if you don't get a good grade, at least you know what you did is your best so you would be happy about it.”</i> (Najeeb)
Understanding	Participants emphasized the importance of understanding concepts deeply, rather than merely passing or getting high grades	<i>“Really understanding everything is probably the most important thing in academia.”</i> (Andrey)
Achievement (Other)		
Importance of Achievement	Participants underscored the significance of achievement as an indication of personal progress, academic success, and future opportunities	<i>“For me are important because if I don't have these achievements, if I don't pass all the courses, then I will not be able to continue next year here.”</i> (Robert)
Importance of Achievement Negative	Participants indicated that achievement was not very important to them	<i>“High achievement isn't really that important for me.”</i> (Nina)
Achievement Expectations	Participants discussed their perceptions and experiences	<i>“I feel like if I don't fulfil those things then I feel like I'm not as</i>

Code	Definition	Sample Quotes
	regarding achievement expectations, including internal and external pressures	<i>capable or competent or I'm not doing those things that I should be doing.” (Mai)</i>
Honours College (HC)		
HC Content	Participants discussed the content of the honours college program, such as coursework and learning experiences	<i>“Maybe in honors, I think there are some courses that have very strict structure.” (Lisa)</i>
HC Relatedness	Participants described a sense of relatedness and connection within the honours college	<i>“I think we can comfort each other a lot because we’re going through similar things. Especially in honors because the sense of pressure is really there.” (Lisa)</i>
HC Perceived Advantages	Participants identified perceived advantages of the honours college program, such as enhanced academic opportunities and personal growth	<i>“We also get extra classes.” (Sophie)</i>
HC Satisfaction Positive	Participants expressed positive satisfaction with their experiences in the honours college program	<i>“It was a bumpy road but I’m glad I did it. That’s what I tell everyone when they ask me about honors.” (Lisa)</i>

Code	Definition	Sample Quotes
HC Satisfaction Negative	Participants expressed a lack of satisfaction with their experiences in the honours college program	<i>“Overall, I wouldn't say it's very useful personally.”</i> (Andrey)
Values and Well-Being		
Autonomy (Value)	Participants emphasized the importance of autonomy as a value, used to guide them through university	<i>“For me to be able to be confident and like the university experience, I really, really need to be in control.”</i> (Sophie)
Conscientiousness	Participants explained the importance of being responsible, careful, and diligent	<i>“Being organised, beginning on time, learning throughout the block as well.”</i> (Nina)
Discipline	Participants described discipline as the way to do what needs to be done	<i>“But yeah, just be determined to complete what I started, and then get on the path that I wanted to get on eventually, and just stick to that, basically.”</i> (Maniaia)
Drive/Ambition	Participants saw drive/ambition as motivation to achieve greater things	<i>“So I think also taking that kind of risk, like of potential failure or potential success is for me also a pretty big one to keep it a</i>

Code	Definition	Sample Quotes
		<i>bit more interesting for me.” (Bart)</i>
Effort/Hard Work	Participants emphasized the extent of work one is putting in	<i>“Yeah, just like trying your best or doing it even if you don't like it. You know, I think that's part of well-being in this context.” (Andrey)</i>
Independence	Participants expressed the need for freedom from the control or influence of others	<i>“You see what you can do better and sort of take charge in your life like that. Not let outside factors or other people influence you too much. You take charge of what you want to do, how you want to do it, you know.” (Kiran)</i>
Self-Awareness	Participants understood self-awareness as the ability to understand one's own thoughts, strengths, weaknesses, and beliefs	<i>“And this way I can be more my authentic self and maybe yeah, be more assertive as well, because I respect my needs. And then I feel like the cooperation with other people is also great on the professional level or personal.” (Lisa)</i>
Being Perceived as a Person	Participants believed that there should be an appreciation of people seeing them as who they are	<i>“(…) when I would feel that people who are around me, or or maybe my supervisors, or bosses kind of care about my</i>

Code	Definition	Sample Quotes
Career	Participants viewed career as a value in terms of the components that define their professional journey	<p><i>mental state, or well being apart from my academic performance. So they kind of acknowledged me as (...) a human who can have breakdowns or personal failures or feel pressured, or overwhelmed. ” (Lisa)</i></p> <p><i>“I think what I want to get out of studying is to get a job that I really like. And a job that really doesn't stress me and that I love for years and years. So I think that's the goal.” (Nina)</i></p>
Caring for Others	Participants believed that one should be empathetic and be able to connect to others	<p><i>“Second of all, a very important thing for me is if somebody asks me for help, I help them because I feel like if I wanted to know something and I went to ask somebody, I would very much like it if they would answer me rather than ignore me. So I feel like it's a very important thing that when</i></p>

