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Enhancing Dutch Pre-Service Teachers' Resilience and Positive Well-Being

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Abstract
By studying seven Dutch teacher education initiatives, developed during the COVID-19 pandemic to promote pre-service teachers' well-being and resilience, the current research aims to specify which designs and mechanisms might be most useful. The results of semi-structured interviews with 41 stakeholders, including pre-service teachers, staff, and policy experts, reveal key differences in the widely varying initiatives, including whether they pursue well-being and resilience goals directly or indirectly, which groups they target, and their content. Four design elements emerge as critical: designing innovative education, embedding initiatives in theory and practice, clear communication, and the professionalization of teacher educators. The mechanisms that facilitate well-being and resilience outcomes reflect three overarching themes: beliefs about well-being and resilience (e.g. roles and responsibility), collaborative learning communities (e.g. importance of social networks), and reflective and resilient mindsets (e.g. creating opportunities for reflection). In summary, the findings suggest that by increasing awareness of the importance of well-being and resilience, fostering reflective and resilient mindsets, and creating supportive learning communities, teacher education programs can better equip pre-service teachers and educators to thrive, even in challenging situations.

Keywords: resilience, well-being, pre-service teachers, teacher education, thematic analysis, COVID-19

Introduction

Nearly every student engaged in educational pursuits faces pressing and thorny challenges, such as academic under-preparedness, financial gaps, loneliness, and compromised physical or mental health (Baik et al., 2017; Bergmann et al., 2019; Deasy et al., 2016; Dopmeijer et al., 2018; Panger et al., 2014; Stallman, 2010). Beyond these general issues, education students who have reached the pre-service stage encounter additional challenges and demands to take on (at least) two separate roles, namely, as a university student and as a teacher in a functioning school. These diverging roles can create internal tensions between their personal and professional selves (Pillen et al., 2013), yet in parallel, these students also must deal with their pupils' emotions, learn how to work with new colleagues, and remain professional while working to translate theory they have learned in their university classes into practice (Fokkens Bruinsma, et al.,, 2021). To ensure the success (e.g., Baik et al., 2017; Davis, 2009; Panger et al., 2014; Stallman, 2010; Stanton et al., 2016) and retention (Mansfield et al., 2016; Zhang & Luo, 2023) of these substantially burdened students, a focus on well-being and resilience is essential—

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particularly considering the imminent teacher shortage in the Netherlands (Inspectie van het Onderwijs, 2023) and beyond.

To promote pre-service teachers' well-being and resilience, universities have long attempted different interventions, often focused on curriculum or policy changes. When the COVID-19 pandemic brought discourses about student well-being further to the forefront (Hagemeier & Dowling-McClay, 2020; Pierce et al., 2020; Taylor, 2019), the Dutch Ministry of Education, Culture and Science devoted more funding to corresponding initiatives, under a plan called *Nationaal Programma Onderwijs* [National Programme for Education] (NPO), aimed at countering the adverse effects of the pandemic on higher education students. Among its specific subgoals, it targeted fostering students' well-being and sense of belonging, particularly among pre-service teachers (NPO, n.d.). Leveraging this funding to support their initiatives, many Dutch departments of teacher education developed diverse measures.

In an attempt to document the various initiatives undertaken with the support of the NPO funding, the current study details the designs and mechanisms that these different measures exploited to promote pre-service teachers' resilience and well-being. We conducted semi-structured interviews with various stakeholders, such as teacher educators, pre-service teachers, and policy makers involved in developing the initiatives, to get their expert opinions. The resulting insights may help teacher education departments determine how to support their pre-service teachers on an institutional level and in the long-term, beyond the scope of a crisis and independent of external subsidies.

Theoretical Framework and Literature Review

Student well-being and self-determination theory

Well-being represents a complex, difficult-to-define construct. Some research differentiates hedonic well-being focused on pleasure from eudaimonic well-being that pertains to personal development (Boehm & Kubzansky, 2012; Diener, 1984; Ryff & Keyes, 1995; van Agteren et al., 2019); other approaches define well-being holistically, as comprising emotional well-being, life satisfaction, engagement, relationships, accomplishments, autonomy, growth, and meaning (e.g., Diener, 1984; Ryff & Keyes, 1995; Seligman, 2018). For the current study, we adopt the World Health Organization's (2021, p. 10) definition of well-being as "a positive state experienced by individuals and societies. Similar to health, it is a resource for daily life and is determined by social, economic and environmental conditions." It thus comprises quality of life as well as the ability to contribute meaningfully and purposefully to the wider world.

