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#### Procrastination, Self-Esteem, Academic Performance, and Well-Being: A Moderated Mediation Model

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# Procrastination, Self-esteem, Academic Performance, and Well-being: A Moderated Mediation Model

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#### Abstract

The current study attempts to examine integrated effects of procrastination, selfesteem, and academic performance on well-being in a sample of Turkish undergraduate students (N = 348). Results confirm prior evidence suggesting that procrastination and self-esteem were important predictors of well-being. Results also indicated that both procrastination and academic performance have direct and interactive effects on self-esteem. Self-esteem mediated the relationships between procrastination and well-being. Furthermore, the indirect effect of procrastination on well-being via mediation of self-esteem may vary depending on academic performance. Findings were discussed in terms of related literature and further suggestions have been made for future studies.

**Keywords:** procrastination, self-esteem, academic performance, well-being, moderated mediation model

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## Dilación, Autoestima, Rendimiento Académico y Bienestar: Un Modelo Mediador Moderado

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#### Resumen

El presente estudio intenta examinar los efectos integrados de la dilación, la autoestima y el rendimiento académico en el bienestar en una muestra de estudiantes turcos de pregrado (N=348). Los resultados confirman la evidencia previa que sugiere que la dilación y la autoestima son predictores importantes del bienestar. Los resultados también indicaron que tanto la dilación como el rendimiento académico tienen efectos directos e interactivos sobre la autoestima. La autoestima media las relaciones entre la dilación y el bienestar. Además, el efecto indirecto de la dilación en el bienestar a través de la mediación de la autoestima puede variar dependiendo del rendimiento académico. Los hallazgos se discuten en relación a la literatura relacionada y se hacen sugerencias para estudios futuros.

**Palabras clave:** procratisnación, autoestima, logro académico, bienestar, modelo de mediación moderada.

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**P** rocrastination is an important subject matter and has received a considerable amount of interest from researchers over the past decades. It has been defined as self-regulatory failure (Steel, 2007), often results in undesirable outcomes including poor performance and well-being. There is growing evidence suggesting that procrastination is a common problem among students and non-student population. Harriott and Ferrari (1996) reported 20 % of adults engage in procrastination. In academic settings, previous studies reported 23-52% of undergraduate students suffer from procrastination (Balkis & Duru 2009; Özer, Demir, & Ferrari, 2009).

Apart from the prevalence of procrastination, the frequency of procrastination experienced can influence students internally and externally. Low academic achievement can be considered as an external consequence of procrastination for students. Jackson, Weiss, Lundquist and Hooper (2003) stated that procrastination may disrupt academic performance in several ways (see Jackson et al., 2003 for reviews). In existing literature, three meta-analyses were conducted to test the relationship between procrastination and academic performance (Kim & Seo, 2015; Richardson, Abraham, & Bond, 2012; Steel, 2007). These studies reported that procrastinating students are more likely to perform poorly.

As for the internal effects of procrastination on students, previous findings indicated that procrastinating students feel *anxiety* (Fernie, McKenzie, Nikčević, Caselli, G., & Spada, 2016; Gagnon, Dionne, & Pychyl, 2016; Milgram & Toubiana, 1999), *depression* (Fernie et al., 2016; Gagnon et al., 2016; Özer, O'Callaghan, Bokszczanin, Ederer, , & Essau, 2014; Steel, 2007; van Eerde, 2003), *stress* (Sriois & Tosti, 2012; Stead, Shanahan, & Neufeld, 2010; Tice & Baumeister, 1997), and *dissatisfaction with life* (Grunschel, Schwinger, Steinmayr, & Fries, 2016; Hinsch & Sheldon, 2013; Steel, 2010). It seems reasonable to assume that procrastination leads to a lifestyle rife with complications that decrease the overall quality of life and the college experience, and adversely impact the student's well-being. However, many questions regarding when and how procrastination affects well-being still remain unanswered. It is because all studies above have focused on the direct effect of procrastination on students' well-being. Thus, in order to answer when and how the

procrastination affects well-being, it is better to examine the integrated effects of intervening mechanisms and possible variables related to procrastination and well-being. In this study, the integrated effects of selfesteem and academic achievement which are considered to be related with procrastination and well-being will be tested. Previous studies reported that procrastination predicts self-esteem and self-esteem predicts psychological adjustment and well-being (Bajaj, Grupta, & Pande, 2016; Duru & Balkis. 2014; Ferrari, 2000; Lin, 2015). That is to say, as the level of procrastination increases, self-esteem decreases and this negatively affects the well-being. Moreover, there are studies which highlighted the mediating and protective role of self-esteem apart from its direct effect on mental health (Pyszczynski, Greenberg, Solomon, Arndt, & Schimel, 2004; Smokowski, Guo, Rose, Evans, Cotter, & Bacallao, 2014; Sowislo & Orth, 2013). The common finding of these studies is that the direct, mediation, and the integrated effect of self-esteem on mental health is important. In a similar way, research indicated that procrastination predicts academic performance and academic performance predicts academic life satisfaction (Balkis, 2013; Kim & Seo, 2015). In other words, as the procrastination increases, academic performance worsens and this negatively affects the academic life satisfaction. In this sense, the effect of procrastination on students' wellbeing is supposed to vary according to the self-esteem and academic achievement of students. Put differently, self-esteem may have a mediator role on the relation of procrastination and well-being and this role may vary depending on the academic achievement. Similarly, academic achievement might have a mediator role on the relation of procrastination and well-being and this may vary according to the level of self-esteem.

#### **Procrastination and Self-Esteem**

In literature, it is highlighted that procrastination plays a protective role for self-esteem in case of a probable failure (Burka & Yuen, 2008, Covington, 2007; Duru & Balkis, 2014; Ferrari, Johnson, & McCown, 1995). According to Burka and Yuen (2008), procrastinators believe that their performance is a reflection of their self-worth. Thus, in case of a potential failure, they think that they are unsuccessful not only for doing the current task but also as an

individual. In this case they refrain from doing that task in order to protect their self-worth. Similarly Thompson (1999) also indicated that individuals who are doubtful about their abilities to complete a task successfully try to protect their self-esteem by procrastinating. Much research has pointed out the relation of procrastination with self-esteem (Balkis & Duru, 2012; Ferrari & Diaz-Morales, 2007; Park & Sperling, 2012; Pychyl, Coplan, & Reid, 2002). Briefly, high level of procrastination is supposed to be related with low level of self-esteem.

#### Self-Esteem and Academic Achievement

Success and failure in academic life have both major impacts on the way a student perceives himself or herself (Suk Wai Wong & Watkins, 2001). It is expected that students who experience repeated academic failure are likely to develop negative feelings about themselves, on the contrary, those who encounter success tend to develop positive views of themselves. It has often been suggested that academic achievement is closely related to self-esteem (Osborne, 1997; Pullmann & Allik, 2008; Suk Wai Wong & Watkins, 2001; Stupniskyet, Renaud, Perry, Ruthig, Haynes, & Clifton, 2007; Whitesell, Mitchell, & Spicer, 2009), nevertheless, considering the literature, this relationship is more complicated than it is thought to be. Some researchers asserted that self-esteem affects academic achievement (Chapman, 1988; Hansford & Hattie, 1982; Marsh, Byrne, & Shavelson, 1988), however some others claim it is affected by academic achievement (Alves-Martinset, Peixoto, Gouveia-Pereira, Amaral, & Pedro, 2002; Baumeister, Campbell, Krueger, & Vohs, 2003; Bowles, 1999; Filozof, Albertin, Jones, Steme, Myers, & McDermott, 1998; Hoge, Smit, & Crist, 1995). It can be concluded that while self-esteem affects academic achievement, it is affected by academic achievement as well.

#### Self-Esteem and Well-Being

Rosenberg (1965) conceptualized self-esteem as a positive or negative attitude towards self which is developed from the total evaluation of self among various affect areas. Pyszczynski et al. (2004) noted that individuals with low level of self-esteem have also low level of optimism and

motivation, nonetheless have high level of depression, anxiety and negative feelings. Similarly, Leary (2005) reported that in comparison with low self-esteemed individuals, people with high level of self-esteem are less likely to be vulnerable to depression, anxiety, embarrassment, shame, guiltiness, hurt, shyness, and upset. In addition, it is found that self-esteem is associated with indexes of well-being, including low depression (Sowislo & Urth, 2013), satisfaction with life (Diener & Diener, 2009), positive affect (Wood, Heimpel, & Michela, 2003), hope (Symister & Friend, 2003), and optimism (Makikangas, Kinnunen, & Feldt, 2004). Briefly, research and theoretical framework mentioned above pointed out that the level of self-esteem has an important role on the psychological adjustment and mental health of an individual. In other words, as self-esteem increases, psychological adjustment and well-being increase as well.

#### The Current Study

A great deal of research has emphasized the negative effect of procrastination on well-being of students (e.g. Fernie et al., 2016; Gagnon et al., 2016; Sriois & Tosti, 2012; Steel, 2010). However, these studies are lack of a clear explanation about the nature of the process in which procrastination affects the well-being. In other words, the question of under which case and conditions does the procrastination affects students' wellbeing more, has not been answered adequately. One way of answering this question might be to examine the integrated effects of variables which are related to procrastination and well-being. As mentioned before, one of the variables associated with both procrastination and well-being is self-esteem. Explanations about the relationship between procrastination and self-esteem are such that procrastination has a protective role for self-esteem in case of a failure (e.g. Ferrari et al., 1995). Apart from its protective role, procrastination is also supposed to have a negative impact on self-esteem, and academic achievement might play an important role in this process. This is because, as mentioned before, many researchers stated that procrastination interrupts students' academic performance (e.g. Kim & Seo, 2015). Moreover, plenty of research highlighted that academic achievement of students is an important resource that feeds their self-esteem (e.g. AlvesMartins et al., 2002; Baumeister et al., 2003). Therefore, it is supposed that high level of procrastination decreases the level of academic achievement and this affects student's self-esteem negatively. Furthermore, in many studies, it is indicated that low level of procrastination is associated with high level of self-esteem and academic achievement and performance (Steel, 2007). Thus, the relationship between procrastination and self-esteem might vary depending on low or high academic performance.

In addition to the relations of procrastination, self-esteem and academic performance, these relations might be associated with students' well-being. For example, besides the adverse impact of procrastination on well-being, many studies suggested self-esteem as an important variable which effects well-being positively (Diener & Diener, 2009; Pyszczynski et al., 2004; Wood et al., 2003). Hence, high level of procrastination might decrease self-esteem and in turn affects student's well-being negatively. Self-esteem might have a mediator role in this relationship. Moreover, considering the relation of self-esteem with academic achievement and performance (e.g., Stupnisky et al., 2007; Whitesell et al., 2009), the mediator effect of self-esteem is supposed to vary according to academic performance. In this sense, the current study has aimed to examine the integrated effects of procrastination, self-esteem and academic achievement on students' well-being. The hypotheses of the study have been determined as below:

- 1) Procrastination and academic performance will interact to predict selfesteem. The negative relationship between procrastination and selfesteem will be stronger when the level of academic performance is low (versus high)
- 2) Self-esteem will mediate the relationship between procrastination and well-being. However, this indirect effect will be conditional on the academic performance and will be stronger when the level of academic performance is low (Figure 1).



Figure 1. Conceptual model of effect of procrastination on well-being

#### Method

#### **Participants**

Sample consisted of 348 undergraduate students (73% of females) enrolling in faculty of education within a public university located in an urban city in Turkey. Students' age ranged between 19 and 26 (M = 21.30, SD = 1.15). All participants have same ethnic background. All students were invited to participate in the study during their class time. A paper-pencil survey, which included questions about demographic variables and data collection instruments described below, was distributed to the students who accepted to participate in the study.

#### Measures

*Tuckman Procrastination Scale-Turkish Version (TPS-TV).* The TPS-TV is a 14- items self-report measure of procrastination (Özer, Saçkes, & Tuckman,

2013). Participants indicated the extent to which they agreed with statements such as 'I needlessly delay finishing jobs, even when they're important'. The statements are rated on a 5- point Likert scale ( $1 = strongly \ agree, 5 = strongly \ disagree$ ). Özer et al. (2013) reported that the internal consistency coefficient for the TPS-TV was  $\alpha = .90$  and four weeks test-retest reliability was found as r = .80. For the current sample, the internal consistency coefficient for the TPS-TV was  $\alpha = .84$ .

Rosenberg Self-Esteem Scale (RSES. The RSES is a 10- items self-report measure of self-esteem (e.g., "I wish I could have more respect for myself), with rating on a 4 point Likert scale ranging from strongly agree (1) to strongly disagree (4) (Rosenberg, 1965). Çuhadaroğlu (1986) examined the psychometric characteristics of Rosenberg Self-Esteem Scale for Turkish sample. The internal coefficient was found to be .71. Test-retest reliability was found as r = .75 (Çuhadaroğlu, 1986). For the current sample, the internal coefficient was  $\alpha = .83$ .

*Well* –*Being.* Well-Being was determined by two scales those were Academic Life Satisfaction Scale and PANAS.

Academic Life Satisfaction (ALS). Academic life satisfaction of the participants was assessed by Academic Satisfaction Scale (Schmitt, Oswald, Friede, Imus, & Merrit, 2008). The Academic Satisfaction Scale consists of five items. A sample item is: "I'm happy with the amount I learn in my classes". Students indicated the level of agreement with each item, which were scored on a 5-point Likert response scale from 1 (Strongly Disagree to 5 (Strongly Agree). Balkis (2013) examined the psychometric characteristics of ALS and reported that internal consistency coefficient for the ALS was  $\alpha = .86$ . For the current sample, the internal coefficient was  $\alpha = .89$ .

Positive and Negative Affect Schedule (PANAS). The emotional state of participants was assessed by PANAS (Watson, Clark, & Tellegen, 1988). The PANAS includes 20 items assessing positive affectivity (10 items) and negative affectivity (10 items), rated on a 5-point scale. Gençöz (2000) examined the psychometric characteristics of PANAS for Turkish population, and reported that the internal consistency coefficient for the PA was  $\alpha = .80$ , for the NA was  $\alpha = .85$ . For the current sample, internal consistency coefficient for the PA was  $\alpha = .83$ .

Academic Performance. Academic performance was measured by using students' cumulative grade point averages (GPA) that the students had achieved up to previous semester before the questionnaire was filled out.

#### Data analysis

Data was analyzed by SPSS 22. The relationships between variables were examined by utilizing Pearson product moment correlation analysis. The proposed theoretical model (Figure 1) was tested via moderated mediation analysis, also known as conditional indirect process modeling, by using the PROCESS macro (Model 7) developed by Hayes (2013) for SPSS. Four models were constructed to examine whether (1) the effect of procrastination on self-esteem depends on levels of academic performance, (2) the effect of procrastination on well-being via self-esteem depends on levels of academic performance, (3) the effect of procrastination on academic performance depends on levels of self-esteem, (4) the effect of procrastination on wellbeing via academic performance depends on levels of self-esteem. This approach enables the examination of direct and indirect effects of an independent variable on a dependent variable via a mediator, as well as conditional effects moderating these relationships; therefore, all two hypotheses were tested simultaneously. Bias corrected bootstrap confidence intervals were generated for conditional indirect effects at the low, average and high level based on 10.000 bootstrap samples, as this approach has been recommended for examining moderated mediation models (Hayes, 2013). Point estimates were considered significant if the 95% confidence interval did not contain zero.

#### Results

#### Descriptive statistics and correlation analyses

Table 1 presents results of these correlational analyses and descriptive statistics. In order to examine whether procrastination was related to self-esteem, academic performance and well-being, first of all, the relations between procrastination, self-esteem, academic performance and well-being were examined by utilizing a Pearson product moment correlational analysis.

Results showed all variables were statistically and significantly related to each other.

			1						
	М	SD	Skewness	Kurtosis	Range	1	2	3	4
1-Procrastination	35.78	8.75	.014	322	14-56	-	357**	396**	373**
2-Self-esteem	33.00	4.79	460	654	20-40	-	-	.511**	.320**
3-Well-being	30.20	11.47	269	.040	-6 -62	-	-	-	.244**
4-Academic performance	2.93	.33	.263	256	2.10-3.90	-	-	-	-

Table 1Bivariate correlations and descriptive statistics

\*p <.05, \*\*p <.01

#### Moderated mediation analysis

Both hypotheses were tested by as a single instance of moderated mediation analysis by using Hayes's (2013) PROCESS macro (Model 7) (Figure 1). Moderated mediation analysis was established whether an indirect effect occur from procrastination to well-being via the mediation of self-esteem, and if that effect is conditional on the moderation of academic performance. Table 2 provides the detailed results of moderated mediation analyses.

