Exploring the Interplay Between Student Identity, Basic Psychological Needs, and Well-Being in Higher Education: A Self-Determination Theory Perspective

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Abstract

The present study aimed to conceptualize well-being from a student perspective based on their experiences and needs. We further analyzed the aspects that contribute to well-being in academia through the lens of Self-Determination Theory (Ryan & Deci, 2000). For this, we asked students to conceptualize the three basic psychological needs of competence, autonomy, and relatedness. The second part of this study aimed to analyze how different student identities relate to basic psychological needs and well-being. Our sample consisted of 12 psychology students at different stages of their bachelor's to ensure diverse perspectives. We conducted semi-structured interviews and analyzed the transcripts using an open coding approach with multiple stages. Seven themes seemed to be important for well-being, which were incorporated into a suggested model. Regarding well-being in academia and basic psychological needs, participants highlighted the importance of connections to fellow students for relatedness, academic validation for competence, and the freedom of course selection for autonomy. Finally, we categorized students as having either an achievement or a moratorium identity. Generally, individuals with an achievement identity reported higher levels of motivation and the importance of relatedness and competence, whereas participants with a moratorium identity highlighted the importance of all three needs. In conclusion, it could be seen that achievement and moratorium identity individuals have the need for competence, but the ways in which they fulfill the need differ. Further research is needed to learn more about how students conceptualize well-being and to better understand the relationship between different identities and basic psychological needs.

Keywords: Well-being, university, self-determination theory, identity status, qualitative research

Exploring the Interplay Between Student Identity, Basic Psychological Needs, and Well-Being in Higher Education: A Self-Determination Theory Perspective

Half of the students in the Netherlands report having mental health issues that cause them to have at least moderate impairments in essential parts of their lives, including university environments (Higher Education Monitor, 2023). Moreover, students exhibit a higher prevalence of psychological issues compared to their peers outside the university (Stallman, 2010). These findings align with trends that have been observed, such as a growing number of students who are overwhelmed and struggling to cope with stress (Martin et al., 2018), indicate a deficit in well-being within academic contexts and signal an urgent need for more targeted research in this field. In response to this issue, our research aims to explore the concept of well-being from the perspective of students themselves. We intend to understand how students conceptualize well-being and how the concept of identity influences their wellbeing and the satisfaction of their BPNs. With this we aim for a comprehensive understanding of well-being within university environments.

Well-Being and Self-Determination Theory

Although well-being is an important concept, it is often interpreted and conceptualized differently (Kiltz et al., 2020). This lack of a universal definition can make it difficult to compare research findings about well-being and undermine the effectiveness of interventions to improve well-being. As suggested by Kiltz et al., three well-established conceptualizations of well-being seem to exist. These three perspectives include positive psychology, as introduced by Seligman and Csikszentmihalyi (2000), the integration of resilience into the understanding of well-being, supported by evidence that shows a strong connection between these two concepts (Mguni et al., 2012), and the notion of well-being as a complex entity that requires the fulfillment of specific fundamental needs for its perception (Ryan & Deci, 2000). As suggested by Seligman and Csikszentmihalyi (2000), the view of positive psychology defines well-being as having positive emotions, flourishing, and positive affect. This

definition also aligns with the World Health Organization's (WHO) definition, which states that "Health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity" (WHO, n.d., para. 1), highlighting the importance of wellbeing for health.

The concept of resilience, similar to well-being, lacks a universally agreed definition (Britt et al., 2016). However, there is literature that tries to integrate the different definitions of resilience and suggests which ones might be most suitable (Den Hartigh & Hill, 2022). As written by Den Hartigh and Hill, the most common conceptualizations are the ability to resist the effects of negative stressors, the ability to bounce back from stressors, and the ability to grow from stressors. While using insights about resilience from physics, the authors argue that resilience should be defined as the process of returning to a previous state after exposure to a stressor, so having the ability to bounce back. Being adaptive and building personal resources seem to be crucial for enhancing well-being (Gable & Haidt, 2005).

Finally, well-being can be seen as a multifaceted construct that includes different types of well-being, such as emotional, physical, social, or psychological well-being (Forgeard et al., 2011). Self-determination theory (SDT), as proposed by Ryan and Deci (2000), is an approach to well-being that, on the one hand, captures these different facets and, on the other hand, gives conceptualizations and recommendations of how to foster well-being. According to SDT (Ryan & Deci, 2000), people experience well-being when three basic psychological needs (BPNs) are met. These BPNs, which are considered innate, are the need for competence, the need for autonomy, and the need for relatedness. Past research has already established a clear link between the satisfaction of these BPNs and well-being/ill-being (Chen et al., 2015; Véronneau et al., 2005; Yu et al., 2018). More important for the present paper, recent studies have investigated the link between enhanced well-being and BPNs in the context of academia, indicating a link between these two concepts (Hagenauer & Volet, 2014; Larson et al., 2019; Stanton et al., 2016). Therefore, these three BPNs will be further explained below.

