




## Article

# What Role Does Occupational Well-Being During Practical Field Experiences Play in Pre-Service Teachers' Career-Oriented Reflections?

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## Abstract

**Background:** Practical field experiences (PFEs) in teacher education aim to foster pre-service teachers' career-oriented reflection processes. Although aspects of occupational well-being are thought to shape reflection, empirical evidence remains limited. This study investigated how different facets of occupational well-being—including positive and negative affect as well as job satisfaction—predict distinct dimensions of pre-service teachers' career-oriented reflections during a four-week PFE. **Methods:** Using a quantitative pre-post design, we analyzed data from 242 German bachelor's degree students. Occupational well-being was assessed using the Positive and Negative Affect Schedule (PANAS) and a job satisfaction scale; reflection processes were measured via five subscales capturing information, exploration, critical reflection, career guidance, and development. **Results:** Findings indicate a significant increase in positive affect ( $d = 0.75$ ), a slight decrease in negative affect ( $d = 0.15$ ), and stable job satisfaction. Regression analyses reveal that baseline positive affect and job satisfaction enhanced career guidance and exploration, whereas negative affect promoted critical reflection. Increases in positive affect and job satisfaction further strengthened career guidance and development. **Conclusion:** Aspects of occupational well-being can substantially shape career-oriented reflection processes. These findings highlight the importance of explicitly considering pre-service teachers' emotional experiences in the design of field experiences and reflection opportunities within teacher education.

**Keywords:** career orientation; practical field experiences; affect; job satisfaction; occupational well-being; pre-service teachers; reflective practice; teacher education



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## 1. Introduction

Practical field experiences (PFEs) are a central component of teacher education, as they offer pre-service teachers the opportunity to gain initial authentic experiences in everyday school life. By actively engaging with the demands of the teaching profession, PFEs aim to build up and develop pre-service teachers' professional competencies (Arnold et al., 2014; Bennett et al., 2024; E. Cohen et al., 2013; Lawson et al., 2015). In particular, the reflection on one's own experiences and professional development plays a decisive role as it enables not only a deeper examination of one's own pedagogical actions, but also of one's

personal suitability for the profession (Clarà, 2015; Svojanovsky, 2017). This career-oriented reflection is particularly important, as pre-service teachers may initially underestimate the complexities and demands of the profession. PFEs give them the opportunity to gain realistic insights into the professional field and to reconsider their decision to become a teacher on a more informed basis. Previous research has shown that PFEs are associated with a variety of emotional experiences that can have both positive and negative effects on well-being (Dreer, 2023; Ji et al., 2022; Goh & Matthews, 2011). At the same time, studies show that such experiences strengthen self-efficacy (Eğimli & Solhi, 2021; Seifert & Schaper, 2018) and feelings of professional growth (Choy et al., 2013). Finally, PFEs can build up pedagogical knowledge (König et al., 2020) and promote career certainty by helping to better assess the fit between personal expectations and the complexities and demands of the teaching profession (Lermer et al., 2017; Zhao & Zhang, 2017).

PFEs have proven to be an important learning opportunity that enables pre-service teachers to gain a wide range of emotional experiences, which in turn are important for their well-being and reflection on their career choice. It can be assumed that well-being can influence pre-service teachers' reflection processes (Pekrun, 2006). However, to our knowledge, empirical evidence of the relevance of well-being in the context of career-oriented reflection is rather limited. The present study closes this research gap. Using a sample of 242 pre-service teachers, we investigate different facets of the occupational well-being and career-oriented reflections of pre-service teachers before and after a four-week PFE in teacher education and examine the relationship between well-being and career-oriented reflection.

### *1.1. Career-Oriented Reflection in Teacher Education*

Reflection is a central component of teacher education and can be defined as a mental process that aims at an expanded understanding of pedagogical practice (Lenske & Lohse-Bossenz, 2023). Through reflection, one's own and others' pedagogical experiences and actions can be critically examined and evaluated, taking into account knowledge, attitudes and beliefs. Self-reference, i.e., referring back to oneself, is considered a characteristic quality criterion of reflection (Arendt et al., 2025; Lenske & Lohse-Bossenz, 2023). Self-reference is particularly important when questioning one's own suitability for the teaching profession—that is, the presence of dispositions and competencies that indicate that a person will be able to perform the teaching profession competently after completing teacher training (KMK, 2013). For example, Lohse-Bossenz et al. (2023) found that explicit self-reference in reflection can promote pre-service teachers' self-efficacy beliefs regarding classroom management.

Reflection in this context involves the examination of one's own teaching experiences, abilities, and career aspirations. Following Rodgers (2002), who distinguishes different components of reflection based on Dewey (1933), the following five processes in the context of career-oriented reflection can be defined (Lermer et al., 2017): First, an information (1) triggers a moment of irritation or uncertainty which is necessary for reflection and can be resolved through exploration (2). In the next step, the irritation can be systematically justified through critical reflection (3) on personal suitability for the profession. Building on this, consequences for resolving the irritation are derived in the form of a decision for or against the profession (career guidance, 4), and competencies are identified that must be developed for the successful practice of the teaching profession (development, 5).

