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Concepts related to Icelandic student teachers' extra-role behaviour

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Abstract

A student teacher often experiences several demanding situations during their internships and studies. In such situations, extra-role behaviour exhibited by fellow student teachers may be an important factor in helping them overcome those challenges. Extra-role behaviours are certain behaviours of students that are not part of their formal educational requirements: for instance, helping and supporting fellow student teachers. This study explores concepts related to Icelandic student teachers' extra-role behaviour. A questionnaire was distributed to 189 student teachers in two selected teacher education programmes. Structural equation modelling showed that altruistic motivation was the factor most strongly related to extra-role behaviour. Extrinsic motivation was also related to extra-role behaviour, but intrinsic motivation, surprisingly, was not. However, intrinsic motivation was related to instructional self-efficacy. Furthermore, instructional self-efficacy was not related to extra-role behaviour. Experiences of discipline challenges in internship situations were negatively related to self-efficacy but not related to extra-role behaviour. The implications of these findings are discussed.

Keywords: student teacher, teacher education, extra-role behaviour, Iceland, structural equation modelling

Introduction

Student teachers have obligations to fulfil the requirements of their teacher education institutions (Calderhead, 1991), which are often formulated as competence targets in their study programmes. The student teachers' behaviours that fulfil these expectations, which constitute their formally prescribed responsibilities as students, are called *in-role behaviours* (Zhu, 2013). This includes study activities that primarily benefit the individual student teacher. However, student teachers' learning also depends on several other aspects that are not easily included in the competence requirements formulated in study programmes (Hamilton and Margot, 2019). The individual student teacher's helpfulness towards and constructive criticism of other student teachers form important contributions to learning processes for fellow student teachers (Nobles, Dredger and Gerheart, 2012; Liou et al., 2017) but can also reinforce the individual student's understanding and professionalism (Calderhead, 1991). In internship situations, there is an opportunity for community-based field experiences in which student teachers can work together (Hamilton and Margot, 2019). An additional argument for the benefit of working together is that, if you help somebody or teach something, then it also strengthens your understanding of the topic at hand (Liou et al., 2017). This phenomenon applies both in the practical school arena and in campus teaching in teacher education programmes (Gurvitch and Metzler, 2009). We call this positive externality towards other student teachers *extra-role behaviour*. This is behaviour that goes beyond what is obligatory in a minimal sense. Extra-role behaviour thus refers, in this article, to those behaviours that go beyond specified role expectations and are directed towards the fellow student to promote successful learning in the internships of teacher education programmes as well as in campus arrangements. However, the boundary between in-role behaviour and extra-role behaviour is difficult to identify in educational settings (Belogolovsky and Somech, 2010).

Our argument in this article is that this extra-role behaviour is an important quality for individuals in teacher education programmes, as well as in their prospective profession as schoolteachers. The importance of extra-role behaviour is emphasised in research on teachers' work (Somech and Drach-Zahavy, 2000) but is not frequently a focus in research on student teachers (Liou et al., 2017; Nobles et al., 2012). However, there is a growing understanding of the need for collaborative arrangements among student teachers, student teachers and teachers (Willegems, Consuegra, Struyven and Engels, 2017), and student teachers and teacher educators (Steele, Brew, Rees and Ibrahim-Khan, 2013).

One factor that may limit the potential for positive interactions is the fact that student teachers are under supervision; their performance in internships must be assessed by the school mentor and their teacher educators. The relationship between the student teacher and the person judging the achievements is characterised by judgment mentoring (Hobson and Malderez, 2013). This judgement mentoring arrangement can inhibit the potential of school-based mentoring in teacher education, which is based on openness and confidentiality. Therefore, the potential for positive interactions between fellow student teachers in internship situations is of particular interest.

The purpose of this article is to explore which concepts are statistically associated with student teachers' extra-role behaviours. The concepts we are looking at are the student teachers' different motivational

orientations, instructional self-efficacy, and perceptions of problem behaviour among pupils in the classrooms they work in. We will explore these issues later in the article.