Various well-being domains (e.g., meaning, accomplishments, relationships) resonate clearly with the three basic psychological needs—autonomy, competence, and relatedness—established by self-determination theory (SDT) (Deci & Ryan, 1985). Originally introduced as a motivational theory, SDT also has been applied to well-being, in the sense that people fare better when the three needs are satisfied (Deci & Ryan, 1985). In an educational context, students whose studies give them senses of autonomy, competence, and relatedness report higher well-being (Sulea et al., 2015; van den Broeck et al., 2008) and resilience (Liu & Huang, 2021). They tend to experience autonomy if they encounter freedom and flexibility in their studies; the need for competence can be fulfilled by perceptions of themselves as confident and self-efficacious; and they experience relatedness when they perceive connections with peers, like fellow pre-service teachers and teacher educators (Deci & Ryan, 1985). Therefore, we adopt SDT as a helpful framework for predicting how to promote well-being, in educational contexts in general and for teacher education contexts in particular.

Resilience and the BRiTE framework

Resilience is important concept in this respect, as it helps individuals deal with challenges, resulting in positive well-being as well as other teacher outcomes. Research has shown that when people face adversity and then bounce back to their initial state of well-being, or even grow from the challenge (i.e.,

bounce forward), it indicates resilience (Mansfield et al., 2012; Masten, 2001). Such resilience can function as an outcome, trait, or developmental process (Manjula & Srivastava, 2022; Mansfield et al., 2016). Considering the various challenges that pre-service teachers encounter in their early career, being resilient can be critical to enhancing both retention rates (Doney, 2013) and well-being (Bore et al., 2016; Denovan & Macaskill, 2017; Kapıkıran & Acun-Kapıkıran, 2016; Wu et al., 2020). Therefore, finding ways to invest in and increase pre-service teachers' resilience is a pressing educational requirement.

In their proposed framework for "Building Resilience in Teacher Education," or BRiTE, Mansfield and colleagues (2012) note that people combine key strategies with their personal and contextual resources to cope with and recover from challenging situations. The strategies include among others problem solving and an adequate work–life balance. The personal resources encompass motivation, emotion regulation, and self-efficacy; the contextual resources refer to the surroundings and peers' support. In parallel with the BRiTE framework, Mansfield et al. developed five online modules dedicated to building resilience, relationships, well-being, taking initiative, and emotions. Due to its specific focus on pre-service teachers, this framework offers a suitable tool for evaluating various resilience-promoting practices in teacher education programs (Mansfield, 2021).

Mechanisms for promoting well-being and resilience promotion

Tactics to promote well-being and resilience can operate at individual or contextual levels. Accepting the idea that resilience contributes to well-being (Bore et al., 2016; Denovan & Macaskill, 2017; Kapıkıran & Acun-Kapıkıran, 2016; Wu et al., 2020), we consider additional factors that might affect both resilience and well-being in higher education. Using Mansfield and colleagues' (2016) distinction between individual and contextual factors, we delve deeper into which of them might be most useful in enhancing well-being and resilience in teacher education contexts. These factors also can appear at the intersection of individual and contextual levels, depending on the context.

Individual working mechanisms

Many mechanisms at the individual level can foster well-being and resilience. Research within and outside the education realm has demonstrated the benefits self-care, mindfulness, flow, and coping for well-being and resilience (e.g., Czerwinski et al., 2021; Leap, 2023; Mao et al., 2024). Providing space for reflection also seems promising. Even if job-related self-insights appear more relevant for pre-service teachers' well-being than explicit self-reflection is (Bredehöft, 2023), general reflection remains vital for promoting resilience. Some potentially effective interventions include reflective writing (e.g., Varvarigou, 2023) or reflections on one's own values and personal stories (e.g., Watson & Barton, 2020).

Contextual working mechanisms

Among the various contextual working mechanisms that can foster well-being and resilience, we focus on social elements for this study. Both SDT and the BRiTE framework identify social aspects as crucial to students' well-being and resilience, such that the SDT prioritizes students' need for relatedness, and a BRiTE module addresses building relationships. Well-being also encompasses social well-being facets, including relationships (e.g., Seligman, 2018). Some social mechanisms already have been identified as capable of bolstering resilience and well-being, such as deepened relationships (Leap, 2023), social intelligence (Robitaille & LeBuffe, 2023), feelings of belonging (Varvarigou, 2023), and social support (Viegas da Cunha Gentil Martins et al., 2023). Concrete initiatives also likely depend on social aspects.

Research Questions

In summary, we find clear evidence of the demand to foster well-being and resilience in teacher education programs, to equip pre-service teachers with necessary tools to cope with the broad challenges of the teaching profession. In view of the beneficial associations of well-being and resilience with academic performance (Davis, 2009; Panger et al., 2014; Stanton et al., 2016), universities also are likely to benefit from investing in pre-service teachers' well-being and resilience. Therefore, we investigate the design of several existing initiatives, which enables us to identify promising mechanisms that might be beneficial to well-being and resilience. These efforts are driven by two main research questions (RQs):

RQ1. How have initiatives been designed to support pre-service teachers' well-being and resilience, immediately and in the long run?

