Preservice Teachers' Motivation is Associated with Changes in Classroom Simulation Tasks

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Abstract

Background

Preservice teachers' motivation fluctuates as experience is gained and feedback is received from influential sources. Previous studies have explored changes in preservice teacher motivation over time, but rarely as a function of performance on classroom simulation tasks.

Aims

We explored how performance on a series of classroom simulation tasks was related to changes in preservice teachers' self-efficacy, career intentions, and perceived fit with the profession.

Sample

Participants were 1,411 preservice teachers from an undergraduate teacher education programme in Australia (M = 20.27 years, SD = 4.54).

Methods

Data were collected in 2020 and 2021 from students enrolled in an introduction to teaching course in a 4-year teacher education programme. Participants completed three classroom simulation tasks spaced over a three-week period. Each session involved responding to questions based on five video or text classroom scenarios, followed by self-reflection, with expert feedback provided based on performance. We used latent growth structural equation modeling to test the longitudinal effects of performance on the classroom simulation tasks on changes in self-efficacy, career intentions, and perceived person-vocation fit across the three sessions.

Results

The level of performance on classroom simulation tasks significantly predicted changes in self-efficacy, career intentions, and person-vocation fit, even after controlling for baseline levels of the constructs, as well as gender and age. Change in outcome variables was progressively more pronounced after the second and the third classroom simulation session.

Conclusions

Changes in preservice teachers' motivation are associated with performance on classroom simulation tasks. The implications for practice are that preservice teacher motivation may respond well to regular, repeated teaching-related simulations.

Preservice Teachers' Motivation is Associated with Changes in Classroom Simulation Tasks

It is crucial to adequately prepare preservice teachers for school placements, given the high stakes involved in the endeavour. A preservice teacher's motivation—seen in their effort, persistence, and task choices—fluctuates throughout the teaching placement according to context-related challenges (e.g., teaching a difficult class), but the motivation patterns set in school placements are associated with future success in the profession (Watt & Richardson, 2007). School placements offer an opportunity for professional growth and identity formation, but also pose very real risks for a range of stakeholders, including potential disruptions to pupils' learning progress due to a novice teacher's inexperience, challenges for the receiving school in adapting to new staff and maintaining educational standards, and risks to the reputation of the initial teacher education (ITE) programme if preservice teachers struggle in the classroom. An additional risk is to the professional motivation and commitment of the preservice teachers themselves if they enter the school placement without adequate preparation. ITE programmes implement a range of activities to prepare preservice teachers for entry into the classroom, including pedagogical instruction, role-playing, and in-depth discussion of potential classroom challenges. In this article, we explore one kind of preservice teacher intervention—classroom simulation tasks—and its relation to changes over time to three motivation-related variables: teaching self-efficacy, career intentions, and perceptions of person-vocation fit.

Preparing Preservice Teachers for School Placements: Strengthening Motivation Through Situated Learning

The school placement, variously labelled as 'field experience', 'teaching practicum', and 'clinical internship', is a critical and consequential component of initial teacher education. For

many preservice teachers, the school placement is the first exposure to the challenges and rewards of classroom practice, with the experience serving as an important milestone on the path to establishing a sense of professional identity as a teacher (Anderson & Stillman, 2013). These placements are not only important for professional identity formation, but for eventual professional practice, with research showing that performance on teaching placements is associated with eventual effectiveness as a teacher (Krieg et al., 2021). Teaching placements represent an important step in the transformation from student to teacher, and careful preparation, often involving some form of approximation of teaching practice, is important to ensure success.

Preparing preservice teachers for a placement involves more than merely building subject-area knowledge and pedagogical skills; it is the application of knowledge and skills in a *situated* context that defines success in placements. The development of situated learning involves exposing preservice teachers to the complexity and subtle nuances inherent in the classroom context (Anderson & Stillman, 2013). Early-stage teaching placements are notoriously demanding and stressful for preservice teachers, and activities that promote contextualised, situated learning experiences can lead to more successful and adaptive motivation responses when preservice teachers enter the classroom for the first time (Brown et al., 2015). Providing novice teachers with classroom experiences—simulated or otherwise—is a necessary step in developing situated learning and motivation responses necessary for successful classroom practice.