The context: compulsory schools and teacher education in Iceland

In the last few decades, there has been a persistent shortage of teachers in compulsory schools in Iceland, and in the last 10 years, on average, 17% of teachers have been unlicensed (Statistics Iceland, n.d.). There is no foreseeable solution to this problem because the number of applicants to teacher education programmes has decreased since the extension of teacher education to five years in 2008 and because large cohorts of teachers are retiring (Eyjólfsson and Jónsson, 2017; Jóhannsdóttir and Björnsdóttir, 2018). There are probably enough educated teachers in Iceland, but 48.6% of those certified as compulsory schoolteachers do not work in the profession (Eyjólfsson and Jónsson, 2017). Those individuals choose to work in other fields and there are undoubtedly many reasons for this including low wages and working conditions. A lack of licensed teachers makes it more difficult to cope with challenges facing the Icelandic school system, such as the country's school performance, which is reflected in weak results on programme of Programme for International Student Assessment, PISA (Menntamálastofnun, 2023; OECD, 2019a, 2019b). There are also challenges in providing quality education to an increasing number of non-native-born children, but Iceland has one of the largest differences in PISA performance in favour of native-born pupils (OECD, 2019c).

Being a teacher can be demanding, and teachers are among the professionals exposed to burnout because of stressful working conditions. The problematic behaviour of pupils can add to the stress where teachers in Iceland lose more time due to the disruptive behaviour of pupils than colleagues in other Nordic countries (Ólafsson, 2019). Research among Icelandic compulsory teachers indicates that the health and well-being of Icelandic compulsory teachers have deteriorated since the financial crisis in 2008 (Rafnsdóttir and Sigursteinsdóttir, 2016). A study by Einarsdóttir, Erlingsdóttir, Björnsdóttir and Snorraddóttir (2019) showed that symptoms of emotional exhaustion had increased since previous studies and that a high proportion of compulsory schoolteachers also met the criteria for exhaustion disorder. Another study in Iceland found a connection between having to deal with difficult behaviour in the classroom and symptoms of emotional exhaustion (Björgvinsdóttir and Pétursdóttir, 2014). Icelandic teachers need support and have described the importance of formal support when starting out in their profession (Eyjólfsson and Jónsson, 2017), but we should not underestimate the importance of informal support given to colleagues that is not part of their formal work responsibility but part of their extra-role behaviour. Extra-role behaviour is therefore not only important when learning to be a teacher but also in the workplace. It is therefore important to explore the less formal interactions of student teachers, their willingness to support fellow student teachers and how this willingness is related to other concepts such as their motivational orientations, instructional self-efficacy and perceptions of problem behaviour among students. More knowledge about both university-based studies and school-based practice teaching in Iceland is needed to develop stronger teacher education that will provide better-prepared professionals who are more prepared to tackle the problems that the school system is facing.

Theoretical framework and hypotheses

Student teachers experience the school practice periods in a teacher education programme as demanding (Calderhead, 1991; Gurvitch and Metzler, 2009) – often more demanding than participating in classes on campus (Martinussen and Smestad, 2011). Teaching for the first time is experienced as unfamiliar and can lead to a student teacher having to find solutions to challenges that require quick thinking, for example, when pupils show behaviour that is not appropriate in the classroom (Kounin, 1977). Pupils' problem behaviour (Stoughton, 2007; Grey and Sime, 1989) may induce stress (Rieg, Paquette and Chen, 2007). Through experience, a teacher will acquire automated reactions that lighten the cognitive burden created by finding solutions to how a teacher should react to pupils' problem behaviour (Leinhardt and Greeno, 1986; Sweller, 2011). We ask whether there is a statistical relationship between witnessing problem behaviour in the classroom and the type of helpfulness a student teacher shows towards another student teacher. The assumption is that when problem behaviour exists in the school classes that the student teacher and their fellow student teachers teach in, the tendency to show helpfulness in behaviour – extra-role behaviour – will be present (Hypothesis 1).