According to Ryan and Deci (2000), the need for competence refers to the desire to feel effective in one's interactions with the environment, to experience mastery, and to seek challenges that are optimally matched to one's abilities. In contrast, when that need is frustrated, it leads to sensations of defeat and uncertainties regarding one's competence. Autonomy involves the desire to feel volitional and self-endorsed in one's actions, a feeling of self-directedness, and to experience a sense of choice and freedom. Conversely, the frustration of autonomy is characterized by feelings of being manipulated due to pressures that are either externally imposed or self-inflicted. The final need, relatedness, deals with the desire to feel connected to others, to experience a sense of belonging, and to establish meaningful relationships with others. The frustration of relatedness involves feelings of social exclusion and loneliness. While the satisfaction of these needs contributes to well-being (Ryan & Deci, 2000), their frustration relates to ill-being, so experiences of unhappiness, distress, and negative emotions (Bartholomew et al., 2011). Given the urgency for enhancing student wellbeing, SDT can serve as a promising framework for a better understanding of students' needs within academia, which can be used to design targeted interventions (Ryan & Deci, 2000; Stallmann, 2010).

Identity

While some scholars define identity as a kind of person or being, the majority of developmental identity theories are based on Erikson's (1968) conceptualization of identity that posits identity formation as an ongoing process throughout life, involving the evolution of a consistent sense of self and one's connections to different aspects of life (Anikina et al., 2020). Further expanding upon Erikson's work, Marcia (1966, 1980) proposed two critical processes of identity formation: The exploration of diverse options and the commitment to

one of those options. Marcia also defined identity as a framework comprising values, motivations, beliefs, skills, and personal history.

In his paper, Marcia (1966) formulated four identity statuses to address the concept of identity empirically. Different combinations of exploration and commitment define these statuses. Individuals with high exploration and commitment are considered to have an achievement identity, while those actively exploring options but have not yet made strong commitments have a moratorium identity. When someone makes a strong commitment without prior thorough exploration, they are said to have a foreclosure identity. Finally, a diffusion identity is characterized by a lack of exploration and commitment.

Over the years, Marcia's model has been extended by scholars, and one of the most used models has been proposed by Crocetti et al. (2008). According to this model, three identity processes are considered instead of only two, as proposed by Marcia (1966). Besides the two mechanisms already introduced, in-depth exploration and commitment, reconsidering commitment was added to the model. Reconsideration of commitment refers to the evaluation of present commitments against different possible options. It is, therefore, similar to exploration as it seeks out new possible commitments. However, it is also different because it tries to change current commitments that are no longer satisfactory (Crocetti et al., 2008).

The aforementioned mechanism of commitment has a positive relationship with wellbeing (Schwartz, 2001) and is inversely associated with depression (Berzonsky, 2003; Meeus et al., 1999), indicating a clear link between identity commitment and well-being. However, the research on exploring alternatives presents conflicting results. Regarding thorough exploration, its link to the negative facets of identity has been established, as seen in heightened instances of depression and widespread anxiety (Crocetti et al., 2008), while the relationship between thorough exploration and positive identity traits has also been demonstrated, evidenced by positive correlations with adaptive personality characteristics (Luyckx et al., 2006). Lastly, the adverse effects of reconsideration of commitment have been established through its positive correlations with depression, general anxiety, and delinquent actions, as documented by Crocetti et al. (2008).

The relationship between identity and well-being has also been investigated in university settings by Karaś et al. (2015). In their study, the authors developed a conceptual framework exploring the connections between identity and well-being, grounded in the idea that well-being should not be merely defined by the absence of disease, which aligns with Seligman and Csikszentmihalyi (2000). In their suggested model, well-being is associated with high in-depth exploration and high commitment, while reconsideration of commitment had a low association with well-being. These findings corroborate prior research, such as Schwartz (2001), demonstrating a positive correlation between commitment and well-being. Moreover, they shed light on the nuanced dynamics of exploration, as past research on exploration and well-being presents conflicting results (Crocetti et al., 2008; Luyckx et al., 2006). Karaś et al. (2015) uncovered a positive relationship between exploration and wellbeing, aligning with the observations of Luyckx et al. (2006), while Crocetti et al. (2008) identified heightened manifestations of depression and anxiety. Therefore, Karaś et al. (2015) replicated some earlier findings and extended them to university settings, highlighting the importance of students' identity and its connection to well-being.

Building on the current knowledge of SDT, well-being, and identity, this study seeks to delve deeper into the dynamics of how university students' identities impact their satisfaction with BPNs and overall well-being. Consequently, our initial research question is about how students define well-being (RQ1a). Additionally, we explore the relationship between students' present identities in higher education and their BPNs and well-being (RQ1b), all within the scope of Self-Determination Theory.