RQ2. Which mechanisms promote resilience and well-being among the various initiatives adopted by teacher education programs?

Methodology

To address these questions, we implemented a semi-structured interview study and collect in-depth data about the experiences of pre-service teachers, teacher educators, and policy makers. The authors' university ethical committee approved the study in advance (TED-2223-S-0029), and participants completed informed consent forms prior to the data collection.

Research context

For this research, focused on teacher education programs in the Netherlands and the initiatives they pursued with the support of NPO funding, we start by offering some contextual information. In the Netherlands, secondary education is tracked by ability, and university teacher education programs accordingly comprise different tracks and levels. This study involves two types of teacher education programs, namely, for primary school and secondary school teachers. To become a primary school teacher, the pre-service teachers can pursue either a four-year undergraduate bachelor's degree from universities of applied sciences or a double-degree bachelor's program at a research university, such that they graduate with degrees in both pedagogy and education. For prospective secondary school teachers, the first option is the same (four-year bachelor's degree from a university of applied sciences), but the second option is to enter a master's-level program offered by a research-based university. The master's degrees in teaching also entail two pathways. First, pre-service teachers can join a one-year, post-master's program in teacher education if they already have earned a master's degree in a specific subject domain (e.g., English Language and Culture). Second, educational master's programs offer subject-domain courses in the first year and teacher education in the second year, including school-based field experience.

For our specific research project, we identified a consortium of nine research universities and universities of applied sciences that received NPO funding for their initiatives. Seven of them agreed to participate in in-depth interviews about their initiatives. Noting the breadth and number of such initiatives, we chose to focus on one initiative per institute, such that we asked the associated pre-service teachers, teachers, and policy makers about their experiences with a specific initiative. Because the designs, approaches, and contents of these initiatives differed widely, the interviews should reveal diverse working mechanisms. Herein, we discuss the findings across initiatives.

Sample

Seeking different, informed perspectives, we sought input from various stakeholders (pre-service teachers, teacher educators, and policy experts). The consortium provided us with contact information for possible candidates, who then decided to participate voluntarily. Ultimately, we conducted 27

interviews with 12 pre-service teachers, 23 teacher educators, and 6 policy experts, of whom 13 were men and 28 were women. Whenever possible, we conducted group interviews consisting of pre-service teachers, teacher educators or policy experts (10 of the 27 interviews were group interviews). Due to a lack of informed consent, we excluded 1 participant who functioned as a pre-service teacher and advising expert for an initiative.

Interviews and procedure

To gather in-depth insights into the stakeholders' experiences, we developed semi-structured interviews that ensured discussions of at least the following topics: description of the initiatives, including their goals and design; information about the implementation process, including how it started and any difficulties encountered; and the effects of the initiatives on both pre-service teachers and teachers. With regard to these effects, we specifically asked whether the respondents perceived the initiatives as helpful for enhancing well-being and resilience. These interviews lasted 45–60 minutes and were transcribed, summarized, and sent back to the participants for verification.

Analysis

We analyzed the data deductively and inductively using thematic analysis (see Braun & Clarke, 2006). For the deductive codes, we focused on factors that influenced resilience (BRiTE framework, Mansfield et al., 2012) and factors that promote well-being (SDT, Deci & Ryan, 1985). Initially, the entire research team became acquainted with the data, before generating the first codes based on the data (inductively) and theoretical frameworks (deductively). Next, we identified themes within the data and adapted our code scheme accordingly. In a second coding round, one author coded all the data, and two other authors coded half of the data each. The differences and similarities were than discussed for each of the interviews among two of the authors.. Finally, all researchers discussed similarities, differences, and additional codes to reach a final coding scheme. Although the resulting codes are distinct, several of them appear closely linked, such as "reflection" and "building resilience" or "consulting colleagues" and "collaboratively developing the initiative." Throughout the whole study, the team had discussions to critically examine decisions, assumptions and potential biases. This helped to enhance transparency and to ensure that interpretations remained grounded in the data and theory. Next to the discussions within the research team, the findings were also discussed with the larger team of consortium partners to check for credibility and generalizability.

Reflexivity statement

We acknowledge that our professional backgrounds and experiences as educators and researchers may have influenced various aspects of the research. LK, MF, EK and MP were all involved in several stages in the research process. MF and EK collected, analyzed and reported on the data, LK and MP were mostly involved in the analyses and dissemination of the data. LK was involved in the project as a postdoc researcher, she brought experience in student well-being and mixed-method research. EK was involved as a junior researcher, she brought expertise in terms of educational sciences and she used to be a primary school teacher. Both MP and MF are teacher educator and researchers, MP with a focus on professional identity and MF with a focus on well-being and resilience in higher education.