Classroom Simulations to Build Preservice Teachers' Motivation

Initial teacher education programmes frequently include various forms of simulated classroom experiences to help prepare preservice teachers for the classroom, including virtual or

augmented reality (Huang et al., 2023), role-playing (Moreno-Guerrero et al., 2020), scenario-based learning (Klassen et al., 2023), or vignette studies (Thompson-Lee et al., 2024), all of which allow for exploration of approximations of practice associated with situated learning. The theories underpinning these simulations include situated learning theory (e.g., Lave & Wenger, 1991), pedagogical reasoning (Loughran, 2019), and Bandura's social cognitive theory (Bandura, 1997), each of which hypothesise that competence in a given area develops through the interaction of personal factors, environmental factors (i.e., the context), and behavioural factors (i.e., performance on various tasks). A body of recent research on simulated classroom tasks has explored the effectiveness of scenario-based learning (SBL), and interventions that includes classroom simulations, space for reflection, and feedback from experienced teachers. Simulation approaches have also been labelled as 'case-based learning' or 'near-world simulations' (Errington, 2011), with results from studies involving preservice teachers showing increases in confidence and classroom readiness (e.g., Klassen et al., 2023). From a motivation perspective, simulation tasks are related to the basic psychological needs of autonomy and competence described in self-determination theory (e.g., Hornstra et al., 2023), and boost teaching self-efficacy and preparedness for the classroom by providing the opportunity for successful enacted experiences in a classroom-like setting.

Teacher Motivation and Preservice Teacher Development

Bandura's social cognitive theory suggests that beliefs in one's capabilities to succeed in a course of action, i.e. self-efficacy, influence persistence, resilience, and level of effort (Bandura, 1997). For teachers at any stage of their career, self-efficacy plays a key role in influencing how classroom challenges are managed, and how successful teachers are in providing effective instruction (Zee & Koomen, 2016). For pre-service teachers, this teaching

confidence can be elusive, especially with regards to facing teaching placements (Tschannen-Moran and Hoy, 2007). A range of instruction and interventions have been used to boost preservice teachers' self-efficacy, but those based on Bandura's four sources of self-efficacy—mastery experience, vicarious experience, verbal persuasion, and managing affective states—have proven to be effective (Pfitzner-Eden, 2016). Teaching simulations of various kinds have been used to boost the self-efficacy of novice teachers (Remacle et al., 2023) through exposure to enactive experience. As an added bonus, higher levels of self-efficacy also play a role in teacher retention, with higher levels of self-efficacy linked to decisions to stay in the profession (Chesnut & Burley, 2015).

Preservice teachers' psychological connection to the profession can be bolstered by successful experiences, and by the congruence between personal characteristics and values, and the demands and values they find in their teaching experiences, real or simulated. Research has shown that the development of career motivations is associated with exposure to realistic classroom simulations (e.g., Klassen et al., 2023), but we know less about how growth in these variables is associated with repeated exposures to simulation activities when accounting for the starting point of these variables. In other words, we do not know very much about how performance on classroom simulations is associated with changes in preservice teachers' self-efficacy beliefs. Building this understanding is important, because preservice teachers' baseline motivations vary individually based on their accumulated life experiences. Therefore, in this study we were particularly interested in how performance on classroom simulation tasks influenced the *changes* in the career-related motivations of self-efficacy, career intentions, and perceptions of fit with teaching as a career. To our knowledge, this is the first study that has explored the links between changes in career-related motivations and performance on classroom

simulations.

Our research questions were as follows:

1. What is the relationship between performance on classroom simulation tasks and changes in the career-related motivations of teaching self-efficacy, career intentions, and perceived fit, accounting for baseline values of these variables?
2. How do the effects of a classroom simulation intervention on changes in outcome variables develop over time (i.e., with repetition)?
3. How do age and gender influence these relationships?