Results showed that both procrastination and academic performance had significant direct effect on self-esteem, and their interaction effect on selfesteem was statistically significiant as well ( $\Delta R^2 = .024$ , p < .01). Results also indicated that the relationship between procrastination and self-esteem is stronger when the level of academic performance is low (t = -5. 38, p <.001) rather than it is high (t = 1.47, p >.05). Thus, Hypothesis 1 was supported; procrastination and academic performance interacts to predict self-esteem. Negative relationship between procrastination and self-esteem is stronger when the level of academic performance is also low. Figure 2 illustrates the interaction at high (+1SD) and low (-1SD) levels of procrastination and self- esteem.



Figure 2. Interaction effect of procrastination and academic performance on selfesteem

Finally, results noticed that self-esteem had a direct effect on well-being. Then, whether a significance indirect effect of procrastination on well-being by self-esteem depends on academic performance was tested by using bootstrapping (N = 10.000). Results indicated that the indirect effect of procrastination on well-being via the mediation of self-esteem is stronger when the level of academic performance are low (ab = -.21, SE=.050, 95% confidence interval [CI] = -.32, -.12) rather than it is high (ab = .04, SE=.035, 95% confidence interval [CI] = -.12, .013). Thus, Hypothesis 2 was supported; Self-esteem mediates the relationship between procrastination and well-being. However, this indirect effect is conditional on the academic performance and is stronger when the level of academic performance is low.

Table 2

Moderated mediation statistics

Model 1	Dependent variable: Self-esteem					
Predictor variables	В	SE	t	Model R <sup>2</sup>		
Procrastination	140	.029	-4.78***	.185***		
Academic performance	3.512	.076	4.62***			
Procrastination X Academic	.259	.079	3.28**			
performance						
	Dependent variable: Well-being					
Predictor variables	В	SE	t	Model R <sup>2</sup>		
Self-esteem	.92	.14	6.31***	.270***		
Procrastination	30	.08	-3.78**			
Reverse Model		Dependent	variable: Aca	demic		
	performance					
Predictor variables	В	SE	t	Model R <sup>2</sup>		
Procrastination	012	.002	-5.57***	.184***		
Self-esteem	.015	.004	3.78**			
Procrastination X Self-esteem	.0005	.0004	1.14 <sup>ns</sup>			
	Dependent variable: Well-being					
Predictor variables	В	SE	t	Model R <sup>2</sup>		
Academic performance	4.07	2.17	1.88 <sup>ns</sup>	.150***		
Procrastination	41	.09	-4.84***			

<sup>ns</sup> p > .05, \*\*p < .01, \*\*\*p < .001

Furthermore we tested the reverse model whether an indirect effect of procrastination on well-being by the mediation of academic performance varies in accordance with the level of self-esteem. Results of moderated mediation analysis indicated that (a) academic performance does not mediate the relationship between procrastination and well-being, (b) both procrastination and self-esteem have direct effect on academic performance but the interaction effect of them on academic performance is not significant ( $\Delta R^2 = .003$ , p > .05). (See Table 2).

#### Discussion

The current study attempts to provide a more detailed investigation regarding the effects of procrastination on well-being. Findings are in line with those of previous studies which focused on the links between procrastination and academic performance (e.g., Kim & Seo, 2015; Steel, 2007), self-esteem (Burka & Yuen, 2008; Ferrari et al., 1995; Covington, 2007; Pychyl et al., 2002) and well-being (e.g., Balkis & Duru, 2016; Fernie et al., 2016; Gagnon et al., 2016; Sriois & Tosti, 2012; Steel, 2010). Present findings suggested that procrastinating students are more likely to have poor academic performance, self-esteem and well-being.

Findings also confirmed the first hypothesis which was that procrastination and academic performance interacts to predict self-esteem. Negative relationship between procrastination and self- esteem is stronger when the level of academic performance is low. Findings demonstrated that self-esteem of students with low academic achievement is affected more when they postpone their existing tasks and responsibilities; however selfesteem of students with high academic achievement is not so much affected by the procrastination behavior. Considering that students with high level of self-esteem have high academic achievement as well, these students might perform less procrastination. Similarly, high academic achievement serves as a resource which feeds self-esteem, in turn high level of self-esteem may lead these students to delay their tasks less. Even these students may procrastinate; they may attribute this to conditional and environmental reasons; in other words to the external factors rather than to their self. Nevertheless, in order to test these judgments, further studies are required. Briefly, these findings are in line with those of studies which indicated the important role of academic performance on the development of self-esteem (Alves-Martins et al., 2002; Baumeister et al., 2003; Filozof et al., 1998). There are two different views for the studies examining the relationship of self-esteem and academic performance. One side of the research emphasized that academic performance is an important predictor of self-esteem (Alves-Martins et al., 2002; Bowles, 1999; Filozof et al., 1998; Hoge et al., 1995), while the others indicated that self-esteem is a determinant of academic performance (Chapman, 1988; Hansford & Hattie, 1982; Marsh et al., 1988). Both views were tested in this study. Findings indicated that academic

performance had a moderator role on the relationship between procrastination and self-esteem however self-esteem didn't have a similar role on the relation of procrastination and academic performance. Put differently, self-esteem of students with low academic achievement is more affected when they don't perform their tasks on time. In the meantime, the negative effect of procrastination on academic achievement does not vary according to the student's self-esteem. Therefore, this finding supports the studies which emphasized the determinant role of academic performance for self-esteem, while it does not the ones which noted that self-esteem is determinant for academic achievement. Still, in order to have more clear information about the relationship between academic performance and selfesteem, longitudinal studies are required to be conducted.

The present findings also confirmed the second hypothesis which was that self-esteem mediates the relationship between procrastination and wellbeing. However, this indirect effect is conditional on the academic performance and is stronger when the level of academic performance is low. Findings revealed that the effect of procrastination on well-being varies according to the level of self-esteem. In other words, when self-esteem is affected from procrastination negatively, the negative effect of procrastination on well-being also increases. Many research stated that there is a negative relationship between procrastination and self-esteem (Ferrari, 1991; Duru & Balkis, 2014; Klassen & Kuzucu, 2009), and individuals with low level of self-esteem have more problems on psychological adjustment (Leary, 2005; Pyszczynski et al., 2004). Findings also suggested that the indirect effect of procrastination on well-being via self-esteem varies according to the level of academic performance. When academic performance is poor, the indirect effect of procrastination via self-esteem on well-being is strong, however when academic performance is high, this effect is not meaningful. Put differently, the self-esteem of students, who have low level of academic performance, are affected more negatively when they delay their tasks and requirements, and the indirect effect of procrastination via self-esteem on well-being increases more. In sum, findings supported the previous studies which had stated that academic performance have an important role for self-esteem (e.g., Alves-Martins et al., 2002; Baumeister et al. 2003) and self-esteem has an important role for

the psychological adjustment of an individual (Smokowski et al., 2014; Sowislo & Orth, 2012).

#### Conclusion

In the current study, integrated effects of procrastination, academic performance and self-esteem on well-being have been investigated. The following conclusions can be drawn from the present study: (a) procrastination has a negative impact on self-esteem by interrupting academic performance; (b) self-esteem mediated the association between procrastination and well-being; and (c) the indirect effect of procrastination on well-being by the mediation of self-esteem is stronger in the case of poor academic performance. This research contributed to the literature by suggesting that procrastination does not always has a protective role for selfesteem, furthermore it adversely affects students' self-esteem by interrupting their academic performance. The present study also demonstrated how and when the procrastination affects well-being of the students. As suggested by the findings, procrastination has a negative impact on students' well-being by low level of self-esteem in the case of poor academic performance. Academic performance is important because it lessens the adverse impact of procrastination on students' well-being. Therefore, intervention programs that focus on improving academic performance of procrastinating students may contribute the level of their self-esteem. Findings also proved the mediator role of self-esteem in the relationship of procrastination and wellbeing. This indirect effect is stronger for the students who have low level of academic performance. Thus, intervention studies for decreasing procrastination might help to increase students' self-esteem through improving academic performance; and in turn it increases well-being.

This study should be evaluated with its limitations. First of all, the research is limited to a cross-sectional design. Further studies could test the long-term impacts of procrastination, academic performance and self-esteem on well-being by adopting longitudinal designs. Secondly, the relations between the variables are required to be examined for students attending different universities and with different age groups. Lastly, this study was conducted with the members of a culture which demonstrate similar characteristics. Considering that self is affected by the culture, further

research with different cultures and societies might contribute to understand better the relations of the variables.

#### References

- Alves-Martins, M., Peixoto, F., Gouveia-Pereira, M., Amaral, V., & Pedro, I. (2002). Self-esteem and academic achievement among adolescents. *Educational Psychology*, 22(1), 51-62.
- Balkis, M. (2013). Academic procrastination, academic life satisfaction and academic achievement: The mediation role of rational beliefs about studying. *Journal of Cognitive and Behavioral Psychotherapies*, *13*(1), 57-74.
- Balkis, M., & Duru, E. (2016). Procrastination, self-regulation failure, academic life satisfaction, and affective well-being: underregulation or misregulation form. *European Journal of Psychology of Education*, 31(3), 439 – 459.doi:10.1007/s10212-015-0266-5
- Balkis, M. & Duru, E. (2012). The direct and indirect role of self-esteem and procrastination in the relation to fear of failure and self-worth. *International Journal of Human Sciences*, 9 (2), 1075-1093.
- Balkis, M., & Duru, E. (2009). Prevalence of academic procrastination behavior among preservice teachers, and its relationships with demographics and individual preferences. *Journal of Theory and Practice in Education*, 5(1), 18-32.
- Bajaj, B., Gupta, R., & Pande, N. (2016). Self-esteem mediates the relationship between mindfulness and well-being. *Personality and Individual Differences*, 94, 96-100. doi:10.1016/j.paid.2016.01.020
- Baumeister, R. F., Campbell, J. D., Krueger, J. I., & Vohs, K. D. (2003). Does high self-esteem cause better performance, interpersonal success, happiness, or healthier lifestyles? *Psychological Science in the Public Interest*, 4(1), 1-44. doi: 10.1111/1529-1006.01431
- Bowles, T. (1999). Focusing on time orientation to explain adolescent selfconcept and academic achievement. *Journal of Applied Health Behavior*, *1*, 1-8.
- Burka, J. B., & Yuen, L. M. (2008). *Procrastination: Why you do it, what to do about it.* Cambridge: Da Capo Press,

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- Chapman, J. W. (1988). Learning disabled children's self-concepts. *Review of Educational Research*, 58(3), 347-371. doi: 10.3102/00346543058003347
- Covington, M.V. (2007). A motivational analysis of academic life in college. In R.P. Perry and J.C. Smart (Ed.), *The Scholarship of Teaching and Learning in Higher Education: An Evidence-Based Perspective (661-729)*. Dordrecht: Springer.
- Cuhadaroglu, F. (1986). Self-esteem in adolescents. Unpublished doctoral dissertation, Hacettepe University, Turkey.
- Diener, E., & Diener, M. (2009). Cross-cultural correlates of life satisfaction and self-esteem. In *Culture and well-being* (pp. 71-91). Springer Netherlands.
- Duru, E., & Balkis, M. (2014). The roles of academic procrastination tendency on the relationships among self-doubt, self-esteem, and academic achievement. *Education and Sciences*, *39* (173), 274-287.
- Fernie, B. A., McKenzie, A. M., Nikčević, A. V., Caselli, G., & Spada, M. M. (2016). The contribution of metacognitions and attentional control to decisional procrastination. *Journal of Rational-Emotive & Cognitive-Behavior Therapy*, 34(1), 1-13.doi: 10.1007/s10942-015-0222-y
- Ferrari, J. R. (2000). Procrastination and attention: Factor analysis of attention deficit, boredomness, intelligence, self-esteem, and task delay frequencies. *Journal of Social Behavior and Personality*, 15(5), 185-196.
- Ferrari, J. R., & Díaz-Morales, J. F. (2007). Perceptions of self-concept and self-presentation by procrastinators: Further evidence. *Spanish Journal of Psychology*, 10(1), 91-96. doi: 10.1017/S113874160000634X
- Ferrari, J. R., Johnson, J. L., &. McCown, W.G. (Eds) (1995) *Procrastination and task avoidance: Theory, research, and treatment.* New York: Plenum Press.
- Ferrari, J. R. (1991). Self-handicapping by procrastinators: Protecting selfesteem, social-esteem, or both? *Journal of Research in Personality*, 25(3), 245-261. doi:10.1016/0092-6566(91)90018-L
- Filozof, E. M., Albertin, H. K., Jones, C. R., Steme, S. S., Myers, L., & McDermott, R. J. (1998). Relationship of adolescent self- esteem to

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selected academic variables. *Journal of School Health*, 68(2), 68-72. doi: 10.1111/j.1746-1561.1998.tb07194.x

- Gagnon, J., Dionne, F., & Pychyl, T. A. (2016). Committed action: An initial study on its association to procrastination in academic settings. *Journal of Contextual Behavioral Science*, 5(2), 97-102.doi:10.1016/j.jcbs.2016.04.002
- Gençöz, T. (2000). Pozitif ve negatif duygu ölçeği: Geçerlik ve güvenirlik çalışması. *Türk Psikoloji Dergisi*, *15*(46), 19-26.
- Grunschel, C., Schwinger, M., Steinmayr, R., & Fries, S. (2016). Effects of using motivational regulation strategies on students' academic procrastination, academic performance, and well-being. *Learning and Individual Differences*, 49, 162-170. doi:10.1016/j.lindif.2016.06.008
- Harriott, J., & Ferrari, J. R. (1996). Prevalence of procrastination among samples of adults. *Psychological Reports*, 78(2), 611-616. doi: 10.2466/pr0.1996.78.2.611
- Hansford, B. C., & Hattie, J. A. (1982). The relationship between self and achievement/performance measures. *Review of Educational Research*, 52(1), 123-142. doi: 10.3102/00346543052001123
- Hayes, A. F. (2013). Introduction to mediation, moderation, and conditional process analysis. A regression-based approach. New York, NY: Guilford.
- Hinsch, C., & Sheldon, K. M. (2013). The impact of frequent social internet consumption: Increased procrastination and lower life satisfaction. *Journal of Consumer Behavior*, 12(6), 496-505. doi:10.1002/cb.1453
- Hoge, D. R., Smit, E. K., & Crist, J. T. (1995). Reciprocal effects of selfconcept and academic achievement in sixth and seventh grade. *Journal of Youth and Adolescence*, 24(3), 295-314. doi:10.1007/BF01537598
- Jackson, T., Weiss, K. E., Lundquist, J. J., & Hooper, D. (2003). The impact of hope, procrastination, and social activity on academic performance of Midwestern college students. *Education*, *124*(2), 310-320.
- Kim, K. R., & Seo, E. H. (2015). The relationship between procrastination and academic performance: A meta-analysis. *Personality and Individual Differences*, 82, 28-33. doi:10.1016/j.paid.2015.02.038.