Empirical research demonstrates that the various experiences pre-service teachers gain during PFEs can trigger reflection processes on one's own career choice, which in turn influence the formation of professional identity. For example, Lermer et al. (2017) showed that PFEs could strengthen students' career choices, while only a few students critically

examined their professional aptitude. [Caires et al. \(2012\)](#) investigated pre-service teachers' perceptions of their experiences in teaching practice and found that "career aspects" was the greatest area of impact, including a sense of professional identity, increased self-confidence and feelings of having made a good career choice. The pre-service teachers who participated in an interview study conducted by [Ng et al. \(2018\)](#) reported that during their PFE they had gained a new understanding in the sense of a more realistic picture of the complexity and demands of the teaching profession. The results of the qualitative study by [Zhao and Zhang \(2017\)](#) similarly demonstrated this potential, and additional quantitative data confirmed a strengthening of the professional identity of pre-service teachers. [Choy et al. \(2013\)](#) found that pre-service teachers reported significant professional growth across three practicum phases, including an increased self-perception of teaching skills and having a clearer understanding of the challenges of teaching.

### *1.2. Occupational Well-Being in Teacher Education*

Current conceptualizations of occupational well-being build on [Diener et al.'s \(1999\)](#) foundational research on subjective well-being, which encompasses both positive and negative cognitive and emotional appraisals of one's own experiences within different life domains, e.g., the work environment ([Schulze-Hagenest et al., 2023](#)). According to [Warr \(1999\)](#), occupational well-being can be assessed on the basis of job satisfaction—conceptualized as teachers' affective reactions to their job ([Skaalvik & Skaalvik, 2011](#)). Accordingly, occupational well-being is closely tied to emotional states and (pre-service) teachers with high subjective well-being within the work environment frequently experience positive emotions and rarely negative emotions ([Schulze-Hagenest et al., 2023](#)). Emotions describe a person's affects or emotional state and can be seen as a complex reaction to the assessment of a situation. They can be classified according to various characteristics ([Moors et al., 2013](#)). In terms of their stability, emotions can be described either as situationally fluctuating (state) or as more stable, habitual dispositions (trait). Furthermore, emotions are typically evaluated as negative or positive (valence) and can be experienced as more or less intense (intensity) or activating/exciting (arousal). Important emotions in teaching-learning scenarios are, for example, fear, anger, joy or shame ([Kuhbandner & Frenzel, 2019](#)).

Impaired occupational well-being—manifesting as predominantly negative emotions and rare positive emotions as well as low job satisfaction—has been linked to several adverse outcomes, including diminished professional performance ([Arens & Morin, 2016](#); [Klusmann et al., 2008](#)), increased intentions to leave the teaching profession ([Skaalvik & Skaalvik, 2011](#); [Wartenberg et al., 2023](#)), and poorer physical health ([Salvagioni et al., 2017](#)). Moreover, occupational well-being is not only crucial for teachers themselves but also relates to student motivation, improved academic performance, and stronger teacher-student relationships ([Arens & Morin, 2016](#); [Wartenberg et al., 2023](#)). In addition, [Frenzel et al. \(2009\)](#) found that enjoyment reported by teachers was positively related to students' enjoyment of classes.

PFEs are associated with a variety of emotional experiences that are relevant for pre-service teachers' well-being ([Bennett et al., 2024](#); [Dreer, 2023](#)). Qualitative diary studies in China, for instance, reported that novice teachers started their internships with enthusiasm but soon faced anxiety and "shock," experiencing positive emotions like joy when lessons went well and negative emotions like helplessness and guilt when they struggled ([Ji et al., 2022](#)). Although the number of positive emotional states decreased over time, the level of positive emotions reported remained higher than that of negative emotions throughout the study period ([Ji et al., 2022](#)). In an interview study with pre-service teachers from Singapore, [Ng et al. \(2018\)](#) reported that students particularly felt enjoyment and professional satis-

faction during long-term internships, while students in 4-week internships may not have experienced the same level of positive emotions and professional satisfaction due to the limited opportunities to teach on their own. A study of a long-term internship in Germany also found that pre-service teachers consistently report high levels of enjoyment in PFEs (Darge et al., 2018). However, especially pre-service teachers with little teaching experience might be anxious about handling teaching strategies and express various concerns about student behavior as well as aspects of classroom management (Goh & Matthews, 2011; Ma & Cavanagh, 2018). Caires et al. (2012) found less positive ratings from pre-service teachers regarding the “emotional and physical impact” of their teaching practice during PFE, revealing the pressure and sense of “vulnerability” felt by many of these pre-service teachers. However, fears about teaching and uncertainties among pre-service teachers can decrease as a result of real teaching practice during the internship (Porsch & Gollub, 2018; Yalcin Arslan & Ilin, 2018). Furthermore, Dreer (2023) found that pre-service teachers’ well-being can be predicted by observing teachers in the classroom. Pre-service teachers who observed teachers whom they perceived as having a higher level of well-being reported higher levels of well-being in various areas, including positive emotions and job satisfaction, one week after their observations. Conversely, pre-service teachers who observed teachers whom they perceived as having lower well-being rates reported a lower level of well-being themselves.