Method

Participants

Participants were 1,411 preservice teachers from an undergraduate teacher education programme in eastern Australia. Students in this programme complete four years of academic study that includes academic discipline studies coupled with studies in educational theory, curriculum, and pedagogy, all interspersed with professional experience placements. Data were collected in 2020 and 2021 when classroom placements were interrupted by the pandemic. The majority of the sample was female (75%) and 'white European' or 'Australian' (94%) and in the first year of their four-year programme (89.2%). Most participants were studying to be teachers in primary schools (56.5%), followed by secondary schools (35.8), and early years settings (7.7%).

A small portion of the data was found to be missing. More specifically, Session 1 had 0.1% missing data, Session 2 had 3.6% missing data, and Session 3 had 6.2% missing data. The analysis of the missing data indicates that it was *missing completely at random*. This is supported by the non-significant result of Little's MCAR test [$\chi^2(41) = 52.35$, $p = .110$].

Measures

Classroom simulations using a scenario-based learning approach

In a previous study, engagement in structured classroom simulation interventions (scenario-based learning) was found to significantly increase classroom readiness and teacher self-efficacy in secondary-level preservice teachers in the UK (Klassen et al., 2023). The current study expands on this previous study by administering classroom simulation tasks to preservice teachers in early years, primary and secondary education and in the different context of Australia, and by exploring the relationship between performance on classroom simulations and changes in outcome variables over time.

The classroom simulation intervention was made up of three one-hour online sessions delivered over a three-week period of one semester. Each session included five short video and/or text scenarios resulting in participants seeing a total of 15 scenarios based in early years, primary, or secondary education. The scenarios depicted authentic situations one would encounter as a teacher e.g. working with parents, managing disruptive students, classroom transitions. Each scenario was followed by three possible responses to the scenario, which the participant rated for appropriateness (e.g., *Rate the appropriateness of the following responses to the scenario*), with scores calculated by distance from the responses provided by expert raters.

The content of the scenarios was created using a *critical incidents* approach from over 20 individual interviews and focus groups conducted with practicing teachers with more than five years' teaching experience. The experienced teachers were asked to identify challenges that preservice teachers might expect to face in a school placement. Scenarios were iteratively developed by writing and revising content with a team of writers including experienced teachers. Next, we created animated videos based on the scripts, with the animated classroom environment

and characters vetted by an additional panel of experienced teachers who gave advice on the authenticity of the videos. We created a scoring key through administering the scenarios to a 'concordance panel' of 20 experienced teachers who provided suggested responses to the scenarios (e.g. *Rate the appropriateness of this response…*). Disagreements on appropriate courses of action were resolved through group discussion, and in some cases, by dropping scenarios with scoring differences that were not easily resolved. Post-scenario participant feedback (e.g*., You could also consider pairing the student with a more able* peer) was created over the period of one year through a series of workshops with teachers.

During the intervention, participants watched or read each scenario and rated the appropriateness of the possible responses for a beginner teacher. They were asked to provide a brief typed reflective rationale for each rating, and then received feedback on how their response aligned with the responses of experienced teachers.

Teachers' Self-efficacy

Three items adapted from the Teachers' Sense of Efficacy Scale (Tschannen-Moran & Woolfolk Hoy, 2001) were used to measure self-efficacy for teaching before and after the intervention. These items have been previously measured for reliability and validity (Klassen et al., 2021; Thompson-Lee et al., 2024). The three items used a 6-point Likert scale (1 = strongly disagree, 2 = disagree, 3 = somewhat disagree, 4 = somewhat agree, 5 = agree, 6 = strongly agree). The items were as follows:

- *I am confident that I can manage classroom behaviour.*
- *I am confident that I can develop effective teaching strategies.*
- *I am confident that I can help all students value learning.*

Career Intentions

Intentions for pursuing a teaching career were measured with three items adapted from Hackett et al.'s (2001) Occupational Commitment scale. Previous use of this measure shows adequate reliability and evidence of construct validity (Klassen et al., 2023). The three-item measure used a 6-point Likert scale ranging from 1 = strongly disagree to 6 = strongly agree. The three items were as follows:

