Formation of teacher expectations: Previous student performance and teacher characteristics as explanatory factors

Formación de expectativas docentes: rendimiento previo del estudiante y características del profesor como factores explicativos

Carmen A. BARRIGA, PhD. Postdoctoral Researcher, Millennium Nucleus for the Science of Learning; Assistant Professor, Universidad San Sebastián, Chile (carmen.espinoza@uss.cl).

Cristina RODRÍGUEZ, PhD. Substitute Director, Millennium Nucleus for the Science of Learning; Universidad de Talca, Chile (crodri@ull.edu.es).

Roberto A. FERREIRA, PhD. Director, Millennium Nucleus for the Science of Learning; Associate Professor, Universidad de Talca, Chile (*roberto.ferreira@utalca.cl*).

Marcos H. CÁRDENAS-MANCILLA, PhD. Young Researcher, Millennium Nucleus for the Science of Learning; Researcher, Interdisciplinary Program for Experimental Research in Communication and Cognition (PIIECC), Universidad de Santiago de Chile (marcos.cardenas.m@usach.cl).

Abstract:

Although the effect of teacher expectations on students' academic performance has been verified, few studies have focused on establishing which factors affect the formation of these expectations, especially ones that consider previous student performance and the professional experience of the teacher as explanatory factors. The aim of this study was to examine the effect of these factors on the formation of

teacher expectations. The sample comprised 21 teachers from 11 schools, with low, medium, and high experience levels, as well as 363 first-year primary-school students from Chile (ages 6-7), whose academic performance was measured at the start of the school year. Teacher expectations were measured part-way through the school year. A mixed ANOVA analysis made it possible to assess whether teacher expectation varies depending on previous

Date of receipt of the original: 2023-04-09.

Date of approval: 2023-10-23.

Please cite this article as follows: Barriga, C. A., Rodríguez, C., Ferreira, R. A., & Cárdenas-Mancilla, M. H. (2024). Formation of teacher expectations: Prior achievement and teacher characteristics as explanatory factors [Formación de expectativas docentes: rendimiento previo del estudiante y características del profesor como factores explicativos]. Revista Española de Pedagogía, 82 (288), 359-375. https://doi.org/10.22550/2174-0909.4042



performance and teacher experience. The results indicated that previous performance and teacher experience both have a significant effect on how expectations form. However, the effect of experience varies depending on the different dimensions of the expectations.

Keywords: teacher expectations, teacher experience, previous performance, teacher characteristics.

Resumen:

Si bien se ha confirmado el efecto de las expectativas docentes en el rendimiento académico de los estudiantes, son escasos los estudios centrados en constatar qué variables afectan a la formación de dichas expectativas, en especial aquellos que consideran el rendimiento previo del estudiante y la experiencia laboral del profesor como factores explicativos. El objetivo de

esta investigación fue examinar el efecto de ambos elementos en la formación de la expectativa del docente. La muestra consistió en 21 profesores de 11 colegios, con experiencia baja, media y alta. A ellos se sumaron 363 alumnos de primer año básico (6-7 años), cuyo rendimiento académico se midió al inicio del año escolar. Las expectativas docentes se midieron a mediados del año escolar. Un análisis ANOVA de efectos mixtos permitió evaluar si la expectativa docente varía en función del rendimiento previo y de la experiencia docente. Los resultados indicaron que existe un efecto significativo tanto del rendimiento previo como de la experiencia docente en la formación de las expectativas. Sin embargo, el efecto de la experiencia varía de acuerdo con las distintas dimensiones de las expectativas.

Palabras clave: expectativas docentes, experiencia docente, rendimiento previo, características del profesor.

1. Introduction

In recent decades, research has consistently shown that teacher expectations are an important element that affects students' learning outcomes (Friedrich et al., 2015; Gershenson et al., 2015; Li et al., 2023; Lorenz 2018; Meissel et al., 2017; Rubie-Davies & Rosenthal, 2016; Schenke et al, 2017; Timmermans et al., 2021; Tobisch & Dresel, 2017; Wang et al., 2019; Wang et al., 2021; Westphal et al., 2016). Teacher expectations seem to develop in response to certain characteristics of the students and of the teachers themselves (Ross, 1998). More specifically, expectations are thought to be influ-

enced by students' previous performance, among other factors (Agirdag et al., 2013; Friedrich et al., 2015; Kuklinski & Weinstein, 2001: Rubie-Davies et al., 2014). However, there has been little consideration of this factor compared to others such as students' socio-economic level (Lorenz et al., 2016; Timmermans et al., 2015) and ethnicity (Gentrup et al., 2020; Wang et al., 2018). There is also evidence that teachers' characteristics, such as experience and gender, also influence the shaping of their own expectations (Riegle-Crumb & Humphries, 2012; Watson et al., 2017; Whitley, 2010). Specifically, the impact of teacher experience is quite small



and there is a lack of consistency between existing findings (Flanagan et al., 2020; Wang et. al., 2018). Consequently, this study will examine the effect of students' previous performance and the experience of teachers on the formation of teacher expectations.