116 Duru & Balkis – Procastination and well-being

- Klassen, R. M., & Kuzucu, E. (2009). Academic procrastination and motivation of adolescents in Turkey. *Educational Psychology*, 29(1), 69-81. doi: 10.1080/01443410802478622
- Leary, M. R. (2005). Sociometer theory and the pursuit of relational value: Getting to the root of self-esteem. *European Review of Social Psychology*, *16*(1), 75-111. doi: 10.1080/10463280540000007
- Lin, C. C. (2015). Self-esteem mediates the relationship between dispositional gratitude and well-being. *Personality and Individual Differences*, 85, 145-148. doi:10.1016/j.paid.2015.04.045
- Mäkikangas, A., Kinnunen, U., & Feldt, T. (2004). Self-esteem, dispositional optimism, and health: Evidence from cross-lagged data on employees. *Journal of Research in Personality*, *38*(6), 556-575. doi:10.1016/j.jrp.2004.02.001
- Marsh, H. W., Byrne, B. M., & Shavelson, R. J. (1988). A multifaceted academic self-concept: Its hierarchical structure and its relation to academic achievement. *Journal of Educational Psychology*, 80(3), 366-380. doi: 10.1037/0022-0663.80.3.366
- Milgram, N., & Toubiana, Y. (1999). Academic anxiety, academic procrastination, and parental involvement in students and their parents. *British Journal of Educational Psychology*, *69*(3), 345-361. doi: 10.1348/000709999157761
- Osborne, J. W. (1997). Race and academic disidentification. *Journal of Educational Psychology*, 89(4), 728-735. doi: 10.1037/0022-0663.89.4.728
- Ozer, B.U., O'Callaghan, J., Bokszczanin, A., Ederer, E., & Essau, C. (2014). Dynamic interplay of depression, perfectionism and self-regulation on procrastination. *British Journal of Guidance & Counselling*, 42, 309– 319. doi:10.1080/03069885.2014.896454
- Özer, B.U., Saçkes, M., & Tuckman, W. B. (2013). Psychometric properties of the Tuckman procrastination scale in a Turkish Sample. *Psychological Reports*, *113*(3), 874-884. doi: 10.2466/03.20.PR0.113x28z7
- Özer, B. U., Demir, A., & Ferrari, J. R. (2009). Exploring academic procrastination among Turkish students: Possible gender differences in prevalence and reasons. *The Journal of Social Psychology*, 149(2), 241-257. doi: 10.3200/SOCP.149.2.241-257

IJEP – International Journal of Educational Psychology, 6(2) 117

- Park, S.W., & Sperling, R.A.(2012). Academic procrastinator and their selfregulation. *Psychology in Scientific Research*, 3(1), 12-23. doi:10.4236/psych.2012,31003
- Pullmann, H., & Allik, J. (2008). Relations of academic and general selfesteem to school achievement. *Personality and Individual Differences*, 45(6), 559-564. doi:10.1016/j.paid.2008.06.017
- Pychyl, T. A., Coplan, R. J., & Reid, P. A. (2002). Parenting and procrastination: gender differences in the relations between procrastination, parenting style and self-worth in early adolescence. *Personality and Individual Differences*, 33, 271–285. doi:10.1016/S0191-8869(01)00151-9
- Pyszczynski, T., Greenberg, J., Solomon, S., Arndt, J., & Schimel, J. (2004). Why do people need self-esteem? A theoretical and empirical review. *Psychological Bulletin*, 130(3), 435-468. doi: 10.1037/0033-2909.130.3.435
- Richardson, M., Abraham, C. & Bond, R. (2012). Psychological correlates of university students' academic performance: A systematic review and meta-analysis. *Psychological Bulletin*, 138, 353–387. doi:10.1037/a0026838.
- Rosenberg, M. (1965). Society and the adolescent self-image. Princeton, NJ: Princeton University Press.
- Schmitt, N., Oswald, F. L., Friede, A., Imus, A., & Merritt, S. (2008). Perceived fit with an academic environment: Attitudinal and behavioral outcomes. *Journal of Vocational Behavior*, 72(3), 317-335. doi: 10.1177/1069072712466713
- Sirois, F. M. & Tosti, N. (2012). Lost in the moment? An investigation of procrastination, mindfulness, and well-being. *Journal of Rational-Emotive & Cognitive-Behavior Therapy*, 30, 237–248. doi: 10.1007/s10942-012-0151-y
- Smokowski, P. R., Guo, S., Rose, R., Evans, C. B., Cotter, K. L., & Bacallao, M. (2014). Multilevel risk factors and developmental assets for internalizing symptoms and self-esteem in disadvantaged adolescents: Modeling longitudinal trajectories from the Rural Adaptation Project. *Development and Psychopathology*, 26(4pt2), 1495-1513. doi: 10.1017/S0954579414001163

- Sowislo, J. F., & Orth, U. (2013). Does low self-esteem predict depression and anxiety? A meta-analysis of longitudinal studies. *Psychological Bulletin*, 139(1), 213-240. doi: 10.1037/a0028931
- Stead, R., Shanahan, M. J., & Neufeld, R. W. (2010). "I'll go to therapy, eventually": Procrastination, stress and mental health. *Personality and Individual Differences*, 49(3), 175-180. doi: 10.1016/j.paid.2010.03.028
- Steel, P. (2010). Arousal, avoidant and decisional procrastinators: Do they exist? *Personality and Individual Differences*, 48, 926-934. doi:10.1016/j.paid.2010.02.025
- Steel, P. (2007). The nature of procrastination: A meta-analytic and theoretical review of quintessential self-regulatory failure. *Psychological Bulletin*, 133, 65-94. doi:10.1037/0033-2909.133.1.65
- Stupnisky, R. H., Renaud, R. D., Perry, R. P., Ruthig, J. C., Haynes, T. L., & Clifton, R. A. (2007). Comparing self-esteem and perceived control as predictors of first-year college students' academic achievement. *Social Psychology of Education*, 10(3), 303-330. doi: 10.1007/s11218-007-9020-4
- Suk Wai Wong, M., & Watkins, D. (2001). Self-esteem and ability grouping: A Hong Kong investigation of the big fish little pond effect. *Educational Psychology*, 21(1), 79-87. doi: 10.1080/01443410123082
- Symister, P., & Friend, R. (2003). The influence of social support and problematic support on optimism and depression in chronic illness: a prospective study evaluating self-esteem as a mediator. *Health Psychology*, 22(2), 123-129. doi: 10.1037/0278-6133.22.2.123
- Thompson, T. (1999). Underachieving to protect self-worth: Theory, research, and interventions. Aldershot, England: Ashgate Publishing Ltd.
- Tice, D. M., & Baumeister, R. F. (1997). Longitudinal study of procrastination, performance, stress, and health: The costs and benefits of dawdling. *Psychological Science*, 8(6), 454-458. doi:10.1111/j.1467-9280.1997.tb00460.x
- Tuckman, B. W. (1991). The development and concurrent validity of the procrastination scale. *Educational & Psychological Measurement*, 51, 473-481. doi:10.1177/0013164491512022.

IJEP – International Journal of Educational Psychology, 6(2) 119

- Watson, D., Clark, L. A., & Tellegen, A. (1988). Development and validation of brief measures of positive and negative affect: the PANAS scales. *Journal of Personality and Social Psychology*, 54(6), 1063-1070. doi: 10.1037/0022-3514.54.6.1063
- Whitesell, N. R., Mitchell, C. M., & Spicer, P. (2009). A longitudinal study of self-esteem, cultural identity, and academic success among American Indian adolescents. *Cultural Diversity and Ethnic Minority Psychology*, 15(1), 38-50.doi:10.1037/a0013456
- Wood, J. V., Heimpel, S. A., & Michela, J. L. (2003). Savoring versus dampening: self-esteem differences in regulating positive affect. *Journal of Personality and Social Psychology*, 85(3), 566-580. doi: 10.1037/0022-3514.85.3.566
- van Eerde, W. (2003). Procrastination at work and time management training. Journal of Psychology, 137, 421-434. doi:/10.1080/00223980309600625

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### The Potential Role of Perceived Support for Reduction of Special Education Teachers' Burnout

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### The Potential Role of Perceived Support for Reduction of Special Education Teachers' Burnout

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#### Abstract

Teacher burnout is conceived as a general concern in special education because of the emotionally demanding work context. This study explored the potential role of perceived support for reduction of burnout in a sample of 276 special education teachers working in lower (n=130) and higher (n=146) secondary schools. Participants completed the Maslach Burnout Inventory - Educators Survey (MBI-ES) and a scale on the perceived collaboration and support from general education teachers. To explore the association between perceived support and each burnout measure considered (emotional exhaustion, depersonalisation, and personal accomplishment), correlation analyses were performed. Then, in order to check the robustness of our empirical findings, multilevel regression models (at teacherschool-administrative area level) were used controlling for several variables (teacher socio-demographic characteristics, teacher training and professional background, inclusive teaching practice and school context). Results suggest the potential role of perceived support in reducing emotional exhaustion and improving personal accomplishment in all the models considered. Instead, the relationship between perceived support and depersonalisation seems to be quite controversial, moreover when adding controls related to teacher's training and professional background.

**Keywords**: teacher burnout, special education, perceived support, inclusive teaching, multilevel regression models.

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### El Papel Potencial del Apoyo Percibido en la Reducción del 'Burnout' del Profesorado de Educación Especial

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#### Resumen

El 'burnout' del profesorado se concibe como una preocupación general en la educación especial debido a un contexto de trabajo emocionalmente demandante. Este estudio exploró el papel potencial del apoyo percibido en la reducción del 'burnout' en una muestra de 276 maestros de educación especial que trabajaban en escuelas secundarias e nivel más bajo (n=130) y de nivel más alto (n=146). Los participantes completaron el Maslach Burnout Inventory - Educators Survey (MBI-ES) y una escala sobre el apoyo y la colaboración percibidas por parte de profesorado generalista. Para examinar la asociación entre apoyo percibido y cada medida de 'burnout' considerada (cansancio emocional, despersonalización y logro personal) se llevaron a cabo análisis de correlación. Posteriormente, para comprobar la solidez de los resultados empíricos se usaron modelos de regresión multinivel (al nivel de profesor-escuela-área administrativa) controlando varias variables (las características socio-demográficas del profesorado, la formación del profesorado y el bagaje profesional, enseñanza inclusiva y contexto escolar). Los resultados sugieren el papel potencial del apoyo percibido en la reducción del cansancio emocional y en la mejora del logro personal en todos los modelos considerados. Sin embargo, la relación entre el apoyo percibido y la despersonalización parece ser controvertida, además cuando se añaden controles relacionados con la formación del profesorado y al bagaje profesional.

**Palabras clave:** 'Burnout' del profesorado, educación especial, apoyo percibido, enseñanza inclusiva, modelos de regresión multinivel.

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iterature highlights a high rate of professional turnover in special education mostly due to the role of job-related stress (Cancio, Hinds, Jones, Gau, Forrester, & Albrecht, & Johns, 2013; Biglan, 2015; Zabel & Zabel, 2002). Honawar (2006) states the national attrition rate of special education teachers at a high of 13.5%; besides, almost 1/3 of new special education teachers leave the profession after three years in the field (Dillon, 2007). Indeed, special education teachers are more likely to face challenging situations than the general teachers, such as custodial and managerial tasks, a perceived lack of job success, programme structure, and work overload (Friedman, 2000; Sari, 2004). Indeed, many diverse challenges and expectations, complex demands, and stress-inducing factors are endemic to this occupation, because students with special education needs often require constant support (Stoesz et al., 2016). Special education teachers tend to experience different challenging students' behaviors, such as being more active and easily distractible than other students, requesting greater attention to achieve educational goals, and expressing an aggressive/hostile conduct (Pepe & Addimando, 2013). In addition, special education teachers have to cope with paradoxes and contradictions, because experiencing failure and acting as an attempt without a guarantee of success are distinctive characteristics of their occupational reality (Lindmeier, 2013). Therefore, their feeling of uncertainty in educational action and interaction is particularly pronounced, thus resulting in high stress and significant adverse consequences (Norwich, 2013). About two out of three teachers who leave the profession state as main reasons too much paperwork to be completed, lack of administrative support, not enough supplies, too many students and scarce collaboration with colleagues (Futernick, 2007; Kaff, 2004; Prather-Jones, 2011). Moreover, pressure from parents can be meaningfully intense, due to the complex and confusing emotional states parents may go through when dealing with physical and psychological health of their children (Kourkoutas, Langher, Vitalaki, & Ricci, 2015). They can have unrealistic expectations or, on the contrary, they can underestimate the good results of their children at school (Langher, Caputo, Ajdinski, Ricci, & Karovska, 2015). In the Italian context this problem is particularly relevant because of the institutional regulatory framework which requires mandatory inclusive practice for students with

special education needs in all school grades. However, as revealed by recent data provided by the National Institute of Statistics (ISTAT, 2014) about the inclusion of students with disabilities, the lack of organisational and structural conditions of Italian schools does not allow the effective promotion of inclusive education, particularly in the current spending review period characterised by massive financial cuts in education. Indeed, the number of special education teachers is insufficient compared to the increasing population of students with disabilities (ISTAT, 2014). In addition, there is a lack of continuity of plans and actions due to administrative changes<sup>1</sup>: most of students with a disability (44.1% in primary school and 39.8% in lower secondary school) have their special education teachers changed from the previous school year (ISTAT, 2014). In the Italian education system, therefore, special education teachers seem to be caught in the grips of this critical situation: on the one hand, they are overloaded with high-performance expectations; on the other hand, they are considered as responsible, whether right or wrong, for the failure of dysfunctional inclusive processes. As suggested by Acanfora (2002), this may lead to teacher burnout, characterised by feelings of low personal accomplishment, reduced professional self-efficacy, job disengagement, poor interactions and attitudes towards students and colleagues, especially in those schools where there is a significant gap between high-performance expectations and scarce organisational, structural and relational conditions of work context.

In this regard, support from the general education teachers in a school is conceived as a key-factor which allows special education teachers to feel as though they are part of the school environment and to experience greater personal accomplishment (Billingsley, Carlson, & Klein, 2002; Gersten, Keating, Yovanoff, & Harniss, 2001), acceptance, and participation (Platsidou & Agaliotis, 2008). On the contrary, without support, many special education teachers tend to feel isolated and lonely (Schlichte, Yssel, & Merbler, 2005) and to be affected by higher levels of burnout (Hakanen, Bakker, & Schaufeli, 2006; Leung & Lee, 2006; Schaufeli & Bakker, 2004; Talmor, Reiter, & Feigin, 2005). Indeed, special education teachers are more positive about inclusion when they are provided with high quality support (Al-Shammari, 2006; Avramidis & Norwich, 2002). They can benefit of

sharing with mainstream teachers the decisions about the didactic for children with special education needs, ameliorating the quality of their own instruction. This can positively affect the general quality of the didactic in the class, as well as the quality of the relationship between teachers and students, and among students, thus reducing the risk of isolation in class for children with special education needs. In this sense, inclusion could become a successful possibility for more students when there are support staff and other resources involved (Langher, Caputo, Ajdinski, Ricci & Karovska, 2015; Langher et al., 2015; Langher, Ricci, Propersi, Glumbic & Caputo, 2016).

This suggests the importance of the subjective dimension because, despite the limitations and inadequateness of organisational and structural conditions, the perception of being supported can have a significant role in reducing the negative effects of lacking school resources, otherwise the quality of inclusive processes at school can decline (Reversi, Langher, Crisafulli, & Ferri, 2007; Langher, Ricci, Reversi, & Citarelli, 2010). In other words, subjective perception can be related to collusive processes (Carli & Paniccia, 2003), in terms of emotional and symbolic dimensions through which teachers represent themselves and relationships with colleagues within their work context (Langher, Caputo, Ajdinski, Ricci, & Karovska, 2015; Langher, Caputo, Ricci, & Ajdinski, 2104). Regardless the amount of real received support, subjectively perceived support can thus act as a potential factor for reducing and regulating situations of potential teacher burnout.

#### Aim of the Study

The aim of this study is to explore the potential role of perceived support for reducing potential burnout in special education teachers coming from secondary school. In more detail, it aims at assessing the association between perceived support and collaboration with regular teachers and burnout dimensions (i.e. emotional exhaustion, depersonalisation, and personal accomplishment), taking into account special education teachers' environments. Indeed, special education teachers are nested within schools, which are in turn grouped within neighbourhoods or territorial areas, and so some context-related effects might exist. The relationship between perceived support (as independent variable) and burnout (as dependent variable) is also controlled for several variables, related to four main domains (teacher sociodemographic characteristics, teacher training and professional background, inclusive teaching practice and school context) in order to test whether perceived support can maintain a significant predictive validity in reducing the different burnout measures.

#### Method

#### **Participants and Procedure**

The sample of this study comprised 276 special education teachers working in lower (n=130) and higher (n=146) secondary schools in the city of Rome. The sample was composed of 224 female (81.2%) and 52 male (18.8%) teachers, consistently with general trends on teachers' gender distribution in the Italian context (OECD, 2008). They were grouped in two main age classes - respectively 30-44 (51.4%) and 45-62 (48.6%) years old - and their years of tenure ranged from 1 to 35 (Mean=17.64; SD=7.99).

A two-step sampling procedure was used. In the first step, a group of 107 secondary schools - both at lower (n=56) and higher (n=51) levels - were selected by a stratified random sampling based on the different administrative areas where schools were located. These areas are well distributed along three levels of socio-economic disadvantage (low, medium, high), according to data provided by the Italian Center for Social Studies and Policies (CENSIS). In the second step, a sample of special education teachers was recruited from these schools by using convenience sampling, which included those available to participate in the study (on average, about three teachers by school). The special education teachers were contacted after obtaining permission from the principles of the selected schools. The teachers were explained the general aim of the study, i.e. analysing the subjective perception of support at work and its role in contrasting burnout, and were asked to fill in a form for the informed consent.

