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THE IMPACT OF A LONG-TERM INTERNSHIP ON PRE-SERVICE TEACHER COLLABORATION

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Abstract

Through the participation of pre-service teachers in a six-month, long-term internship, the pre-service teacher collaboration could be examined for the first time over a longer teaching practice phase. N = 74 students in a master of education program were interviewed before and after the long-term internship with respect to their general team orientation, their attitudes towards collaboration, their intentions to carry out future collaborative behaviors in the future as well as their performance of collaboration during the long-term internship. The results show that the pre-service teachers' intentions to collaborate decreased during the long-term internship, especially in case of pre-service primary school teachers. The regression models show that during the long-term internship, it is possible to infer the pre-service teachers' intentions to collaborate based on their attitude towards collaboration. There are significant correlations between the pre-service teachers' overall team orientation and both their attitudes towards collaboration and intentions to collaborate.

Key words*:* Collaboration, longitudinal study, long-term internship, pre-service teachers, teacher education

1. Introduction

Pre-service teachers usually get their first teaching experience through internships in the course of university-based teacher education. An increasing number of countries and universities are focusing on providing more in-school experience for pre-service teachers and are implementing long-term internships. Therefore, the current research tends to focus on how pre-service teachers can transfer their theoretical knowledge into teaching and how internships help to professionalize the future teachers.

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This study focuses on another aspect that came into focus through the introduction of long-term internships for pre-service teachers: collaboration during the internship with fellow teaching students and other teachers. Previous studies have shown that in-service teachers hardly collaborate with each other (Gräsel, Fussangel, & Pröbstel, 2006; Richter & Pant, 2016). Pre-service teachers rate collaboration high but do not anticipate performing collaboration in their later jobs (Rothland, 2012).

In Germany, universities implemented an obligatory 6-month in-school internship in the master's degree program for pre-service teachers. The newly implemented long-term internships in Germany offer the possibility for the first time of not only investigating the pre-service teachers' attitudes towards collaboration or their intentions to collaborate but also their performance of collaboration in school. Therefore, this study investigates changes in pre-service teachers' general team orientation, their attitudes towards collaboration, and their intentions to collaborate during a 6-month in-school internship for pre-service teachers in Germany. The results will be used to develop interventions that foster collaboration while pre-service teachers are still in their teacher education programs at the university.

2. Theoretical background

The basis for collaboration is a common goal or task (Spieß, 2004). To ensure that the collaboration is successful, trust, autonomy, and reciprocity are also important factors (Spieß, 2004). Studies show that the presence of teacher collaboration is linked to improved quality of the school, the lessons, and the teachers' health (Böhm-Kasper et al., 2001; Muckenthaler et al., 2019; Schaarschmidt, 2005; Terhart & Klieme, 2006). According to Bondorf (2013), collaboration is especially helpful in terms of teacher professionalization. She states that professionalization is most likely to be achieved through intensive communication and collaboration with other teachers.

Many studies already focus on how and how often teachers collaborate with each other in school, with one central finding that is confirmed again and again: teachers collaborate little in general (Gräsel et al., 2006; Rothland, 2012; Werner, 2012). Different studies have found that teachers mostly perform low-cost forms of collaboration, such as exchanging information or material. They hardly perform higher-cost forms of collaboration, for example sharing work by collaboratively writing questions for exams or team teaching in a class (Gräsel et al., 2006; Richter & Pant, 2016; Soltau, 2007). In primary schools, the teachers collaborate noticeably more

than in other schools. The findings show that the higher the school form, the less collaboration (Rothland, 2012).

There are diverse reasons why teachers might not collaborate. One factor is the organizational structure of school, which Terhart and Klieme (2006) describe as cellular. Teachers in schools tend to work individually without coordinating their tasks. Their main task is teaching classes, which can happen without anyone else being involved apart from the teacher and the students. Therefore, teachers can work isolated from their colleagues. This work style reinforces autonomy and parity, in turn leading to more isolation, which is not conductive to collaboration (Pröbstel & Soltau, 2012).

Some studies explain the lack of teacher collaboration of teachers with the autonomy-parity pattern identified by Lortie (1972) in which two rules characterize the pattern: 'first, no adult person should interfere in a teacher's classroom' and 'secondly, all teachers are to be treated equally, regardless of their actual competencies, energy invested, and qualities displayed' (Altrichter, 2006, p. 51). Altrichter and Eder (2004) found that teachers who discard autonomy and parity as guiding principles are much more likely to engage more in school transformation processes. However, Lortie (1972) postulated that novice teachers in particular are socialized to work according to the pattern during their first years on the job. Eder, Dämon, and Hörl (2011) even found that pre-service teachers attending university already show the autonomy-parity pattern. Rothland (2012) also found that pre-service teachers highly rate collaboration and collegial support but do not intend to collaborate in their later jobs as teachers.