1.1. Formation of teacher expectations

Teacher expectations are defined as "teachers' perceptions of a student's performance, capacity and level of educational achievement" (Dusek & Joseph, 1983). They are based on what the teacher knows about these students at a given moment (Good & Brophy, 1997). These expectations exist in the classroom and affect students' learning outcomes (Chandrasegaran & Padmakumari, 2018; Gentrup et al., 2020) positively or negatively (Rubie-Davies et al., 2006). So, if a teacher has high expectations of the level of learning of his or her students, these will tend to display better academic performance. And, conversely, when teachers have low expectations of their students' achievements, they will tend to display lower performances (Flanagan et al., 2020).

Teacher expectations are presented in the classroom in two ways: individually, that is to say, the teacher has expectations for each of the students; and collectively, when the focus of the teacher expectation is the class as a group (Van Houtte, 2011). Teacher expectations have mainly been measured individually, resulting in small effect sizes (Jussim et al., 2009). Few studies have assessed expectations at a collective level, despite the fact that

the prior evidence shows that measures of this type could have a better relationship with students' learning (Brophy & Good, 1974). In this regard, Rubie-Davies (2010) investigated the effects of expectations at the class level, finding large effects for teachers with high expectations and small effects for teachers with low expectations. It is also important to consider that the effects of teacher expectations on student performance also depend on the age or year group of the students. There is evidence that teacher expectations can have a major impact, principally in the first years of school (Weinstein et al., 2004), although this reduces as students move through the years (Wang et al., 2021; Weinstein et al., 2004).

1.2. Previous student performance and the formation of expectations

One little-studied factor in the formation of teacher expectations is children's previous performance. Existing findings suggest that this is a predictor of teacher expectations (Kuklinski & Weinstein, 2001; Rubie-Davies et. al., 2014; Wang et al., 2018). On these lines, Hinnant et al. (2009) longitudinally analysed relationships between expectations and academic capacity in children from years one, three, and five of primary education in the areas of reading and mathematics. Their results suggested a correlation between students' previous performance and the expectations that the teacher later reports having. It should be noted that this study defined previous performance as the academic achievements obtained by the students in the school year immediately before the current one.



Other studies have found that students' previous performance was not associated with teacher expectations when measuring these expectations at the class level, but that there was a relationship when expectations were measured individually for each child (Friedrerich et al., 2015). It has also been observed that the effect of previous performance on teacher expectations seems to depend on the level the students are at. Kuklinski and Weinstein (2001) set out to assess a model of the trajectory of the effects of teacher expectations on the final performance of children from years one to five of primary education. According to the proposed model, initial performance corresponds with a predictor of teacher expectation, but this depended on the students' year group. In year one of primary school, this relationship was weak. However, in year-five of primary school, the effect of previous performance on the teacher's expectations was stronger. The authors concluded that the relationship is weak in the earlier year groups because teachers have less knowledge of the students' school background than with fifth-year students. The authors of this research measured previous performance by taking into account what students had obtained at the start of the school year.

Agreeing with this, Agirdag et al. (2013) found a strong correspondence between the two factors in students from year five of primary school. This study established that teachers believe that students with a low initial performance will have lower academic skills. Consequently,

they expect lower academic achievement by these students. The study in question defined previous performance as the percentage of students who repeated the school year. For their part, Rubie-Davies et al. (2014) found that, although previous performance explains the variation in teacher expectations in the first year of primary school, in pre-school teachers, these variations are not explained by the previous achievement of the pre-school children. As noted above, there is a predictive relationship between students' previous performance and teacher expectations, but this is weak in the first years. Nevertheless, there are few studies of initial stages, and so research at these levels is required.

1.3. Teacher characteristics in the formation of their own expectations

The characteristics of teachers themselves, specifically their years of professional experience, have been found to be an influential factor in forming expectations. Even so, this area has been the subject of little research and the existing findings are inconclusive (Wang et al., 2018). On these lines, some research has found a negative relationship between teachers' experience and expectations. In other words, as teachers gain more years of professional experience, their expectations tend to become lower (Riegle-Crumb & Humphries, 2012; Whitley, 2010). Riegle-Crumb and Humphries (2012) measured expectation through personal assessment of students by their teachers. Teachers had to state whether they believed that the year they were teaching was easy, appropriate, or difficult for their students. For her part,



Whitley (2010) evaluated expectations through a single item that involved the teacher indicating how much potential particular students had to progress in their studies. The results of both of these studies indicated that teachers with more experience had less positive expectations of their students than their less experienced peers. In contrast, other authors suggest that, as teachers gain experience, they tend to have higher expectations than less experienced teachers, who display lower expectations of their students (Flanagan et al., 2020). Flanagan et al. (2020) indicate that these results are explained because teachers with more years of experience have the ability to resist being influenced by stereotypes, and so their expectations would be higher. These authors used a survey with two scales that considered the expectations and behaviour of teachers in relation to their students. Each scale comprised five items. Rubie-Davies (2010), however, used a list of 15 characteristics of students, that the teachers had to mark on a scale from 1 to 7, where 1 was very much below average and 7 very much above average. Both studies found that teachers with more experience have higher expectations of their students than their peers with less experience do. The discrepancies between the findings we have mentioned could be explained by the use of different instruments to measure expectations; and this might be because there are currently no agreed elements for measuring expectations (Speybroeck et al., 2012).