### *1.3. Connections Between Occupational Well-Being and Reflection in Teacher Education*

Aspects of occupational well-being—positive and negative emotions as well as job satisfaction—can be relevant to learning processes in different ways. Emotions in particular are considered important gateways for cognitive processes, e.g., for information processing or attention control, and influence one’s motivational orientations and intentions to act (Scherer, 2000). Two different hypotheses can be derived regarding the influence of emotions on cognitive functions. On the one hand, it can be assumed that positive emotions promote learning (Frenzel et al., 2009; Pekrun, 2006). According to this, we are able to perceive and process more stimuli when we experience positive emotions. This promotes mental flexibility and creativity and enables us to recognize possibilities and opportunities, which in turn allows us to solve problems, learn or improve skills, and experience greater self-efficacy (Fredrickson, 2001). On the other hand, negative emotions can be assumed to have an inhibitory effect on learning, as cognitive resources are required to cope with them. In the context of learning, negative emotions arise in particular when a learning activity or the expected or retrospective consequences of a learning activity are evaluated negatively and a person simultaneously has the impression that they have little control over the learning situation and its outcome (Pekrun, 2006). However, mood research indicates that negative emotional states can promote analytical and detail-oriented information processing, while positive feelings favor heuristic and creative thinking (Mitchell & Phillips, 2007; Isen, 1984). Consequently, well-being in terms of emotions and job satisfaction should also play a role for (career-oriented) reflections.

Empirical research demonstrates the relation between dimensions of well-being and reflection in general. Impaired well-being—manifested in negative emotions or increased exhaustion—was found to be negatively correlated with pre-service teachers’ willingness to reflect (Kumschick et al., 2020; Voss et al., 2017). In contrast, studies with teachers found strong positive relationships between job satisfaction and teachers’ reflective practice (Korthagen & Wubbels, 1995; Aliakbari et al., 2019). Aspects of well-being—in this case, positive and negative emotions—can also be relevant for reflecting on teaching videos. For instance, Weber et al. (2023) showed that pre-service teachers who analyzed their own teaching videos experienced more joy and less boredom and further achieved a higher

level of knowledge-based reasoning than pre-service teachers who reflected on videos from other teachers. In contrast, Kleinknecht and Schneider (2013) found that teachers who watched videos of other teachers reported significantly more negative emotions than teachers who reflected on their own teaching videos. The analyses also show a significant positive correlation between teachers' negative emotions and their reflection on alternatives for dealing with negative events.

Recent studies also emphasize the relevance of well-being in the context of career-oriented reflection processes among pre-service teachers, particularly for critical reflection on personal suitability and career guidance. For instance, Daniels et al. (2006) found that pre-service teachers' positive ratings of PFEs significantly affected the perception of their competence to teach and their career certainty, whereas pre-service teachers' anxiety was related to poorer perceptions of competence and career certainty. Similarly, Choy et al. (2013) and Ji et al. (2022) corroborated that positive affect and growing satisfaction during PFEs might be associated with confidence and clarity regarding career intentions. Klassen and Chiu (2011) showed that self-efficacy and job stress during PFEs are significant predictors of pre-service teachers' occupational commitment and intention to quit the teaching profession: Higher self-efficacy was associated with greater commitment and a lower intention to quit, while higher work stress predicted lower commitment and a higher intention to leave the profession. Eren (2017) found that career choice satisfaction strongly predicted pre-service teachers' professional aspirations—including their planned effort and persistence in the teaching profession as well as professional development.

#### 1.4. Present Study

During PFEs in teacher education pre-service teachers may encounter a rollercoaster of emotions. Diverse experiences can strengthen pre-service teachers in their career aspirations and job satisfaction, or they may question their own suitability for the profession. Reflecting on one's own professional aptitude is a central goal of PFEs and aspects of occupational well-being—such as positive and negative emotions or job satisfaction—can influence the career-oriented reflections of pre-service teachers. Our study aims to examine the occupational well-being and career-orientated reflections of pre-service teachers before and after a four-week field experience in teacher education, and the extent to which the pre-service teachers' occupational well-being influences the career-orientated reflections. The study is based on the following research questions and hypotheses:

1. How does the field experience change job satisfaction as well as positive and negative emotions of pre-service teachers?

Previous studies indicate that PFEs can influence the well-being and the professional satisfaction of pre-service teachers (e.g., Dreer, 2023; Ng et al., 2018). Although pre-service teachers with little teaching experience might be anxious and have concerns about teaching (Ma & Cavanagh, 2018), previous studies have primarily highlighted the experience of positive emotions during PFEs (Ji et al., 2022; Ng et al., 2018; Darge et al., 2018). Based on these findings, we specifically expect that, over the course of the four-week field experience, pre-service teachers will report an increase in positive affect and job satisfaction, as well as a decrease in negative affect.

2. Which career-oriented reflection processes do pre-service teachers report after the field experience?

Empirical research demonstrates that the various experiences pre-service teachers gain during PFEs can trigger career-oriented reflection processes. Against this background, we hypothesize that pre-service teachers will report increased affirmation of career choice (Caires et al., 2012; Choy et al., 2013), but that some participants may also experience height-

ened critical reflection on their professional suitability (Lermer et al., 2017). Furthermore, we expect that pre-service teachers will gain a new understanding in the sense of a more realistic picture of the complexity and demands of the teaching profession during their PFE (Ng et al., 2018; Zhao & Zhang, 2017).

### 3. Can pre-service teachers' occupational well-being predict their career-oriented reflections?

Theoretical models such as the Control-Value Theory (Pekrun, 2006) and empirical studies on reflection and well-being (Aliakbari et al., 2019; Voss et al., 2017) suggest that occupational well-being is an important antecedent of reflective engagement. We therefore hypothesize that pre-service teachers' occupational well-being will significantly predict their engagement in different types of career-oriented reflections. In particular, we expect that positive emotions and job satisfaction are associated with career guidance (Daniels et al., 2006; Eren, 2017), while negative emotions can facilitate a critical reflection (Kleinknecht & Schneider, 2013)—in this case, questioning one's own professional aptitude.