- *I am enthusiastic about teaching as a career.*
- *Teaching is a likely profession for me.*
- *I am excited to train as a teacher.*

Person-vocation fit

Person-vocation fit was measured using a three-item, 6-point Likert scale adapted from Chuang et al. (2016). The three-item measure used a 6-point Likert scale with scores ranging from 1 = strongly disagree to 6 = strongly agree. Previous use of this brief measure shows adequate reliability and evidence of construct validity (Klassen et al., 2023; Chuang et al., 2016). The three items were:

- *There is a close match between my skills, knowledge, and abilities and those required for a teaching career.*
- *There is a close match between my personal characteristics (e.g., personality) and those required for a teaching career.*
- *There is a close match between my interests and those required for a teaching career.*

Procedure

The simulated classroom sessions were completed online using the participants' choice of digital device. The sessions were completed over three weeks with a 1-week interval between

each session. Each session lasted for around 30-60 minutes and was made up of five simulated classroom experiences.

Before each session, participants completed the pre-test questionnaire. This consisted of questions about demographic information and measures of self-efficacy, PV fit, and career intentions. After each session a post-test questionnaire was administered re-assessing self-efficacy, PV fit, and career intentions. At the end of each session, participants were given a report indicating how closely their responses matched those of experienced teachers. They were also given ideas about how to improve their decision making in the future sessions.

Scoring alignment (between participants and the key established by experienced teachers) was calculated as follows. For each response option the maximum score was three points if the participant's rating was the same as the optimum rating as deemed correct by a panel of expert teachers. For example, if the participant rated option 1 as "somewhat appropriate" in line with the scoring consensus (i.e., set by the majority of experienced teachers), then the participant would score three points. The score declined (i.e., 2, 1, 0) as distance from the experienced teacher rating increased (i.e., one place away from the expert consensus earned 2 points; two places away earned 1 point, etc.). The total possible score for each session was 45 (3 points per response option x 3 response options x 5 scenarios).

Rationale for Analyses

Preliminary Analyses

Preliminary analyses included descriptive statistics and zero-order correlations across multiple sessions of the classroom simulation. Confirmatory factor analyses were also employed to assess the construct validity of the study measures. To determine the goodness-of-fit, several indices were considered, including the Comparative Fit Index (CFI), Tucker-Lewis Index (TLI),

Root Mean Square Error of Approximation (RMSEA), and Standardized Root Mean Square Residual (SRMR). According to established criteria (e.g., Hu & Bentler, 1999; Kline, 2000), RMSEA and SRMR values below 0.06 and 0.08 respectively, along with CFI/TLI values greater than 0.95 and 0.90, indicate excellent and acceptable fit to the data.

Hypothesis Testing using Latent Change Structural Equation Modeling

To examine the impact of participants' performance in the classroom simulation sessions on changes in their teaching self-efficacy, career intentions, and perceived person-vocation fit over the entire study period, a latent change structural equation modeling analysis was implemented. This analysis aimed to explore the relationships between the three scores representing participants' performance in the simulation sessions and the changes observed in their teaching self-efficacy, career intentions, and person-vocation fit from the pre-session to the end of Session 3. More specifically, the paths from the three simulation task scores to the changes in participants' teaching self-efficacy, career intentions, and person-vocation fit were modelled. These paths aimed to highlight the longitudinal connections, examining whether the performance in each session was associated with any changes in the outcome variables across the three simulation sessions, while accounting for the baseline values of these variables.

Additionally, the model was constructed by assigning loadings of 1 to the outcome variables (teaching self-efficacy, career intentions, and perceived fit) at all four data collection points (pre-session, Sessions 1-3), forming the latent intercept factor (baseline). Loadings ranging from 0 to 3 were set for the latent change factors corresponding to the pre-session (0), Session 1 (1), Session 2 (2), and Session 3 (3) respectively. The intercepts for all observed items were fixed at 0. Through these analyses, a specific examination of our study hypothesis was conducted, focusing on the anticipated effect of participants' performance in the classroom

simulations on the increases of their self-efficacy, career intentions, and perceived person-vocation fit.