There is also evidence to suggest that teacher experience does not have a significant effect on teacher expectations (Rubie-Davies et al., 2012). So, it has been found that trainee teachers and in-service teachers have similar expectations of their students (Barriga et al., 2019; Dandy, 2015). It is important to note that the study by Rubie-Davies et al. (2012) had the aim of examining relationships between teacher expectations and the characteristics of the teacher, including experience. However, less-experienced teachers were over represented. This perhaps did not allow comparisons with teachers who had more years of professional practice, which might help explain why the results associated with this factor did not display significant relationships with teacher expectations.

1.4. The present study

In essence, research on teacher expectations has mainly concentrated on their effect on students' academic performance and on the factors that affect the formation of teacher expectations. On this latter point, the most studied factors have been the socio-economic level and ethnicity of the students. Nonetheless, there is limited evidence for how previous student performance and the characteristics of the teacher (e.g., professional experience) affect the formation of these expectations. The few pieces of research that consider the factors in question have measured teacher expectations at an individual level, and there are few findings relating to expectations at the class level. Furthermore, these studies were performed with students aged between 10 and 14. In this sense, it is significant to investigate the first years of school, as students seem to be most sus-



ceptible to their teachers' beliefs in these years. Finally, a greater understanding of the relationships between the factors studied might have more of an impact on the training of future teachers as well as on students' learning outcomes.

Therefore, the present study investigated the effect of previous student performance and the experience of teachers on the formation of their expectations, considering Chilean students from the first year of primary school (ages 6-7). Teacher expectations were measured at the class level, while student performance was assessed individually at the start of the school year. The teachers' experience considered how many years they had been working as teachers. In view of the evidence set out above, we expected to find a relationship (a) between prior student performance and formation of teacher expectation, and (b) between teacher experience and the formation of the teacher expectation.

2. Method

2.1. Participants

The sample in this study consisted of teachers and their respective students. 21 teachers (95% women and 5% men) from 11 schools participated. Their ages ranged from 26 to 59 (M=36, SD=8.66). Teachers' experience ranged from 4 to 39 years (M=10, SD=5.93). The teachers were classified into three groups based on their years of experience. Teachers with low experience were defined as those with 1-6 years of service. Their ages ranged from 26

to 36 (n = 5, M = 31, SD = 4.81). Teachers with medium experience were defined as those with 7-10 years of service. Their ages ranged from 30 to 35 (n = 8, M = 33, SD = 2.32). Teachers with high experience were defined as those with 11 or more years of service, and their ages ranged from 30 to 55 (n = 8, M = 45, SD = 9.33). The sample of students comprised 363 students from year one of primary education (53% girls and 47% boys) (age, M = 7.1, SD = 0.50).

2.2. Materials

Teacher expectations questionnaire. Teacher expectations of their students' performance were measured using a Likert-type scale (Barriga et al., 2019). The original scale comprised 14 items scored from 1 to 7 (1 = completely disagree, 7 = completely agree) and included 6 dimensions. From these, we selected the following dimensions: Dimension 1 "Positive expectations of academic achievements" ($\alpha = .78$), comprising the items "Most of my students are capable of learning the content covered in class", "Most of my students will successfully compete this school year", "My students have the necessary academic skills to achieve the expected learning for the year"; dimension 4 "Positive expectations of students' attitude towards their learning" ($\alpha = .83$), comprising the items "My students are motivated to do their best in class" and "Most of my students have a positive attitude towards learning"; and dimension 5 "Expectations of learning skills" ($\alpha = .65$), comprising the following items: "It is likely that my students will work in non-professional occupations in future", "There is a high likelihood that



my students, in future, will leave the education system" and "It is likely that in two more years, most of my students will repeat a year". The choice of these dimensions was based on the aim of this study and we used factorial scores to carry out the analyses. The instrument was administered on paper and completed individually, and took 10 minutes to accomplish.

Knowledge of the sounds of letters. This test measures fluency in grapheme–phoneme association. It consists of a worksheet with 100 letters of the alphabet, distributed at random in 10 rows and 10 columns in relation with their order and type of allograph (upper or lower case). Students must say the sounds of the letters in order from left to right as quickly as possible. The score obtained is the number of letters correctly identified in one minute ($\alpha = .96$).

Reading pseudowords. This test measures fluency in decoding. It comprises 75 one- and two-syllable pseudowords, distributed randomly in 15 rows and 5 columns. The student has to read as many pseudowords as possible in order from left to right. The score obtained is the number of pseudowords correctly identified in one minute ($\alpha = .84$).

Phonological awareness task. This task measures students' level of phonemic awareness. It comprises 36 words and pseudowords distributed randomly in 18 rows and 2 columns. The tester says a word to the students who must repeat the word out loud and then say the first sound from this word. The score obtained is the

number of phonemes correctly identified in one minute ($\alpha = .79$).

Knowledge of the names of the letters. This task measures the child's knowledge of the alphabet. It consists of a worksheet with 100 letters of the alphabet, distributed at random in 10 rows and 10 columns in relation with their order and type of allograph (upper or lower case). The students had to say the name of the letters presented to them, from left to right, as quickly as possible. The score obtained is the number of letters correctly named in one minute ($\alpha = 0.96$).

3. Procedure

Before starting the surveys, the parents of the students who participated in the study and the teachers were given information sheets and consent forms. Both documents set out the aim of the research, confirmed that the data would be confidential, and stated that participation was voluntary. The procedure was approved by the Ethics Committee of the Universidad Católica de la Santísima Concepción, Concepción, Chile.