## 2. Materials and Methods

### 2.1. Design and Sample

The sample consists of 242 bachelor's degree students from a German university in their fourth semester of teacher education ( $M_{age} = 22.65$ ;  $SD_{age} = 3.29$ ; 81.0% female). All participants were studying to become primary or secondary school teachers and took part in a four-week field experience at the end of the fourth bachelor's semester. Most students had no (37.6%) or only little teaching experience (34.7% = 1–10 own teaching hours; 12.0% = 11–30 own teaching hours; 14.1% = over 30 own teaching hours). For the analyses, the data from two cohorts of students were combined (summer semester 2023 and 2024).

During the field experience, pre-service teachers had to plan and organize four lessons on their own. Each student was observed once in school during their own lesson by their university supervisor, their school mentor, and a fellow student, followed by a reflection and feedback session. During the four weeks, the pre-service teachers had three accompanying seminars at the university, where they talked about their experiences at the schools. In addition, the pre-service teachers were asked to reflect on their own classroom management and that of their fellow students using an e-portfolio.

The present study follows a quantitative pre-post design with pre-service teachers in a four-week field experience. Participation in the study was part of the seminar accompanying the field experience at the university. The pre-test took place a few days before the start and the post-test after the four weeks of field experience. An online questionnaire in LimeSurvey was used for both data collections.

### 2.2. Instruments

#### 2.2.1. Career-Oriented Reflection

After the field experience, an instrument developed by Lermer et al. (2017) was used to measure the career-oriented reflection on the basis of the pre-service teachers' experiences. Five scales were formed by calculating the mean values, which, based on Rodgers (2002), represent different components of a reflection process. The first scale information ( $\alpha = 0.74$ ; 'The field experience made me aware of areas of responsibility of teachers that I had not seen so clearly before') expresses that during the field experience, participants experienced a sense of irritation or confusion which is necessary for a critical career-oriented reflection. Exploration ( $\alpha = 0.71$ ; 'The field experience has encouraged me to seek further information about the teaching profession and motivated me to talk to others about my career goals') leads to a restoration of balance (or to new irritation and thus a new exploration process).

The critical reflection ( $\alpha = 0.82$ ; 'The field experience has made me think about whether I have the skills for the teaching profession') forms the core of the reflection process and refers to the process of examining one's personal suitability for the teaching profession. Based on this, it is decided whether career guidance towards or against the teaching profession ( $\alpha = 0.82$ ; 'The field experience has encouraged me to become a teacher') occurs and further development ( $\alpha = 0.69$ ; 'The field experience showed me which skills I should develop') is to be pursued, e.g., recognizing which skills still need to be acquired in order to be successful as a teacher. The respective questionnaire items were assessed using a four-point Likert scale from 1 (disagree) to 4 (agree).

### 2.2.2. Occupational Well-Being

Based on Diener et al. (1999; see Schulze-Hagenest et al., 2023), individuals' subjective well-being can be expressed in terms of positive and negative emotions and satisfaction in various areas of life. In our study, we refer to one possible component of well-being, which is occupation. Accordingly, we consider positive and negative emotions within the work environment and job satisfaction as possible facets of pre-service teachers' occupational well-being. To measure emotions in relation to the pre-service teachers' field experience, the German-language version of the Positive and Negative Affect Schedule (PANAS; Krohne et al., 1996) was used at the first and second time of measurement. The PANAS includes 20 adjectives, of which ten describe rather positive (e.g., elated, interested, attentive, enthusiastic) or negative emotions (e.g., distressed, irritated, nervous, anxious). The positive and negative affect concerning the field experience was assessed by the participants on a five-point scale (1 = not at all, 2 = a little, 3 = to some extent, 4 = considerably, 5 = extremely). The scales positive affect (t1:  $\alpha = 0.89$ ; t2:  $\alpha = 0.86$ ) and negative affect (t1:  $\alpha = 0.77$ ; t2:  $\alpha = 0.78$ ) were formed by calculating the mean values of the respective questionnaire items.

In addition, we consider job satisfaction to be a central facet of occupational well-being (Warr, 1999). The scale was formed by calculating the mean value of four questionnaire items (example items: "There is no better job for me" or "If I could choose again, I would become a teacher again immediately"; Baumert et al., 2009). The students were asked to express their agreement on a four-point scale (1 = not applicable to 4 = very applicable). The internal consistency of the scale can be classified as acceptable at both measurement points (t1:  $\alpha = 0.79$ ; t2:  $\alpha = 0.83$ ).

### 2.3. Analyses

In order to examine changes in occupational well-being (first research question), the mean values were calculated and analyzed using t-tests for dependent samples. The results of the data analysis on career-oriented reflections (second research question) are presented descriptively. At the item level, frequencies are reported as percentages, and at the scale level, means are reported. Furthermore, the intercorrelations between the scales were calculated and multiple hierarchical linear regressions were performed to predict the career-oriented reflections through dimensions of occupational well-being (third research question). Stepwise regression equations were carried out to identify the respective explanatory power of the resulting models. For each criterion (career-oriented reflection processes), the baseline values of occupational well-being were taken into account in the first regression model. In the second, final regression model, the average changes in occupational well-being were also integrated as predictors of career-oriented reflections. For this purpose, the differences between the average values at both measurement points were calculated ( $t_2 - t_1$ ). All analyses were computed using the Statistical Package for the Social Sciences (SPSS; IBM Corp., Armonk, NY, USA, 2016). The alpha level was fixed at  $p < 0.05$ .