Pupils' problem behaviour can induce stress and influence student teachers' instructional self-efficacy (Klassen and Chiu, 2010). Therefore, we assume that problem behaviour is negatively related to student teachers' instructional self-efficacy. Furthermore, there are also reasons to explore the relationship between self-efficacy and extra-role behaviour. Previous research does not provide a basis for formulating a sharp hypothesis, but we find reasons to explore the connection between self-efficacy and extra-role behaviour (Hypothesis 2).

Student teachers' motivational orientations are complex. Student teachers can be intrinsically motivated (Ryan and Deci, 2000b), but they can also be motivated by how other student teachers perceive them, which is called extrinsic motivation (Ryan and Deci, 2000a). Furthermore, some student teachers may be motivated by altruistic reasons (Roness, 2011). In our study, we explore the relationship between these motivational orientations (which can all be present at the same time) and extra-role behaviour. Intrinsic motivation is a highly valued motivational orientation in the research literature (Deci and Ryan, 1975), and we find it interesting to explore the connection between intrinsic motivation and extra-role behaviour. We assume that there is a positive relationship between intrinsic motivation and extra-role behaviour (Hypothesis 3). Extrinsic motivation is a complex concept (Ryan and Deci, 2000a). In part, this motivational orientation can be seen as a selfish mentality (Crocker, Canevello and Brown, 2017) but also as a prerequisite for people to search for consequences that can have positive externalities (Sansone and Harackiewicz, 2000). In other words, extrinsic motivation should not be seen as the 'big bad wolf' in assessments of people's motivations (Lens and Rand, 2000). We assume that there is a positive relationship between extrinsic motivation and extra-role behaviour (Hypothesis 4). Altruistic motivation is also part of people's complex motivational orientations (Elster, 2006). A likely source of altruistic motivation is empathic concern (Batson, 2010). Altruistic motivation is acknowledged as a motivational orientation among student teachers (Roness, 2011), and we assume that there is a positive relationship between altruistic motivation and extra-role behaviour (Hypothesis 5).

Bandura (1977) developed the concept of self-efficacy, and in 1986, he defined it as “people’s judgements of their capabilities to organise and execute courses of action required to attain designated types of performances” (p.103). In instructional settings, self-efficacy plays a role in teachers’ mastery beliefs, which are contextual judgments of their capability to succeed in teaching situations (Schunk, 1995; Elstad and Christophersen, 2017). We link student teachers’ beliefs in their own teaching ability with motivational orientations. We find it interesting to explore the relations between intrinsic motivation and instructional self-efficacy, as well as between extrinsic motivation and instructional self-efficacy. Furthermore, we also find it interesting to explore how altruistic motivation is related to instructional self-efficacy. We assume that there will be a positive relationship between these motivational categories and instructional self-efficacy.

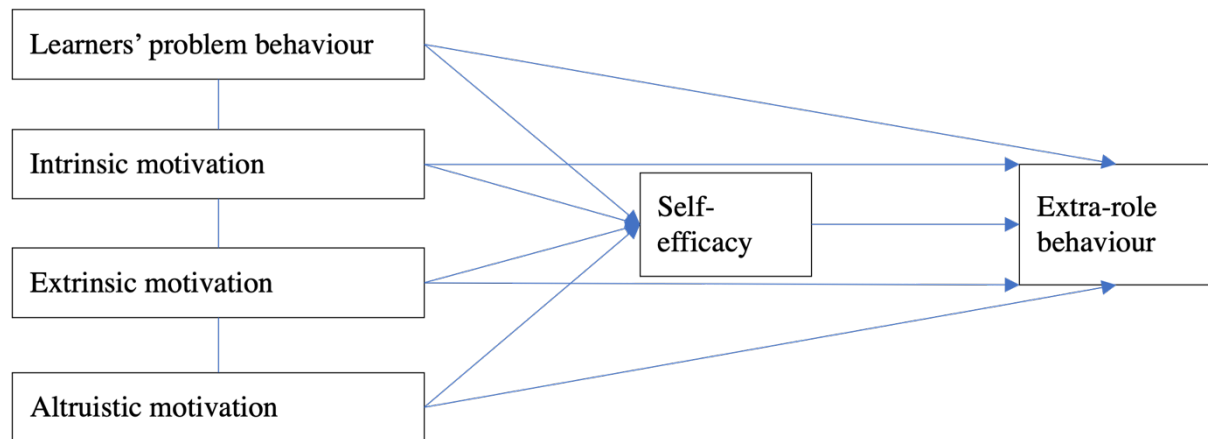


Figure 1: antecedents of student teachers’ extra-role behaviour: hypothesised model