We undertook a qualitative investigation to gain insights into these inquiries. A qualitative approach allows participants to say whatever they want, which is especially useful as there is no official agreement on what well-being is (Kiltz et al., 2020). Therefore, by

adopting a qualitative approach, we will be able to explore deeply what is important for the students and generate hypotheses based on their statements.

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. The decision to recruit 12 participants was grounded in the seminal work of Guest et al. (2006), which demonstrated that saturation, the point at which no new information (codes or themes) emerges, is frequently reached within the initial 12 interviews. 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. 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. In order to ensure a comprehensive representation of experiences across various stages of the academic curriculum, we included five participants enrolled in the second year, three in the third year, and four participants in their fourth year of the three-year bachelor's program.

Table 1

Participants		Distribution		
Faiu		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	
	Year 4	4	33	

Demographic Characteristics of Participants

Procedure and Materials

Before starting data collection, the Ethics Committee from the Psychology Department approved the planned methods of the research PSY-2324-S-0302, as well as the suggested ways of ensuring the anonymity and confidentiality of the participants. After the recruitment, participants received information about the research, a demographics questionnaire (see Appendix A), and the informed consent form (see Appendix B). Each participant was then assigned a number to prevent being identifiable by their personal information to others. Finally, each participant was randomly assigned to one of the interviewers.

The qualitative research entailed conducting semi-structured interviews of 45 to 60 minutes that followed the structure of the script (see Appendix C). Preceding 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 practice 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. SDT (Ryan & Deci, 2000) served as a framework for building the script used to interview the subjects on their subjective experiences. The experiences of interest were students' conceptualization of well-being in academia and the 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 the transcript of their interview to confirm the use of their input, with the possibility of excluding parts of the interview or withdrawing from the study completely.

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 students' conceptualization of well-being with the use of the lens of SDT.

Coding Procedure

Initially, all team members individually transcribed two interviews and subsequently coded half of a transcript independently 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 the following sections, I will present the analysis results of the 12 interviews that we conducted. The first part will analyze how students conceptualize well-being in general (see Figure 1), followed by a closer focus on well-being in academia through the lens of SDT (Ryan & Deci, 2000) (RQ1a). The second part will examine how students' identities influence their conceptualizations of well-being and BPNs (RQ1b). To categorize participants as either high or low in commitment and exploration, we asked them about their process for choosing their third-year courses. Based on their responses, we deductively coded their level of exploration and commitment as either high or low (see Table 2).

Well-Being as Balance

Participants frequently emphasized the significance of balance, competence, and relatedness for well-being. However, since competence and relatedness will be analyzed in

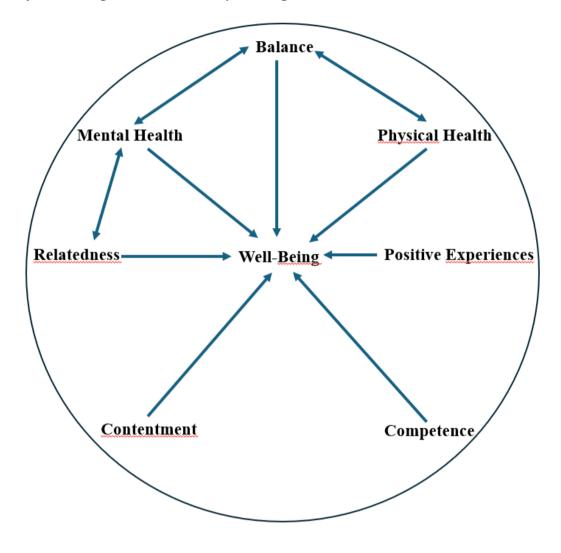
greater depth later, this section focuses on balance, which encompasses several dimensions, such as the balance between mental and physical health, the balance between the three BPNs, and a general balance in life. The most often mentioned category is the balance between physical and mental health. Although physical and mental health will be analyzed separately, participants consistently highlighted the importance of maintaining an equilibrium between these two domains. This balance was often mentioned with increased stability and an absence of health complaints, contributing significantly to participants' conceptualization of well-being.

"Um, I would say that well-being for me includes some sort of, like, not constant, but some sort of balance. (...) And I guess it has, like, physical and mental. That, there's well-being for my body, but also well-being for my mind, I would say. So general wellbeing includes, like, many different well-being that are, in a way, more stable, like, the balance is quite stable." (Participant 8)

Several individuals emphasized that maintaining a balance between the three BPNs and a general balance in life helps them to accept things as they are and to better manage their emotions. When this balance is achieved, no single sensation, such as stress, overwhelms other emotions, allowing people to observe them without being controlled, as participant nine pointed out. Additionally, participants noted that well-being requires balancing activities that contribute to personal growth, such as career development, and simply enjoyable ones, such as hanging out with friends. This underscores the importance of not solely engaging in fun activities that may not have long-term benefits, nor solely in beneficial activities that may lack enjoyment. A good balance between these types of activities is essential for experiencing well-being.