Findings

To present our findings, we first offer an overview of the seven interventions that we analyzed, to clarify the context. Then we detail the results related to which elements contribute to well-being and resilience. Finally, we outline an effective intervention design, as revealed by the data[1].

Initiatives

The broad variety of initiatives—all of which seek to counteract the negative effects of the COVID-19 pandemic in teacher education programs and promote pre-service teachers' well-being and resilience—differed notably with regard to whether their methods involved direct or indirect efforts. Some initiatives directly cited the goal of fostering well-being and resilience, but others emphasized teacher educator professionalization, to ensure good teaching quality in the institutes, or bolstering collaborations between pre-service teachers and teacher educators. Table 1 provides an overview of the initiatives, each of which represents a single teacher education program.

Table 1
Initiatives to enhance resilience and well-being in Dutch teacher education programs

In.	Goal	Participants	Form
1	Help pre-service teachers become aware of the importance of resilience, give them a discourse to talk about it, and develop strategies to enhance their own resilience.	Pre-service teachers & school-based teacher educators	Each in a series of creative, active, and practical workshops, spread over the academic year, highlighted key points of a theme (building awareness, social network, well-being, taking initiative, emotions before, during, and after teaching), allowed time for reflection and group discussion, and provided practical tips and tools.
2	Generate more attention to positive health within the institute. Enhance the vitality of pre-service teachers, teacher educators, and the building.	Teacher educators & pre-service teachers	Multiple activities included vitality days for students, making the building more sustainable, and making plans for outdoor sports facilities. Staff could participate too. A Vitality module explicitly focused on understanding "positive health" and experiencing the choices participants make.
3	Map out and prevent teacher educators' feelings of inability to act on resilience.	Teacher educators	Various activities and products in multiple interventions seek to create more awareness (e.g., strengthening networks, talking cards, theatre performances, collaborations for suicide prevention, workshops on themes like attention, talents, and mindset).
4	Help pre-service teachers finish their theses and graduate.	Pre-service teachers	Small groups of pre-service teachers received process guidance (not focused on their theses' content) from teacher educators who

[1]As part of this project, we developed and designed several activities for practitioners (https://thrive.gmw.rug.nl/project/npo-welbevinden-en-veerkracht/). We also designed a visual summary that represents findings and recommendations, these can be found here: https://thrive.gmw.rug.nl/wp-content/uploads/2025/06/Visuelle_Samenvatting_ENG_plus-teksten-scaled.jpg

In.	Goal	Participants	Form
			knew the context and provided support and incentives to finish their theses.
5	Strengthen collaborations with partner schools, with the idea of the partner school and teacher education program having shared responsibility for education.	Teacher educators in the institutes and schools	Learning networks, with pre-service teachers and teacher educators from the institutes and schools, sought to enhance supervisory relationships by organizing intervention sessions at the schools where the teacher educator from the institute and the school-based teacher educators were involved. Plans included shifting the pedagogical teaching from the teacher education program to learning networks. Then new teacher educators would be trained to support the learning networks, together with the schools.
6	Innovate the curriculum to meet the national agreement on flexible teacher education programs	Teacher educators & pre-service teachers	By designing a new teacher education curriculum, in cooperation with the team and expert groups, the aim was to create more coherence and alignment across different parts of the curriculum, the four-eye principle for reviewing pre-service teachers, and greater choice for pre-service teachers within subjects. The starting point was a reflection cycle and didactic approach, prioritizing linking theory and practice and concern-based working. In addition, teacher educator professionalization (learning to work with the new curriculum) was a key focus.
7	Train teacher educators to guide pre-service teachers by using nature, music, and arts.	Teacher educators	(1) Nature and music affect the physical and psychological well-being of students; (2) the relationship between teacher educator and student is central, and (3) it is important to focus on teacher educators' own experience and also on the tutoring of students. These insights were discussed during four professionalization meetings, each of which involved three steps: (1) study chapters from different books; (2) do exercises with nature, music, or art; and (3) make a plan to use the learned techniques. The 25-hour track was completed in one semester.

As Table 1 illustrates, the initiatives differed in their target group (e.g., pre-service teachers or staff, combinations) and their content and foci. We also note some differences in the extent of their

implementation, such that some initiatives had already begun, whereas others had just completed their development. Notably, some institutes had already thought about such initiatives prior to the COVID-19 pandemic, whereas others had to start from scratch.