#### Instruments

The perceived Collaboration and Support for Inclusive Teaching (CSIT) Scale. The CSIT scale (Caputo & Langher, 2015) is composed of 12 items. Items scored on a 5-point Likert-type scale, ranging from 0 (never) to 4 (always) and evaluates the special education teachers' perception of several sources supporting their inclusive role, such as informal exchange and help provided by their general education colleagues (e.g., "When asked by me, my general education colleagues provide me with suggestions on how to behave with students with a disability they already know"), collaboration with them for co-planning instruction within the class (e.g., "During my class work, I collaborate with general education teachers in training activities regarding the whole class"), school and staff efforts for inclusion (e.g., "In staff meetings, the inclusion of students with a disability coordination is favored by promotion, and evaluation of pedagogical/didactic options addressed to them"), shared attitude toward disability and relevance attributed to inclusion (e.g., "General education teachers propose extra education whose planning meets the needs of students with a disability"). Good reliability ( $\alpha$ =.88) and face, construct, convergent and discriminant evidences of validity, including the association with teacher burnout, were established in previous research (Caputo & Langher, 2015). Cronbach's alpha for the present sample is 0.876.

**Maslach Burnout Inventory, Educators Survey (MBI-ES).** The questionnaire is used to assess teacher burnout (Maslach & Jackson, 1986). It is composed of 22 items scored on a 7-point Likert-type scale, ranging from 0 (never) to 6 (everyday). It specifically measures three different burnout dimensions: Emotional Exhaustion (e.g., "I feel exhausted by my work"), Depersonalisation (e.g., "I'm afraid that this job is making me uncaring"), and Personal Accomplishment (e.g., "I look after my students' problems very effectively"). *Emotional Exhaustion* is characterised by psychological depletion caused by the constant demands of caring for others. This factor can include physiological illness, chronic fatigue, and decreased stress resistance. Teachers exhibit emotional exhaustion when they feel they can no longer extend themselves to students as they as they once did (Evers, Brouwers, & Tomic, 2002; Maslach & Jackson, 1986). Depersonalisation

a detached attitude toward individual student needs (Maslach & Jackson, 1986). Satisfaction with *Personal Accomplishment*, a third indicator of teacher burnout, is evidenced by self-evaluation relative to job performance and expectations of future goal attainment. The Italian adaptation of MBI for educators (Sirigatti & Stefanile, 1993) showed satisfactory internal consistency (.86 for Emotional Exhaustion, .63 for Depersonalisation and .71 for Personal Accomplishment) and was correlated with other measures such as anxiety, depression, somatic symptoms, hostility and job perceptions. Cronbach's alpha for the present sample is .77 for Emotional Exhaustion, .61 for Depersonalisation and .65 for Personal Accomplishment.

#### **Statistical Procedures**

To explore the association between perceived support and each burnout measure considered (i.e. emotional exhaustion, depersonalisation, and personal accomplishment), correlation analyses were performed.

Then, given the nested structure of data, multilevel regression analysis (three level random intercept: teacher-school-administrative area) was performed to predict each burnout measure as dependent variables, based on perceived support as explicative/independent variable. Because teachers who work in the same school or administrative area share the same environment and tend he more alike than are teachers in different to schools/administrative areas, their observations cannot be considered as independent. Therefore, multilevel modelling allows us to correctly estimate the relative variation in burnout based on perceived support, also considering the potential effect of clustering. Multilevel models recognize the existence of such data hierarchies by allowing for residual components at each level in the hierarchy (Hox, 2002). For example, a three-level model that allows for grouping of teacher measures within schools, nested within administrative areas, would include residuals at the teacher, school and administrative area level. Thus the residual variance is partitioned into a between school/administrative area component (the variance of the area-level residuals) withinschool/administrative and а school/administrative area component (the variance of the teacher-level residuals). The school/administrative area residuals represent unobserved school/administrative area characteristics that affect teacher measures. These

unobserved variables lead to correlation between outcomes for teachers from the same school/administrative area.

To check the robustness of our empirical findings and to test whether perceived support could maintain a significant predictive validity in reducing the different burnout measures after controlling for several variables, we defined five multilevel regression models progressively including some independent variables (covariates) to cleanse the association between special education teachers' perceived support and burnout measures of its spurious elements.

define different multilevel In order to regression models. Bronfenbrenner's (1977) Ecological Model was used as an organizational framework to order the variables associated with teacher burnout from proximal (e.g., teacher characteristics) to distal (e.g., external context). This model was used by both Brownell and Smith (1993) and by Brunsting, Sreckovic and Lane (2014) providing a synthesis of research on special education teacher burnout from 1979 to 2013. Studies are synthesized by the variables associated with burnout, beginning with the most proximal to the most distal (individual, classroom and school factors).

Model 1. It does not include any additional control.

*Model 2.* It includes some variables to control for teachers' sociodemographic characteristics: a dummy for gender and a dummy for age class, respectively 30-44 and 45-62 years old.

*Model 3.* In addition to model 2, it includes a set of control variables referred to teachers' training and professional background: a dummy for having (or not) an academic training for secondary school teaching (SISS)<sup>2</sup>, number of professional development courses attended in the current school year, years of overall professional experience and years of tenure-track status.

*Model 4.* In addition to model 3, some characteristics linked to inclusive teaching practice are considered: number of students with special needs who have an individualised education programme (IEP)<sup>3</sup>, number of students with special needs who don't have an individualised education programme, number of hours of individualised education for students with special needs per week, number of hours of non individualised education for students with special needs with special needs with special needs with special needs per week.

*Model 5.* In addition to model 4, it includes some school-related variables: number of special education teachers per school, a dummy for lower or higher secondary school grade level and three dummies for levels of socio-economic disadvantage (low, medium, high).

#### Results

Table 1 presents descriptive statistics for the main variables used in the analysis.

Continuous variables	Min	Max	Mean	SD
Perceived support	8	47	29.46	7.62
Emotional Exhaustion	0	44	14.49	9.45
Depersonalisation	0	17	1.87	2.77
Personal Accomplishment	16	48	37.95	6.99
Professional development courses	0	1	0.29	0.45
Years of overall professional experience	1	35	17.64	7.99
Years of tenure-track status	1	24	6.42	4.77
SEN students with Individualised Education	0	6	2.13	1.36
SEN students without Individualised Education	0	12	1.47	1.61
Hours with Individualised Education per week	0	18	11.11	6.02
Hours without Individualised Education per week	0	18	6.66	5.99
Number of special education teachers per school	1	18	6.23	3.44

Table 1

Descriptive statistics for the variables used in the analyses (N=276)
Categorical variables	n	%
Gender		
Male	52	18.8
Female	224	81.2
Age class		
30-44	142	51.4
45-62	134	48.6
Academic training		
Yes	30	10.9
Not	246	89.1
Secondary School grade level		
Lower	130	47.1
Higher	146	52.9
Socio-economic disadvantage		
Low	97	35.1
Middle	109	39.5
High	70	25.4

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Table 1 Continued

The results of the one-tailed Pearson's correlations between perceived support and burnout dimensions in special education teachers (Table 2) show that perceived support is negatively correlated with emotional exhaustion and depersonalisation, while it is positively associated with personal accomplishment. However, the correlation coefficients were significant but low, thus indicating only modest associations.

Correlations Between Perceived Support and Burnout Dimensions							
	Pearson's correlation	p value					
Emotional Exhaustion	227	<.001					
Depersonalization	124	.019					
Personal Accomplishment	.219	<.001					

Table 2

The results of multilevel regression analyses suggest the potential role of perceived support in reducing emotional exhaustion (Table 3) and improving personal accomplishment (Table 5) in all the regression models considered, thus confirming the robustness of previous correlations. On the contrary, the influence of perceived support on depersonalisation is no more significant when adding control variables related to teachers' training and professional background (Table 4).

Table 3

Summary of Multilevel Regression Analyses for Predicting Emotional Exhaustion by Perceived Support in Special Education Teachers (Standardized Coefficients)

	Model 1	Model 2	Model 3	Model 4	Model 5
Constant (B)	10.16***	9.98***	7.91 ***	3.52***	3.07**
Perceived support	-3.90***	-3.75***	-3.59***	-3.44**	-3.62***
Male gender		-2.07*	-2.19*	-2.23*	-2.46**
45-62 age class		0.99	-0.71	-0.77	-0.70
Academic training			-0.61	-0.58	-0.66
Professional development courses			-0.99	-1.00	-0.87
Years of overall professional experience			0.87	0.93	1.04
Years of tenure-track status			0.53	0.43	0.56
SEN students with Individualised Education					
Programme				0.23	-0.01

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Table 3

Continued					
SEN students without Individualised Education Programme				0.07	0.28
Hours with Individualised Education per week				-0.62	-0.48
Hours without Individualised Education per week				-0.78	-0.75
Number of special education teachers per school					-1.86
Secondary school grade level					1.17
Low socio-economic disadvantage (Ref: middle)					0.88
High socio-economic disadvantage (Ref: middle)					2.88**
Teacher level (variance explained)	94.02%	94.11%	93.61%	94.41%	97.31%
School level (variance explained)	0%	0%	0%	0%	0%
Administrative area level (variance explained)	5.08%	5.89%	6.39%	6.59%	2.69%

Note: "Model 1" does not include any additional control. The other regression models progressively include some controls for teachers' socio-demographic characteristics (Model 2), teachers' training and professional background (Model 3), inclusive teaching practice (Model 4) and school-related variables (Model 5). \* p<0.05; \*\* p<0.01; \*\*\* p<0.001

Table 4

Summary of Multilevel Regression Analyses for Predicting Depersonalization by Perceived Support in Special Education Teachers (Standardized Coefficients)

	Model 1	Model 2	Model 3	Model 4	Model 5
Constant (B)	4.92***	4.98***	5.37***	2.40**	1.33
Perceived support	-2.21*	-2.17*	-2.00*	-2.06**	-1.61
Male gender		0.18	0.19	0.21	-0.04
45-62 age class		-0.75	0.10	0.23	0.50
Academic training			-0.88	-1.00	-0.71
Professional development courses			-2.82**	-2.79**	-2.88**
Years of overall professional experience			-0.97	-0.89	-0.84
Years of tenure-track status			-0.19	-0.37	-0.15
SEN students with Individualised Education					
Programme				-1.28	-1.72
SEN students without Individualised Education					
Programme				1.52	1.63
Hours with Individualised Education per week				-0.22	0.00
Hours without Individualised Education per					
week				-0.55	-0.54
Number of special education teachers per					
school					0.23
Secondary school grade level					2.18*
Low socio-economic disadvantage (Ref:					
middle)					0.81
High socio-economic disadvantage (Ref:					
middle)					1.74
Teacher level (variance explained)	94.39%	94,72%	90.34%	94.90%	99.54%
School level (variance explained)	4.09%	3,61%	8.13%	3.03%	0%
Administrative area level (variance explained)	1.51%	1,68%	1.53%	2.07%	0.56%

Note: "Model 1" does not include any additional control. The other regression models progressively include some controls for teachers' socio-demographic

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characteristics (Model 2), teachers' training and professional background (Model 3), inclusive teaching practice (Model 4) and school-related variables (Model 5). \* p < 0.05; \*\* p < 0.01; \*\*\* p < 0.001

#### Table 5

Summary of Multilevel Regression Analyses for Predicting Personal Accomplishment by Perceived Support in Special Education Teachers (standardised coefficients)

	Model 1	Model 2	Model 3	Model 4	Model 5
Constant (B)	19.53***	19.12***	15.88***	5.45***	5.44***
Perceived support	3.72***	3.54***	3.46**	3.72***	3.47**
Male gender		1.24	1.27	1.16	1.09
45-62 age class		0.78	0.78	0.72	0.62
Academic training			0.24	0.17	0.09
Professional development courses			0.99	0.73	0.79
Years of overall professional experience			0.45	0.24	0.28
Years of tenure-track status			-0.61	-0.56	-0.56
SEN students with Individualised Education					
Programme				-0.02	0.13
SEN students without Individualised					
Education Programme				-0.39	-0.32
Hours with Individualised Education per					
week				0.68	0.64
Hours without Individualised Education per					
week				0.11	0.11
Number of special education teachers per					
school					-1.11
Secondary school grade level					-0.17
Low socio-economic disadvantage (Ref:					
middle)					-0.39
High socio-economic disadvantage (Ref:					
middle)					-0.03

# Table 5

Continued

Teacher level (variance explained)	100%	100%	100%	100%	100%
School level (variance explained)	0%	0%	0%	0%	0%
Administrative area level (variance					
explained)	0%	0%	0%	0%	0%

Note: "Model 1" does not include any additional control. The other regression models progressively include some controls for teachers' socio-demographic characteristics (Model 2), teachers' training and professional background (Model 3), inclusive teaching practice (Model 4) and school-related variables (Model 5). \* p < 0.05; \*\* p < 0.01; \*\*\* p < 0.001

Overall, variability among teachers seems to substantially explain their emotional exhaustion (from 93% to 97%), depersonalisation (from 90% to 99%) and personal accomplishment (100%). Instead, the effect due to unobserved school and administrative area-related characteristics is close to zero in most cases.

The significant effects of the other covariates (control variables) on burnout measures can be summarised as follows. Personal accomplishment is not affected by any significant covariate. Instead, emotional exhaustion is predicted by gender and socio-economic disadvantage of territorial area: being a female teacher and working in a school located in a poor socioeconomic context contribute to the feeling of being emotionally overextended and exhausted by one's job. Then, with regard to depersonalisation, greater professional development tends to reduce the impersonal and cynical response toward students, while working in a lower secondary school is likely to increase the risk for detached attitude.

#### Discussion

The aim of this study was to explore the potential role of perceived support for reducing burnout in special education teachers coming from secondary school. As confirmed by previous studies on special education teachers, our findings show that perceived support is negatively correlated with emotional exhaustion (Sari, 2004) and depersonalisation (Duli, 2015), since the lack of collegial support is conceived as one the main cause for teacher burnout in special education (Hakanen et al., 2006; Jennett, Harris, & Mesibov, 2003; Leung & Lee, 2006; Schaufeli & Bakker, 2004; Talmor et al., 2005). On the contrary, perceived support is positively associated with personal accomplishment (Bataineh & Alsagheer, 2012; Billingsley et al., 2002; Gersten et al., 2001; Platsidou & Agaliotis, 2008), because collegial collaboration and support lead to higher feeling of acceptance, job success and participation (Platsidou & Agaliotis, 2008). However, the results of multilevel regression analyses suggest the potential role of perceived support for reducing only two burnout measures, by lowering emotional exhaustion and improving personal accomplishment, even when other controls are considered. Instead, the relationship between perceived support and depersonalisation seems to be quite controversial. Despite a modest significant correlation is detected, perceived support does not have a predictive validity for a lowered depersonalisation when adding controls related to teacher's training and professional background. In this regard, different interpretations can be made. A first aspect to be considered refers to the limitation of the self-report measure used in the present study, as revealed by low depersonalisation scored in our general sample. It is possible that, differently from emotional exhaustion and personal accomplishment, a social desirability bias may exist in reporting depersonalisation that leads teachers to respond in a socially desirable manner, thus denying their cynic attitude toward students. Another consideration concerns the psychological nature of depersonalisation, compared to the other two burnout dimensions. While emotional exhaustion and personal accomplishment are mostly associated to inner experience, respectively in terms of perceived emotional distress or self-efficacy and work satisfaction, depersonalisation refers to teachers' dysfunctional response directly enacted in the relationship with students and school environment. In this sense, we can hypothesise that when negative attitudes and behaviours toward work arise, perceived support from colleagues or school staff may be less effective for burnout reduction. Indeed, if teachers accept to live stress-related negativity, depersonalisation can become a stable adaptive strategy for coping with stress over time, that is difficult to change.

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Relevant contributions of our study can be also derived from the effects of specific covariates. Specifically, being a female teacher and working in a school located in a poor socio-economic context seem to negatively affect emotional exhaustion. These results seem to be consistent with other research findings, according to which female teachers would report higher burnout in emotional exhaustion than their male counterparts (Lau, Yuen, & Chan, 2005; Timms, Graham, & Caltabiano, 2006). Indeed, teaching has been traditionally considered a female dominated-job (González-Morales, Rodríguez, & Peiró, 2010), where females feel their work as important and feel more satisfied caring and teaching children and young. In this sense, female teachers are more likely to become emotionally involved with students' needs and thus overloaded in their daily work (Tunde & Oladipo, 2013). For what concerns the higher emotional exhaustion of teachers working within more disadvantaged areas, consistently with previous research (Ross, Romer, & Horner, 2012), we can hypothesise that these teachers have to cope with highly demanding aspects of the school environment. Indeed, the perception of lacking psychological resources could depend on teachers' ongoing efforts to make a high-poverty school successful, because schools with difficult socio-economic conditions are also the low-performing ones, with less organisational resources and greater amount of critical problems (for example, high rate of "at risk" students or dropouts).