The assessment of the teachers was done mid-way through the school year. To do this, the expectations questionnaire, which has a duration of approximately 15 minutes, was applied individually. The assessment of students' reading performance was done individually, in two sessions with an approximate duration of 15 minutes each. This assessment was done at the start of the school year, with previously trained testers.



4. Results

First, to reduce and create a reading performance variable, we carried out an exploratory factor analysis and factor extraction using principal component analysis with varimax rotation. The results of the analysis showed that the sample was sufficiently large for this analysis to be viable (KMO = .715). On its behalf, Bartlett's test of sphericity indicated that the matrix of correlations differed significantly from the identity matrix; that is to say, the level of correlations between the variables was acceptable to carry out the analysis, $\chi^{2}(6) = 395.99, p < .001$. All of the variables were grouped into a single factor that explained 59.90% of the variance with factor loadings exceeding .60 (.832, reading pseudowords; .799; knowledge of the sounds of letters; .739, knowledge of the names of letters; .664; phonological awareness).

Secondly, the descriptive statistics for the expectations variable were calculated according to the level of experience of the teachers. As Table 1 shows, the standard deviations of the factors of "long-term expectations (LTE)", "expectations regarding attitude to learning (EAL)", and "expectations of students' academic performance (EAP)" were within an appropriate range, with normal distribution of absolute values that did not exceed 1.3 *SD* in any of the levels, justifying the use of parametric statistical tests (Tabachnick & Fidell, 2013).

Table 1. Descriptive statistics.

Expectations	Experience	Mean	SD	\boldsymbol{n}	
	Low	5.965	.804	104	
Long-term expectations	Medium	6.614	.371	108	
	High	6.254	.275	101	
	Total	6.277	.483		
Expectations of attitudes towards learning	Low	5.889	.566	104	
	Medium	6.472	.483	108	
	High	5.688	.489	101	
	Total	6.016	.512		
Expectations towards academic performance	Low	4.753	1.052	104	
	Medium	6.003	1.227	108	
	High	6.162	.502	101	
	Total	5.639	.927		



Thirdly, we used mixed-effects ANO-VA to assess whether teacher expectations vary according to previous performance and teacher experience. The analysis considered different types of teacher expectation as intra-subject factors (long-term expectations / expectations of attitude / expectations towards academic performance). Teacher experience (high experience / medium experience / low experience) was introduced as an inter-subject factor categorised by years of service. Similarly, the previous performance variable was controlled in the model as a covariable. As Mauchly's sphericity test was significant $(\varepsilon = 0.72, \chi^2(2) = 110.33, p < .001)$, the Greenhouse-Geisser correction was used in the *F*-test.

Firstly, a significant intra-subject effect of the type of teacher expectation on the scores from the questionnaire was identified, with a large effect size, $F_{(1.56, 482.67)} = 62.75, p < .001, \eta_{n}^{2} = .17.$ This means that there are differences between the scores given by the teachers according to the type of expectation. Teacher experience also had a significant intra-subject effect, $F_{\scriptscriptstyle (2,309)} = 104.187,$ p < .001, $\eta_p^2 = .40$ as did previous performance, $F_{(1,309)} = 16.82$, p < .001, $\eta_p^2 = .05$, meaning that teacher expectations are affected equally by both variables at all levels. Finally, there was a significant interaction between teacher expectation and teacher experience, indicating that teacher expectation varies according to the years of experience of the teacher. No effects of the interaction between teacher expectation and previous performance were observed: $F_{(1.56.482.67)} = 1.11$,

p=.316, which suggests that the initial reading performance of the students affects all dimensions equally. According to commonly accepted guidelines (Cohen, 1988), the effect sizes (partial eta squared) found indicate small to large effects ($\eta^2_p = <.01$ irrelevant; .01 small; .06 medium; .14 large).

As for the results of the post hoc tests for teacher experience, the analysis showed that this differs significantly between high and low experience, high and medium, and low and medium (.792 units, p < .001). In the case of teacher expectation, the analysis showed that there are significant differences between long-term expectations and expectations of attitudes towards learning, long-term expectations and expectation towards academic performance, the same as between expectations of attitudes towards learning and expectation towards academic performance.

Finally, Table 2 shows the results of the contrasts to interpret the interaction between teacher experience and teacher expectation. Teachers with low and medium experience display significant differences in expectations compared to their peers with high experience. That is to say, while expectations towards the attitude towards learning and long-term expectations are higher than expectations towards academic performance among teachers with low and medium experience, teachers with high experience have similar expectations towards the attitude towards learning and expectations towards academic performance, while their long-term expectations are lower (see Figure 1).

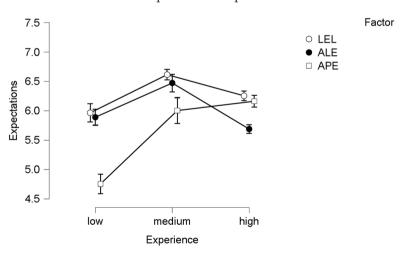


Table 2. Post hoc contrasts-experience × expectations.