In two cross-sectional studies, we investigated how pre-service teachers in long-term internships rate collaboration, how much they intend to collaborate, and whether they collaborated during the long-term internship and how. We found that pre-service teachers aiming to become teachers in primary schools have higher intentions to collaborate than those aiming to teach in secondary schools. However, we could not find any differences regarding a pre-service teachers' attitude towards collaboration and the performance of collaboration during the long-term internship (Bush & Grotjohann, 2018).

In the second more comprehensive cross-sectional study, we also investigated pre-service teachers in their first year of earning their bachelor's degree, master's degree students before and after their long-term internship, and student teachers who already work in schools (Bush & Grotjohann, 2020). The results show that first-year bachelor's degree students are less team oriented compared to the other cohorts. They also do not rate collaboration as high as the other cohorts and have lower intentions to collaborate later in their jobs as teachers. The highest

intention to collaborate was found for the master's degree students right before beginning the long-term internship. In school, the interns collaborate more using low-cost forms of collaboration than the student teachers, who collaborate more often and use noticeably higher-cost forms of collaboration.

The third study presented here also investigates the pre-service teachers' overall team orientation, their attitudes towards teacher collaboration, their intentions to collaborate, and their performance of collaboration in the long-term internship in their master's degree studies. However, this study is not a cross-sectional study as the previous two studies but a long-term study and therefore investigates the same sample group before and after their internship.

The overall team orientation is a superordinate construct to a person's attitude towards a certain collaborative behavior. The questionnaire aims to survey the team orientation as a general personality trait, which should not change due to individual experiences of certain behavior performances (Hossiep & Paschen, 2003). Ajzen (1991) focused his research on human attitudes and behaviors, investigating how a person's attitude towards a certain behavior is interlinked with the person's intentions to perform the behavior and its actual performance. In his theory of planned behavior, he states that the intention to perform a behavior is influenced by a person's attitude towards the behavior. It is also influenced by a person's subjective norm and perceived behavioral control, which we did not investigate in this study. According to Ajzen's theory, the intention to perform a behavior is a predictor for the performance of the behavior. Moreover, studies have found that the performance of a certain behavior influences the attitude towards it (Fazio & Zanna, 1978; Frymier & Nadler, 2017; Olson & Stone, 2005; Regan & Fazio, 1977). These findings are especially interesting not only with regard to investigating the attitude towards collaboration and the intentions to collaborate before the actual performance of the collaboration in the long-term internship but also with regard to investigating how the performance of collaboration changes the pre-service teacher's attitude towards collaboration and his or her intention to collaborate after the long-term internship.

Research questions and hypotheses

(a) How do pre-service teachers' overall team orientation, their attitudes towards teacher collaboration, and their intentions to collaborate change during a long-term internship?

(b) How are the pre-service teachers' team orientation, their attitudes, their intentions, and their performance of collaboration interrelated?

Considering the theory of planned behavior (Ajzen, 1991), we assume that at both times of assessment, the pre-service teachers' attitudes are a predictor for their intentions to collaborate. We also expect their intentions at the first time of assessment to predict their performance of collaboration in the long-term internship. According to the findings of Fazio and Zanna (1978), Frymier and Nadler (2017), and others, we assume the pre-service teachers' performance of collaboration in the long-term internship will predict their attitudes towards teacher collaboration after their internship. As the overall team orientation is supposed to be a general personality trait, we expect significant correlations with the other three scales that focus particularly on teacher collaboration (attitude, intentions, and performance). A previous cross-sectional study on pre-service teachers (Bush & Grotjohann, 2020) showed a lower overall team orientation and decreased attitude towards teacher collaboration with pre-service teachers after the long-term internship compared to those before the long-term internship. Similarly, we expect the pre-service teachers' intention to collaborate to decrease significantly during the long-term internship

3. Methodology and methods

3.1. Sample group

The survey was conducted in science education seminars and pedagogy seminars at university. A total of 74 pre-service teachers completing their master's degree were questioned before (T_1) and after (T_2) a six-month internship in school. Pre-service teachers were questioned before (T_1) and after (T_2) the long-term internship during their master's degree studies. The sample size consists of 81.1 % ($n = 60$) female and 18.9% ($n = 14$) male participants. Most pre-service teachers (62.6%; $n = 43$) were studying to become secondary school teachers, while 37.8% ($n = 28$) were studying to become primary school teachers.