Figure 1

Model of Well-Being Based on the Study Findings



Emotional and Psychological Well-Being

During the analysis of different conceptualizations of well-being, three themes emerged that could be grouped under emotional and psychological well-being: Feeling content, mental health, and positive experiences. When participants mentioned the importance of feeling content for experiencing well-being, they mentioned that for them to feel wellbeing, it is enough to be okay with how and where they are right now. There is no need to excel and do particularly remarkable in any area. It is more important to feel at peace with the situation and know that things will be okay in the future. Part of that is accepting life events without stressing too much about them. "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)

Two other aspects that were also frequently mentioned by participants were mental health and having positive experiences, although participants did not provide clear definitions or further examples about these. Participants often emphasized the importance of mental health for their overall well-being, indicating that maintaining good mental health is essential for a good life. They also highlighted other aspects, such as wellness, fulfillment, and achievement, which we categorized under positive experiences. These positive experiences were considered influential for a sense of well-being. Additionally, the pursuit of happiness and the importance of feeling comfortable were frequently mentioned as significant contributors to well-being, further underscoring the importance of positive experiences in their lives.

"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, (...) 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)

Physical Well-Being

Similar to mental health, participants frequently mentioned the importance of physical health for well-being. However, they did not delve deeply into how physical health affects them. Despite the lack of detailed discussion, participants consistently highlighted the importance of having a functioning body to feel good and maintain well-being. They mentioned that exercising and engaging in sports helps them concentrate better on their studies, positively influencing their overall well-being. Conversely, the absence of good physical health or the presence of pain was noted to hurt their well-being.

"(...) I think there were definitely times where I was just also sitting behind my laptop so much and not doing that enough, and then I would also experience much more, like neck pain and shoulder pain and everything (...). And now I feel like I'm a bit more in balance that I'm also actually doing sports and stuff like that. So, that's good."

(Participant 8)

Self-Determination Theory

As mentioned in the introduction, SDT (Ryan & Deci, 2000) is considered a wellestablished theory that helps to conceptualize well-being, especially in academia and education in general. Therefore, we also explicitly asked participants about their BPNs to learn more about students' conceptualizations of these needs and to see which ones are more important. In the following section, I will present the analysis results of the three BPNs.

Competence

Academic validation, whether through grades or engaging in discussions about content, is a primary source of students' feelings of competence. Students frequently mentioned that understanding the concepts they discuss and gaining a deeper comprehension of the material enhances their sense of competence. Furthermore, experiencing self-efficacy and putting in significant effort, especially when studying intensively over a short period, boosts their confidence as it gives them control over their exam outcomes. Additionally, comparing themselves to peers can significantly influence their perception of competence. Lastly, resilience plays a crucial role in shaping students' sense of competence as it helps them to deal with unexpected obstacles and stabilizes their feeling of competence.

"I compare myself to my friends a lot (...) But a lot of my friends do a lot better than I do. So I've actually felt quite incompetent in comparison to them right now. I am happy when I get good grades, because I put a lot of effort into it. And if I see that effort actually translates into good grades that makes me feel competent, because it proves to myself that I can actually do this." (Participant 7)

Relatedness

Participants most frequently mentioned the importance of physical presence at the university and connecting with fellow students when conceptualizing relatedness. This enhances their sense of belonging to friends and their attachment to the university. A significant aspect of this is the ability to relate to peers or the content of classes. Participants noted that seeing friends and studying together fosters a sense of belonging and helps them integrate studying with socializing. Being close to fellow students and academic staff provides certainty and support. Additionally, the opportunity to approach teachers and researchers positively influences their sense of belonging and relatedness.

"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. And yeah, 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." (Participant 1)

Autonomy

Participants conceptualized autonomy primarily as deciding course selection, university attendance, or how they approach their work. Conversely, restrictions in course selection and mandatory attendance for specific courses diminished their sense of autonomy. A key component of autonomy mentioned was the feeling of being in control; only with the freedom to make certain decisions, can one truly feel in control. Additionally, independence was frequently highlighted as an essential aspect of autonomy. Having the resources to work independently and not needing to rely on others significantly influences participants' sense of autonomy and overall well-being.