Code	Definition	Sample Quotes
Relatedness (Value)	Participants valued and believed that one needs to belong	<p><i>somebody asks me, I answer the question. So I put a lot of value on that.</i>” (Sophie)</p> <p><i>“The most important part for me was finding a group of people and then helping each other out, rather than university stepping up. So that's how I have experienced my studies so far.”</i> (Sophie)</p>
Contribution	Participants understood contribution as the belief that one is able to help and develop a sense of purpose in life	<p><i>“Teaching just really, really makes me happy, (...) especially when, for example, in the past two months, now that we're at the end, and also now that we really sort of know each other in our cohort.”</i> (Sophie)</p>
Self-Care	Participants understood the importance of taking time to do things that improve both physical and mental health	<p><i>“Having time to keep everything clean, like not necessarily clean or anything like ordered and everything in my house, like making sure everything's you know how it's</i></p>

Code	Definition	Sample Quotes
Positivity	Participants viewed positivity as the belief that one should hold a positive attitude to cope with adverse situations	<p><i>supposed to be” (Andrey)</i></p> <p><i>“I think you need to be positive in every situation. If you hear bad news, you don't need to feel like the world is ending for you.” (Robert)</i></p>
Personal Growth	Participants defined personal growth as becoming more self-aware and having the will to grow into the person they want to be	<p><i>“Because even if some stuff is difficult, then once you are able to do it, at the end of the day, you feel better than if everything was very easy. Right? So I think having some difficult stuff that makes you feel incompetent is also good.” (Andrey)</i></p>
Purpose/Meaning in Life	The participants defined it as having a sense of meaning and direction in life	<p><i>“I want to be able to contribute to society, I'd say (...) it's not necessarily making a lot of money or anything.” (David)</i></p>
Knowledge	Participants emphasised that educating oneself sufficiently is important in order to make correct decisions in life	<p><i>“I think if you want to specialize in one topic, it's very important that you have a background in a lot of different</i></p>

Code	Definition	Sample Quotes
<i>Interventions</i>		
Satisfaction with Uni Positive	Participants described their pleasant experiences within the university environment	<i>things.” (Sophie)</i> <i>“Diversity, especially for this course. For me, academia is not really about just studying and then passing your exams. I really like to learn what I’m learning, and that’s why I like the diversity of my course, specifically.” (Manaia)</i>
Satisfaction with Uni Negative	Participants gave a negative evaluation and showed general discontent towards the university	<i>“Yeah, I feel like I have no relationship with the university. I just go back home and not think about university at all. Yeah, like it’s completely different than when I was in school where I actually had a good relationship with my school.” (Najeeb)</i>
Accessibility of Support Positive	Participants talked about multiple services provided by the university to aid students in fostering and maintaining their well-being	<i>“Over the years I kind of learned how academia works and what are the roles and the functions. The teachers, the study advisors. Along the way, I learned how to ask for help, or support. I also did the student service psychologist session.”</i>

Code	Definition	Sample Quotes
Accessibility of Support Negative	Participants described negative experiences with support services provided by the university	<p>(Lisa)</p> <p><i>“I don’t think it’s really that accessible because I’ve heard of a friend of mine who also applied for the student psychologist and they had a waiting time of two to three months at that time.” (Nina)</i></p>
Respect for Students’ Opinion	Participants shared their experiences of their opinions being heard and considered by university staff	<p><i>“And even after like multiple complaints, and when we have like the second level of this course, in the second year, they didn’t take our complaints into account and they just copy pasted the same three pages of the mental health.” (Sophie)</i></p>
Positive Learning Environment	Participants shared their ideas of a safe and nurturing learning environment	<p><i>“I need a safe environment to be who I want to be. In a sense that I can share my ideas, share my critique, share my passion about things without feeling that it’s frowned upon or not wanted.” (David)</i></p>
Interventions Relatedness	Participants talked about how the university could foster a	<p><i>“I think like in the first year you have a student mentor and</i></p>