3.2. Research instruments

The original questionnaire was designed, tested, and used by Soltau (2007) to question in-service teachers. We adapted the questionnaire to fit the sample group. The questionnaire presents nine different collaborative behaviors that can be found among teachers in school. Example items are 'Teachers exchange learning materials with each other', 'Together, teachers agree on learning goals. Each teacher decides how he/she wants to achieve these goals in terms of methods and didactics in his/her class', and 'based on a jointly developed teaching concept, two teachers teach

a class together (team teaching)'. The pre-service teachers then indicated their attitudes towards these behaviors on semantic differential scales. Moreover, they also indicated on a rating scale how much they intended to perform these behaviors in the future. After the internship, the pre-service teachers were asked to complete another rating scale to determine their self-reported performance of the collaborative behaviors in school.

To survey the overall team orientation, we used the team-orientation part of the Business-focused Inventory of Personality (BIP), which aims to assess personality character traits and is not focused on a certain behavior but on the overall concept of collaboration and a person's willingness to collaborate in general (Hossiep & Paschen, 2003; Hossiep, Paschen, & Rust, 2008; Soltau, 2007).

3.3. Data analysis

With variance analyses, we calculated the results regarding the change in the pre-service teachers' overall team orientation, their attitude towards collaboration, and their intentions to collaborate before (T_1) and after (T_2) the long-term internship. Moreover, we also calculated whether there are differences in sub-cohorts depending on school type (primary school and secondary school). Since the study was predominantly conducted in science education seminars but also in pedagogy seminars, we also divided the sample group by subject (science education and other subjects) to conduct a variance analysis with within-subject factors.

Based on Ajzens' (1991) theory of planned behavior and the findings about the impact of the performance of a behavior on a person's attitude towards the behavior (Fazio & Zanna, 1978; Frymier & Nadler, 2017), we calculated regressions with the pre-service teachers' attitudes towards collaboration, their intentions to collaborate, and their performance of collaborative behaviors. The theory of planned behavior (Ajzen 1991) states that a person's attitude towards a behavior is a predictor for the person's intention to perform the behavior and that the intention is a predictor for a person's performance of the behavior. Therefore, we calculated linear regressions for both times of assessment, with the pre-service teachers' attitudes (at T_1 and T_2) as independent variables and their intentions to collaborate (T_1 and T_2) as dependent variables. With another linear regression, we calculated the correlation between the pre-service teachers' intentions to collaborate (T_1) and their performance of collaboration (T_2) during the long-term internship. Frymier and Nadler (2017) proved that the performance of a behavior influences a person's attitude towards it. Therefore, our last linear regression model consists of the

performance of the pre-service teachers' collaboration during the long-term internship (T_2) and their attitudes towards it after the internship (T_2).

We also investigated the pre-service teachers' overall team orientation. This concept is not yet linked with a person's attitude, his or her intention to perform a behavior, and the performance of a certain behavior. Therefore, we conducted correlation analyses between the overall team orientation and the other three scales. We set the alpha level at .05 for all tests. Cohen's d_z was calculated with the following formula (Faul, Erdfelder, Lang, & Buchner, 2007; Lakens, 2013):

$$d_z = \frac{M_{diff}}{\sqrt{\frac{\sum(X_{diff} - M_{diff})^2}{N-1}}}$$

The effect size Cohen's dz was interpreted following Cohen's (1988) recommendations: $dz \geq 0.2$ for a small effect, $dz \geq 0.5$ for a medium effect, and $dz \geq 0.8$ for a large effect.

For the regression analyses we followed Rasch, Hofmann, Friese, and Naumann's (2010) recommendations of interpreting the coefficient of determination r2 using the same guiding values as the coefficient of correlation r. The regression and correlation analyses interpretation therefore is based on Gignac and Szodorai's (2016) effect size guidelines: $r \geq 0.1$ for a small effect, $r \geq 0.2$ for a medium effect, and $r \geq 0.3$ for a large effect.

All four scales of the questionnaire use the same nine items, which are the collaborative behaviors described previously. We calculated the Cronbach's alpha for the different scales (Table 1). According to Lienert and Raatz (1998), a Cronbach's alpha > 0.5 indicates an acceptable internal consistency when making group comparisons. This study fulfills this requirement.

Table 1: Cronbach's alpha for both times of assessment and the different scales

Scale	**Cronbach's α**	
	T_1	**T_2**
Team orientation	.85	.81
Attitude	.76	.80
Intention	.55	.54
Performance	-	.86

4. Results

4.1. Variance analyses pre-test and post-test

We calculated variance analyses for the different scales (Table 2). There are no significant differences regarding the scales for the overall team orientation and for the attitude towards teacher collaboration. Only the scale for intentions differs significantly between the first and second times of assessment. However, the results show only a small effect of $d_z = .21$, $t(73) = 2.38$, $p = .02$.