"I guess also being able to do my own stuff and not do everything just according to (...) directions from the, whatever, the teacher and have some, like freedom to also decide make decisions, I guess, in my own projects? (...). So I guess being able to make a decent amount of decisions in academic projects." (Participant 12)

In conclusion, the analysis results provide a comprehensive overview of how students generally conceptualize well-being and how they conceptualize BPNs, which influences their well-being in an academic context. For general well-being, the importance of balance, mental health, feeling content, and having positive experiences was highlighted frequently. Additionally, physical health was explicitly mentioned. Finally, competence and relatedness were also mentioned for the general conceptualization of well-being, which is in line with findings by Ryan and Deci (2000). In academia, important parts of competence include academic validation, deeper comprehension of course materials, self-efficacy, resilience, and comparing oneself to others. For relatedness, physical presence and all kinds of interactions with fellow students and academic staff were mentioned to be important. Regarding autonomy, participants highlighted the influence of course selection, course attendance, and freedom in how to approach their work as important factors.

In the following, the second research question (RQ1b) about how current student identity influences the three BPNs and well-being will be analyzed.

"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 like, overall, I think it's cool learning experience. I think that does, like positively influence my academic well-being." (Participant 12)

Differences in Identity Statuses

To analyze differences in students' identity statuses, we categorized them into the four identities proposed by Marcia (1966). This categorization was based on the frequency of codes indicating whether students were high or low in exploration and commitment (see Table 2) and the content of their responses, which allowed for a more nuanced categorization even after coding. Participants who were considered high in their identity exploration frequently expressed a great interest in trying out new things, choosing a variety of courses, and focusing on what is interesting at the moment instead of considering the future. Participants who described the opposite were considered to be low in their exploration. Regarding commitment, individuals were considered to be highly committed if they expressed their willingness to pursue certain goals or take courses because they are necessary for a certain master's. Consequently, the absence of such remarks leads to the categorization of being low in commitment. In the following, differences between participants' responses and priorities will be analyzed. Based on the frequency of codes and the content of participants' responses, two identity statuses, as proposed by Marcia (1966), could be observed: Identity achievement (high exploration, high commitment) and identity moratorium (high exploration, low commitment). The two other identity statuses, foreclosure and diffusion, could not be identified in our sample.

Table 2

Deutisinent	Identity Commitment		Identity Exploration	
Participant -	High	Low	High	Low
1	1	0	1	0
2	2	0	0	1
3	0	0	1	0
4	0	1	2	0
5	1	2	2	0
6	0	2	2	0
7	2	0	2	0
8	0	1	3	0
9	0	5	3	0
10	1	0	1	1
11	1	0	1	0
12	0	1	2	0

Frequencies of Commitment and Exploration Codes

Note. The numbers in the table represent the frequency of each code assigned to the

corresponding participant.

Identity Achievement and Basic Psychological Needs

Our analysis shows that five participants could be categorized as having an achievement identity. Individuals with this identity tend to be highly exploratory and

committed. These students also reported a wider range of motivating factors in academia, such as achieving good grades, career advancement, and personal development, which indicates a higher overall level of motivation. Further analysis revealed that these participants frequently emphasized a balance of fun and work and the importance of making meaningful connections with others. Maintaining a balance between work, which is essential for their future, and enjoying leisure time helps them continue pursuing their studies. Additionally, the significance of connections with others was highlighted, as these relationships were mentioned as a critical factor that helps students stay motivated and persist in their academic efforts.

"Trying to find a balance between having fun as a student, (...) but then also still having to do work and doing well in it. So I feel like the whole student life is about trying to balance the work and your friends and relation" (Participant 7)

When focusing on the three BPNs, participants with an achievement identity highlighted the importance of relatedness and competence, where the importance of relatedness was mentioned most frequently. All participants in this category conceptualized relatedness as having connections to fellow students. These connections help participants to socialize and identify with like-minded people. For them, these ties go beyond just studying together, but rather sharing experiences, discussing content, getting support, and sometimes even standing up together for things that move them. Additionally, the support participants experience from their connections to others often allows them to pursue their studies and serves as a buffer during difficult times. Other conceptualizations, although not shared by all participants equally, included belonging, connections to teachers, having friends, and having things in common.

Regarding competence, participants with an achievement identity most frequently emphasized self-efficacy in their conceptualization. Self-efficacy in this context denotes understanding one's abilities and having confidence in meeting the corresponding skill level. Participants mentioned how they enjoy it if they put in effort and then see the results. Making this connection shows them it is worth putting in that work because the result reflects the effort. Similarly, the concept of effort was mentioned frequently as well. In this context, effort is more about working, while self-efficacy is more about the mindset that one's work will be worth it. Another concept mentioned repeatedly is self-development. Self-development refers to enhancing one's academic or personal skills. Participants frequently mentioned the importance of competence in academic writing, study progress, and the ability to recognize one's own accomplishments.