Besides, teacher professional development (in terms of in-service training), seems to represent an important key factor for preventing teacher depersonalisation, as revealed by our study results. Indeed, previous studies demonstrated that teachers' attitudes towards professional development were negatively related with depersonalisation (Özer & Beycioglu, 2010), because professional development represents a key factor preventing teacher occupational stress and promoting job control (Kwakman, 2001). However, because the nature of our study is correlational, we can also consider that burned out teachers are likely to attend professional development with less frequency than the enthusiastic and motivated teacher, who seeks ideas for innovative instruction. In relation to higher depersonalisation in teachers coming from lower secondary schools (6-9 grade), a study by Anderson and Iwanicki (1984) noted a curvilinear relationship between grade level and

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burnout, with lower (middle) secondary school teachers displaying more burnout than did elementary and higher secondary school teachers. This result is confirmed by other studies (Shoho, 2002), according to which middle school teachers were found to report the strongest feelings of depersonalisation, as well as less professional commitment, motivation and satisfaction with teaching, than either elementary or higher secondary school teachers. We can hypothesise that, at this school level, teachers have to face stressful work conditions linked to the transition from primary to secondary education. Indeed, compared to elementary school, middle school is characterised by greater heterogeneity of classes, imposition of measurable goal-achievement standards, higher discipline problems. In addition, these teachers have to care and teach young children, not yet adolescents, thus they could still feel responsible for satisfying both the emotional and physical needs of students. In this perspective, depersonalisation may be considered as a defence strategy aimed at not being emotionally involved with students' problems, because lower secondary school teachers are more required to respond in a caring and sensitive way, compared to higher secondary school teachers.

#### Conclusions

The present study overall suggests the relevance of perceived support in reducing special education teachers' burnout also in the Italian context, where students with special education needs are fully included in mainstream education and collaboration with regular teachers is a critical issue. The added-value of the study relies on providing robust evidence taking into account special education teachers' environments and potential context-related effects by multilevel modelling. The findings highlight the need for improving supportive environments for burnout prevention, especially in at risk situations such as for schools from socio-economically disadvantaged areas and female teachers (for emotional exhaustion) and for lower secondary schools (for depersonalisation). Besides, promoting professional development may represent a key-factor for lowering feelings of depersonalisation by supporting teachers' perceived competence in the classroom and leading them to appreciate and value their work more (Fernet,

Guay, Senécal, & Austin, 2012). However, it is important that continuing professional development is not compulsory, because research in the workplace has evidenced that only teachers who show more autonomous (intrinsic motivation and identified regulation) than controlled (introjected and external regulation) motivation display greater well-being (Ryan & Deci, 2000) and lower burnout (Fernet, Senécal, Guay, Marsh, & Dowson, 2008).

Some limitations regarding this study need to be taken into account in order to put the findings into perspective. A limitation, that is common to many other studies, concerns the specific instrument used to assess burnout. In fact, the lack of a multi-method approach might underestimate the actual incidence of burnout, that could be measured by using also objective indicators (for example, absenteeism rate, incidents occurred at school, etc.) in order to confirm and integrate teachers' reports. However, the specific aim of this study was to explore the teachers' subjective experience concerning job-related stress. In this regard, a recommendation for further research could be to use a social desirability measure in order to control social desirability bias in self-report burnout measures, moreover in depersonalisation dimension. An interesting future development of our finding could be also to consider the variety of perceived support sources (i.e. administrative, parental, etc.) and differentiate the specific contributions of these different sources to teacher burnout. Another limitation concerns the causal relationship between perceived support and the burnout analysed. emotional regard, dimensions At this exhaustion, depersonalisation and personal accomplishment might also be considered as independent factors that can affect teachers' proneness to receive and enjoy support from colleagues or school staff. In this sense, they might in turn contribute over time to a lowered perceived support, within a downward spiral which may perpetuate burnout. However, longitudinal data would be required to disentangle the pattern of these causal effects in further research.

# Notes

<sup>1</sup> Each year, the regional offices of the Ministry of Education, Universities and Research (MIUR) allocate special education teachers to each school, according to the number of pupils and the typology of disabilities.

<sup>2</sup> In the Italian school system, only in 1998-1999, with the institution of the School of Primary Education (Corso di Laurea in Scienze della Formazione Primaria) and the Graduate School of Secondary School Teacher Training (Scuola di Specializzazione Interateneo per la Formazione degli Insegnanti di Scuola Secondaria, whose most popular acronymous is SSIS), all future teachers are supposed to have an academic degree.

<sup>3</sup> In Italy, depending on the type and seriousness of disability, students with special education needs can be provided with an individualized education program (an adapted curriculum which meets their specific needs) or with a program that is not differentiated from the rest of the class (a common curriculum which meets all students' needs).

#### References

- Acanfora, L. (2002). *Come logora insegnare: Il burn out degli insegnanti* [How stressful teaching is: Teacher burnout]. Roma: Edizioni Magi.
- Al-Shammari, Z. (2006). Special education teachers' attitudes toward autistic students in the autism school in the state of Kuwait: a case study. *Journal of Instructional Psychology*, *33*(3), 170–178.
- Anderson, M. B. G., & Iwanicki, E. F. (1984). Teacher motivation and its relationship to burnout. *Educational Administration Quarterly*, 20(2), 109-132. doi: 10.1177/0013161X84020002007
- Avramidis, E., & Norwich, B. (2002). Teachers' attitudes towards integration/inclusion: A review of the literature. *European Journal of Special Needs Education*, 17, 129-147. doi: 10.1080/08856250210129056
- Bataineh, O., & Alsagheer, A. (2012). An Investigation of Social Support and Burnout Among Special Education Teachers in the United Arab Emirates. *International Journal of Special Education*, 27(2), 5-13. Retrieved from http://www.internationaljournalofspecialeducation.com/articles.cfm?y =2012&v=27&n=2
- Billingsley, B., Carlson, E., & Klein, S. (2002). Working conditions and induction support of early career special educators. *Exceptional Children*, 70, 333-347.

- Bronfenbrenner, U. (1977). Toward an experimental ecology of human development. *American Psychologist, 32*, 513–531.
- Brownell, M. T., & Smith, S. W. (1993). Understanding special education teacher attrition: A conceptual model and implications for teacher educators. *Teacher Education and Special Education*, 16, 270–282. doi:10.1177/088840649301600309
- Brunsting, N. C., Sreckovic, M. A., & Lane, K. L. (2014). Special education teacher burnout: A synthesis of research from 1979 to 2013. *Education and Treatment*. 37(4), 681-712. doi: 10.1353/etc.2014.0032
- Cancio, E. J., Albrecht, S. F., & Johns, B. H. (2013). Defining administrative support and its relationship to the attrition of teachers of students with emotional and behavioral disorders. *Education and Treatment of Children*, 36(4), 71-94. doi: 10.1353/etc.2013.0035
- Caputo, A., & Langher, V. (2015). Validation of the Collaboration and Support for Inclusive Teaching (CSIT) scale in special education teachers. *Journal of Psychoeducational Assessment, 33*(3) 210–222. doi: 10.1177/0734282914548335
- Carli., R., & Paniccia, R. M. (2003). Analisi della domanda: Teoria e tecnica dell intervento in psicologia clinica [Analysis of demand. Theory and technique of the intervention in clinical psychology]. Bologna: Il Mulino.
- Dillon, S. (2007, August 27). With turnover high, schools fight for teachers. *The New York Times.* Retrieved from http://nytimes. Com
- Duli, S. (2015). Proactive Coping and Professional Burnout in Special Education. Academic Journal of Interdisciplinary Studies, 4(3), 18-23. doi: 10.5901/ajis.2015.v4n3s1p18
- Evers, W. J. G., Brouwers, A., & Tomic, W. (2002). Burnout and selfefficacy: A study on teachers' beliefs when implementing an innovative educational system in the Netherlands. *British Journal of Educational Psychology*, 72(2), 227-243. doi: 10.1348/000709902158865
- Fernet, C., Guay, F., Senécal, C. & Austin, S. (2012). Predicting intraindividual changes in teacher burnout: The role of perceived school environment and motivational factors. *Teaching and Teacher Education*, 28(4), 514-525. doi: 10.1016/j.tate.2011.11.013

- Fernet, C., Senécal, C., Guay, F., Marsh, H., & Dowson, M. (2008). The Work Tasks Motivation Scale for Teachers (WTMST). *Journal of Career Assessment*, 16(2), 256-279. doi: 10.1177/1069072707305764
- Friedman, I. (2000). Burnout: shattered dreams of impeccable professional performance. *Journal of Clinical Psychology*, *56*, 595-606. doi: 10.1002/(SICI)1097-4679(200005)56:5<595::AID-JCLP2>3.0.CO;2-Q
- Futernick, K. (2007). A possible dream: Retaining California teachers so all students learn. Sacramento: The Center for Teacher Quality, California State University.
- Gersten, R., Keating, T., Yovanoff, P., & Harniss, M. K. (2001). Working in special education: Factors that enhance special educators' intent to stay. *Exceptional Children*, 67(4), 549-567.
- González-Morales, M. G., Rodríguez, I., & Peiró, J. M. (2010). A longitudinal study of coping and gender in a female-dominated occupation: Predicting teachers' burnout. *Journal of Occupational Health Psychology*, 15(1), 29-44. doi: 10.1037/a0018232
- Hakanen, J. J., Bakker, A. B., & Schaufeli, W. B. (2006). Burnout and work engagement among teachers. *Journal of School Psychology*, *43*, 495-513. doi: 10.1016/j.jsp.2005.11.001
- Hinds, E., Jones, L. B., Gau, J. M., Forrester, K. K., & Biglan, A. (2015). Teacher Distress and the Role of Experiential Avoidance. *Psychology in the Schools*, 52(3), 284–297. doi: 10.1002/pits.2015.52.issue-3
- Honawar, V. (2006). Alternative routes for special education teachers relieving shortages worsened by NCLB. *Education Week*, 25(34), 1-16.
- Hox, J. (2002). *Multilevel analysis. Techniques and applications.* Mahwah, NJ: Lawrence Erlbaum.
- ISTAT (2014). L'integrazione degli alunni con disabilità nelle scuole primarie e secondarie di primo grado statali e non statali [Inclusion of students with disabilities in primary and lower secodary public and nonpublic schools]. Retrieved from http://www.istat.it
- Jennett, H. K., Harris, S. L., & Mesibov, G. B. (2003). Commitment to philosophy, teacher efficacy, and burnout among teachers of children

with autism. *Journal of Autism and Developmental Disorders*, *33*, 583-593. doi: 10.1023/B:JADD.0000005996.19417.57

- Kaff, M. S. (2004). Multitasking is multiaxing: Why special educators are leaving the field. *Preventing School Failure*, 48(2), 10-17.
- Kourkoutas, E., Langher, V., Vitalaki, E., & Ricci , M. E. (2015). Working with Parents to Support Their Disabled Children's Social and School Inclusion: An Exploratory Counseling Study. *Journal of Infant, Child, and Adolescent Psychotherapy*, *14*(2), 143-157. doi:10.1080.15289168.2015.1014990
- Kwakman, K. (2001). Work stress and workbased learning in secondary education: testing the Karasek model. *Human Resource Development International*, 4(4), 487-501.
- Langher, V., Caputo, A., Ajdinski, G., Ricci, M.E., & Karovska, A. (2015). Cultural Models of Special Education in Macedonia: Towards a Systemic and Integrative Perspective. In S. Bowman (Ed.), Special Education: Developments, Teaching Strategies and Parental Involvement (pp. 41-64). New York, NY: Nova Science Publishers.
- Langher, V., Caputo, A., Ricci, M. E., & Ajdinski, G. (2014). Regular teachers' representation of school inclusion in Macedonia: A multivariate study. *Rivista di Psicologia Clinica*, 2, 108-121. doi: 10.14645/RPC.2014.2.487
- Langher, V., Ricci, M. E., Propersi, F., Glumbic, N., Caputo, A., & Groterath A. (2015). Inclusion in the time of cholera. In U. Brizay, R. Lutz, & F. Ross (Eds.), Sozialarbeit des Südens, Bd. 5 - Zugang zum Gesundheitswesen und Gesundheitspolitik [Social work in the South, Vol. 5 - Access to Health Care Services and Health Policy] (pp.323-338). Oldenburg, Germany: Paulo Freire Verlag.
- Langher, V., Ricci, M. E., Propersi, F., Glumbic, N., & Caputo, A. (2016). Inclusion in Mozambique: a case study on a cooperative learning intervention. *Cultura Y Educacion: Culture and Education*, 28(1) 42-71. doi: 10.1080/11356405.2015.1120447
- Langher, V., Ricci, M. E., Reversi, S., & Citarelli, G. (2010). Disabled students and the quality of relationships within the class. *Procedia Social and Behavioral Sciences*, 5, 2295-2299. doi: 10.1016/j.sbspro.2010.07.452

- Lau, P. S., Yuen, M. T., & Chan, R. M. (2005). Do demographic characteristics make a difference among Hong Kong secondary school teachers? *Social Indicators Research*, 71(1-3), 491-516. doi: 10.1007/s11205-004-8033-z
- Leung, D. Y. P., & Lee, W. W. S. (2006). Predicting intention to quit among Chinese teachers: differential predictability of the components of burnout. Anxiety, Stress & Coping. An International Journal, 19, 129-141.
- Lindmeier, B. (2013). Professionelles Handeln im Förderschwerpunkt geistige Entwicklung [Professional Acting in the Area of Mental Disability]. In K.-E. Ackermann, O. Musenberg & J. Riegert (Eds.), *Geistigbehindertenpädagogik!? Disziplin Profession Inklusion* [Education in the Area of Mental Disability!? Discipline Profession Inclusion] (pp. 291-313). Oberhausen: Athena.
- Maslach, C., & Jackson, S. E. (1986). *Maslach Burnout Inventory manual*. Palo Alto, CA: Consulting Psychologists Press.
- Norwich, B. (2013). Addressing Tensions and Dilemmas in Inclusive Education: Living with Uncertainty. London: Routledge
- OECD (2008). Education at a glance. OECD: Paris.
- Özer, N., & Beycioglu, K. (2010). The relationship between teacher professional development and burnout. *Procedia-Social and Behavioral Sciences*, 2(2), 4928-4932. doi: 10.1016/j.sbspro.2010.03.797
- Pepe, A., & Addimando, L. (2013). Comparison of Occupational Stress in Response to Challenging Behaviours between General and Special Education Primary Teachers in Northern Italy. *International Journal* of Special Education, 13(1), 11-23.
- Platsidou, M., & Agaliotis, I. (2008). Burnout, Job Satisfaction and Instructional Assignment-related Sources of Stress in Greek Special Education Teachers. *International Journal of Disability, Development* and Education, 55(1), 61-76. doi: 10.1080/10349120701654613
- Prather-Jones, B. (2011). Flow school administrators influence the retention of teachers of students with emotional and behavioral disorders. *The Clearing House*, *84*, 1-8. doi: 10.1080/00098655.2010.489387.

- Reeve, P.T., & Hallahan, D.P. (1994). Practical questions about the collaboration between general and special educators. *Focus on Exceptional Children*, *26*(7), 1-11.
- Reversi, S., Langher, V., Crisafulli, V., & Ferri, R. (2007). The quality of the disabled students' school integration: A research experience in the Italian state school system. *School psychology international*, 28(4), 403-418.
- Ryan, R. M., & Deci, E. L. (2000). Self-determination theory and the facilitation of intrinsic motivation, social development, and wellbeing. *American Psychologist*, 55(1), 68-78. doi: 10.1037/0003-066X.55.1.68
- Ross, S., Romer, N. & Horner, R. (2012). Teacher well-being and the implementation of school-wide positive behavior interventions and supports. *Journal of Positive Behavior Interventions*, 14(2), 118-128. doi: 10.1177/1098300711413820
- Sari, H. (2004). An analysis of burnout and job satisfaction among Turkish special school headmasters and teachers, and the factors affecting their burnout and job satisfaction. *Educational Studies*, *30*(3), 291-306. doi: 10.1080/0305569042000224233
- Schaufeli, W. B., & Bakker, A. D. B. (2004). Job demands, job resources, and their relationship with burnout and engagement: a multi-sample study. *Journal of Organizational Behavior*, 25, 293-315. doi: 10.1002/job.248
- Schlichte, J., Yssel, N., & Merbler, J. (2005). Pathways to burnout: Case studies in teacher isolation and alienation. *Preventing School Failure*, 50, 35-40. doi: 10.3200/PSFL.50.1.35-40
- Shoho, A. R. (2002). A comparison of burnout between general and special education teachers. In G. S. Gates & M. Wolverton (Eds.), *Toward Wellness: Prevention, coping, and stress* (pp. 144-158). Greenwich, CT: Information Age Publishing
- Sirigatti, S., & Stefanile, C. (1993). Adattamento e taratura per l'Italia [Italian Adaptation]. In C. Maslach & S. Jackson (Eds.), *MBI Maslach Burnout Inventory: Manuale* [MBI Maslach Burnout Inventory: Manual] (pp. 33-42). Firenze: Organizzazioni Speciali.