Table 2: Variance analyses of T_1 and T_2; n.s. = not significant

Scale	***N***	**T_1: *M (SD)***	**T_2: *M (SD)***	***p***
Team orientation	73	3.98 (0.79)	4.03 (0.7)	n.s.
Attitude	74	5.00 (0.4)	4.95 (0.38)	n.s.
Intention	74	3.85 (0.39)	3.74 (0.34)	.02

4.2. Analyses of the groups divided by school type and school subject

We conducted variance analyses with the within-subject factors *school type* and *school subject* (Table 3). Only the group of future primary school teachers shows significant differences before and after the long-term internship, and only in the intention scale. Their intentions to collaborate in the future are significantly lower after the internship than they were before the internship started. The effect size is medium with $d_z = .48$, $t(27) = 2.52$, $p = .02$. Pre-service teachers aiming to become secondary school teachers do not show any significant differences in the scale ratings before and after their long-term internship. Also, we could not find any significant differences in the variance analysis with respect to the within-subjects factor *school subject* (science education and other subjects).

Table 3: Variance analysis of T_1 and T_2, separated by *school type* (primary school and secondary school) and *subject* (science education, other subjects); n.s. = not significant

Within-subjects factor	**Scale**	**Group**	***N***	**T_1: *M* (*SD*)**	**T_2: *M* (*SD*)**	***p***
School type	Team orientation	Primary school	27	4.07 (0.84)	4.2 (0.74)	n.s.
		Secondary school	43	3.92 (0.76)	3.89 (0.64)	n.s.
	Attitude	Primary school	28	5.12 (0.4)	4.94 (0.41)	n.s.
		Secondary school	43	4.93 (0.39)	4.97 (0.38)	n.s.
	Intention	Primary school	28	3.92 (0.34)	3.75 (0.34)	.02
		Secondary school	43	3.80 (0.43)	3.73 (0.34)	n.s.
School subject	Team orientation	Science education	33	3.91 (0.8)	3.99 (0.66)	n.s.
		Other subjects	40	4.04 (0.78)	4.06 (0.73)	n.s.
	Attitude	Science education	33	5.00 (0.38)	4.96 (0.38)	n.s.
		Other subjects	41	4.99 (0.42)	4.95 (0.39)	n.s.
	Intention	Science education	33	3.92 (0.39)	3.81 (0.35)	n.s.
		Other subjects	41	3.79 (0.39)	3.68 (0.33)	n.s.

4.3. Regression and correlation analyses

We calculated different regression models following the previous findings of Ajzen (1991) and other scientists (Table 4). The results show that there are significant correlations with large effects sizes between the attitude and the intentions at both times of assessment (T_1 and T_2). We did not find significant correlations between the pre-service teachers' intentions to collaborate and their performance of collaboration during their long-term internship. Neither did we find significant correlations between the performance of collaboration during the internship and the attitude towards collaboration afterwards.

Table 4: Regression models of different variables; n.s. = not significant

Independent variable	**Dependent variable**	**Regression coefficient *B* (std. error)**	***F* (*df* = 1; 72)**	***p***	**r^2**
Attitude E_1	Intention E_1	0.686 (.083)	67,74	< .001	.49
Intention E_1	Performance E_2	-0.045 (.153)	0.87	n.s.	.02
Performance E_2	Attitude E_2	-0.077 (0.088)	0.771	n.s.	.01
Attitude E_2	Intention E_2	0.587 (0.078)	56.33	< .001	.44

We also calculated the correlations between the pre-service teachers' overall team orientation at both times of assessment and the other scales (Table 5). The results show significant correlations between the team orientation at T_1 and both the attitude at T_1 and the intentions at T_1 to collaborate, both with large effects. At the second time of assessment, we find the same correlations, again with large effects. There are no significant correlations between the pre-service teachers' overall team orientations (at T_1 and T_2) and their performance of collaboration during the long-term internship.