"I think that relatedness can buffer a lot of stress. Having friends, having good social connections, will definitely help you to experience less stress or to deal with stress in a better way, give you ways of coping with stress and competence. I think that a lot of times when we are really stressed, we also feel less competent (...). Probably also competence buffers you from stress, because you feel like, okay, I'm competent, I have self-efficacy, I can do things I like and I can overcome this problem. And then automatically, I think it's not as stressful anymore. Or you deal with stress in a better way." (Participant 1)

Identity Moratorium and Basic Psychological Needs

Seven participants were categorized as having a moratorium identity, characterized by a high level of exploration and a low level of commitment. Analysis of these individuals revealed that development and belonging were especially important to them. When discussing the importance of development, participants referred to personal and academic growth, which helped them pursue their studies and enhance their well-being. Furthermore, the need to belong was explicitly mentioned as a critical factor contributing to their well-being, which refers to having connections with others and feeling accepted and valued.

"(...) I didn't really know much about academic freedom from high school. But throughout the year, especially the second year, I somehow refined this opinion about it. Because different courses have different teachers, and everyone comes with their own quirks. And it's a bit difficult to tackle all of them. But like, over time, I feel like I get the more clear view of what's best for me." (Participant 3)

Upon closer examination of the three BPNs, all participants classified with a moratorium identity mentioned the importance of competence, while the majority also mentioned the importance of autonomy and relatedness. Six of the seven participants highlighted the importance of grades for conceptualizing competence, where higher grades correspond to an increased feeling of competence. Additionally, participants emphasized the importance of self-efficacy, effort, and a deeper understanding of the content in achieving a sense of competence. This deeper understanding is characterized by the ability to actively engage with the material and move beyond passive reception to participate in meaningful discussions about the content.

"(...) having the good grades let me feel competent (...). Then also, if you have a successful conversation, I don't know, it's me right now, my bachelor thesis, if I have a good conversation, and we talked about topics, and you actually can give input, I feel competent." (Participant 5)

Regarding autonomy, all seven participants categorized with a moratorium identity mentioned the importance of being able to make their own decisions, for example, in deciding how to engage with the material of classes or how to prepare for an exam. Additionally, all of them highlighted the importance of freedom, such as the ability to do what one likes in university or participate in extracurricular activities. Having the opportunity to either choose how to act within the basic curriculum or to go beyond the basic curriculum and make the most of the experience as a student was mentioned as a concrete example. It is important to note that not all students experience this kind of autonomy at all times during their studies, but it is part of their conceptual understanding of autonomy. "I think (...) you can do more, like, you can go beyond just, like, the basic curriculum. So, I guess that's also kind of autonomy to decide, okay, actually, I'm gonna (...) take up a job at the uni or go to other kinds of events and so on. And kind of get more out of that experience than just using the like, yeah, doing the regular courses." (Participant

8)

Similar to participants with an achievement identity, most of the moratorium participants mentioned connections to fellow students as part of their conceptualization of relatedness. The two other aspects of relatedness that were mentioned most frequently are having friends and having things in common, which are closely tied to the importance of connections with fellow students. Having things in common refers to sharing a common fate, similar interests and opinions, and similar worldviews. Having friends and having things in common also helps participants with problems, as talking about it helps to buffer negative experiences or worries. Notably, one participant explicitly highlighted the importance of empathy for relatedness without focusing on the other aspects mentioned by their peers.

"What is relatedness in academia? I guess being able to make those connections (...) it's also nice to of course, make friends with people that have like the same interest. So it feels more meaningful. You also feel like more reassured in what you're trying to pursue." (Participant 12)

Finally, most participants reported that their student identity positively impacts their well-being. They cited various reasons, with connections to fellow students being one of the main factors. Additionally, participants highlighted the freedom and responsibility associated with being a student. Some also enjoyed the prestige that comes with their student status. However, one participant noted that their student identity negatively affects their well-being, as it consumes too much of their life and limits their ability to engage in activities outside of university.

"I think you carry so many identities, which I don't know how that is, but I do know that I really like just being a student. So I can fully just focus on that and enjoying that, and how it affects my well-being. Yeah, so it gives me, I think, the autonomy, again, and that makes me happy. Also relatedness, you can really relate to others, like the other students around you." (Participant 2)

In conclusion, students categorized with an achievement identity expressed that relatedness and competence are most important for their student life and well-being. Regarding relatedness, the connections with fellow students go beyond the academic setting and help them pursue their studies while also serving as a buffer for difficult times. For competence, these participants explicitly mentioned the importance of self-efficacy and being aware of the connection between hard work and positive outcomes. Finally, individuals categorized with a moratorium identity often expressed autonomy as the most important need. For them, the freedom to manage their own time is a central pillar of their student identity and well-being. Despite this, they also recognized the importance of competence and relatedness, noting that connections with fellow students are crucial for relatedness, and good grades are often a measure of their competence.

Discussion

The main goals of our research were to better understand how students conceptualize well-being (RQ1a) and how their identities might influence their well-being and perception of BPNs (RQ1b). During the coding process, we used inductive and deductive reasoning to create our codebook (see Appendix D). Seven themes emerged regarding the first research question (see Figure 1). First, students highlighted the importance of balancing mental and physical health, a balance between the three BPNs, and between activities that contribute to personal growth, such as career development, and those that are merely enjoyable, such as meeting friends. They also mentioned mental and physical health as important pillars of their well-being. Finally, the need for positive experiences, the need for relatedness, and feeling content were also mentioned. Notably, contentment was, for them, related to being okay where one is right now without doing particularly great and excelling in any area.