- Stoesz, B. M., Shooshtari, S., Montgomery, J., Martin, T., Heinrichs, D. J., & Douglas, J. (2016). Reduce, manage or cope: a review of strategies for training school staff to address challenging behaviours displayed by students with intellectual/developmental disabilities. *Journal of Research in Special Educational Needs*, 16(3), 199-224. doi: 10.1111/1471-3802.12074.
- Talmor, R., Reiter, S., & Feigin, N. (2005). Factors relating to regular education teacher burnout in inclusive education. *European Journal of Special Needs Education*, 20(2), 215-229. doi: 10.1080/08856250500055735
- Timms, C., Graham, D., & Caltabiano, M. (2006). Gender implication of perceptions of trustworthiness of school administration and teacher burnout/job stress. *Australian Journal of Social Issues*, 41(3), 343-358.
- Tunde, A. O., & Oladipo, O. (2013). Influence of Personality and Self-Esteem on Teachers' Proness to Burnout Syndrome in Lagos Metropolis. American Journal of Applied Psychology, 1(1), 7-13. doi: 10.12691/ajap-1-1-2
- Villa, R.A., & Thousand, J.S. (1994). One divided by two or more: Redefining the role of a cooperative education team. In J.S. Thousand, R.A. Villa, & A.I. Nevin (Eds.), *Creativity and collaborative learning: A practical guide to empowering students and teachers* (pp. 79-101), Baltimore: Paul H. Brookes.
- Zabel, R. H., & Zabel, M. K. (2002). Burnout among special education teachers and perceptions of support. *Journal of Education Leadership*, 15(2), 27-33.

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# **Predictive Effects of Temperament on Motivation**

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# **Predictive Effects of Temperament on Motivation**

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#### Abstract

Although temperament and motivation both reflect individual differences in what is perceived as rewarding or threatening, and what is to be approached and what avoided, respectively, we know rather little about how they are connected in educational settings. In this study, we examined how different aspects of temperament (reward and punishment sensitivities) predict the goals students seek to achieve in relation to learning and performance. In Study 1, four dimensions describing students' temperament (sensitivity to punishment, intraindividual reward sensitivity, interindividual reward sensitivity, and positive expressiveness) were uncovered, and in Study 2, these were used to predict students' achievement goal orientations (mastery-intrinsic. mastery-extrinsic, performance-approach. performance-avoidance, and avoidance). The results of exploratory structural equation modeling revealed significant predictions on all achievement goal orientations. In line with theoretical assumptions, sensitivity to punishment was predictive of performance orientations, intraindividual reward sensitivity of mastery orientations, and interindividual reward sensitivity of performance- and avoidance orientations. Positive expressiveness only had weak negative effects on performance orientations. The findings suggest that the goals and outcomes students seek to attain in an educational context are partly dictated by their sensitivity to different environmental cues and the kinds of affective and behavioural responses these typically incite.

Keywords: temperament, motivation, sensitivity to punishment, sensitivity to reward, achievement goal orientations

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# Efectos Predictivos del Temperamento en la Motivación

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#### Resumen

Aunque el temperamento y la motivación reflejan las diferencias individuales en lo que se percibe como recompensa o amenaza, y lo que se acercará o evitará, respectivamente, sabemos muy poco acerca de su conexión en un entorno educativo. En este estudio, hemos analizado, desde los diferentes aspectos del temperamento (sensibilidad a recompensa y castigo), la predicción de metas relacionadas con el logro. En el estudio 1, se descubrieron 4 dimensiones que describen el temperamento de los estudiantes (sensibilidad al castigo, sensibilidad intraindividual a la recompensa, sensibilidad interindividual a la recompensa y expresividad positiva), y en el estudio 2 estas dimensiones fueron utilizadas para predecir las metas de los estudiantes. Los resultados revelaron predicciones significativas en todas las orientaciones. Coincidiendo con los supuestos teóricos, la sensibilidad al castigo predijo las orientaciones de desempeño, la sensibilidad a la recompensa intraindividual de las orientaciones de dominio y la sensibilidad a las orientaciones de recompensa y evitación del desempeño. Los hallazgos sugieren que las metas y resultados que los estudiantes buscan lograr en un contexto educativo son parcialmente dictados por su sensibilidad a diferentes señales ambientales y los tipos de respuestas afectivas y de comportamiento que típicamente provocan.

Palabras clave: temperamento, motivación, sensibilidad al castigo, sensibilidad a la recompensa, orientaciones para conseguir metas

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pproach and avoidance tendencies are fundamental aspects of motivation that instigate goal-directed behaviour towards certain kinds of outcomes (Elliot & Covington, 2001). In educational settings, students' tendency to prefer and choose certain kinds of goals (i.e., achievement goal orientations) has been found to be linked to various achievement-related (e.g., general school performance, Steinmayr & Spinath, 2009) and socio-emotional (e.g., well-being, Tuominen-Soini, Salmela-Aro, & Niemivirta, 2008) outcomes. While marked interindividual differences have been observed in students' goal strivings (for review, see, Kaplan & Maehr, 2007), less is known about the antecedents to these differences. However, as one possible explanation it has been suggested that individual differences in students' goal tendencies stem partly from temperamental differences in their sensitivity to reward and punishment (Elliot & Thrash, 2002). While all individuals are considered to be hardwired to approach appetitive and withdraw from or avoid aversive events (Elliot & Covington, 2001), variation exists in the degree to which behaviour is either motivated or inhibited by these (Corr, 2002; Fuentes-Claramonte et al., 2016). In addition, it may be possible that individuals vary in what is considered as reward or punishment in the first place. In other words, the sources of reward or punishment may vary (Colder et al., 2011). For now, little is known about how different sources of reward or punishment are perceived, or how they function in an educational context. Consequently, studies elaborating both the structure of temperament from the perspective of students' reward and punishment sensitivities as well as knowledge about their relations to students' goal tendencies are needed. In order to address these questions, in this study we examined, first, the dimensionality and structure of temperamental reward and punishment sensitivities (Study 1), and second, in what ways, and to which extent differences in goal adoption may be traced back to these sensitivities with which students enter the learning situation (Study 2).

# Temperament as sensitivity to punishment and sensitivity to reward

Temperament is the neurobiological basis of personality that accounts for inborn differences in individuals' typical ways of reacting to environmental stimuli. This includes, among others, to which kinds of stimuli an individual is particularly sensitive, the propensity for positive or negative affect and the threshold for affective responses being triggered, and how these are manifested in behaviour (Rothbart, 2007). Together with experiences of and encounters with the environment, temperament influences the development of relatively stable emotional, motivational, and behavioural patterns (Rothbart, 2007).

In temperament research, the behavioural reaction to avoid aversive or approach appetitive stimuli is seen as stemming from the innate behavioural and behavioural approach system (BIS/BAS, inhibition Grav & McNaughton, 2003; for overview, see Corr, 2008). Individual differences in the levels of sensitivity to behavioural inhibition and behavioural approach have an influence on whether environmental stimuli are perceived as representing potentially threatening experiences to be avoided, or rewarding experiences to be sought. For example, new situations can be perceived as threatening by some (Torrubia, Ávila, Moltó, & Caseras, 2001), or as a source of reward by others (Carver & White, 1994). Sensitivity to reward activates approach and active pursuit of rewards, such as excitement, novelty, and social acceptance, and is often expressed as positive emotionality and positive anticipation (Colder et al., 2011; Rothbart, 2007; Torrubia et al., 2001). Sensitivity to the threat of punishment activates behavioural inhibition (e.g., withdrawal from situations where one might fail), and is linked to fear and anxiety, negative emotionality, and the anticipation of potential risks and future problems (Carver & White, 1994; Colder et al., 2011; Cloninger, Svarkic, & Przybeck, 1993; Rothbart, 2007; Torrubia et al., 2001). Grounding on this conceptualisation, and in keeping with previous research (e.g., Torrubia et al., 2001), we consider temperament in terms of sensitivity to reward and sensitivity to punishment.

The operationalisation of sensitivity to punishment is fairly uniform, but more interpretations exist over the nature and, hence, measuring of sensitivity to reward (see, e.g., Carver & White, 1994; Cloninger et al., 1993; Torrubia et al., 2001). Although sometimes conceptualised as a single construct (Torrubia et al., 2001), these have more often been viewed as consisting of different dimensions, defined by qualitatively different affective or behavioural responses, or different kinds of appetitive stimuli

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and experiences that trigger them (Carver & White, 1994; Cloninger et al., 1993; Colder et al., 2011). Current research has not systematically addressed the connections of dimensions of reward sensitivity to students' motivational goal tendencies, although it seems likely that in terms of qualitatively different goal preferences, different kinds of rewards also play a different role.

#### Approach and avoidance tendencies in motivation

Research into achievement goals has been conducted following two approaches, one of which focuses on goals as task-specific and situational, the other on more generalised goal orientations, which have been found to be relatively stable over time (for review, see, Kaplan & Maehr, 2007). A large body of achievement goal research utilises a division into mastery and performance goals, with further divisions into approach and avoidance dimensions (Elliot & McGregor, 2001). Mastery goals involve a focus on learning, understanding, and seeking to gain knowledge and skill improvement (mastery approach), and striving to avoid making mistakes, forgetting what has been learned, or losing capabilities (mastery avoidance), whereas performance goals centre on demonstrating abilities (performance approach) and not exposing inabilities (performance avoidance) (for review, see, Hulleman, Schrager, Bodmann, & Harackiewicz, 2010). Mastery and performance goals differ in the criteria set for experiencing ability and demonstrating competence, so that mastery goals involve relating one's abilities to the judged difficulty of the task, and performance goals applying normative standards to ability and demonstrating competence in relation to others. Individual differences in proneness to these two classes of goals have been conceptualised, respectively, as task (or mastery) orientation, where the criteria of success refer to an increase in competence, and ego (or performance) orientation, where the criteria of success refer to demonstrations of competence (Nicholls, 1989). A third class of goal orientations, work avoidance, has also been suggested. This refers to an indifferent, passive stance towards schoolwork, and the goal of refraining from exerting effort on it (Nicholls, Patashnick, & Nolen, 1985).

Overall, mastery goals and orientations have both been connected with

positive (e.g., persistence, Sideridis & Kaplan, 2011) and avoidance goals and orientations with negative academic outcomes (e.g., lower interest and grades, Barron & Harackiewicz, 2003). Performance-approach goals and orientations have been found to be connected with both positive (e.g., higher grades and achievement, Harackiewicz, Barron, Tauer, & Elliot, 2002), and negative (e.g., emotional exhaustion and stress, Tuominen-Soini et al., 2008) outcomes, and performance-avoidance goals and orientations with negative outcomes (e.g., lower exam performance, Elliot & McGregor, 2001; cynicism and experiences of inadequacy, Tuominen-Soini, Salmela-Aro, & Niemivirta, 2012). Consequently, if innate temperamental sensitivities influence the adoption of different goal orientations in learning contexts, students may be placed in a dissimilar position, possibly from the early school years onwards. This may have long-standing effects on their educational trajectories and academic achievement.

# The Present Study

Although approach and avoidance tendencies are central in both temperament and motivation research, we are not aware of studies conducted into the connections between relatively stable goal orientations and reward and punishment sensitivity. In particular, the role of different dimensions of reward remain largely unexplored, as previous research into the relationships between temperament and achievement goals has focused on a two-fold approach-avoidance temperament distinction (Bjørnebekk & Diseth, 2010; Elliot & Thrash, 2002, 2010), or has utilised only the fundamental division into behavioural inhibition and behavioural approach (Bjørnebekk, 2007). However, dimensions of behavioural approach have also been discovered to exert qualitatively different effects on motivationally relevant phenomena (e.g., socio-emotional functioning in childhood, Kingsbury, Coplan, Weeks, & Rose-Krasnor, 2013). Defining temperament in relatively broad terms as approach and avoidance only may therefore result in some lack of specificity. This highlights the need for further research, including considerations on operationalisation. The present research addresses this issue, by means of two sub-studies.

In Study 1, we examined the dimensionality of temperament, with a

particular focus on identifying different dimensions of reward sensitivity. In order to achieve this, we utilised a measure consisting of items adapted from existing instruments (Carver & White, 1994; Cloninger et al., 1993; Colder & O'Connor, 2004; Rothbart, 2007; Torrubia et al., 2001) to cover punishment sensitivity and also capture different aspects of reward presumably pertinent in achievement-related educational settings. In Study 2, we investigated the predictive relationships between sensitivity to punishment and sensitivity to reward and achievement goal orientations, using this measure.

#### Study 1

The aim of this study was to examine the dimensionality of temperament, with a particular focus on identifying different dimensions of reward sensitivity. Research sees punishment sensitivity fairly uniformly as consisting of sensitivity to failure, shyness, withdrawal, and avoidance of threatening or novel situations (Carver & White, 1994; Colder & al., 2011; Torrubia et al., 2001). Conceptualisations and operationalisations of reward dimensions have been more varied, and have also covered a range of appetitive stimuli (e.g., sexuality or monetary rewards, Torrubia et al., 2001) that do not seem to bear particular relevance with regard to students' goal strivings in learning situations. Sources of and behavioural responses to reward that appear meaningful in terms of motivation and goal striving in an educational setting include enjoyment of novelty, attention and praise, and positive emotional reactivity (Carver & White, 1994; Cloninger et al., 1993; Colder & O'Connor, 2004; Colder et al., 2011; Rothbart, 2007; Torrubia et al., 2001). Based on previous literature and empirical research, these reward dimensions may be considered as separable by the source of actual or anticipated reward being either internal or external. Thus, the measure compiled for the purposes of the present research utilises this division (see Table 1). Internal, intraindividual reward sensitivity describes an individual's sensitivity to rewards derived from one's thoughts, inner states, and actions, manifesting as enjoyment of and seeking novelty, and enthusiasm and excitement over one's successes (Carver & White, 1994; Cloninger et al., 1993; Colder & O'Connor, 2004; Rothbart, 2007). As regards sensitivity to external reward, we focus on interindividual reward sensitivity, which entails seeking reward from social attention, praise, and success (Colder & O'Connor, 2004; Torrubia et al., 2001; see also. Cloninger et al., 1993; Colder et al., 2011). For both sensitivity to punishment and sensitivity to reward, it was deemed important that the items would describe situations and experiences relevant in learning contexts.

Table 1.

nem sources for measuring Dimensions of Reward and Punishment Sensitivity.							
Sensitivity to	Sensitivity to	Sensitivity to					
Punishment	Intraindividual Reward	Interindividual Reward					
Withdrawal; avoidance of difficult situations; aversion to novelty (Colder & O'Connor, 2004; Torrubia et al., 2001)	<i>Enjoyment of and seeking</i> <i>novelty</i> (Carver & White, 1994; Cloninger et al., 1993; Rothbart, 2007)	Seeking attention (Colder & O'Connor, 2004; Torrubia et al., 2001)					
Shyness and discomfort (Carver & White, 1994; Cloninger et al., 1993; Colder & O'onnor, 2004; Rothbart; 2007; Torrubia et al., 2001)	<i>Enthusiasm, excitement</i> (Carver & White, 1994; Cloninger et al., 1993; Colder & O'Connor, 2004; Rothbart, 2007)	Seeking praise (Colder & O'Connor, 2004; Torrubia et al., 2001)					
Sensitivity to failure (Carver & White, 1994; Colder & O'Connor, 2004; Torrubia et al., 2001)		<i>Impressing others</i> (Colder & O'Connor, 2004; Torrubia et al., 2001)					

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## Method

#### **Participants and Procedure**

In Finland, comprehensive education lasts nine years (ages 7-16), after which close to 95% of students continue to upper secondary education (Statistics Finland, 2014), for which there are two overall options: general upper secondary school with a more academic focus, and vocational upper secondary school providing a qualification in a particular profession. More than 50% of students continue to general upper secondary school (Statistics Finland, 2014). Both are completed in three to four years. The participants in this study were the whole age cohort of first-year students (N = 157, age 16-17, girls 57%) from the general upper secondary school of a middle-sized, middle-class town in Central Finland. The participants, hence, represent a fairly typical sample of youths from similar, non-metropolitan towns with a population relatively homogenous as regards socio-economic status, and ethnically almost entirely native Finnish. The students completed the questionnaire rating their temperamental sensitivities at the end of the school year. Participation was voluntary, and the participants were assured of the confidentiality of their responses.