Table 5: Correlation models of the overall team orientation with the other scales (attitude, intention, performance) for both times of assessment; n.s. = not significant

Correlation variable	**Team orientation T_1**	**Team orientation T_2**
Attitude E_1	$r = .35$ $p = .003$	
Intention E_1	$r = .43$ $p < .001$	
Performance E_2	$r = .15$ p = n.s.	$r = .14$ p = n.s.
Attitude E_2		$r = .30$ $p = .011$
Intention E_2		$r = .41$ $p < .001$

5. Discussion

The variance analyses of the sample group show significant differences regarding the pre-service teachers' intentions to perform teacher collaboration. The means of the intention scale to perform collaborative behaviors decreased significantly between the first and the second time of assessment with a small effect. The pre-service teachers had lower intentions to perform collaboration after they had finished their long-term internship during their master's degree studies. The pre-service teachers' overall team orientation and their attitude towards teacher collaboration do not change significantly between the two times of assessment. Examining the results by school type, the future primary school teachers show a medium effect regarding the reduction of their intention rating. The pre-service teachers aiming to become secondary school teachers do not show significant differences between the two times of assessment for any of the scales. Future science teachers do not show any differences compared to pre-service teachers for other school subjects.

These results can be interpreted together with the results of the regression analyses. At both times of assessment, both before and after the long-term internship, we found significant correlations with large effects between the pre-service teachers' attitudes towards teacher collaboration and their intentions to perform collaboration in school. This is in line with Ajzen's theory of planned behavior, which states that a person's attitude towards a behavior influences the person's intentions to perform it. However, in contrast to Ajzen's theory, we cannot infer the pre-service teachers' actual performance of collaboration from their intentions to perform collaboration during the long-term internship. The pre-service teachers' performance of collaboration in the internship also does not show significant correlations with their attitude towards it after the long-term internship.

Also, the attitude does not change significantly between the two times of assessment. This might be an indicator that other factors are responsible for the decreased intention to collaborate after the long-term internship. Maybe the pre-service teachers cannot collaborate as much in the internship as they expected before the internship. We investigated neither the pre-service teachers' subjective norms nor their perceived behavioral control. However, both can have an impact on the findings. A subjective norm describes what a person believes that others think about the behavior, and it influences a person's intentions to perform the behavior (Ajzen 1991). The pre-service teachers' subjective norm regarding teacher collaboration could have changed during the long-term internship, which might have had an impact on the decreased intentions to collaborate afterwards. Numerous researchers have identified low collaboration rates among in-service teachers (Gräsel et al., 2006; Richter & Pant, 2016; Soltau, 2007). The pre-service teachers might have experienced this lack of teacher collaboration and therefore changed their subjective norm towards it. This could explain the decreased intentions to collaborate at the second time of assessment.

The perceived behavioral control not only has an impact on a person's intention to perform a behavior but also on the performance of the behavior. The perceived behavioral control describes how much the person thinks he or she can control the performance of a behavior in the future but the actual behavioral control during the performance can be different. According to Döll and Jonas (1996), a discrepancy between the intention to perform a behavior and the actual performance can be due to the person's behavioral control. The pre-service teachers might think they will be able to collaborate a lot during the long-term internship and that they can control how much they will collaborate but the actual behavioral control in the internship turns out to differ from their expectations. They might not be able to perform collaboration as they expected. This

could also explain the decrease in their future intentions to collaborate. Both the subjective norm and the perceived behavioral control should be included in future questionnaires to provide statistical data for the correlations assumed here.

As already mentioned, one reason for the missing correlation between intention and performance of teacher collaboration might be that the pre-service teachers are not able to perform collaboration as they intended before the long-term internship. Their collaboration partner could be a factor in this. Collaboration by its nature must be performed by at least two persons. Maybe the pre-service teachers did not find the right persons or enough persons to collaborate with in school.

Pre-service primary school teachers in particular show significantly lower intentions to collaborate in the future after their long-term internship. The previously conducted cross-sectional study showed that pre-service primary school teachers have higher intentions to collaborate than future secondary school teachers (Bush & Grotjohann, 2020). Also studies focusing on in-service teachers credit primary school teachers for having high collaboration rates (Gräsel et al., 2006; Richter & Pant, 2016; Rothland, 2012). Nevertheless, pre-service primary school teachers' intentions to collaborate decrease. They might experience a larger discrepancy between the expectations of teacher collaboration and their actual collaboration experience during the long-term internship than future secondary school teachers. The future primary school teachers might want to collaborate even more than is possible in school.

With regard to the findings of studies with in-service teachers (Gräsel et al., 2006; Pröbstel & Soltau, 2012; Rothland, 2012; Soltau, 2007), we can assume that they do not have the necessary resources in forms of time or energy to collaborate with the pre-service teachers as much as the pre-service teachers wished. It also could be that the teachers' unwillingness to collaborate stems from a pronounced autonomy-parity pattern (Eder et al., 2011; Kuper & Kapelle, 2012). Another limiting factor might be the teachers' behaviors and their habitus (Jonas, Stroebe, & Hewstone, 2014). If collaboration is not a usual behavior for the teachers, they will not perform it with pre-service teachers either. In this regard, they might not even see the new possibilities for collaboration with the pre-service teachers. For example, the pre-service teachers accompany the trained teachers in their classes, which provides an ideal opportunity for in-class teacher collaboration, such as team teaching. However, team teaching is rarely practiced in schools, even when the pre-service teacher is already in the classroom and available. Therefore, it might be necessary for the principal or other school authorities to encourage teachers to perform collaboration not only with each other but also with pre-service teachers.