### 3. Results

#### 3.1. Descriptive Statistics

Table 1 lists the descriptive characteristics of the variables and the intercorrelations between the constructs. It shows that, at the beginning of the PFE, pre-service teachers reported very positive emotions and high job satisfaction, whereas negative affect was rather low. Positive affect and job satisfaction correlate significantly positively, while negative affect correlates negatively with both constructs. The dimensions of well-being are related differently to career-oriented reflection processes. Positive affect and job satisfaction correlate significantly negatively with critical reflection and positively with career guidance and development. Negative affect correlates positively with information, exploration, and critical reflection, and significantly negatively with career guidance.

**Table 1.** Descriptive statistics and intercorrelations.

	N	M	SD	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Positive Affect (1)	238	3.56	0.72							
Negative Affect (2)	238	1.70	0.50	−0.186 **						
Job Satisfaction (3)	236	3.22	0.57	0.470 ***	−0.369 ***					
Information (4)	240	2.68	0.75	−0.010	0.209 **	−0.212 **				
Exploration (5)	240	2.79	0.82	0.091	0.166 **	−0.075	0.331 **			
Critical reflection (6)	240	2.04	0.90	−0.236 ***	0.218 ***	−0.461 ***	0.468 **	0.292 **		
Career guidance (7)	239	3.59	0.63	0.314 ***	−0.153 *	0.469 ***	−0.361 **	−0.136 *	−0.632 **	
Development (8)	241	3.44	0.49	0.162 **	0.012	0.118 *	0.141 *	0.230 **	−0.029	0.216 **

Note. Bivariate correlations (Pearson correlation coefficient); Mean values of occupational well-being at t1; Mean values of career-orientated reflection processes at t2; \*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$ .

#### 3.2. Changes in Occupational Well-Being

The first research question focuses on changes in occupational well-being during the field experience. A comparison of the mean values reveals different trends in occupational well-being (see Table 2). Change analyses found a significant increase in positive affect during the field experience with a medium effect ( $d = 0.75$ ; cf. J. Cohen, 1988) and a significant decrease in negative affect with a small effect ( $d = 0.15$ ). Job satisfaction did not change significantly.

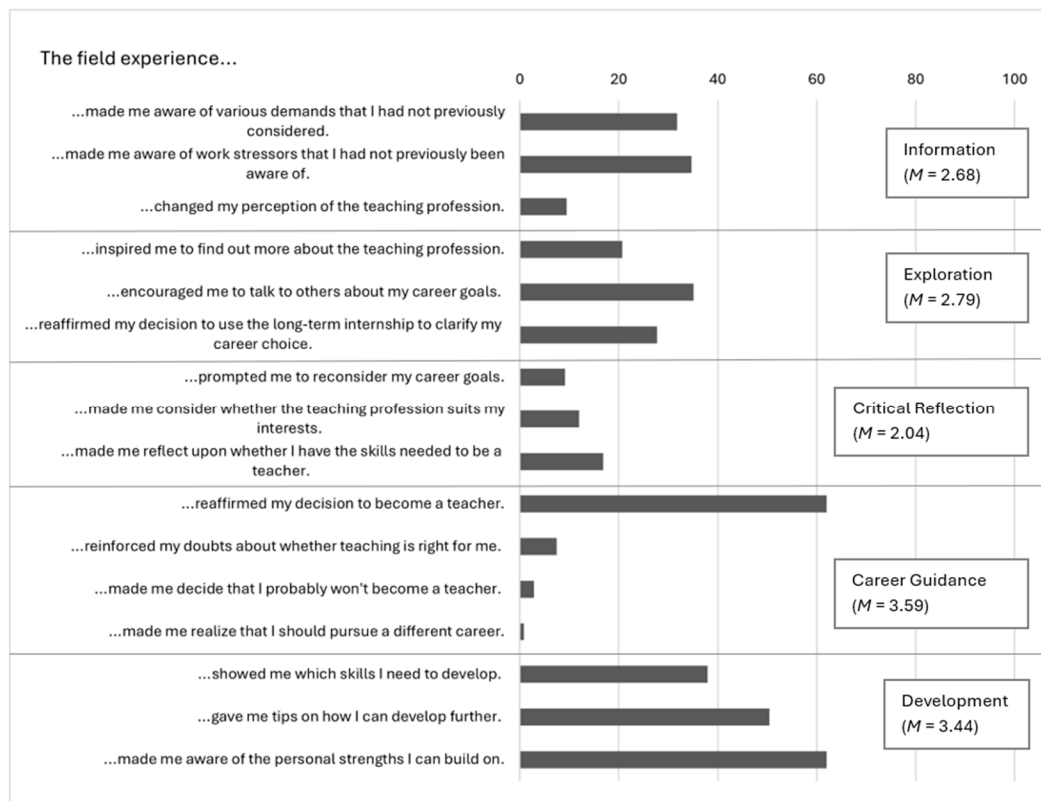
**Table 2.** Mean values, change values ( $t_2 - t_1$ ) and test statistics.