The performance of each session was represented by a single score, which combined the participants' performance across five different classroom scenarios in each session. All outcome variables were assessed as latent variables, with each variable being informed by three indicators. Model parameters were estimated using a robust maximum likelihood (MLR) estimator, a variation of the maximum likelihood (ML) estimator developed by Muthén and Muthén (1998-2017). To effectively handle missing data, the model parameters were estimated using *Full Information Maximum Likelihood* (FIML) in M*plus* (Muthén & Muthén, 1998-2017), following recommendations by Enders and Bandalos (2001) and Schlomer et al. (2010). Correlations were modeled between the same items across multiple time points of data collection. Finally, gender and age were included as covariates.

Results

Preliminary Analyses

The comprehensive confirmatory factor analysis (CFA) conducted on all study variables across the three sessions revealed excellent fit indices (CFI = .983, TLI = .977, RMSEA = .027, SRMR = .035) with factor loadings ranging from .667 to .918. Descriptive statistics and zero-order correlations can be found in Tables 1 and 2. Notably, participants who performed better in Session 1 of the simulation tasks reported significantly lower levels of self-efficacy before any of the sessions. However, they reported significantly higher self-efficacy and greater perceived fit after Session 1. Participants with higher simulation scores in Session 2 demonstrated higher self-efficacy after all three simulation sessions. They also reported greater career intentions after Sessions 2 and 3, and a greater perceived fit in the pre-session, and after all three simulation

sessions. Furthermore, participants with higher scores in Session 3 reported higher self-efficacy after Session 3. They also reported greater career intentions before any session, after Sessions 2 and 3, and a greater perceived fit in the pre-session and after all three sessions. Lastly, all outcome variables exhibited positive and significant correlations across all four time points of data collection (pre-session, Sessions 1-3).

Latent Change Structural Equation Modeling

To further explore the relationship between simulation task performance and changes in participants' outcomes over time, a latent change analysis was conducted. Directional paths were modeled from each simulation score to the changes in the three outcome variables, while controlling for the baseline levels of these variables. This analysis provided a robust examination of the impact of the simulation tasks on participants' increases in teaching self-efficacy, career intentions, and perceived person-vocation fit.

As depicted in Figure 1, the results showed that participants' simulation task performance in Session 1 did not significantly influence any changes in the outcome variables. However, in Session 2, higher simulation task performance was significantly associated with a positive change (increase) in participants' teaching self-efficacy ($\beta = .079$, $p = .014$), career intentions ($\beta = .065$, $p = .039$), and perceived person-vocation fit ($\beta = .101$, $p = .002$). In Session 3, higher simulation task performance had a stronger impact compared to Session 2 on the change in participants' self-efficacy ($\beta = .141$, $p < .001$) and perceived fit ($\beta = .104$, $p = .001$), but only had a marginal effect on their career intentions ($\beta = .058$, $p = .055$).

Furthermore, covariate analyses revealed that participants who were older tended to have lower baseline levels of self-efficacy compared to younger participants ($\beta = -.074$, $p = .014$), but they performed better in Session 1 ($\beta = .074$, $p = .007$). Gender was also found to be a significant

factor. Female participants exhibited stronger baseline career intentions (β = .078, p = .008) and perceived fit in the teaching profession (β = .083, p = .004) compared to their male counterparts, and they also tended to perform better in Session 1 (β = .070, p = .012).

Discussion

We wanted to test how preservice teachers' performance on three classroom simulation tasks influenced changes in three motivation-related outcome variables: teaching self-efficacy, career intentions, and perceptions of fit with the profession. Our longitudinal design meant that we could test effects over time while controlling for baseline scores. Findings from latent change SEM suggest that scoring levels from Session 1 were not associated with outcome variables, but in Session 2, higher scores on the simulation tasks were significantly associated with increases in self-efficacy, career intentions, and person-vocation fit. Session 3 task performance had a significant impact on self-efficacy, and fit, with a moderate (approaching significance) effect on career intentions. Our findings suggest that interventions using classroom simulations can be an effective, scalable, and low-cost supplement to other teacher preparation activities. Importantly, we found that the effects of classroom simulation tasks on our outcome variables were cumulative: conducting only one session did not bring significant changes in the outcome variables, whereas conducting two sessions did make for a significant difference in outcome variables. The third session resulted in additional improvements in outcomes, suggesting that at least 2-3 intervention cycles are needed for meaningful change.