Initiative design

We wanted to identify which design elements appear most important for promoting well-being and resilience. The interview results suggest four main constructs. First, respondents mentioned aspects related to innovative education, such as thinking about content, instructional methods, and the most optimal grouping to support specific innovations. They cited various educational activities, such as music, art, and meditation, as well as conversations and metaphorical work (e.g., using the metaphor of keeping balloons in the air to illustrate how to juggle diverse activities). Such innovative tools appeared helpful for creating new spaces and opportunities for participants to reflect on topics often overlooked in their everyday work. They also indicated the possibilities of breaking away from traditional education structures and patterns, which in turn facilitated discussion, as the following quote indicates:

> *We did a check-in with a song that's really meaningful to you [during the initiative]. And, I did the same with the pre-service teachers, so: bring music that's really meaningful to you and explain that. And then you also notice that music connects, and that it allows you to connect with each other in a different way, you get to know each other differently. That makes the learning community that I then have with pre-service teachers closer and that makes it stronger*. (R2)

Second, embedding initiatives in existing theory and context appears essential, though our respondents generally regarded this element as lacking, due to time and monetary constraints. When the COVID-19 pandemic hit, and the NPO funding was announced, institutions set up initiatives to help their pre-service teachers as quickly as possible, such that longer, more theoretical deliberations about how to benefit them effectively were cut short. Many of the comments related to embedding initiatives also dealt with how the initiatives, or their materials and tools, might be adapted and reapplied in other contexts, so for example:

> *We plan to continue it and then it becomes a training, which falls under the Outdoor Living and Learning Academy that we have. That's where we actually offer training for teachers and childcare providers on nature-inclusive education on how can you use that outdoor space as a teaching space as well.... So those plans are already ongoing. So, a flyer is actually being created as we speak so that it can go on the website.* (R19)

Third, clear communication about the initiatives emerged as critical, which manifested in comments about the importance of bringing colleagues along when developing the initiative, communicating to pre-service teachers about the relevance of the initiative, and keeping others involved after the initiative was up and running. Fourth, respondents noted the importance of professionalization, for themselves and colleagues, in relation to both the specific content of the initiatives and student well-being and resilience in general. With concern, R1 mentioned for example, "*What I would need is ... especially workshops or professionalization on, how do you guide this? Because I just do what feels right*."

Beyond these four key themes, the process of setting up the initiatives also sparked comments about perceived relevance and resistance of both pre-service teachers and staff on various levels. Both aspects seemingly antagonized or hindered the processes. For example, initiatives demand resources, including time in the busy calendars of the people involved, as well as money and adequate space. Developing them thus creates a paradox between investing resources for long-term benefits and meeting short-term priorities. This paradox was evident from the pre-service teachers' perspectives, such that some of them sought to opt out of the initiatives as quickly as possible or complained if they were obliged to remain. Most respondents, both pre-service teachers and teacher educators attributed this resistance to the pre-service teachers' inability to recognize the relevance of the initiatives, particularly in the long run, and

their perception of them as additional burdens in their busy schedules. Such choices exhibited by pre-service teachers prompted the following assessment:

> *That's where my biggest dilemma is still ... as long as pre-service teachers haven't experienced it, they don't know what they're missing. So a lot of pre-service teachers opt for convenience.... But we do lose most people on that.... Because how can we influence them to make choices that will help them to finish their studies or not drop out, and to become a good teacher, to be coached well.... I don't know, ... and I think that within the institute they are still burying their heads in the sand and saying: 'this will work itself out.' And I think: 'this will not work itself out.'* (R15)

Still, some pre-service teachers recognized the time investment as beneficial in helping them reflect on their professional development:

> *And beforehand, you think, 'those pre-service teachers are extremely busy, so ... you can't ask them to sit somewhere for ten minutes. That's a waste of time.' But after each exercise they came back and they said, 'This was really so valuable. Just for a moment ... we never take the time to sit still for a moment, stand still for a moment, and muse for a moment or....' And they all, or almost all, had the same experience as me.... And it just gives very different energy.* (R3)

Thus, respondents agree that expectation management remains crucial for everyone involved, as can be achieved by communicating the relevance of initiatives, such that they can be embraced adequately.

Working mechanisms and elements

The coding process also revealed three main themes corresponding to the mechanisms that drive the well-being– and resilience-promoting initiatives: beliefs about the importance of well-being and resilience, collaborative learning communities, and reflective and resilient mindsets. These themes were chosen as they underscore three critical components of resilience and well-being: beliefs one may have regarding resilience and well-being, the relational context in which resilience and well-being develop, and opportunities for reflection that may support the cultivation of resilience and well-being. We present each theme together with its constitutive codes, as indicated by the statements of the participants.