Due to the small sample size of male pre-service teachers (n = 14) we could not compare the results by gender. However, it would be interesting to do so in the future because the previous cross-sectional study showed significant differences between male and female pre-service teachers: Female pre-service teachers rate attitude towards teacher collaboration and intentions to collaborate higher than their male counterparts but male pre-service teachers perform collaboration more often than females (Bush & Grotjohann, 2020). A longitudinal study on the gender differences would be interesting. Therefore, it might be useful to expand the longitudinal study to increase the sample size to include more male participants.

The correlation analyses with the overall team orientation show significant correlations between the pre-service teachers' overall team orientation and their attitudes towards collaboration as well as their intentions to collaborate at both times of assessment. This means that their overall willingness to collaborate is interrelated with their willingness to perform teacher collaboration. The overall team orientation is a superordinate concept to a persons' concrete attitude towards a certain behavior. According to Ajzen (1991), the team orientation would be a personality trait and therefore a background factor to influence a persons' attitude towards a certain behavior. Other background factors are upbringing, education, culture, and experience (Ajzen & Fishbein, 2005; Kessler & Fritsche, 2018). Compared to Hossiep and Paschen's (2003) sample group ($N = 9303$) with persons of different ages and fields of work, our surveyed pre-service teachers are more team oriented.

The correlation analysis results do not show a significant correlation between the pre-service teachers' team orientation and their performance of collaboration during the long-term internship. This supports the previous findings of the gap between the pre-service teachers' rating of collaboration and their performance of it. It also suggests that a low performance of collaboration does not have a negative effect on the pre-service teachers' overall team orientation, which is a good thing. This finding is supported by the pre-test and post-test results where the overall team orientation does not change during the long-term internship. This finding also is in line with the Business-focused Inventory of Personality's requirement of general validity (Hossiep et al., 2008). The questionnaire was developed to investigate a basic personality trait and should therefore not change through individual experiences of behaviors.

6. Conclusions

The results confirm our hypotheses regarding the pre-test and post-test results. The study shows that the pre-service teachers' overall team orientation and their attitude towards teacher collaboration remain stable before and throughout their long-term internship. Both scales also correlate with each other. The findings of the regression analysis confirm that the pre-service teachers' attitudes towards teacher collaboration are predictors for their intentions to collaborate according to the theory of planned behavior (Ajzen, 1991). Nevertheless, the intentions do not predict the pre-service teachers' performance of collaboration during their long-term internship.

The future teachers' intentions to collaborate decrease during their long-term internship. This is especially notable in the case of pre-service primary school teachers. Based on Ajzen's theory of planned behavior we assume that there must be another factor responsible for the reduction of the pre-service teachers' intentions other than their attitudes. One possible explanation is that the other two factors that influence a person's intention to perform a certain behavior, the subjective norm and the perceived behavioral control, might change during the internship. We did not measure these two factors and therefore can only assume their influence. Therefore, these two factors should also be measured in future surveys.

The pre-service teachers do not collaborate as intended, which might be caused by a lack of collaboration options. Collaboration by its very nature cannot be performed by one person only – there must be at least one more collaboration partner. Maybe the in-service teachers do not have the resources in the form of time or energy to collaborate or are not willing to perform collaboration because of the autonomy-parity pattern. Due to the findings, a future study should investigate the factors that lead to the discrepancy between the pre-service teachers' willingness to collaborate and their performance of collaboration. These factors might be responsible for any increase or decrease in collaboration during long-term internships and therefore might shape the pre-service teachers' long-term habitus regarding teacher collaboration.

References

Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes*, 50(2), 179–211. https://doi.org/10.1016/0749-5978(91)90020-T

Ajzen, I., & Fishbein, M. (2005). The Influence of Attitudes on Behavior. In D. Albarracin, B. T. Johnson, & M. P. Zanna (Eds.), *The Handbook of Attitudes* (pp. 173–221). Mahwah, New Jersey: Psychology Press.

Altrichter, H. (2006). Curriculum implementation: Limiting and facilitating factors. In P. Nentwig & D. Waddlington (Eds.), *Making it relevant: Context based learning of science* (pp. 35–62). Münster: Waxmann.