The results showed that level of performance on the simulation tasks was associated with changes in teaching self-efficacy (after exposure to > one session). This finding is predicted through Bandura's self-efficacy theory, where successful, and accumulated, enactive experience is a key source of growth in perceptions of personal capabilities (Bandura, 1997). Our

participants were at the very beginning of their teaching journey although almost all of them will have had classroom experience in their role as students, most would have had limited exposure to realistic classroom situations where they took on the role of the teacher. This lack of experience may explain the finding that performance on Session 1 had little influence on changes in self-efficacy. With increasing exposure to the intervention, i.e., in Sessions 2 and 3, participants were more likely to experience increases in their teaching confidence.

Exposure to authentic classroom experiences can improve perceptions of fit and commitment to the profession. We know from theory and previous research that perceptions of fit predict future involvement in a career (e.g., De Cooman et al., 2019). Teachers are more likely to remain in their jobs if they perceive a level of congruence between their values, skills, and beliefs, and those values, skills, and beliefs associated with teaching (Hayes & Stazyk, 2019). However, we do not know very much about how exposure to various activities and interventions, and level of performance on these activities, during ITE leads to building this fit. In our study we found that performance in a single classroom simulation task had no significant effect on changes in perceptions of fit, but the effects of exposure accumulated with repeated exposure: performance on Sessions 2 and 3 was associated with changes in perceptions of perceived fit. The pattern of change for career commitment was more nuanced, with one session leading to little change in commitment, the second session significantly associated with change, and the third session associated with only marginal change in commitment. It may be that repeated exposures to classroom simulations do not change attitudes about commitment: the commitment to the profession of preservice teachers may be harder to shift once established, and realistically may be formed through a range of external sources (e.g., reading media reports of teachers' struggles during the pandemic).

We also explored the effects of demographic variables (age and gender) on longitudinal relationships between performance on the simulation tasks and changes in outcomes. We found few meaningful differences, but older participants had lower levels of self-efficacy at baseline, coupled with higher performance in the first session. Past research has shown that teachers' self-efficacy fluctuates with age (Klassen & Chiu, 2010), but with age comes self-awareness: older participants may have been less prone to inflated self-efficacy beliefs, and more likely to accurately calibrate their self-efficacy with actual performance. Previous research on the calibration of self-efficacy beliefs with performance (e.g., Talsma et al., 2019) suggests that under-efficacious students perform better on academic tasks than over-efficacious students; at the same time, we know that self-efficacy beliefs become less effusive with age (Bandura, 1997), suggesting older participants gauge their teaching self-efficacy beliefs using a different metric than younger participants. Gender differences were modest, with higher baseline career intentions and fit with the profession for female participants, reflecting findings from Giersch (2021) who found that female students considering teaching had stronger

Practical Implications of the Findings

The results raise new questions about interventions designed to prepare preservice teachers for the classroom, and also more specifically about the nature and pattern of online interventions for preservice teachers. We do not know very much about the optimal level of intensity of interventions when preparing pre-professional teachers: how much exposure to an intervention is enough to bring about change? How many sessions are too many? We developed this intervention based on previous research and theory (e.g., research on teacher self-efficacy and on situated learning) to be authentic, scalable, and effective in boosting preservice teachers' motivation for teaching. However, we did not have much guidance from past research on how to

optimise the balance between number of sessions and effectiveness of the intervention. The findings from this study do not offer definitive findings about the optimal intensity of interventions, but we do know that the effects of the classroom simulations accumulated over time: one session by itself was not associated with significant change in our outcome variables, two sessions were better, three did not bring about appreciable change. Even with these new insights into the intensity of exposure to classroom simulations for preservice teachers, considerably more work is needed to understand how to bring about lasting change; our study does not offer very much insight into patterns of longer-term change, and whether the changes we observed were maintained beyond a relatively brief period of time.