		Mean Difference	SE	t	Cohen's D	$oldsymbol{p}_{ ext{tukey}}$
High, LTE	High, EAL	.570	.104	5.48	0.808	<.001
	High, EAP	.127	.104	1.224	0.180	.951
Low, LTE	Low, EAL	.071	.102	.699	0.101	.999
	Low, EAP	.180	.102	11.549	1.671	<.001
Medium, LTE	Medium, EAL	.142	.098	1.453	0.201	.877
	Medium, EAP	.609	.098	6.245	0.863	<.001
High, EAL	High, EAP	443	.104	-4.256	-0.627	<.001
Low, EAL	Low, EAP	1.108	.102	10.849	1.570	<.001
Medium, EAL	Medium, EAP	.468	.098	4.792	0.662	<.001

Note: LTE = long-term expectations; EAL = expectations of attitude towards learning; EAP = expectation towards academic performance.

Figure 1. Teacher experience × expectations interaction.



5. Discussion and conclusion

The aim of this study was to examine the effect of previous student performance and teacher experience on the formation of teacher expectations, considering Chilean students from year one of primary school. The results of this research are of interest given the limited body of evidence currently available, especially, in the early years of school, a



time when students are more sensitive to teacher expectations. Furthermore, expectations have mainly been assessed at an individual level and not at a class level, as this study did.

On the whole, the results indicate that teachers display high long-term expectations and expectations of attitudes towards learning, as well as low expectations towards academic performance. In relation to teachers' level of experience, the results showed that long-term expectations and expectations of attitudes towards learning are higher in teachers with medium experience. Meanwhile, expectations towards academic performance are higher in teachers with more experience than in those who have less experience.

Inferential analysis of the results showed effects of previous performance of the student and of teacher experience on teacher expectations. As in previous studies (Agirdag et al., 2013), the evidence relating to previous performance shows that this affects the formation of expectations in all of their dimensions significantly and in the same way. Nonetheless, the study by Agirdag et al. (2013) used an indirect measure of previous performance. They considered the percentage of students who repeated a school year and, to evaluate expectations, they applied a 31-item scale encompassing behaviours adjusted to the scale, cognitive-motivational behaviours, and personal-social behaviours. The current results suggest, for example, that, when students have high performance at the start of the year, teachers expect this to remain high throughout the

year in question, as well as having positive attitudes towards their learning. Moreover, teachers predict more positive academic futures for those students who have higher previous performance. In contrast with the aforementioned results, Kuklinsky and Weinstein (2001) found a weak relationship between previous performance and teacher expectations for students from the first year or primary education, possibly because the teachers considered students' previous performance in the pre-school year. This contrasts with our findings, whose measurement of previous performance was calculated at the start of the first year of primary.

In relation to the results regarding teacher experience, we observed that this significantly affects the formation of expectations, but does so differently in its different dimensions. The long-term expectations and expectations of academic attitudes of teachers with 1 to 10 years of professional experience (that is, those with low and medium experience) were higher than their expectations towards academic performance. In other words, these teachers tend to have more positive expectations in relation to attitudes and predict more successful academic futures for students, but they report low expectations towards the academic performance that the students will obtain during the school year. On the other hand, teachers with 11 or more years of work (ones with high experience) have high expectations, both in the long-term and for academic performance in the current year, but they display low expectations towards the attitude of their students. These findings



are partly consistent with Flanagan et al. (2020), who measured expectations using a survey with two scales of five items each: one scale referring to expectations and another relating to the teacher's behaviour. Their results established that experience has an impact on teacher expectations, showing that, as teachers gain more years of experience, their expectations of their students are higher compared to teachers with fewer years of experience. Nonetheless, the findings mentioned do not allow for differentiation between dimensions.

In summary, this research makes important contributions to showing that expectations of academic performance increase with the level of experience of the teacher. For their part, there is a change in the behaviour of expectations of attitudes towards learning as teachers acquire more experience. A possible explanation for the earlier results might be found in Guo's (2012) suggestion that, as teachers gain experience, they set aside the stereotypes present towards certain groups of students. In other words, experience enables them to understand the existence of the individual characteristics of their students. Therefore, as teachers gain experience, they overcome the acquired biases and are capable of seeing their students' true academic capabilities independently of their social characteristics. In contrast with the results mentioned, some findings have established that experience does not seem to create differentiated expectations towards students, suggesting that teachers with low and with high experience display similar expectations of their students (Dandy et al., 2015; Rubie-Davies et al., 2012). Nonetheless, these studies measured expectations centred only on the students' academic performance without considering other dimensions as the present work did. In view of the foregoing, further research that considers expectations in different dimensions of experience with the aim of contributing to the convergence of results is needed.

As for how teacher expectations are assessed, unlike most previous research, this study used an instrument that enables teacher expectations to be grouped into dimensions. This made it possible to establish that the effect of teacher experience varies according to the specific domain of the expectation. It is important to note that few studies have measured teacher expectations in this way (Raisa & Alisa, 2018; Regalla, 2013). Consequently, the current results make it possible to assess different aspects relating to the expectations that the teacher forms, such as, for example, ones regarding the long-term academic performance of their students, their attitudes, and their current academic performance. This way of measuring expectations makes it possible to identify whether there are differences in how teachers project expectations in the different fields relating to the students' learning and subsequent academic outcomes. It is, therefore, important to consider this aspect in future works, as asking teachers about their long-term expectations is not the same as asking what they expect regarding the current academic performance of their students. It is important to consider the different focuses of expectations



because, as has been shown, this produces different results.