# Measures

To measure temperament, we compiled a scale to cover sensitivity to punishment (5 items, e.g., "I withdraw easily in difficult or awkward depicting behavioural inhibition, situations", shyness, discomfort. sensitivity to failure; Carver & White, 1994; Colder & O'Connor, 2004; Rothbart; 2007; Torrubia et al., 2001); and two reward sensitivity scales reflecting differences in sources of reward: internal, intraindividual reward sensitivity (5 items, e.g., "I express my excitement and enjoyment openly, when I succeed at something", "I will readily seek out novel situations", depicting enthusiasm, excitement, enjoyment of novelty; Carver & White, 1994: Cloninger et al., 1993; Colder & O'Connor, 2004; Rothbart, 2007); and external, interindividual reward sensitivity (4 items, e.g., "I often do things just to be praised", depicting seeking attention and praise, impressing others; Colder & O'Connor, 2004; Torrubia et al., 2001). The students rated the items on a scale of 1 ("Not at all true") to 7 ("Completely true"). The full list of items is given in Table 2.

## Analyses

The data were analysed with Exploratory Structural Equation Modeling (ESEM) with Geomin rotation using Mplus statistics software (Muthén &

Muthén, 1998-2015). ESEM was chosen as the method for analysis, as the assumption of confirmatory factor analysis (CFA) that each item load only onto the expected factor, with a zero loading on others, was seen both as overly restrictive for use within an exploratory setting, and as artificially suppressing possible cross-loadings between factors (Marsh, Morin, Parker, & Kaur, 2014), which may, in fact, depict the interacting nature of the phenomena studied (see, Corr & McNaughton, 2008). Unlike exploratory factor analysis (EFA), ESEM calculates fit indices comparable to those obtained in CFA, thus providing statistical criteria for evaluating different factor solutions. In addition to the  $\chi^2$  value, the standardised root mean squared residual (SRMR, recommended cut-off point < .08), comparative fit index (CFI, recommended cut-off point >. 95), and the root mean square of error approximation (RMSEA, recommended cut-off point < .06) were used to assess model fit (see, Hu & Bentler, 1999). Descriptive statistics and Cronbach's alphas for composite scores were calculated using SPSS 23.

#### Results

Factor analyses using ESEM with Geomin rotation were conducted to examine the dimensionality of temperamental reward and punishment sensitivities. A three-factor model based on our operationalisation was first tested. The fit was fair,  $\chi^2(52) = 101.131$ , p < .001; SRMR = .041; RMSEA = .078 (90% CI = .055, .100); CFI = .929, but the factor structure was somewhat unclear, with two reward sensitivity items ("I will readily seek out novel situations"; " I think it is exciting to get into new and surprising situations") failing to load significantly on any factor. Adding one factor resulted in a good fit,  $\chi^2(41) = 62.946$ , p = .015; SRMR = .030; RMSEA = .058 (90% CI = .026, .086); CFI = .968. The factors corresponded to the expected division into sensitivity to punishment and interindividual and intraindividual reward dimensions, but with the intraindividual dimension further separating into 1) enjoyment and seeking of novelty and 2) a tendency for excitement and open expression of positive emotions about personal successes. The item "I will gladly be the centre of attention" loaded positively on the intended interindividual reward sensitivity factor (.62, p < .001), but also negatively on the sensitivity to punishment factor (-.39, p < .01). As interindividual reward sensitivity describes the need or

strong desire for social success, such as attention, and sensitivity to punishment a tendency for withdrawal, the cross-loading was seen as understandable. The loading of the punishment sensitivity item "I feel very uncomfortable in new situations and places" was found somewhat unclear, as it loaded on the intended sensitivity to punishment factor (.39, p < .001), the interindividual reward sensitivity factor (.32, p < .01), and the noveltyseeking reward sensitivity factor (-.37, p < .01). Considering the as yet exploratory nature of the measure, the relatively small numerus, the theoretical meaningfulness of the factors on the whole, and the good model fit, the factor solution was accepted without further alterations, with the view of examining it further in Study 2. The explained variance ranged between .31-.77, with all items significant at p < .001. The factors were sensitivity intraindividual labelled reward novelty-seeking for (*SRi*[*nternal*]*NS*), sensitivity interindividual reward (SRe[xternal]). sensitivity to punishment (SP), and intraindividual reward sensitivity depicting a tendency for enthusiasm and expression of delight over one's successes (positive expressiveness, SRiPE). All factor loadings and explained variance of items are given in Table 2.

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Table 2.

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Factor Loadings (ESEM) of Reward and Punishment Sensitivity, and Explained Variance of Items (Study 1).

Factors and Items	1	2	3	4	$\mathbb{R}^2$
1 INTRAINDIVIDUAL REWARD SENSITIVITY – NOVELTY-SEEKING					
I will readily seek out novel situations.	.89	06	.03	00	.77
I think it is exciting to get into new and surprising situations.	.60	.10	07	.04	.43
2 INTERINDIVIDUAL REWARD SENSITIVITY					
I often do things just to be praised.	03	.73	02	.05	.54
I will gladly be the centre of attention.	.04	.62	39	.03	.43
I sometimes act hastily just to get an immediate reward or praise.	07	.59	.07	.09	.41
I often aim to impress other people.	.21	.49	.12	04	.31
3 SENSITIVITY TO PUNISHMENT					
I withdraw easily in difficult or awkward situations.	.01	.17	.63	05	.49
I avoid talking or performing in public (e.g., at lectures).	32	05	.61	.05	.63
I am easily shy in the company of people I don't know and in new situations.	29	.02	.59	.05	.57
I get upset easily if I am criticised or told off.	.12	.28	.52	.02	.39
I feel very uncomfortable in new situations and places.	37	.32	.39	08	.61
4 INTRAINDIVIDUAL REWARD SENSITIVITY – POSITIVE					
EXPRESSIVENESS					
I express my excitement and enjoyment openly, when I succeed at something.	02	.20	02	.74	.64
I don't hold back my joy and enthusiasm when something nice happens to me.	.03	14	.06	.73	.50
I get excited about new things easily.	.32	.04	17	.43	.47

*Notes.* Significant (p < .01) factor loadings above |.30| given in bold; p < .001 for all R<sup>2</sup>.

SRiNS correlated negatively with SP and positively with SRiPE. SRe correlated positively with SP. All factor correlations as well as descriptive statistics and Cronbach's alphas calculated from composite scores are presented in Table 3.

The separation of the three SR factors implies that our measure is sensitive enough to capture different dimensions of reward. The extracted dimensions are theoretically meaningful and, for the main part, in line with our expectations, supporting our suggestion that they may be related to motivation in different ways. This will be examined in Study 2.

Table 3.

Factor Correlations for Latent Variables, and Descriptive Statistics and Cronbach's Alphas from Composite Scores (Study 1).

	1	2	3	4	М	SD	Cronbach's Alpha
1 SRiNS	_				4.06	1.22	.72
2 SRe	.05	_			3.10	1.02	.68
3 SP	46***	.28*	_		3.60	1.28	.82
4 SRiPE	.29**	.22	19	_	4.56	1.17	.71

*Note.* \* *p* < .05; \*\* *p* < .01; \*\*\* *p* < .001

#### Study 2

The tendencies to approach desired outcomes of action, such as learning or demonstrating competence, or avoiding undesirable ones, such as failing in front of others, are important features defining students' goal orientations (Hulleman et al., 2010). In this respect, individuals can be seen to differ in their propensity to focus more strongly either on a desired outcome and approaching it, or on an undesirable outcome and avoiding it. This could be seen as reflecting individual differences in the approach behaviour associated with temperamental sensitivity to reward, and the withdrawal behaviour associated with sensitivity to punishment, respectively (Elliot & Thrash, 2002).

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In this study, we utilised a five-fold conceptualisation of achievement goal orientations (Niemivirta, Pulkka, Tapola, & Tuominen, 2017). The conceptualisation follows the division into mastery. performance, and avoidance orientations (see, Nicholls, 1989; Nicholls et al., 1985), with further separations into intrinsically and extrinsically-based mastery goals, as well as approach and avoidance types of performance The five orientations defined include the mastery-intrinsic goals. orientation that describes the goal of learning for the sake of itself, where success is evaluated in an intrinsic, intraindividual way (e.g., improving one's skills, developing competence, deepening understanding). The mastery-extrinsic orientation similarly implicates the goal of mastery, but here, success is defined in an absolute way (e.g., in the form of high grades). As in the bulk of achievement goal research (e.g., Elliot & Thrash, 2002; Sideridis & Kaplan, 2011), the two performance goal orientations are considered from an approach and avoidance perspective. The *performance*approach orientation entails the goal of demonstrating competence by striving for relative success (outperforming others), whereas the performance-avoidance orientation entails the goal of avoiding judgements of incompetence or failure. The avoidance orientation describes the aim of avoiding expending effort as much as possible, and only completing the compulsory minimum of tasks.

A considerable body of motivation research has focused on the links between achievement goals and goal orientations and various educational outcomes, for example, interest (Harackiewicz, Durik, Barron, Linnenbrink-Garcia, & Tauer, 2008; Tapola, Jaakkola, & Niemivirta, 2014), well-being (Kaplan & Maehr, 1999; Tuominen-Soini et al., 2008), achievement (Barron & Harackiewicz, 2003; Elliot & McGregor, 2001), and students' perceptions and evaluations of the learning environment and of their own course performance (Pulkka & Niemivirta, 2013; Tapola & Niemivirta, 2008). The observed relative stability over time and suggested dispositional nature of achievement goal orientations (Pulkka & Niemivirta, 2013; Tuominen-Soini et al., 2012) support considering them as connected with temperamental reward and punishment sensitivity.

Connections between temperament and achievement goals have been observed in some previous research. Overall, approach temperament has been found to be linked with approach goals and avoidance temperament with avoidance goals (Bjørnebekk, 2007; Bjørnebekk & Diseth, 2010; Elliot & Thrash, 2002, 2010), although some of the observed effects have not been entirely unambiguous. The discovered connections make it plausible to assume that temperamental tendencies do influence students' motivational goal tendencies, yet the relatively broad operationalisation of temperament may contribute to a loss of specificity in the observed predictions. We therefore sought to investigate these predictions from a more differentiated perspective.

The task of the present study was, firstly, to examine whether the four-fold factor structure of sensitivity to punishment (SP), interindividual reward sensitivity (SRe), intraindividual reward sensitivity for novelty (SRiNS), and intraindividual reward sensitivity with tendency for positive expressiveness (SRiPE) that was uncovered in Study 1 would be replicated here.

Secondly, we examined what kinds of predictive effects (statistical, not causal) temperamental reward and punishment sensitivity exert on students' achievement goal orientations. We expected mastery orientations to be predicted by novelty-seeking, as they describe an interest in learning, and interest is seen as linked with curiosity and seeking novelty (Renninger & Hidi, 2011; Silvia & Sanders, 2010). In contrast, as sensitivity to punishment sensitises an individual to experience novelty as potentially threatening (Colder & O'Connor, 2004; Torrubia et al., 2001), and encountering new content and challenges is inevitable in a learning situation, sensitivity to punishment may be a negative predictor for the mastery orientations. We expected performance-approach orientation to be predicted by interindividual reward sensitivity, as the need for, or a focus on, social rewards such as attention or praise might make students more prone to striving for relative success (i.e., being better than others, see, Colder & O'Connor, 2004; Torrubia et al., 2001). As sensitivity to punishment has been considered as including avoidance of demonstrating skills for fear of public embarrassment (Colder & O'Connor, 2004; Colder et al., 2011; Torrubia et al., 2001), we expected it to predict performance-avoidance orientation, which, in turn, is considered as a tendency to avoid learning or performance situations where public failure is seen as possible (TuominenSoini et al., 2008). As regards the avoidance orientation, we assume a negative prediction by the intraindividual reward sensitivities. Given that the latter are expected to support the enjoyment of novelty and delight in one's successes, an inverse relation to the tendency to want to avoid effort and to experience low incentive value in terms of schoolwork, seems likely.

## Method

## **Participants and Procedure**

The participants were university students in the fields of humanities, social sciences, and education (N = 506; 86% women;  $M_{age} = 25.07$ , SD = 5.47) invited to take part in the study with an email containing a link to an electronic questionnaire. The distribution of gender is fairly representative of the population of university students in these fields (Statistics Finland, 2015). Students' contact information was obtained from university email lists. Participation was voluntary, and the participants were assured of the confidentiality of their responses.

## Measures

The set of items described and examined in Study 1 was used for measuring temperamental reward and punishment sensitivities. Achievement goal orientations were measured using the instrument validated in a large body of previous research (e.g., Niemivirta, 2002; Pulkka & Niemivirta, 2013; Tuominen-Soini et al., 2008, 2012). The measure taps five orientations, each with 3 items on a scale of 1 ("Not at all true") to 7 ("Completely true"): mastery-intrinsic (e.g., "I study in order to learn new things"), mastery-extrinsic (e.g., "An important goal for me is to do well in my studies"), performance-approach (e.g., "An important goal for me in my studies is to do better than the other students"), performance-avoidance (e.g., "I try to get away with as little effort as possible in my studies").

# Analyses

The data were analysed with ESEM-SEM with Geomin rotation, with a combination of EFA and CFA factors, using Mplus statistics software (Muthén & Muthén, 1998-2015). In line with the methodological choice made in Study 1, ESEM was seen as more appropriate for use with an instrument tapping complex interconnected phenomena (see, Marsh et al., 2014), such as temperament dimensions. Due to the interconnected nature of temperamental sensitivities (see, Corr & McNaughton, 2008), we considered it reasonable to allow for theoretically meaningful cross-loadings, rather than suppress them. CFA was specified for achievement goal orientation items as the distinct factorial structure has been validated in previous studies. All achievement goal orientation variables were regressed on all temperament variables, without any fixed specifications of relationships. Through this, we sought to establish the independent effect of each temperament dimension on each achievement goal orientation while controlling for the effects of the other dimensions.

As in Study 1, the  $\chi^2$  value, the standardised root mean squared residual (SRMR, recommended cut-off point < .08), the root mean square of error approximation (RMSEA, recommended cut-off point < .06), and the comparative fit index (CFI, recommended cut-off point > .95) were used to assess model fit (see, Hu & Bentler, 1999). Descriptive statistics and Cronbach's alphas for composite scores were calculated using SPSS 23.

#### Results

ESEM-SEM analysis with Geomin rotation was used to examine the factor structure and the predictive effects. The fit for a model with four temperament factors as derived from Study 1 predicting the five achievement goal orientations was partially satisfactory,  $\chi^2$  (311) = 964.633, p < .001; SRMR = .056; RMSEA = .064 (90% CI = .060, .069); CFI = .914. An inspection of the model modification indices showed an item measuring the performance-avoidance orientation (*"It is important to me that I don't fail in front of other students"*) to cross-load on the performance-approach factor. As this was seen as theoretically sound, the item was freed to cross-
load, which improved the fit,  $\chi^2$  (310) = 859.965, p < .001; SRMR = .050; RMSEA = .059 (90% CI = .055, .064); CFI = .928. Whilst the CFI was somewhat lower than the proposed cut-off point of > .95, as the other fit indices were adequate, and as the factor loadings were theoretically meaningful, this model was chosen with no further alterations made.

The factor structure of the temperament dimensions was examined. The final model corresponded to the four dimensions observed in Study 1: SP, SRe, SRiPE, and SRiNS, although the item "I get excited about new things easily", which in Study 1 loaded on SRiPE, here loaded on SRiNS. The item "I feel very uncomfortable in new situations and places" that had unclear factor loadings in Study 1 here loaded well on the intended SP factor (.74, p < .001), but the SP item "I get upset easily if I am criticized or told" off' loaded also onto SRe (.45, p < .001, and .31, p < .001, respectively). The explained variance for all items was significant at p < .001, and ranged Factor loadings and explained variance for the between .27-.97. temperament dimension items are given in Table 4. Regarding achievement goal orientations, apart from the performance-avoidance item "It is important to me that I don't fail in front of other students" that was freed to cross-load onto performance-approach, the items loaded well onto the theoretically expected factors. The factor loadings and explained variance achievement orientations for goal given in Table are 5.

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Table 4.

Factor Loadings (ESEM) of Reward and Punishment Sensitivity, and Explained Variance of Items (Study 2).