Methods

Samples and procedures

The analysis in this paper is part of a larger research project in which Icelandic student teachers’ perceptions and attitudes were examined. An online questionnaire was distributed to student teachers at the University of Iceland and the University of Akureyri. The participants were 189 student teachers training to become compulsory schoolteachers. To protect the privacy of the participants, the survey was anonymous.

Measurement instruments and analysis

The questionnaire was developed based on previously reported measurement instruments in the literature (Skaalvik and Skaalvik, 2007), as well as on new developments (based on Haladyna and Rodriguez, 2013). The student teachers responded to items on a seven-point Likert scale, where ‘four’ represented a neutral midpoint. Each concept was measured with two to four items (see Table 1).

Table 1: research instrument (N=189)

	Min	Max	Mean	SD	Skewness	Kurtosis	Alpha
Extra-role behaviour (ocb)							.87
W60. I freely help other student teachers with their studies.	1	7	3.96	1.76	-0.04	-0.82	
W61. I help other student teachers, even though it is not strictly my responsibility.	1	7	4.37	1.78	-0.28	-0.82	.72
Instructional self-efficacy (en)							
W9. How well do you think you, as a teacher, can get students to be ambitious?	1	7	5.21	1.10	-0.25	0.60	
W11. How well do you think you, as a teacher, can manage to get the pupils to follow school rules?	1	7	5.10	1.16	-0.53	0.39	.83
W13. How well do you think you, as a teacher, can create a learning-stimulating atmosphere in the classroom?	1	7	5.74	1.09	-1.10	2.83	
Intrinsic motivation (im)							.61
W22. I want to be a teacher because it is exciting to teach.	1	7	5.92	1.22	-1.39	2.53	
W23. I want to be a teacher because I want others to be interested in learning.	1	7	5.67	1.32	-0.93	0.60	.76
Extrinsic motivation (pm)							
W25. It is important to me to be looked up to by the other student teachers.	1	7	3.76	1.78	-0.09	-0.92	.87
W26. It is important to me to be described as the best in the study group.	1	7	2.15	1.42	1.16	0.55	
Altruistic motivation (fg)							.87
W29. It is important to me to work with people.	1	7	6.18	1.03	-1.75	5.25	
W30. It is important to me to help people who need it.	1	7	6.32	0.96	-1.81	4.86	.87
Perceived discipline problems during teaching practice (pb)							
W83. Pupils disturbing their fellow pupils in their work.	1	7	4.55	1.60	0.07	-0.91	
W86. Pupils breaking class rules.	1	7	2.85	1.59	0.99	0.24	
W88. Pupils making unnecessary noise.	1	7	3.51	1.58	0.53	-0.49	.87
W90. Pupils leaving their desks without asking for permission.	1	7	3.17	1.78	0.63	-0.59	

Table 1 shows the descriptive statistics of the analysis: means, standard deviations, skewness and kurtosis for each item, and Cronbach's alpha for each concept. The alpha values are mainly satisfying (Crocker and Algina, 1986), but the alpha for the concept of extrinsic motivation (pm) is somewhat low

Results

Following Kline (2005), Hancock and Mueller (2013) and Brown (2015), structural equation modelling (SEM) was used in the data analyses. SEM is suitable for confirmatory factor analysis and path analysis. Assessments of fit between the model and the data were based on these indices: the root mean square error of approximation (RMSEA), normed fit index (NFI), goodness-of-fit index (GFI) and comparative fit index (CFI). RMSEA < .05 and NFI, GFI and CFI > .95 indicated a good fit, while RMSEA < .08 and NFI, GFI and CFI > .90 indicated an acceptable fit (Kline, 2005). The measurement and structural models were estimated using IBM SPSS Amos 21. The indices indicated that the structural model in Figure 2 had an acceptable fit.