	$M_{t1}$ (SD)	$M_{t2}$ (SD)	$\Delta_{t2-t1}$	Test Statistics
Positive Affect	3.56 (0.72)	4.02 (0.60)	0.46	$t(237) = -11.577, p < 0.001$
Negative Affect	1.70 (0.50)	1.63 (0.46)	−0.07	$t(237) = 2.236, p = 0.026$
Job Satisfaction	3.22 (0.57)	3.27 (0.60)	0.05	$t(235) = -1.803, p = 0.073$

#### 3.3. Career-Oriented Reflection Processes

The descriptive results for the career-oriented reflection processes (second research question) show that the field experience primarily triggered reflection processes among pre-service teachers regarding career guidance ( $M = 3.59$ ) and further development of their own skills ( $M = 3.44$ ). In the post-test, 62% of respondents stated that the field experience had reinforced their decision to pursue a career in teaching (see Figure 1), while 7.4% of students had doubts about whether teaching was the right career choice for them. The statements that participants recognized their own strengths during the field experience (62%) and received tips for further development (50.4%) and specific skills (38%) also achieved high approval ratings. Although around a third of respondents stated that the field experience changed their perception of the teaching profession or made them aware of demands and stressors that they had not been aware of before (see Figure 1), the information content

was rated as rather mediocre ( $M = 2.68$ ). Similarly, the career-orientated reflection process exploration is only slightly above the theoretical scale mean of 2.5 (see Figure 1). Critical reflection on personal suitability for the teaching profession was rather low ( $M = 2.04$ ). For example, 12% of respondents agreed that the field experience made them think about whether the profession suited their interests, while 9% were prompted to critically reflect on their career goals.



**Figure 1.** Percentage of participants who selected the response option “agree”.

### 3.4. Influence of Occupational Well-Being on Career-Oriented Reflection

In order to examine the relevance of occupational well-being for career-oriented reflection processes (third research question), a multiple stepwise regression was conducted. The first model included the baseline values of occupational well-being, whereas the final model further integrated the average changes in occupational well-being (see Table 3).

When examining the dimensions of occupational well-being (baseline values, Model 1), we found a significant relation between positive affect and exploration. Negative affect proved to be a significant predictor of information and exploration. Job satisfaction had a significant influence on information, critical reflection, and career counseling. After adding the change values in the final regression models (Model 2), the explained variance increased significantly—except for exploration (see Table 3). Change in positive affect positively influenced career guidance and development, whereas change in negative affect proved to be a significant predictor of critical reflection, career guidance and development. Change in job satisfaction correlated significantly negatively with information and critical reflection and had a positive influence on career guidance and development.

**Table 3.** Standardized regression coefficients ( $\beta$ ).

	Information	Exploration	Critical Reflection	Career Guidance	Development
<b>Model 1</b>					
positive affect	0.117	0.164 *	−0.024	0.121	0.138
negative affect	0.154 *	0.161 *	0.056	0.025	0.066
job satisfaction	−0.210 **	−0.093	−0.429 ***	0.421 ***	0.077
<b>Model 2</b>					
positive affect	0.163	0.279 **	−0.078	0.308 ***	0.334 ***
negative affect	0.253 **	0.213 *	0.206 **	−0.140 *	0.175 *
job satisfaction	−0.281 ***	−0.131	−0.469 ***	0.457 ***	0.119
change in positive affect	0.044	0.168	−0.098	0.308 ***	0.337 ***
change in negative affect	0.147	0.097	0.214 **	−0.208 ***	0.230 **
change in job satisfaction	−0.309 ***	−0.112	−0.315 ***	0.395 ***	0.151 *
Adjusted R <sup>2</sup>	0.167	0.046	0.381	0.578	0.115
Difference in F	10.474 ***	1.824	22.677 ***	65.361 ***	9.186 ***

Note. \*\*\*  $p < 0.001$ ; \*\*  $p < 0.01$ ; \*  $p < 0.05$ .

#### 4. Discussion

Our study examined different facets of the occupational well-being and career-oriented reflections of pre-service teachers during a four-week PFE in teacher education, and the extent to which the pre-service teachers' occupational well-being influences the career-oriented reflections.

Based on previous studies, we expected that, over the course of the four-week PFE, pre-service teachers would report an increase in positive affect and job satisfaction, as well as a decrease in negative affect. This hypothesis could be partially confirmed. While [Ng et al. \(2018\)](#) suggest that short-term PFE—at least in the Singaporean context—do not lead to the same level of enjoyment and satisfaction due to the limited opportunities for independent teaching, our findings paint a different picture. In line with empirical research on emotions during long-term PFE (e.g., [Darge et al., 2018](#); [Ji et al., 2022](#)), we found a high level of positive emotions throughout the four-week PFE, which were also more pronounced than negative emotions at both measurement points. In contrast to [Ji et al. \(2022\)](#), we found a significant increase in positive emotions, while negative emotions decreased significantly at the end of the PFE. Furthermore, job satisfaction remained stable, although it should be noted that the satisfaction level of pre-service teachers was already high at the start of the PFE. These differences in emotional changes can be attributed to differences in the organization of the PFE. While the study by [Ji et al. \(2022\)](#) was conducted over a period of 12 weeks, the context of our study was only four weeks. Compared to long-term PFE, the opportunities to teach independently and thus also to become familiar with the challenges and demands of the profession—which in turn can lead to feelings of stress or anxiety—were therefore limited.