Limitations

Several limitations of the study need to be considered when interpreting the results. First, due to the nature of the teacher education programme's 'hurdle' requirement for this intervention, we did not have a control group who did not participate in the intervention in the same setting. Similarly, we were not able to control the day-to-day learning taking place from instruction and experiences associated with the teacher education programme, and changes in the outcome variables were potentially influenced by a host of factors external to our intervention. However, ratings of the three outcome variables took place within the intervention context, and it is probable that participants connected the post-test measures to the immediately preceding intervention. Our hypothesis of diminishing returns of the intervention is speculative since we only administered three cycles of the intervention; it is possible, that the 'sweet spot' of number of this intervention could be a number greater than three. For example, in a recent study on scenario-based learning using five measurement points (one pre-test and four post-tests) we observed an 'inverted U-shaped' (i.e., non-linear) response pattern of one of the outcome

measures (Klassen et al., 2023). Finally, we did not include a longer-term follow-up measurement, which could have shed light on the enduring effectiveness of the intervention; longer-term follow-up measurement is clearly indicated in future research.

Conclusions

Can a low-cost online intervention play a role in preparing preservice teachers for the classroom? We found that performance on a simulated classroom task co-developed with experienced teachers was associated with preservice teachers' confidence to teach, their commitment to teaching as a profession, and their perceptions of fitting in with the demands of the profession. Online and scalable interventions provide a low-cost supplement to conventional teacher education preparations, and importantly, could increase the likelihood that preservice teachers enter the teaching placement with more confidence and a more robust intention to pursue teaching as a career. With attrition rates of early career teachers at an all-time high (e.g., Walker, 2023), authentic practice-based interventions that are reliably associated with increased confidence, commitment, and fit are worth exploring and implementing.

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Table 1

Descriptive Statistics of Study Variables

Variables	*M*				*SD*				α			
	Pre-session	S1	S2	S3	Pre-session	S1	S2	S3	Pre-session	S1	S2	S3
Simulation performance	—	83.49	78.23	76.97	—	6.53	5.87	6.23	—	—	—	—
Self-efficacy	4.82	5.18	5.07	5.07	0.72	0.65	0.66	0.72	.782	.803	.813	.862
Career intentions	5.47	5.56	5.52	5.48	0.67	0.63	0.66	0.70	.873	.897	.908	.932
Person-vocation fit	5.14	5.34	5.33	5.34	0.65	0.63	0.62	0.67	.773	.831	.835	.890

Note. S1 = session 1; S2 = session 2; S3 = session 3.