Beliefs about (the importance of) well-being and resilience

Several codes reflect beliefs about (the importance of) well-being and resilience. Across all the initiatives, respondents mentioned that conversations about the focal topics, as a working method, were important, whether as part of the initiative or as a means to help respondents become aware of the importance of well-being and resilience, because

> *I think it creates a piece of awareness.... And of course you can plan well, ... and of course you can say no, because that's part of it.... But you're never actually taught: how to do it? But it's expected of you. So, I think that that bit of awareness of, 'oh it's actually not so strange that sometimes I really struggle with myself, or ... that I can't work it out or that I'm at a loss'.... That it's not a taboo anymore.* (R25)

As respondents became more aware of the importance of talking about well-being and resilience, they also could reject the persistent stigmatization of psychological struggles:

> *I think the project leaders want to pull the project a bit wider towards teachers, but also for students to make the topic more familiar and therefore more discussable. Just helping a lot of people by putting it out into the open.* (R9)

Similarly, once they became more aware of how their professional identity intersected with their well-being and resilience, the relevance of reflecting on their professional identity, in the scope of their teacher education training, became more evident. Some respondents, such as a project leader, also

mentioned how the initiatives helped them think about their perceptions of their roles in helping pre-service teachers feel well or become more resilient:

> *For a very long time in higher education..., tutoring was focused on content and knowledge, so everything to do with well-being, self-esteem, resilience, didn't belong to us.... That has of course changed a lot in recent years. But there are still teachers who'll say: 'self-confidence, self-image, well-being, does that all belong to me?'... Where is the line? What still belongs to us? And who will do this? And should everyone do it?* (R16)

Closely tied to role perceptions, respondents referred to a sense of ownership as an important working mechanism. Some respondents alleged that colleagues showed little ownership of or even resistance to topics of well-being and resilience. For example, a teacher educator/developer mentioned:

> *We hoped that teacher educators would get more interested in: 'What is my health, how am I doing and how can I convey it to pre-service teachers, if I want to talk about that? Because I, I actually want those pre-service teachers to be healthy, or resilient or vital, so that they can do their profession healthily later on. But how am I really doing?' Well, that one was very difficult, we noticed. There was, at least we felt a lot of resistance there.* (R22)

Collaborative learning communities

Pre-service teachers identified social aspects that they regarded as beneficial for promoting well-being and resilience, in the form of feelings of being seen, common humanity, belonging, and vulnerability. For staff members, collaborative learning communities mainly involved staff collaboration during the development process and after the start-up phase, when they had given several sessions or workshops.

First, the initiatives appeared to make pre-service teachers feel seen and valued by the teacher educators, so

> *I personally find that I really like it when someone just checks in with me from time to time, how I'm doing ... also outside of internship. That the person behind the teacher is also being checked in with. That actually helps both for my resilience and for my well-being.* (R14)

Second, aspects of common humanity arose from descriptions of their experiences with the initiatives. Being able to talk about well-being and resilience topics with one another, showing compassion, and understanding others helped the pre-service teachers feel as if they belonged:

> *I also hear from other pre-service teachers who are in that group that they would have really enjoyed it too. Because you engage in a different kind of conversation with each other.... Suddenly you start talking about the things that you experience with parents who are ill or have somber thoughts, and that brings you to a deeper level with each other. And that's just very meaningful and just very nice I think, very good.* (R6)

Perceiving that they were not alone with their struggles thus bolstered their well-being and resilience:

> *Yes, the peer reinforcement, too: 'We are all in the same boat.' And they explicitly indicated that this was very useful to them, like: 'I am not alone, I am not the only one who is struggling with this, and who is super busy with all the work*.' (R17.1)

Third, pre-service teachers indicated that sense of belonging and social networks constituted an essential element of their well-being and resilience. They described their social networks as a "lifebuoy" when they were struggling or feeling overwhelmed. Smaller groups appeared beneficial for establishing and maintaining an adequate social network, so the number of respondents included in these initiatives represented a critical factor as well.

Fourth, a theme surrounding pre-service teachers' vulnerability emerged when respondents stated that they had to step out of their comfort zone to complete some initiatives, such as when they were required to talk about issues that might not usually be discussed. When they were met with openness and security, it allowed them to converse honestly about their struggles. Therefore, establishing such an environment, "*seeing the pre-service teacher, making them feel safe, secure, so that they can grow, so that they have the environment where they are just allowed to learn and make mistakes and discuss things*" (R26), is essential. As the respondents acknowledge, it takes courage to admit that things are not going well or that they are encountering problems and experiencing mental issues. Combining courage, openness, security, and honesty appear to contribute to a positive experience of vulnerability, which then can promote pre-service teachers' well-being and resilience.

Finally, staff members in particular mentioned the benefits of developing initiatives together, "*with the whole team. And, basically like a SWOT analysis of: what would we like to improve and what would we like to keep? And, we then categorized that into themes. And that's how we got started*" (R20). That is, these valuable collaborations included not just staff members but also the targets of the initiatives, such as "*The first group of respondents who also knew that they were co-builders of ... what we were going to do. So, reflecting on these topics was important to us and guided us. It was just as [colleague] mentioned: 'We developed this initiative on the job*" (R19). Despite this insight, relatively few of the student-focused initiatives that we investigated actually were developed together with students.