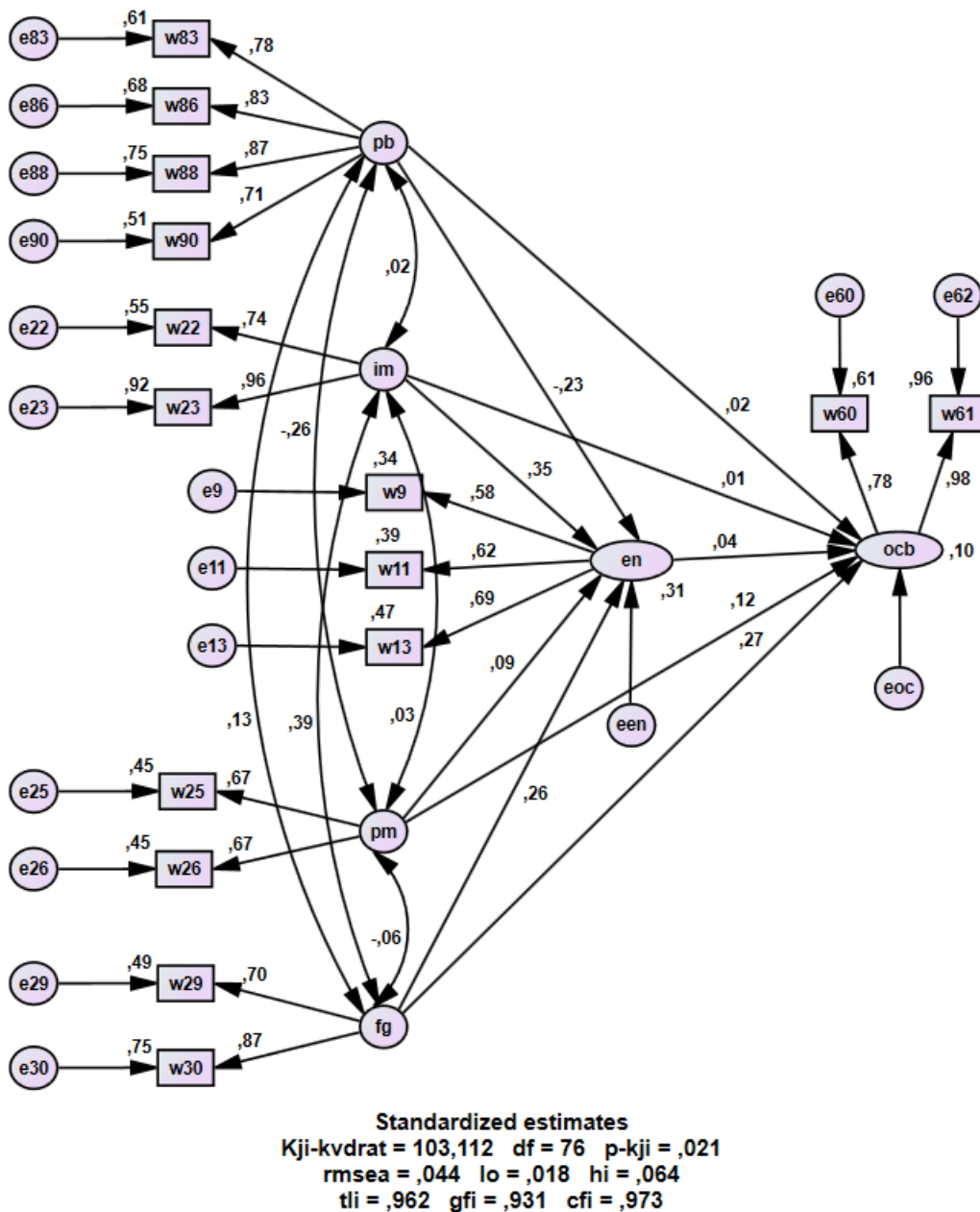


Figure 2: estimated structural model. Intrinsic motivation (im), extrinsic motivation (pm), altruistic motivation (fg), perceived discipline problems during teaching practice (pb), instructional self-efficacy (en), extra-role behaviour (ocb).