Code	Definition	Sample Quotes
	more supportive environment fulfilling the need for relatedness	<i>faculty mentor, I think if that's a bit in a background as well for the second year, I think that will help, because in the first year I had a great student mentor and she really helped me with managing expectations and that type of stuff. I think it would be great if something like that would be accessible for the second and third years if you wanted.</i> (Nina)
Interventions Autonomy	Participants talked about how the university could foster a more supportive environment fulfilling the need for autonomy	<i>"I can't think of something specific apart from what we're doing now. I guess just the individual approach of teachers. That they can recommend and maybe teach us guidelines from the organizational perspective. Where they give lessons and teachings."</i> (Lisa)
Interventions Competence	Participants talked about how the university could foster a more supportive environment fulfilling the need for competence	<i>"At the start of the year, the courses that we got weren't run mainly by the teachers. They were by the TAs, which are students. So the students like us,</i>

Code	Definition	Sample Quotes
Awareness of Interventions by Uni	Participants shared about their awareness regarding interventions provided by the university to improve students' mental well-being	<p><i>they couldn't manage to understand what's happening because the teacher isn't actually the one lecturing us... So yeah, teachers should have a bigger role in our courses I believe."</i> (Najeeb)</p>
No Perceived Need for Interventions	Participants shared opinions on whether interventions by the university are necessary or not	<p><i>"The only thing that I know of is the student psychologist, but further I don't really know that the university does anything. Maybe it's because I don't know."</i> (Nina)</p> <p><i>"But I think in my life at least that's the furthest that the university goes to do anything, you know. I think for well-being and things like that. You don't go to your university, right? You talk to your friends. You talk to your parents, you do something like that. So, yeah, I also don't really think it's the university's role to take care of students too much outside of class."</i> (Kiran)</p>

Code	Definition	Sample Quotes
First-Generation Experience		
Family/Partner Support	Participants shared their perceptions of support from their families or partners	<i>“Well, yeah, I received a lot of support from my mother. Definitely. Well, of course, my grandparents as well, because it is a prestige thing. I guess.” (David)</i>
Financial Situation	Participants mentioned or talked about their financial situation, implicitly or explicitly	<i>“And now, I mean, my parents are there to talk and they support me emotionally, but they cannot support me financially, so I don't get any money from them.” (Mai)</i>
Hidden Curriculum	The hidden curriculum in academia describes a covert set of expectations or values that are not explicitly taught but gives an advantage to those who inherit the values, norms and beliefs of mainstream society, predominantly upper and middle-class (Kentli, 2009). The code was applied whenever participants mentioned aspects that fit this concept	<i>“A lot of them are like children of lawyers or this very kind of high institutional class... There you can see their childhood has been very educated and they've been kind of brought up for that knowledge. So you can see they're intelligent. Because they have it in their genes.” (Lisa)</i>

Code	Definition	Sample Quotes
Alienation/Perceived Differences	Suited for first-generation students, when they mentioned alienation or differences because of their first-gen status	<i>"I do feel connected to them, but I also definitely see differences. And I think we also have different opinions about certain things." (Mai)</i>
Society's Expectations	First-generation students talked about how they perceive societal expectations influencing their experience	<i>"I do think that there's just a bit more of a social pressure on studying." (Bart)</i>
Wage Labour		
Job Yes	Applied if participant reported having a job	<i>"I work as a teaching assistant." (Sophie)</i>
Job No	Applied if participant reported not having a job	<i>"No, I don't [work], unfortunately." (Manaia)</i>
Job Experience Positive	Participants had positive experiences with their job	<i>"Yes, I do not really have to work besides my studies. But I do because I like it. And it gets a little extra money, of course, nice." (David)</i>
Study/Work Balance Positive	Participants positively evaluated how studying and working in a job fit together	<i>"So how I manage it... I have it really packed but the physical cleaning job is regular. And then I have those other jobs which are kind of freelance or I can plan and randomly put it in</i>

Code	Definition	Sample Quotes
Study/Work Balance Negative	Participants negatively evaluated how studying and working in a job fit together	<i>the free spot that I have in my day. So it's quite flexible.”</i> (Lisa)
Job Ideation Positive	Whether participants had a job or not, the code refers to their positive attitudes towards employment	<i>“I do want to work. I think it's an important experience to have to be able to be independent and manage everything. I don't think it would add that much to my workload, honestly.”</i> (Manaia)
Job Ideation Negative	Whether participants had a job or not, the code refers to their negative attitudes towards employment	<i>“If you know people who actually really need the money and who are working a lot and you know probably overworking then I think at that point it's negative.”</i> (Kiran)