Finally, the findings with regards to the differences between the types or dimensions of expectations according to teacher experience are unprecedented results, as there are not currently any studies that have considered this matter. According to Raisa and Alisa (2018), educators create a combination of expectations with regards to what they expect of their students, in other words, expectations about academic abilities, expectations about attitudes, expectations relating to motivation, and expectations relating to the capacity for school work are mixed. King (2014) noted that teachers had high expectations of their students' ability to achieve a good performance and, at the same time, low expectations regarding the attitude of the student to obtain academic achievements. In line with that approach, the results of the present study can be interpreted in accordance with the theory of the stereotype content model. This model proposes that each stereotype has two dimensions, one of "warmth" and another of "competence", and that stereotypes tend to be mixed (Fiske, 2015). Warmth refers to the personal qualities that the other perceives in a group (e.g., warm, sincere, friendly); in contrast, competence refers to the qualities that contribute to success (competitive, intelligent). This is how the dimensions of the stereotype could be associated with teacher expectations. It is important that future research considers the characteristics of the teacher and student in the formation of teacher expectations, taking into account the contained

stereotypes model, associated with the heterogeneity of the expectations according to the underlying dimensions.

In light of the findings of this work, it is necessary to identify some limitations that enable us to open the way to future research. One aspect to consider is the number of teachers participating in the measurement of expectations. It would be of great value to carry out future research that considers a larger number of teachers with different levels of experience. Longitudinal research that makes it possible to monitor the trajectories of expectations in a particular teacher in relation to their effect on academic performance would also be desirable. With regards to the characteristics of the teachers, it is important to consider greater balance in regards to their gender. Similarly, future works should consider measuring expectations individually with the aim of being able to determine the existence of individual differences in teacher expectations.

In conclusion, we have been able to demonstrate that teacher expectations are affected in the same way in all of their dimensions by prior student performance and in different ways by the experience of the teacher. This last point suggests that it is vital to explore in more depth how teacher expectations are operationalised, considering their different dimensions and how these are affected, both by factors of the teacher and of the students. Analysing both factors together would make it possible to explain in greater depth the effect of expectations in the classrooms and their relationship with academic performance.



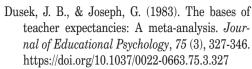
This is vital to be able to determine potential intervention strategies for newer teachers in order to benefit / promote the formation of their expectations.

Funding

This study was supported by ANID-Chile (National Science and Technology Development Fund Postdoctoral grant no. 3230645; National Science and Technology Development Fund Regular no. 1161213) and Núcleo Milenio para la Ciencia del Aprendizaje (MiNSoL - Chile).

References

- Agirdag, O., Van Avermaet, P., & Van Houtte, M. (2013). School segregation and math achievement: A mixed-method study on the role of self-fulfilling prophecies. *Teachers College Record*, 115 (3), 1-50. https://doi.org/10.1177/016146811311500305
- Barriga, C. A., Rodríguez, C., & Ferreira, R. A. (2019). Factors that bias teacher expectations: Findings from Chile. Revista Latinoamericana de Psicología, 51 (3), 171-180. http://dx.doi.org/10.14349/rlp.2019.v51.n3.4
- Brophy, J. E., & Good, T. L. (1974). *Teacher-student relationships: Causes and consequences*. Holt, Rinehart y Winston.
- Chandrasegaran, J., & Padmakumari, P (2018). The role of self-fulfilling prophecies in education: Teacher-student perceptions. *Journal on Educational Psychology*, 12 (1), 8-18.
- Cohen, J. (1988). Statistical power analysis for the behavioral sciences (2. nd ed.). Routledge.
- Dandy J., Durkin K., Barber, B., & Houghton, S. (2015). Academic expectations of Australian students from Aboriginal, Asian and Anglo backgrounds: Perspectives of teachers, trainee-teachers and students. *International Journal of Disability, Development and Education*, 62 (1), 60-82. https://doi.org/10.1080/103491 2X.2014.984591



- Fiske, S. T. (2015). Intergroup biases: A focus on stereotype content. *Current opinion in behavioral sciences*, 3, 45-50. https://doi.org/10.1016/j.cobeha.2015.01.010
- Flanagan, A. M., Cormier, D. C., & Bulut, O. (2020). Achievement may be rooted in teacher expectations: Examining the differential influences of ethnicity, &ears of teaching, and classroom behaviour. Social Psychology of Education, 23 (6), 1429-1448. https://doi.org/10.1007/s11218-020-09590-y
- Friedrich, A., Flunger, B., Nagengast, B., Jonkmann, K., & Trautwein, U. (2015). Pygmalion effects in the classroom: Teacher expectancy effects on students' math achievement. *Contemporary Educational Psychology*, 41, 1-12. https://doi. org/10.1016/j.cedpsych.2014.10.006
- Gentrup, S., Lorenz, G., Kristen, C., & Kogan, I. (2020). Self-fulfilling prophecies in the classroom: Teacher expectations, teacher feedback and student achievement. *Learning and In*struction, 66, 101296. https://doi.org/10.1016/j. learninstruc.2019.101296
- Gershenson, S., Holt S., & Papageorge N. (2015).
 Who believes in me? The effect of student-teacher demographic match on teacher expectations. *Economics of Education Review*, 52, 209-224. https://doi.org/10.1016/j.econedurev.2016.03.002
- Good, T. L., & Brophy, J. E. (1997). *Looking in classrooms* (7.th ed.). Longman.
- Guo, Y. (2012). Exploring linguistic, cultural, and religious diversity in Canadian schools: Preservice teachers' learning from immigrant parents. Journal of Contemporary Issues in Education, 7 (1), 4-23. https://doi.org/10.20355/C5QC78
- Hinnant, J. B., O'Brien, M., & Ghazarian, S. R. (2009). The longitudinal relations of teacher expectations to achievement in the early school years. *Journal of Educational Psychology*, 101 (3), 662-670. https://doi.org/10.1037/a0014306
- Jussim, L., Robustelli, S. L., & Cain, T. R. (2009). Teacher expectations and self-fulfilling prophecies. En K. R. Wentzel, & A. Wigfield (Eds.), Handbook of motivation in school (pp. 349-380). Routledge.