Discussion

This study focused on concepts related to extra-role behaviour among student teachers. The analysis presented in Figure 2 showed that altruistic motivation is associated with extra-role behaviour (.27, Hypothesis 5). Therefore hypothesis 5 is supported. The association between extrinsic motivation and extra-role behaviour is, however, weaker (.12, Hypothesis 4). Furthermore, the associations between extra-role behaviour and intrinsic motivation (Hypothesis 3), perceived discipline problems during teaching practice (Hypothesis 1) and instructional self-efficacy (Hypothesis 2) are close to zero. Therefore hypotheses 1, 2 and 3 are not supported.

Extrinsic motivation and altruistic motivation could be interpreted as antecedents of extra-role behaviour. However, the empirical associations are not strong. Altruistic motivation reflects an inner drive towards helping fellow student teachers. This is a positive mechanism for both teacher education and individual student teachers. However, extrinsic motivation is often linked to competitive attitudes, which are the opposite of being helpful. Another interpretation could be that supportive behaviour encourages one's own ego to achieve a superior position compared with peers.

Based on these results, a core question may be what factors contribute to extrinsic motivation and altruistic motivation in teacher education. If we presume that extra-role behaviour is beneficial for close relationships among student teachers, then selecting applicants to teacher education programmes who have high extrinsic motivation and high altruistic motivation might be a goal worth pursuing. However, it is also important to discuss whether teacher education programmes can foster motivation. This nurtures extra-role behaviour, which might be important in areas with teacher shortages, such as Iceland. However, this issue remains unclear. One may assume that students are not locked into fixed personality traits; rather, there is space to develop them. Even if students typically want others to have positive impressions of them, which can motivate them to exhibit extra-role behaviour, reinforcing that behaviour might be complicated. Student personalities are derived from complex interactions with the environment, and their teacher education programmes are only a part of that interaction.

Surprisingly, our hypothesis regarding intrinsic motivation was not supported. The analysis also demonstrated that student teachers' instructional self-efficacy had almost no statistical association with extra-role behaviour. Our hypothesis was that student teachers who had a desire to function as positive role models for future learners would also display intrinsic motives in their behaviour during teacher education. More in-depth research is required if we are to gain a better understanding of the association between intrinsic motivation and extra-role behaviour.

So far, we have focused on constructs that are closely related to personality traits. However, the actual situations in which student teachers operate are significant in terms of extra-role behaviour. In addition, the analysis showed that the experience of discipline problems in teaching situations had almost no association with extra-role behaviour, which is a surprising finding. Our research method emphasises parsimonious modelling. Future research in this area could extend the scope by introducing additional conceptual distinctions within extra-role behaviour, reflecting the concept's multifaceted nature.

Implications

The findings of this study have implications for practice and further research. In Iceland, the dropout rate from teacher education is high, and the slow progress of many students is a concern (Jóhannsdóttir and Björnsdóttir, 2018). At the same time, it is predicted that there will be a significant shortage of teachers within the next few years. Measures that encourage and sustain extra-role behaviour might help to reduce dropout rates during teacher education, thereby increasing the number of teachers available to schools. Interesting directions for further research involve how online collaboration among student teachers might nurture extra-role behaviour (Margaliot, Gorev and Vaisman, 2018; Janssen, Knoef and Lazonder, 2019) and how digital practicums might make room for extra-role behaviour via virtual coaching and communities of practice (Hamilton and Margot, 2019).