Table 2

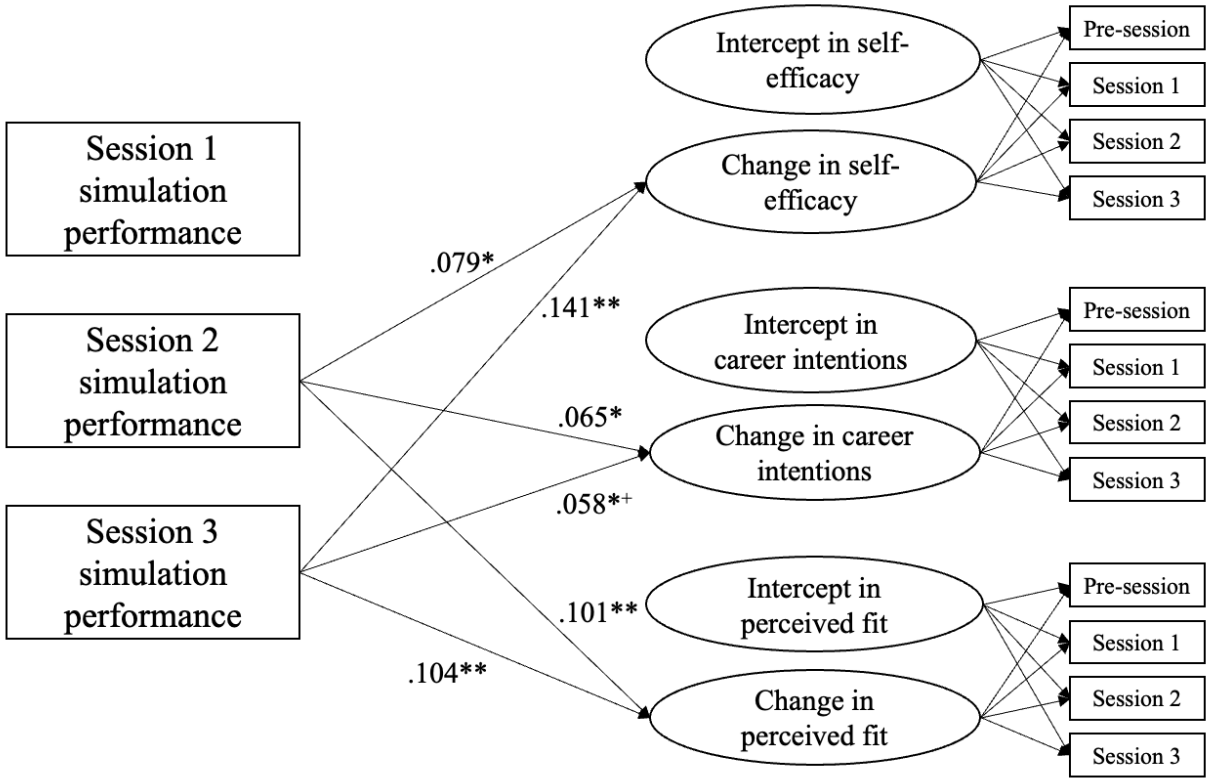
Zero-order Correlations among Study Variables across Sessions

Variables	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1. Simulation performance (S1)	—													
2. Simulation performance (S2)	.104**	—												
3. Simulation performance (S3)	.172**	.051	—											
4. Self-efficacy (pre-session)	-.075**	.036	-.012	—										
5. Self-efficacy (S1)	.099**	.065*	.009	.696**	—									
6. Self-efficacy (S2)	-.027	.142**	.010	.539**	.593**	—								
7. Self-efficacy (S3)	-.005	.064*	.138**	.492**	.529**	.694**	—							
8. Career intentions (pre-session)	.011	.021	.061*	.387**	.393**	.299**	.321**	—						
9. Career intentions (S1)	.047	.034	.046	.354**	.499**	.357**	.346**	.839**	—					
10. Career intentions (S2)	.009	.061*	.058*	.247**	.317**	.460**	.418**	.663**	.708**	—				
11. Career intentions (S3)	.002	.056*	.083**	.259**	.340**	.397**	.535**	.620**	.655**	.754**	—			
12. Person-vocation fit (pre-session)	.001	.062*	.037	.495**	.465**	.379**	.339**	.571**	.534**	.394**	.371**	—		
13. Person-vocation fit (S1)	.087**	.077**	.037	.437**	.619**	.451**	.413**	.489**	.605**	.420**	.420**	.725**	—	
14. Person-vocation fit (S2)	.028	.120**	.084**	.359**	.419**	.577**	.501**	.445**	.497**	.631**	.557**	.563**	.600**	—
15. Person-vocation fit (S3)	.018	.102**	.107**	.328**	.394**	.484**	.632**	.429**	.474**	.541**	.704**	.485**	.536**	.677**

Note. *$p < .05$. **$p < .01$. S1 = session 1; S2 = session 2; S3 = session 3.

Figure 1

Results of the Latent Change Analyses.



Note. $*p < .05$. $**p < .01$.

Age and gender were used as the covariates in this model.

Paths from simulation scores to the intercepts of self-efficacy, career intentions, and perceived fit were not modeled. They were simply presented in the model to help create the change constructs.