- King, G. D. (2014). Teachers' expectations and reading achievement of African American middle school students [Doctoral Thesis]. Walden University. https://scholarworks.waldenu.edu/ dissertations/150
- Kuklinski, M. R., & Weinstein, R. S. (2001). Classroom and developmental differences in a path model of teacher expectancy effects. *Child Development*, 72 (5), 1554-1578. https://doi. org/10.1111/1467-8624.00365
- Li, Z., Rubie-Davies, C., & Wu, Z. (2023). Stronger teacher expectation effects on foreign language learning: Student perceptions of the classroom environment as moderators. Social Psychology of Education. https://doi.org/10.1007/s11218-023-09849-0
- Lorenz, G. (2018). Selbsterfüllende Prophezeiungen in der Schule: Leistungserwartungen von Lehrkräften und Kompetenzen von Kindern mit Zuwanderungshintergrund [Self-fulfilling prophecies at school: performance expectations of teachers and competences of children with a migrant background]. Springer-Verlag.
- Lorenz, G., Gentrup, S., Kristen, C., Stanat, P., & Kogan, I. (2016). Stereotype bei Lehrkräften? Eine Untersuchung systematisch verzerrter Lehrererwartungen [Stereotypes among teachers? A study of systematic bias in teacher expectations]. Kölner Zeitschrift für Soziologie und Sozialpsychologie, 68 (1), 89-111. https://doi.org/10.1007/s11577-015-0352-3
- Meissel, K., Meyer, F., Yao, E. S., & Rubie-Davies, C. M. (2017). Subjectivity of teacher judgments: Exploring student characteristics that influence teacher judgments of student ability. *Teaching and Teacher Education*, 65, 48-60. https://doi.org/10.1016/j.tate.2017.02.021
- Raisa, A., & Alisa, A. (2018). The influence of student ethnicity on teacher expectations and teacher perceptions of warmth and competence. Psychology in Russia: State of the Art, 11 (1), 106-124. http://doi.org/10.11621/pir.2018.0109
- Regalla, M. (2013). Teacher expectations and students from low socioeconomic background: A perspective from Costa Rica. http://eric.ed.gov/?id=ED540254
- Riegle-Crumb, C., & Humphries, M. (2012). Exploring bias in math teachers' perceptions of students' ability by gender and race/ethnicity. Gender and Society, 26, 290-322. https://doi.org/10.1177/0891243211434614

- Ross, J. A. (1998). The antecedents and consequences of teacher efficacy. In J. Brophy (Ed.), Advances in research on teaching. Expectations in the classroom (vol. 7) (pp. 49-74). JAI Press.
- Rubie-Davies, C. M. (2010). Teacher expectations and perceptions of student attributes: Is there a relationship? *British Journal of Educational Psychology*, 80 (1), 121-135. https://doi.org/10.1348/000709909X466334
- Rubie-Davies, C., Hattie, J., & Hamilton, R. (2006). Expecting the best for students: Teacher expectations and academic outcomes. *British Journal of Educational Psychology*, 76(3), 429-444. https://doi.org/10.1348/000709905x53589
- Rubie-Davies, C. M., Flint, A., & McDonald, L. G. (2012). Teacher beliefs, teacher characteristics, and school contextual factors: What are the relationships? *British Journal of Educational Psychology*, 82 (2), 270-288. https://doi.org/10.1111/j.2044-8279.2011.02025.x
- Rubie-Davies, C. M., Weinstein, R. S., Huang, F. L., Gregory, A., Cowan, P. A., & Cowan, C. P. (2014). Successive teacher expectation effects across the early school years. *Journal of Applied Developmental Psychology*, 35 (3), 181-191. https://doi.org/10.1016/j.appdev.2014.03.006
- Rubie-Davies, C., & Rosenthal, R. (2016). Intervening in teachers' expectations: A random effects meta-analytic approach to examining the effectiveness of an intervention. *Learning and Individual Differences*, 50, 83-92. https://doi.org/10.1016/j.lindif.2016.07.014
- Schenke, K., Nguyen, T., Watts, T. W., Sarama, J., & Clements, D. H. (2017). Differential effects of the classroom on African American and non-African American's mathematics achievement. *Journal of educational psychology*, 109 (6), 794. https://doi.org/10.1037/edu0000165
- Speybroeck, S., Kuppens, S., Van Damme, J., Van Petegem, P., Lamote, C., Boonen, T., & de Bilde, J. (2012). The role of teachers' expectations in the association between children's SES and performance in kindergarten: A moderated mediation analysis. *PloS One*, 7 (4), 1-8. https:// doi.org/10.1371/journal.pone.0034502_
- Tabachnick, G., & Fidell, S. (2013). Using multivariate statistics, always learning (6.th ed.). Pearson.