We further hypothesized that positive changes in occupational well-being would be accompanied by increased affirmation of career choice ([Caires et al., 2012](#)), but that some participants may also experience heightened critical reflection on their professional suitability ([Lermer et al., 2017](#)). Our descriptive findings confirm this hypothesis: At the end of the PFE, the pre-service teachers reported that they feel more confident in their career choice (with high ratings corresponding to a decision in favor of the profession) and see opportunities for further developing their professional skills, while critical reflection processes of aptitude testing were triggered in only a few participants. The pre-service teachers participating in our study further reported that the PFE helped them to develop a more realistic picture of the demands and challenges of the profession ([Zhao & Zhang, 2017](#)) and gave them a better understanding of which skills they can develop further to

experience professional growth (Choy et al., 2013). Our findings on well-being and career-oriented reflection demonstrate that pre-service teachers were able to gain confidence in their abilities even without extensive opportunities for independent teaching during the four-week internship. This can be attributed to the fact that students learn not only through their own experiences (mastery experiences) but also through observing the successful teaching practices of other teachers (vicarious experiences) in particular, which strengthens their self-efficacy expectations, for example (Bandura, 1977). Similarly, Dreer (2023) emphasizes that the well-being of pre-service teachers is influenced by observing in-service teachers in the classroom: When pre-service teachers observe teachers whom they perceive as having a higher level of well-being, they also report higher levels of well-being in various areas, including positive emotions and job satisfaction. In this respect, our study suggests that observing lessons strengthened the pre-service teachers' well-being and reinforced their professional aspirations. This highlights the crucial role of supervisors during PFEs (Lawson et al., 2015), as they are expected to support pre-service teachers in overcoming practical challenges and consequently influence their well-being and career-oriented reflections.

Based on theoretical models and empirical research we hypothesized that pre-service teachers' occupational well-being will be of varying relevance for their career-oriented reflection processes during PFE. For instance, findings from mood research indicate that negative emotional states can promote analytical and detail-oriented information processing, whereas positive feelings can promote heuristic and creative thinking (Mitchell & Phillips, 2007; Isen, 1984). These different mechanisms are reflected in the correlations found between positive and negative affect and career-oriented reflection processes. In line with our hypothesis, we found significant positive correlations between pre-service teachers' positive affect and their favor the decision to pursue the career (career guidance). The same pattern was observed for job satisfaction and increases in positive affect and job satisfaction. Negative affect and low job satisfaction, on the other hand, as well as an increase in negative emotions and job satisfaction promote the perception of irritations (information, e.g., gaining new insights into the profession) and encourage critical reflection on one's own suitability for the teaching profession (critical reflection, i.e., questioning one's own career aspirations). These results support our hypothesis that positive emotions may foster career clarity (Daniels et al., 2006; Choy et al., 2013), while negative emotions can facilitate a critical reflection (Kleinknecht & Schneider, 2013). Based on control value theory (Pekrun, 2006), negative emotions arise in particular when a learning activity is evaluated negatively, and a person simultaneously has the impression that they have little control over the learning situation and its outcome. We can therefore assume that prospective teachers who begin their PFE with tension, uncertainty, and nervousness may experience a lower sense of control and use this as an opportunity to critically reflect on their career choice. In contrast, pre-service teachers with positive emotions may have less incentive to question their own professional suitability and are instead reinforced in their choice to become teachers. Based on the assumptions of cognitive dissonance theory (Festinger, 1957), it is also conceivable that pre-service teachers with positive emotions and high job satisfaction ignore negative events or irritations during their field experience or reinterpret them in favor of their career aspirations. Furthermore, studies revealed that teachers' job satisfaction was negatively related to their decisions to leave the teaching profession (Skaalvik & Skaalvik, 2011; Wartenberg et al., 2023) and pre-service teachers' career choice satisfaction was positively related to their professional aspirations (Eren, 2017). Thus, the positive correlation between job satisfaction and career guidance and the result that (increased) job satisfaction negatively predicts critical reflection on one's own suitability for the profession can be well understood. Based on the job demands-resources model

(Demerouti et al., 2001), it can be assumed that pre-service teachers whose job satisfaction decreased during the PFE perceived an unfavorable ratio between job demands and available resources. This once again underscores the relevance of the social context, especially mentoring during PFE, as this influences how professional demands, but also one's own emotional states, are perceived, processed, and transformed into reflection processes upon the teaching profession.

Our data provides evidence for the assumption that learning processes are facilitated by positive emotions. Experiencing positive emotions leads to more stimuli being perceived and processed, which in turn promotes mental flexibility and enables us to recognize learning opportunities, to improve skills, and to experience self-efficacy (Fredrickson, 2001). This could explain why pre-service teachers with high positive affect reflect more on their skills that need to be developed (development) but rarely question their career choice. The same pattern was observed for the exploration-giving effect of the field experience (exploration). The fact that those career-reflection processes were further predicted by negative affect demonstrates that the experience of emotions varies greatly from person to person and that, depending on the individual, different emotional states can promote development potential.

#### 4.1. Practical Implications

The present findings provide several important practical implications for teacher education, particularly for the effective design and implementation of PFEs, the broader teacher-education curriculum, and career-orientation support systems.

Given the differential role of affective states identified in this study, mentors and teacher educators should systematically integrate structured reflection routines that explicitly link emotional experiences to career-oriented reflections. For example, structured post-lesson debriefings could consistently address both positive and negative emotions that naturally arise during teaching experiences. These reflective dialogs should explicitly prompt pre-service teachers to articulate the implications of their emotional reactions for their professional suitability and identify specific competencies they aim to further develop.