Reflective and resilient mindsets

The respondents cited opportunities for reflection and taking different perspectives, which motivated them to persist. They indicated that having time for reflection constituted an essential determinant of whether the initiatives fostered well-being and resilience. Specifically, respondents noted that the space and time that the initiatives provided to reflect on their own well-being and resilience, in the context of teaching, was often lacking in their everyday life, during which they went straight from classroom to university and back. Being able to stop and think about teaching-related issues seemed especially related to innovative, outside-the-box learning activities:

> *What [the initiative] has given me is ... I do stand still and slow down and be mindful of things around you.... I do use different learning activities, but would not easily think: 'oh, I'm going to go outside with these pre-service teachers, or do a reflection walk and guide my pre-service teachers during that walk.' That's actually what [the initiative] gave me, that I was able to get tools, to be aware of it myself, to be able to stand still, to literally stand still by ... and how can I take my pre-service teachers with me in that and do this with them, because ... it's not very common.* (R2.2)

This quote also includes other common topics, namely, stepping out of a comfort zone and taking a holistic perspective on pre-service teachers' well-being and resilience. For example, by reflecting on their own preparations for meetings with pre-service teachers, one respondent became able to think holistically:

> *But what do you actually want to perceive when you look at a pre-service teacher? Do you only look at that printed out list of those credits or do you also look differently? And even then, do you perhaps ask a different kind of question? Or do you ask the same question but in a different way? (R19)*

In one initiative, such holistic perspective-taking even was included as part of the program assessment:

> *We have also chosen now to have an integrated form of assessment. There is also that holistic element in that. But also because ... well, the multi-eye principle, so you can have more trainers looking at the same work, admittedly from different perspectives again, but yes you want that, we wanted that to come together. (R20)*

Discussion

When the COVID-19 pandemic hit, teacher education institutes and pre-service teachers alike faced several challenges. To help address them, the Dutch government issued new funding for teacher education program, sparking the development of multiple initiatives to help pre-service teachers. In this study, we examine seven such initiatives and provide insights into which mechanisms and designs might support well-being and resilience, on the basis of multiple perspectives from different stakeholders. The results reveal several themes that were perceived useful to the design of educational interventions for well-being and resilience, which we discuss in relation to prior research to highlight the new insights they offer. To facilitate the translation of these findings into practice, Table 2 provides an overview of the key implications for practitioners derived from the study findings.

Table 2
Key implications for practitioners

Theme	Implications for practice (stakeholders)
Explore and discuss individuals' beliefs about what contributes to resilience and well-being.	Training to recognize and address stigma (pre-service teachers, teacher educators, institutional leaders). Address the topic of different roles in supporting well-being and resilience (teacher educators, institutional leaders). Encourage sense of ownership (institutional leaders, policy experts). Include quality assurance metrics in programs or national frameworks (policy experts).
Foster supportive relationships and social connections as a foundation for well-being and resilience.	Create collaborative learning communities where collaborators work together (all stakeholders). Create safe dialogical spaces (pre-service teachers, teacher educators, institutional leaders). Included student as partners (all stakeholders). Allocate time for collaboration, teach teaching and peer feedback (institutional leaders, policy experts). Promote whole-school or whole-institute well-being programs (institutional leaders and policy experts)
Create opportunities for reflection on experiences, strengths, and personal development.	Include guided reflection tools (teacher educators). Support emotional and experiential reflection (pre-service teachers, teacher educators). Integrate reflective competences in quality assurance metrics (policy experts).

Beliefs about the importance of well-being and resilience

When stakeholders discussed becoming aware of the importance of resilience and well-being, particularly as a way to decrease stigmatization, their perceptions resonate with Mansfield et al.'s (2012) emphasis on the importance of awareness building. Fokkens-Bruinsma & Poort (2023) similarly call for efforts to promote awareness. These insights also seem closely linked to role perceptions, such that respondents carry implicit ideas about their responsibilities for supporting pre-service teachers. Thus the teacher educators reflected on how their traditional role as experts in the field had changed, requiring them to step out of their comfort zones and become coaches.

These findings offer possible directions for teachers, educators, and policy makers. First, staff and pre-service teachers still need more inducements to become aware of the importance and value of focusing on resilience and well-being. Breaking taboos and preventing stigmatization similarly should

continue to feature as important topics on stakeholders' agendas. Training educators to recognize and address stigma could help them create more psychologically safe environments that normalize vulnerability. Such efforts could leverage the BRiTE modules to promote awareness and challenge assumptions about who is "supposed to be" resilient. Second, more consideration is needed to address the different roles that staff members believe they should, or should not, take on when it comes to enhancing pre-service teachers' mental well-being and resilience. Third, to encourage the spread of initiatives (or educational innovations in general), it is necessary for the focal stakeholders to sense ownership (Lubicz-Nawrocka, 2023; Mendieta & Barkhuizen, 2019). Arguably then, resilience and mental health awareness indicators may also be included in quality assurance metrics for teacher education programs or national teacher education frameworks.