Altrichter, H., & Eder, F. (2004). Das "Autonomie-Paritätsmuster" als Innovationsbarriere? In Institut für Schulentwicklungsforschung der Universtität Dortmund (Ed.), *Schulprogramme: Instrumente der Schulentwicklung* (pp. 195–221). Weinheim: Juventa.

Böhm-Kasper, O., Bos, W., Körner, S. C., & Weishaupt, H. (2001). *Sind 12 Schuljahre stressiger?: Belastung und Beanspruchung von Lehrern und Schülern am Gymnasium*. Weinheim: Beltz Juventa.

Bondorf, N. (2013). *Profession und Kooperation: Eine Verhältnisbestimmung am Beispiel der Lehrerkooperation*. Zugl.: Mainz, Univ., Diss., 2011. Wiesbaden: Springer VS. https://doi.org/10.1007/978-3-531-19703-6

Bush, A., & Grotjohann, N. (2018). Professionalization through collaboration in teacher education - identifying the status quo. *PUPIL: International Journal of Teaching, Education and Learning*, 2(2), 189–203. https://doi.org/10.20319/pijtel.2018.22.189203

Bush, A., & Grotjohann, N. (2020). Collaboration in Teacher Education: A cross-sectional study on future teachers' attitudes towards collaboration, their intentions to collaborate and their performance of collaboration. *Teaching and Teacher Education*, 88. https://doi.org/10.1016/j.tate.2019.102968

Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (Second edition). Hillsdale, NJ: Erlbaum.

Döll, J., & Jonas, K. (1996). Eine kritische Bewertung der Theorie überlegten Handelns und der Theorie geplanten Verhaltens. *Zeitschrift für Sozialpsychologie*, 27(1), 18–31.

Eder, F., Dämon, K., & Hörl, G. (2011). Das „Autonomie-Paritäts-Muster“: Vorberuflich erlerntes Stereotyp, Bewältigungsstrategie oder Ergebnis der beruflichen Sozialisation? *Zeitschrift für Bildungsforschung*, 1(3), 199–217. https://doi.org/10.1007/s35834-011-0021-1

Faul, F., Erdfelder, E., Lang, A.-G., & Buchner, A. (2007). G*Power 3: A flexible statistical power analysis program for the social, behavioral, and biomedical sciences. *Behavior Research Methods*, 39(2), 175–191. https://doi.org/10.3758/BF03193146

Fazio, R. H., & Zanna, M. P. (1978). Attitudinal qualities relating to the strength of the attitude-behavior relationship. *Journal of Experimental Social Psychology*, (14), 398–408.

Frymier, A. B., & Nadler, M. K. (2017). *Persuasion: Integrating theory, research, and practice* (Fourth Edition). Dubuque, Iowa: Kendall Hunt Publishing Company.

Gignac, G. E., & Szodorai, E. T. (2016). Effect size guidelines for individual differences researchers. *Personality and Individual Differences*, 102, 74–78. https://doi.org/10.1016/j.paid.2016.06.069

Gräsel, C., Fussangel, K., & Pröbstel, C. (2006). Lehrkräfte zur Kooperation anregen: Eine Aufgabe für Sisyphos? *Zeitschrift für Pädagogik*, 52(2), 205–219.

Hossiep, R., & Paschen, M. (2003). *Das Bochumer Inventar zur berufsbezogenen Persönlichkeitsbeschreibung* (2nd ed.). Göttingen: Hogrefe.

Hossiep, R., Paschen, M., & Rust, J. (2008). *Business-focused Inventory of Personality*. Göttingen: Hogrefe.

Jonas, K., Stroebe, W., & Hewstone, M. (2014). *Sozialpsychologie*. Berlin, Heidelberg: Springer Berlin Heidelberg. https://doi.org/10.1007/978-3-642-41091-8

Kessler, T., & Fritsche, I. (2018). *Sozialpsychologie*. Wiesbaden: Springer Fachmedien Wiesbaden. https://doi.org/10.1007/978-3-531-93436-5

Kuper, H., & Kapelle, N. (2012). Lehrerkooperation aus organisationssoziologischer Sicht. In E. Baum, T.-S. Idel, & H. Ullrich (Eds.), *Kollegialität und Kooperation in der Schule: Theoretische Konzepte und empirische Befunde* (pp. 41–51). Wiesbaden: Springer VS. https://doi.org/10.1007/978-3-531-94284-1_3

Lakens, D. (2013). Calculating and reporting effect sizes to facilitate cumulative science: A practical primer for t-tests and ANOVAs. *Frontiers in Psychology*, 4, 863. https://doi.org/10.3389/fpsyg.2013.00863

Lienert, G. A., & Raatz, U. (1998). *Testaufbau und Testanalyse* (6. Auflage). Grundlagen Psychologie. Weinheim: Beltz. Retrieved from http://www.content-select.com/index.php?id=bib_view&ean=9783621278454

Lortie, D. C. (1972). Team Teaching: Versuch der Beschreibung einer zukünftigen Schule. In H.-W. Dechert (Ed.), *Erziehung in Wissenschaft und Praxis* (Vol. 17, Team Teaching in der Schule). München: Piper.