Moreover, challenging teaching situations, such as managing unexpected classroom disruptions or self-analysis of difficult teaching episodes, should be actively leveraged as productive opportunities for critical reflection on career aptitude. Such situations might provide a good starting point for engaging in reflection processes, as current research shows that daily classroom-related hassles are positively associated with teachers' need to reflect (Lohse-Bossenz et al., 2025). Teacher educators can facilitate critical reflection processes by providing targeted support and feedback, thereby ensuring that students experience a balanced combination of emotional challenge and psychological support.

To further enhance pre-service teachers' reflective capacities, teacher-education programs could incorporate explicit emotion-regulation training—such as cognitive reappraisal or mindfulness exercises—that enable students to constructively manage their emotions prior to engaging in reflective practices. Additionally, career-orientation checkpoints utilizing validated assessment instruments (e.g., Career Counselling for Teachers; CCT) could systematically track students' career certainty and emotional well-being throughout their training, providing timely guidance and support where necessary.

Finally, implementing psychologically safe peer-debriefing groups within PFEs can provide pre-service teachers with supportive contexts to openly discuss doubts and uncertainties regarding their professional suitability. Such safe reflective spaces may reduce tendencies to suppress dissonant experiences, thereby fostering more authentic and meaningful reflection processes.

Collectively, these targeted practices can meaningfully enhance the effectiveness of PFEs by explicitly attending to pre-service teachers' emotional experiences and systematically linking these to structured, career-oriented reflection and actionable competence development.

#### 4.2. Limitations and Future Research

The current study has several limitations that should be acknowledged and addressed in future research. First, it relied exclusively on self-report measures to capture pre-service teachers' occupational well-being and career-oriented reflections. While these measures provide valuable insights into subjective experiences, they do not allow direct examination of actual reflective processes or behaviors. Future studies should incorporate external assessments, such as qualitative analyses of reflective journals or video-based reflection protocols, to triangulate self-reported data with observable reflective practices. Supplementary qualitative studies could also examine the link between emotions and reflection processes in greater detail. Based on our data, for example, the question remains as to which emotional experience triggered a reflection that affirmed one's career or led to critical questioning. Importantly, future research should also address the consequences of engaging in career-oriented reflection, particularly regarding pre-service teachers' perceptions of their professional suitability and subsequent decision-making. It remains unclear how reflecting on one's own aptitude for the teaching profession affects well-being, motivation, and retention intentions over time. Longitudinal research is especially warranted to examine the short- and long-term impacts of these reflection processes on career trajectories and professional development.

Second, the operationalization of career-oriented reflection in this study draws upon [Rodgers' \(2002\)](#) reflection cycle, itself based on [Dewey's \(1933\)](#) framework. Although theoretically robust, it raises the question of whether it is necessary to go through all the steps of the reflection cycle in order to carry out a meaningful reflection. Our measurement approach might primarily capture distinct foci rather than the holistic reflection process itself. Further research should clarify this distinction, potentially employing longitudinal qualitative methods or process-oriented analyses to better understand the complexity and sequence of career-oriented reflection.

Third, the scale measuring critical reflection, the core component regarding suitability for the teaching profession, is predominantly negatively framed, emphasizing doubts and reconsideration of career choice. This framing implicitly suggests that reflective processes concerning career suitability must inherently involve negative experiences or uncertainty. However, reflection may equally encompass positively connoted elements, such as affirmation or reinforced career certainty. Therefore, future research should refine and validate reflection scales to include positively framed items and explore broader reflective constructs, such as reflective disposition, career decision-making confidence, and openness to professional development.

Fourth, our conceptualization of occupational well-being, while grounded in established constructs such as positive and negative affect (PANAS) and job satisfaction, remains incomplete. Important facets such as work-related resources or emotional exhaustion, a significant dimension of teachers' occupational well-being and a crucial factor in career longevity, were not measured. Future research would benefit from incorporating comprehensive well-being measures, including burnout dimensions such as emotional exhaustion or work-related resources, to better capture the complexity of emotional experiences during practical field experiences. Since work is only one possible component of well-being ([Diener et al., 1999](#)), future research could also consider other domains, such as the self, to shed light on further benefits of PFEs in teacher education.

Lastly, the relatively short duration of the four-week field experience, combined with limited opportunities for extended teaching practice, may have constrained the depth and scope of career-orientated reflection processes, particularly with regard to authentic evaluations of professional aptitude. Longer field experiences, providing more extensive teaching responsibilities and interactions, might yield different reflection outcomes or emotional dynamics. Thus, future research should investigate extended field experiences to more accurately reflect real-world teaching conditions and enhance ecological validity. In addition, (quasi-)experimental research designs would be particularly useful for investigating the effects of PFEs in order to increase internal validity.

## 5. Conclusions

Interactions between occupational well-being and career-oriented reflection among pre-service teachers have hardly been investigated to date. Our study makes an important contribution to expanding existing knowledge in reflection research by considering the context of career-oriented reflection during PFEs in teacher education. We were able to show that aspects of well-being—emotions and job satisfaction—can have different influences on career-oriented reflection processes. While positive emotions and increased satisfaction seem to strengthen career choice in particular, negative emotions can trigger critical reflection on one's own suitability for the profession. Considering the limitations mentioned above, our findings highlight the relevance that pre-service teachers' emotions may have, not only for reflection processes but also for experiencing self-confidence and career certainty. If the aim of PFEs in teacher education is to initiate the development of competencies through systematic reflection, it is therefore important to focus more closely on emotions and their relevance for professional development.

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## Abbreviation

The following abbreviations are used in this manuscript:

PFE Practical field experience

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