This study provides several key implications for teacher education institutions, policymakers, and educators, specifically regarding the value of extra-role behaviours in teacher education and how they correlate with different types of motivation and instructional self-efficacy. First, teacher education institutions could re-evaluate their admission criteria (Casey and Childs, 2011). For instance, institutions might consider adjusting their selection criteria to prioritize applicants with high extrinsic and altruistic motivations, as these have been linked to extra-role behaviour, which can enhance collaborative and supportive environments within teacher education (Niemi and Jaku-Sihvonen, 2011). Second, institutional programs can be designed to encourage the development of altruistic values and extrinsic motivators. This might include service-learning components, community engagement projects, or extracurricular activities that reward altruistic behaviour (Friedman, 2016; Sosu et al., 2010). Third, institutions should consider implementing strategies that actively support and encourage extra-role behaviours among student teachers (Darling-Hammond, 2012). These behaviours which have the potential to foster community and decrease dropout rates, could be nurtured through mentoring, peer support networks, or reflection exercises.

This study also has implications for policymakers. First, policymakers could allocate resources to develop and support teacher education programs (Cochran-Smith, 2001). These programs would effectively foster extra-role behaviours through training workshops, extracurricular programs, and teacher-led initiatives aimed at strengthening both extrinsic and altruistic motivations (Struyven et al., 2013). Second, policymakers could implement measures that recognize and reward extra-role behaviours in teacher training. Encouraging such behaviours in professional teaching could have a positive impact teacher retention.

Further, this study has implications for school-based mentors and campus-based educators. Mentors and campus-based educators can promote extra-role behaviours by fostering a culture among student teachers where these behaviours are valued and recognized. This could involve acknowledging acts of altruism or establishing peer-recognition programs. Additionally, this endeavour could offer training that helps student teachers develop motivated by both extrinsic and altruistic practices, fostering self-efficacy without inadvertently dampening extra-role behaviours.

Extra-role behaviour may be regarded as supportive behaviour. However, extra-role behaviour may also be regarded as a civic virtue, much like altruism or conscientiousness. All of these characteristics presuppose authentic behaviour if they are to demonstrate their true potential. Rewarding extra-role behaviour via formal arrangements to sustain social ties by, for instance, enhancing grades in teaching practice could be construed as turning an emotional-ethical value into a utilitarian value. On the other hand, it is possible to provide a space for genuine helpfulness among student teachers by deliberately assembling small groups of students who have good personal relations during practice periods.

Conclusions

This study foregrounds the social dimension of student teachers. The study contributes to the research field because there is a limited number of studies on the antecedents of extra-role behaviour among student teachers. We have discussed the spontaneous and informal helpfulness that, we argue, fills the gap in provisions designed to support the student teacher's personal growth in conducting the teaching role. We conclude that both altruistic and extrinsic motivation appear to be antecedents of extra-role behaviour.

Facilitating formal opportunities for collaboration within teacher education programmes may be seen as important. For instance, the education community could prioritise the social dimension of cohort design (Nobles et al., 2012). Cultivating extra-role behaviour could produce better teaching performance among student teachers and perhaps encourage student teachers to complete their teacher education programmes.

The limitations of this study must be acknowledged. We claim neither causal effects nor causal directions between the relations we focus upon. A cross-sectional approach cannot prove causal directions. Only controlled experiments can help us understand causality, and controlled experiments (and quasi-experiments) are difficult to execute in teacher educational arrangements. Nevertheless, we believe that the external validity of this study is rather strong (Cook and Campbell, 1979). We must add here that validity considerations apply to the time in which the survey was carried out. After the survey was carried out, Icelandic society experienced shutdowns in connection with the COVID-19 pandemic. A question that must be raised is whether the experiences during the pandemic have changed significant conditions in schools and in the relationships between the actors in teacher education. We do not know the answer, but we assume that this question is not of great importance. When it comes to concept validity, we must constantly ask questions about whether the terms we use are adequate and whether we need finer-grained terms for empirical investigations. We recognise that the field of teacher education research needs improvements when it comes to operationalisations of subject concepts, and this is also important for the phenomenon being studied here. Therefore, we must recognise threats to concept validity.

Too little is known about how the design of formal opportunities for extra-role behaviour in professional knowledge contexts might work (Korthagen, Kessels, Koster, Wubbels and Lagerwerf, 2001). This topic has not been specifically addressed in prior research (Liou et al., 2017). For this reason, we believe

that teacher education institutions should consider extra-role behaviour in their plans for providing good teacher education. Attention should be devoted to the significance of high-quality peer relationships.

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