Timmermans, A. C., Kuyper, H., & Van der Werf, G. (2015). Accurate, inaccurate, or biased teacher expectations: Do Dutch teachers differ in their expectations at the end of primary education? British Journal of Educational Psychology, 85 (4), 459-478. https://doi.org/10.1111/bjep.12087

Timmermans, A. C., Rubie-Davies, C. M., & Wang, S. (2021). Adjusting expectations or maintaining first impressions? The stability of teachers' expectations of students' mathematics achievement. Learning and Instruction, 75, 101483. https://doi.org/10.1016/j.learninstruc.2021.101483

Tobisch, A., & Dresel, M. (2017). Negatively or positively biased? Dependencies of teachers' judgments and expectations based on students' ethnic and social backgrounds. *Social Psychology of Education*, 20 (4), 731-752. https://doi.org/10.1007/s11218-017-9392-z

Van Houtte, M. (2011). So where's the teacher in school effects research? The impact of teachers' beliefs, culture, and behavior on equity and excellence in education. In K. Van den Branden, P. Van Avermaet, & M. Van Houtte (Eds.), Equity and excellence in education: Towards maximal learning opportunities for all students (pp. 75-95). Routledge

Wang S., Rubie-Davies C., & Meissel, K. (2018). A systematic review of the teacher expectation literature over the past 30 years. *Educational Research and Evaluation*, 24 (3-5), 124-179. https://doi.org/10.1080/13803611.2018.1548798

Wang, S., Rubie-Davies, C. M., & Meissel, K. (2019). Instructional practices and classroom interactions of high and low expectation teachers in China. Social Psychology of Education, 22 (4), 841-866. https://doi.org/10.1007/s11218-019-09507-4

Wang, S., Meissel, K., & Rubie-Davies, C. M. (2021). Teacher expectation effects in Chinese junior high schools: Exploring links between teacher expectations and student achievement using a hierarchical linear modelling approach. Social Psychology of Education, 24 (5), 1305-1333. https://doi.org/10.1007/s11218-021-09654-7

Watson, P. W. S. J., Rubie-Davies, C. M., Meissel, K., Peterson, E. R., Flint, A., Garrett, L., & McDonald, L. (2017). Teacher gender, and expectation of reading achievement in New Zealand elementary school students: Essentially a barrier? *Gen*der and Education, 31 (8), 1000-1019. https:// doi.org/10.1080/09540253.2017.1410108 Weinstein, R. S., Gregory, A., & Strambler, M. J. (2004). Intractable self-fulfilling prophecies fifty years after Brown v. Board of Education. *American Psychologist*, 59 (6), 511-520. https://doi.org/10.1037/0003-066X.59.6.511

Westphal, A., Becker, M., Vock, M., Maaz, K., Neumann, M., & McElvany, N. (2016). The link between teacher-assigned grades and classroom socioeconomic composition: The role of classroom behavior, motivation, and teacher characteristics. Contemporary Educational Psychology, 46, 218-227. https://doi.org/10.1016/j.cedpsych.2016.06.004

Whitley, J. (2010). Modelling the influence of teacher characteristics on student achievement for Canadian students with and without learning disabilities. *International Journal of Special Education*, 25 (3), 88-97. https://eric.ed.gov/?id=EJ909039

Authors' biographies

Carmen A. Barriga. Doctor in Education from the Universidad Católica de la Santísima Concepción (Chile). She is currently an Assistant Professor at the Universidad San Sebastián (Chile), and also collaborates as a postdoctoral researcher in the Millennium Nucleus for the Science of Learning (MiNSoL), a centre funded by the Millennium Scientific Initiative of Chile's National Research Agency (NCS2022 26).

ID

https://orcid.org/0000-0001-5803-8042

Cristina Rodríguez. Doctor of Psychology from the Universidad de La Laguna. Associate Professor in the Faculty of Educational Sciences of the Universidad de Talca (Chile). She is currently acting director of the Millennium Nucleus for the Science of Learning, a centre funded by the Millennium Scientific Initi-



https://orcid.org/0000-0001-9929-9767

Roberto A. Ferreira. Doctor of Psychology from the University of York (United Kingdom). Associate Professor in the Faculty of Educational Sciences of the Universidad de Talca (Chile). He is currently director of the Millennium Nucleus for the Science of Learning, a centre funded by the Millennium Scientific Initiative of Chile's National Research Agency (NCS2022_26).

https://orcid.org/0000-0002-2097-5759

Marcos H. Cárdenas-Mancilla. Doctor in Linguistics from the Pontificia Universidad Católica de Valparaíso (Chile). He collaborates as a young researcher in the Millennium Nucleus for the Science of Learning (MiNSoL), a centre funded by the Millennium Scientific Initiative of Chile's National Research Agency (NCS2022 26), and as a researcher in the Interdisciplinary Program for Experimental Research Communication and Cognition (PIIECC) of the University of Santiago de Chile.



https://orcid.org/0000-0002-6942-6232