These aspects greatly align with the view of positive psychology (Seligman & Csikszentmihalyi, 2000), such as the importance of the absence of mental health issues, meaningful connections to others, and accomplishments. Participants did not explicitly mention the importance of resilience for their well-being, as Mguni et al. (2012) suggested. However, Kiltz et al. (2020) note that participants are unlikely to explicitly state the abstract concept of resilience in relation to well-being. Nevertheless, in line with findings from Kiltz et al., it became evident throughout the interviews and the exploration of competence that resilience also plays an important role in our sample. Additionally, participants mentioned how friends can serve as a buffer during stressful times, which might indirectly refer to resilience. Finally, our findings align with research by Forgeard et al. (2011), which view well-being as a multifaceted construct including psychological, social, physical, and emotional well-being.

Regarding well-being in academia and SDT (Ryan & Deci, 2000), students conceptualized competence through academic validation, a thorough understanding of course content, self-confidence, resilience, and social comparison. The significance of physical presence and interactions with peers and academic staff were noted regarding relatedness. Concerning autonomy, participants emphasized the impact of course selection, attendance, and the freedom to approach their work as significant factors. In line with previous research (Chen et al., 2015), all three BPNs significantly influenced students' well-being. Satisfying these needs was associated with higher well-being, while unmet needs were related to lower well-being.

Regarding our second research question (RQ1b), which examines how students' identities influence their BPNs and well-being, participants were categorized based on their levels of exploration and commitment, either high or low, in each dimension. This allowed us to categorize them into one of the four identity statuses proposed by Marcia (1966). This categorization then helped us to distinguish between different student identities, which was necessary for further analysis. Although new approaches to identity, such as Crocetti et al.'s (2008) model, have extended Marcia's framework by adding a third dimension, reconsideration of commitment, our interviews did not capture this dimension. Therefore, Marcia's (1966) original model of commitment and exploration was used. Interestingly, only achievement identities (high commitment and high exploration) and moratorium identities (low commitment, high exploration) were observed in our sample. None of the participants could be categorized as having a foreclosure or a diffusion identity.

There are a few possible explanations for this. First, all participants already decided to study psychology and, therefore, must have had some exploration and commitment regarding what to study. So, it is unlikely to have individuals with a diffusion identity (low commitment, low exploration). Secondly, individuals with a foreclosure identity (high commitment, low exploration) might be less likely to study psychology in general, as this is a subject that emphasizes critical thinking, personal growth, and self-reflection, which goes against their low desire for exploration.

Five individuals in our sample could be categorized as having an achievement identity. Compared to the other seven participants with a moratorium identity, these students frequently reported a wider range of motivating factors in university that indicate higher motivation overall. A balance between professional and leisure time activities was reported to be important for their well-being. Additionally, their relationships with others were integral to their well-being. Besides relatedness, competence was also considered critical for their wellbeing. For them, the need for competence is met when one has a high feeling of self-efficacy, enabling them to connect hard work with positive outcomes, among other factors such as personal development. Participants with a moratorium identity frequently mentioned autonomy as important for their well-being. For them, autonomy mainly refers to the freedom to decide how to approach university and extracurricular activities. Although they also mentioned the importance of competence, they conceptualized it slightly differently, i.e., getting good grades, self-efficacy, and a deeper understanding of materials in class. Finally, the need for relatedness was also expressed, where connections to fellow students were a critical factor in whether their needs were satisfied.

Despite the higher motivation expressed by individuals with an achievement identity, they did not regard autonomy as important as those with a moratorium identity. One possible explanation for this finding is that highly committed individuals might focus more on the work than how they approach it, emphasizing self-efficacy over decision-making autonomy. Consequently, individuals with lower commitment may place greater value on having the freedom to make their own choices during their exploration. Competence, however, was mentioned by all individuals, although the process of how the need for competence is met differed. This finding is also in line with research by Erçelik and Dost-Gözkan (2022), who found a strong link between competence and all identity statuses.

Based on these findings, two hypotheses can be generated. First, individuals with an achievement identity prioritize self-efficacy over decision-making autonomy due to their high level of commitment, whereas individuals with a moratorium identity value decision-making autonomy more for their ongoing exploration process. Second, both achievement and moratorium identity individuals need competence, but the methods of fulfilling this need differ.