Collaborative learning community

In communities of practice, collaborators work together to share knowledge, solve problems, and improve their practice. Stakeholder reports showed that they cooperation and joint development, involving teacher educators and students, to instill a sense of belonging and encourage network approaches seemed promising approaches. Resilience was found to be more meaningful when discussed collectively, so that participants realize that their peers face similar difficulties (common humanity) and feel a sense of belonging and peer support, as well as learn from others' experiences. These findings reflect Mansfield et al.'s (2012) theorizing that resilience is co-constructed, embedded in professional relationships and the institutional climate. The notion of building resilience in collaborative learning communities also resonates with Wenger's (1998) conceptualization of *communities of practice,* in which learning is situated in social participation.

In turn, vulnerability was mentioned by both pre-service teachers and staff members (Manjula & Srivastava, 2022). Safety and openness within networks were mentioned as prerequisites for pre-service teachers to be vulnerable, which in turn represents an outcome measure. Within learning communities, safe dialogical spaces allow vulnerability to be shared, which may reduce stigma and may also be useful for enhancing capacities for building resilience.

In the initiatives dedicated to building collaborative learning communities, a particularly important mechanism that stakeholders mentionedwas be having staff members participate in the development; pre-service teachers also should be included as partners (Lubicz-Nawrocka, 2023). Furthermore, when developing interventions, planners should allocate time for interprofessional collaboration, team teaching, and peer feedback structures. We hope that continued research might apply Wenger's (1998) communities of practice framework to help clarify collaborative resilience-building efforts. For example, collaborative learning environments might encourage teachers and students to co-construct emotional support and resilience strategies. Expanding this notion, whole-school (or whole-institute) well-being programs could leverage the multilevel nature of resilience (individual, relational, organizational) (Baik et al., 2017).

Reflective, resilient mindset

Reflective resilience implies creating and taking time for reflection. When assignments focus on self-reflection and mindfulness, they tend to have positive impacts on students' sense of belonging, engagement, and learning (Loughran, 2002). Our respondents accordingly mentioned ideas about reflection, flexibility, and different perspectives, in line with previous research that proposes that (space for) reflection can foster well-being and resilience (Rogers et al., 2019; Watson & Barton, 2020). Here, we note Schön's (1983) model of the *reflective practitioner*, in which professionals learn through both "reflection-in-action" and "reflection-on-action."

To support resilience, interventions thus should integrate guided reflection tools (e.g., reflective journals, structured dialogues); Mansfield et al.'s (2012) framework can provide interesting prompts for

such reflection. Furthermore, it may be especially beneficial to encourage emotional and experiential reflection among both students and teachers, then support ongoing, reflective professional development, in line with the BRiTE model, to acknowledge the emotional labor involved in teaching. Similar to our discussion pertaining to beliefs about resilience, it may be worthwhile to integrate reflective competences as potential indicators in quality assurance metrics or within national teacher education frameworks. Finally, longitudinal studies are needed to determine the impacts of reflective practices on teachers' long-term resilience and retention.

Limitations and further research

Our sample was limited by the number of pre-service teachers who agreed to participate (12). To address this concern, and gain fuller insights into the initiatives, we included different stakeholders too, but we still note the likelihood that interviewing more pre-service teachers could have provided a fuller view. In addition, the sample may be subject to self-selection biases; the data came from people who likely have an existing interest in well-being and resilience. Even though the respondents were vested in the initiatives, relying on the retrospective accounts may also have introduced recall bias.

In addition, developing the coding scheme was not a clear-cut process; many codes (and concepts) related closely, and subcodes could appear linked to different, higher-level codes. By developing the coding scheme together and requiring cross-validations by members of the research team and continued discussion with the consortium members, we have tried to mitigate this limitation.

However, we hope continued longitudinal research with a multitude of stakeholders will start with the themes we identify, then test whether they apply to other initiatives. Examining contexts beyond the the Dutch NPO-funded context along with actual well-being or resilience related outcomes helps to fully comprehend the underlying mechanisms.

Conclusion

These findings provide possible directions to support pre-service teachers' well-being and resilience. By increasing participants' awareness of the importance of well-being and resilience, fostering their reflective and resilient mindsets, and creating a supportive learning community, teacher education programs can better equip pre-service teachers and educators to thrive, even in challenging situations. These themes of awareness, collaboration, and reflection also support the notion that resilience in education is neither a fixed trait nor an isolated process. It is a dynamic, relational, and reflective practice that evolves through meaningful interaction. Educational institutions that hope to foster resilience must move beyond surface-level interventions and cultivate sustained spaces for open dialogue, shared ownership, and critical self-inquiry, in which both pre-service teachers and teacher educators participate closely.

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