Muckenthaler, M., Tillmann, T., Weiß, S., Hillert, A., & Kiel, E. (2019). Belastet Kooperation Lehrerinnen und Lehrer?: Ein Blick auf unterschiedliche Kooperationsgruppen und deren Belastungserleben. *Journal for Educational Research Online*, 11(2), 147–168.

Olson, J. A., & Stone, J. (2005). The Influence of Behavior on Attitudes. In D. Albarracin, B. T. Johnson, & M. P. Zanna (Eds.), *The Handbook of Attitudes* (pp. 223-271). Mahwah, New Jersey: Psychology Press.

Pröbstel, C., & Soltau, A. (2012). Wieso Lehrkräfte (nicht) kooperieren - Die Bedeutung "personaler Faktoren" in der Zusammenarbeit am Arbeitsplatz Schule. In E. Baum, T.-S. Idel, & H. Ullrich (Eds.), *Kollegialität und Kooperation in der Schule: Theoretische Konzepte und empirische Befunde* (pp. 55–76). Wiesbaden: Springer VS. https://doi.org/10.1007/978-3-531-94284-1_4

Rasch, B., Hofmann, W., Friese, M., & Naumann, E. (2010). *Quantitative Methoden.* Berlin, Heidelberg: Springer Berlin Heidelberg. https://doi.org/10.1007/978-3-642-05272-9

Regan, D. T., & Fazio, R. H. (1977). On the consistency between attitudes and behavior: Look to the method of attitude formation. *Journal of Experimental Social Psychology*, (13), 38–45. https://doi.org/10.1016/0022-1031(77)90011-7

Richter, D., & Pant, H. A. (2016). *Lehrerkooperation in Deutschland: Eine Studie zu kooperativen Arbeitsbeziehungen bei Lehrkräften der Sekundarstufe I.* Gütersloh: Bertelsmann Stiftung.

Rothland, M. (2012). Lehrerbildung und Lehrerkooperation: Programmatik, Ausbildungsrealität und Befunde zu den Voraussetzungen von Lehramtsstudierenden für die kollegiale Zusammenarbeit im Beruf. In E. Baum, T.-S. Idel, & H. Ullrich (Eds.), *Kollegialität und Kooperation in der Schule: Theoretische Konzepte und empirische Befunde* (pp. 191–204). Wiesbaden: Springer VS. https://doi.org/10.1007/978-3-531-94284-1_13

Schaarschmidt, U. (Ed.). (2005). *Halbtagsjobber?: Psychische Gesundheit im Lehrerberuf - Analyse eines veränderungsbedürftigen Zustandes* (2. Auflage, Druck nach Typoskript). Weinheim, Basel: Beltz Verlag.

Soltau, A. (2007). *Zusammenarbeit in Schulkollegien: Teamorientierung und Einstellungen zu Formen der Lehrerkooperation bei Bremer Lehrkräften*. Diplomarbeit. Retrieved from http://elib.suub.uni-bremen.de/dipl/docs/00000080.pdf

Spieß, E. (2004). Kooperation und Konflikt. In H. Schuler, N. Birbaumer, D. Frey, J. Kuhl, W. Schneider, & R. Schwarzer (Eds.), *Organisationspsychologie: Gruppe und Organisation* (pp. 193–250). Göttingen: Hogrefe.

Terhart, E., & Klieme, E. (2006). Kooperation im Lehrerberuf: Forschungsproblem und Gestaltungsaufgabe. *Zeitschrift für Pädagogik*, 52(2), 163–166.

Werner, S. (2012). Wie kommt Kooperation in die Schule? Zum Spannungsverhältnis zwischen Interventionsidee und schulpraktischer Umsetzung. In E. Baum, T.-S. Idel, & H. Ullrich (Eds.), *Kollegialität und Kooperation in der Schule: Theoretische Konzepte und empirische Befunde* (Vol. 52, pp. 135–148). Wiesbaden: Springer VS. https://doi.org/10.1007/978-3-531-94284-1_9