The results of the first research question line up with existing research (e.g. Forgeard et al., 2011; Kiltz et al., 2020) acknowledging well-being as a multifaceted construct consisting of mental, physical, social, and emotional components, which aligns with the WHO definition of health that was mentioned in the introduction (WHO, n.d.). This approach to well-being and health is not without criticism, as this ideal view of health is rather hard to achieve (Misselbrook, 2014). The approach of examining well-being and BPNs through the lens of identity statuses is not widely used and, therefore, relatively unique. However, some of our findings are in line with research on identity statuses and BPNs, such as a strong link between competence and all identity statuses (Erçelik & Dost-Gözkan, 2022).

Taken together, our findings can have practical implications and help to promote wellbeing in academia by increasing students' autonomy and providing them with the resources to engage with the material in their own time. Additionally, the frequently expressed need for relatedness shows the importance of having enough on-campus lectures and providing sufficient facilities where students can study and hang out together.

Limitations and Strengths

This study has several limitations and strengths. First, the interviews were conducted by bachelor students without professional interview training, which might have influenced participants' responses based on how questions were phrased. Although a script ensured that all participants were asked the same main questions, the allowance for follow-up questions could have led to variability in the data collection process. Additionally, the tendency for biased memories (Levine & Safer, 2002) could affect the validity of our findings. The categorization of students' identities is also rather superficial as it is based on a few answers that cannot capture the whole depth of the student's identity. Lastly, the small convenience sample size limits the generalizability of our results to the broader population.

Despite these limitations, the study also has notable strengths. The qualitative approach allowed participants to provide in-depth responses, offering a deeper understanding of their perspectives and experiences beyond predefined answers, which is especially useful for topics where little is known or where there is a lack of consensus for certain conceptualizations, as in our case. This depth adds meaning to the data for both participants and researchers and can help lay the foundation for further quantitative research, for example, by generating new hypotheses. Furthermore, with a sample size of 12, we likely captured all possible themes, as research suggests no new themes typically emerge after 12 interviews (Guest et al., 2006).

Conclusion

The numerous approaches to defining well-being and the difficulty in reaching a consensus highlight the need for further qualitative research. This study aimed to conceptualize well-being from students' perspectives, focusing on their experiences in academia and the importance of the three BPNs. Our findings align with previous research, emphasizing the complexity of well-being as a multifaceted construct. Additionally, we took a novel approach by analyzing well-being and the three BPNs through the lens of identity statuses. We identified distinct differences between individuals with an achievement identity and those with a moratorium identity. Generally, individuals with an achievement identity reported higher levels of motivation and a strong need for relatedness and competence, while those with a moratorium identity emphasized the importance of autonomy and competence, with less focus on relatedness. While the conceptualization of well-being and BPNs adds to existing research, our approach to well-being and BPNs with identity statuses needs further research to better understand how different identity statuses might influence general well-being and BPNs.

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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 researce	cher)
r	 (/

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 studi	es
	a. I'm currently	enrolled in the
		Bachelor Master
	b. I am in my	
		1 st year 2 nd year 3 rd year 4 th 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 University of Groningen

Bachelor Thesis Project

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 (Ryan & Deci, 2000).			
	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? (<i>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.</i>) (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? (<i>If the student does not really know what to say, remind them of the three needs.</i>)
	• 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? (<i>If the student does not really know what to say, remind them of the three needs</i>)
	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"

Category	Code	Description	Example
	CONC AUTO: Freedom	Having the freedom to do what you would like in your studies, like participating in extracurricular activities etc.	"You choose your own path, and you feel the freedom"
	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."
	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."

Category	Code	Description	Example
	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 tha 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 acquianted with people in the lectures, faculty and having the comfort of recognizing the place.	"I also think lectures help if there are people, a lot of people showing up. It's nice to be in this 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."

Category	Code	Description	Example
	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 CONC RELA: Support	Having people one could study with to stay connected and motivated. 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.	"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." "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 events, and thus affects one's overall well-being	"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 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, 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."

Category	Code	Description	Example
	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 their well-being in academia	"the weather that's definitely, also a very important factor, obviously"
	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 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 this conceptualization influences other aspects of their lives	"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 like, overall, I think it's cool learning experience. I think that does, like positively influence my academic well being."

Code	Description	Example
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: 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."
VALUE: Self-	Striving for a positive change for	"I really need to like feel like just find something meaningful to my life that I can use. I
Transcendence	something larger than just oneself, contributing to the enhancement of others' welfare	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

Code	Description	Example
		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 meit'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 jobbut 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 family, friends, and/or a partner	"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
			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
negativery	then wendering	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"

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Category	Code	Description	Example
ACT UNI:		Acts by, or features of the university observed by participant to foster student well-being	
	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 foste 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 go 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, of just, yeah, project stuff. I think that would help me a lot to feel happier is 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
	Communication	while internet the university to students	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 th 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 few weeks and then have an exam for that one course. That you're doing 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"
	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 u 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."

Category	Code	Description	Example
	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.	

Category	Code	Description	Example
	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."