Factors and Items	1	2	3	4	$\mathbb{R}^2$
1 SENSITIVITY TO PUNISHMENT					
I am easily shy in the company of people I don't know and in new situations.	.80	05	01	.03	.62
I feel very uncomfortable in new situations and places.	.74	.16	01	16	.72
I avoid talking or performing in public (e.g., at lectures).	.69	05	00	.02	.46
I withdraw easily in difficult or awkward situations.	.56	.19	03	05	.39
I get upset easily if I am criticised or told off.	.45	.31	.05	.10	.27
2 INTERINDIVIDUAL REWARD SENSITIVITY					
I often do things just to be praised.	.15	.71	04	04	.53
I often aim to impress other people.	07	.69	01	.12	.51
I sometimes act hastily just to get an immediate reward or praise.	.02	.62	.01	04	.39
I will gladly be the centre of attention.	40	.50	.14	.01	.48
3 INTRAINDIVIDUAL REWARD SENSITIVITY – POSITIVE EXPRESSIVENESS					
I express my excitement and enjoyment openly, when I succeed at something.	.01	.03	.98	01	.97
I don't hold back my joy and enthusiasm when something nice happens to me.	04	02	.79	.01	.65
4 INTRAINDIVIDUAL REWARD SENSITIVITY – NOVELTY-SEEKING					
I get excited about new things easily.	.02	04	.27	.57	.47
I will readily seek out novel situations.	36	01	.01	.57	.67
I think it is exciting to get into new and surprising situations.	42	.09	03	.52	.65

*Note.* Significant (p < .01) factor loadings above |.30| given in bold; p < .001 for all  $\mathbb{R}^2$ .

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Table 5.

Factor Loadings (SEM) of Achievement Goal Orientations, and Explained Variance of Items (Study 2).

Factors and Items	1	2	3	4	5	$\mathbb{R}^2$
1 MASTERY-INTRINSIC ORIENTATION						
I study in order to learn new things.	.94					.88
An important goal for me in my studies is to learn as much as possible.	.84					.71
To acquire new knowledge is an important goal for me in my studies.	.84					.71
2 MASTERY-EXTRINSIC ORIENTATION						
An important goal for me is to do well in my studies.		.90				.82
My goal is to succeed in my studies.		.84				.71
It is important to me that I get good grades.		.75				.56
3 PERFORMANCE-APPROACH ORIENTATION						
An important goal for me in my studies is to do better than the other students.			.65			.43
I feel good, if I manage to demonstrate to other students that I'm competent.			.64			.42
It is important to me that others think I'm able and competent.			.59			.35
4 PERFORMANCE-AVOIDANCE ORIENTATION						
I try to avoid situations in which I may fail or make mistakes.				.90		.81
I try to avoid situations in which I may appear dumb or incompetent.				.67		.44
It is important to me that I don't fail in front of other students.			.48	.41		.54
5 AVOIDANCE ORIENTATION						
I try to get away with as little effort as possible in my studies.					.87	.75
I always try to get away with as little effort as possible in my studies.					.80	.63
I am particularly satisfied if I don't have to work much for my studies.					.71	.50

*Note.* All factor loadings p < .001;  $\mathbb{R}^2 p < .001$  for all items.

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A negative correlation was observed between SP and both SRiPE and SRiNS. SRe and SRiPE correlated positively, as did the two intraindividual reward sensitivity factors SRiPE and SRiNS. The factor correlations of all latent variables, and descriptive statistics and Cronbach's alphas calculated from composite scores, are given in Table 6.

Factor Correlations for Ealent variables, and Descriptive statistics and Cronouch's Appras from Composite Scores (study 2).											
Variable	1	2	3	4	5	6	7	8	М	SD	Cronbach's Alpha
1 SP	-								3.95	1.27	.79
2 SRe	.03	-							3.45	1.09	.71
3 SRiPE	32***	.17***	-						5.12	1.42	.88
4 SRiNS	49***	.06	.32***	-					4.85	1.17	.78
5 Mastery-Intrinsic Orientation	23***	27***	.18***	.53***	-				5.58	1.14	.91
6 Mastery-Extrinsic Orientation	.06	.00	.02	.17***	.42***	-			5.26	1.10	.71
7 Performance-Approach Orientation	.16***	.62***	01	.14**	.06	.57***	-		4.56	1.07	.64
8 Performance-Avoidance Orientation	.78***	.32***	30***	44***	36***	.05	.36***	-	4.15	1.27	.75
9 Avoidance Orientation	.22***	.32***	09*	29***	59***	51***	03	.29***	3.82	1.40	.83

Factor Correlations for Latent Variables, and Descriptive Statistics and Cronbach's Alphas from Composite Scores (Study 2)

*Note.* \* *p* < .05; \*\* *p* < .01; \*\*\* *p* < .001

Table 6.

Regarding the predictions of temperament on achievement goal orientations, the mastery-intrinsic orientation was predicted positively by SRiNS and negatively by SRe. Mastery-extrinsic orientation was predicted positively by SRiNS and SP. Performance-approach was predicted by all temperament sensitivities: positively by SRe, SRiNS, and SP, and negatively by SRiPE. Performance-avoidance was predicted positively by SP and SRe, and negatively by SRiPE. Finally, the avoidance orientation was predicted positively by SRe and negatively by SRiNS. The model significantly explained the variance of all but the mastery-extrinsic orientation, with the explained variance arouidance orientation). All significant effects and explained variance are illustrated in Figure 1.



*Figure 1.* Results of ESEM-SEM analysis with Geomin rotation of achievement goal orientations (confirmatory factors) predicted from temperamental reward and punishment sensitivities (exploratory factors). For clarity, observed variables and corresponding factor loadings are omitted, and only significant (p < .05) effects ( $\beta$ ) and correlations are reported.

#### Discussion

The present research examined, by means of two sub-studies, the dimensionality of temperament and the predictive effects of temperament on achievement-related motivation. Study 1 focused on the structure of temperamental sensitivities and, in particular, on uncovering dimensions of reward sensitivity relevant in an educational setting. Study 2 sought to replicate the factor structure of temperamental sensitivities uncovered in Study 1, using a different data set, and to predict achievement goal orientations from sensitivity to punishment and sensitivity to reward.

#### Structure of temperamental sensitivities

Study 1 revealed a four-factor structure of temperamental sensitivities (sensitivity to punishment, sensitivity to interindividual reward, and two intraindividual reward sensitivities, namely, novelty-seeking and positive expressiveness) that was mostly in line with the expectations we derived from theoretical considerations and previous research. This structure was for the most part replicated in Study 2, the main difference being the loading of one intraindividual reward sensitivity item on the positive-expressive reward sensitivity factor in Study 1, and on the novelty-seeking factor in Study 2. The wording of the item may render it too open to interpretation, which may affect the usability of the item. This should be given consideration in future research using the measure. A positive correlation between sensitivity to punishment and interindividual reward sensitivity was observed in Study 1, whereas in Study 2, there was a zero-correlation between the two factors. This may, to some extent, reflect the difference in age of the participants in the two studies, in that the relationships between temperamental sensitivities may differ as a function of maturation. This possibility remains for future research to explore.

In line with our expectation, sensitivity to punishment factored into one dimension, consisting of sensitivity to failure, shyness and discomfort, and behavioural inhibition. The unidimensionality of sensitivity to punishment is consistent with much previous research (Carver & White, 1994; Torrubia et al., 2001), although in some recent studies, it has been considered as multidimensional (Colder et al., 2011; Corr & Cooper, 2016). Considerably more items have been used in these latter studies to operationalise sensitivity to punishment. It remains for future research to consider whether including more items in the scale would be fruitful for investigating the possibility of different aspects of punishment sensitivity exerting differential effects on motivation.

As we expected, a separate dimension of sensitivity to interindividual reward, describing reward derived from social acceptance or success, such as attention or praise, was discovered. Although sometimes conceptualised as an aspect of a distinct temperament dimension (e.g., reward dependence, Cloninger et al., 1993), or empirically discovered to factor into a separate reward sensitivity dimension (Colder et al., 2011), this sensitivity has often been included as part of a unidimensional sensitivity to reward (Torrubia et al., 2001), or left unexplored (Carver & White, 1994). However, the robust nature of the factor as well as its distinct effects on achievement goal orientations suggest that considering it separately from other reward sensitivities seems fruitful. Somewhat against the expected single intraindividual reward dimension (reward derived from one's own actions, goal attainment, and inner states), it was found to separate further into two distinct dimensions. These dimensions depict a tendency for enthusiasm and delight in personal successes, which we labelled positive expressiveness, and a sensitivity to seek and react positively to novelty. These factors bear some resemblance to recent findings by Corr and Cooper (2016), who labelled their corresponding factors reward reactivity (including items describing excitement and delight regarding personal achievements, as well as their open expression, resembling our positive-expressiveness factor) and reward interest (describing enjoyment of novelty, and resembling our novelty-seeking factor).

The positive or zero correlations between sensitivity to punishment and interindividual reward sensitivity observed in the present research may indicate that avoidance of failure may have a central role also for the latter temperamental sensitivity. Sensitivity to punishment may influence avoidance of public failure by those for whom social acceptance is important, and who are otherwise not prone to withdrawal from social situations. This finding corresponds to connections observed in previous research, where responsiveness to social approval has been found to correlate positively with anxiety, and to have a zero correlation with fear/shyness (Colder et al., 2011). Likewise, Cloninger and colleagues' (1993) reward dependency, defined as including dependency on social reward, has been found to be a joint predictor of behavioural inhibition, together with harm avoidance (Mardaga & Hansenne, 2007).

Punishment sensitivity was also found to be negatively associated with both intraindividual reward sensitivities. This corresponds to previous studies where behavioural inhibition has been found to be negatively connected with novelty-seeking (Caseras, Àvila, & Torrubia, 2003; see also, Rothbart, 2007), although some modest positive correlations with dimensions of behavioural approach have also been found (Corr & Cooper, 2016). Interindividual reward sensitivity was positively associated with positive expressiveness in Study 2. This is consistent with findings in previous research, where responsiveness to social approval has correlated positively with other reward sensitivity dimensions (Colder et al., 2011). The observed positive correlations between the two intraindividual reward sensitivities in both studies, in turn, may be taken to reflect the positive connections between the reward reactivity and reward interest dimensions of behavioural approach discovered in previous research (Corr & Cooper, 2016).

Overall, the similarity of both the factor structures and the interrelationships of temperament dimensions observed in the two studies supported the validity of the compiled set of items for measuring temperamental sensitivities.

## Predictive effects of reward and punishment sensitivity on achievement goal orientations

Study 2 took the examination further into using the measure to predict achievement goal orientations, conceptualised as mastery-intrinsic, mastery-extrinsic, performance-approach, performance-avoidance, and avoidance (Niemivirta et al., 2017). Note that by this, we are referring to statistical predictions, not causal inferences. We are aware of the limitations of using cross-sectional data for such a design, but find it nevertheless useful as we seek to extract independent effects of temperamental sensitivities on goal orientations.

The temperamental sensitivities extracted using our compiled measure predicted all orientations in a theoretically meaningful way, and the explained variance was statistically significant for all apart from the mastery-extrinsic orientation.

Behavioural inhibition (conceptualised in the present research as sensitivity to punishment) and behavioural approach (conceptualised here as reward sensitivity) are considered as operating together as joint subsystems (Corr, 2002). Our results, in uncovering patterns of temperamental sensitivities predicting distinct motivational orientations, appear in line with this. To summarise, novelty-seeking being associated with enjoyment of learning, sensitivity to punishment with performance concerns, and seeking or needing social acceptance and praise being related to high performanceor avoidance orientations are the key predictions observed in this study.

Both mastery orientations were predicted positively by noveltyseeking. It therefore appears that novelty-seeking is a temperamental sensitivity that supports experiencing learning as inherently motivating. The prediction is in line with our expectations, as well as with the links noted in previous research between novelty-seeking, curiosity, and interest (Renninger & Hidi, 2011; Silvia & Sanders, 2010). The result also corresponds to previous studies linking behavioural approach and mastery orientation (Elliot & Thrash, 2002), and behavioural approach and study engagement (van Beek, Kranenburg, Taris, & Schaufeli, 2013). There were, however, also differences in the predictions. Mastery-intrinsic was also predicted negatively by the interindividual reward sensitivity, indicating that low levels of the need for praise and attention from others seems to support the enjoyment of learning for its own sake. Mastery-extrinsic was predicted positively by sensitivity to punishment. This sensitivity may introduce performance concerns by directing an individual's focus on potential threats in the environment (e.g., possibility of failure). High novelty-seeking together with sensitivity to punishment may thereby induce pressure to demonstrate competence by achieving at a high level, which is characteristic of the mastery-extrinsic orientation (Grant & Dweck, 2003; Niemivirta, 2002). It should be noted that due to the non-significance of explained variance of the mastery-extrinsic orientation, conclusions about it and comparisons between the two mastery orientations are to be drawn carefully.

This said, the observed similarities and differences in predictions support considering the two as separate, although related, motivational orientations.

Both performance orientations were predicted positively by sensitivity to punishment and interindividual reward sensitivity, with interindividual reward sensitivity being the strongest predictor for performance-approach and sensitivity to punishment for performanceavoidance, in line with our expectations. Both were also predicted negatively by positive expressiveness, the effect being greater on Little emphasis being placed on enjoyment of performance-avoidance. one's successes may heighten the importance of social attention and praise as sources of reward. This, together with performance concerns arising from punishment sensitivity, may in the case of both orientations play a role in learning situations being perceived as performance situations involving social comparison. However, only performance-approach was predicted positively by novelty-seeking, which, given its positive prediction on the mastery orientations, appears to support learning motivation. Sensitivity to social reward together with novelty-seeking may influence experiencing learning, rather than as an end in itself, as a means to an end, which is typical of performance orientation (Nicholls, 1989). In addition to demonstrating ability, this end may also entail acquiring social attention and praise. Regarding the differences between the two performance orientations, novelty-seeking was not a predictor of performance-avoidance, and the predictive effect exerted on performance-avoidance by sensitivity to punishment was stronger than on performance-approach. This pattern may induce uncertainty about one's ability to perform successfully in front of other people whose approval may be an important source of reward, and heighten the experienced importance of not being judged as failing, which, in turn, is associated with the performance-avoidance orientation (Niemivirta, 2002).

In line with our expectations, the avoidance orientation was predicted negatively by novelty-seeking, while the observed positive effect from interindividual reward sensitivity was not assumed. This pattern of predictions is the direct opposite to the predictions on mastery-intrinsic orientation. Given that the two orientations describe an entirely different approach to goal setting regarding academic pursuits and achievement (Kaplan & Maehr, 2007; Nicholls, 1989), the result seems understandable. The prediction further supports considering novelty-seeking as a temperamental sensitivity that supports striving towards learning, and conversely, that disinterest in or even dislike of novelty appears to direct focus away from academic pursuits and effort. That the need for social approval and praise was also associated with work avoidance orientation is in line with suggestions that the interests of students endorsing avoidance goals lie in other than academic areas (Archer, 1994; Nicholls, 1989).

Our results indicate that taking into account not only sensitivity to punishment and sensitivity to reward, but also different sources of reward and their potentially different effects on motivation, is a useful approach for uncovering possible antecedents to the adoption of different goal strivings. Considering sources of reward separately, and hence being able to examine the relative strengths of their effects, may increase understanding of the connections between temperament and goal strivings, and expand upon the results obtained in previous research.

#### Limitations and Suggestions for Future Research

There are some limitations to the present research. As with all research utilising self-report questionnaires, response bias may be an issue. The factor structure of temperamental sensitivities uncovered in the present research included a single sensitivity to punishment dimension. However, recent research has considered sensitivity to punishment as separable into two dimensions (Colder et al., 2011; see also, Corr & Cooper, 2016), and this and their possible differential effects on motivation remains an issue to be explored in future research. Developing a larger pool of items would improve the content validity of the measure used in the present research. As both studies were conducted with cross-sectional data, no assertion as to the direction of causality can be made. The relatively homogenous socioeconomic background and ethnicity of the participants in both studies, as well as the high proportion of women (86%) in Study 2, also presents limitations with regard to extrapolation of the findings to men and students from different backgrounds. However, our results indicate a promising opening for the examination of the ways temperament may shape the formation and adoption of stable motivational orientations. Future research should be conducted in a longitudinal framework, to examine the development and stability of temperament and its relationship with motivation further, and with participants from more varied backgrounds, to increase the generalisability of the findings.

#### Conclusions

Our results suggest that sensitivity to punishment and sensitivity to reward contribute to students' relatively stable motivational orientations. In particular, taking into account also the effects of qualitatively different kinds of reward dimensions on students' goal strivings appears salient. Together with sensitivity to punishment, these dimensions formed patterns of predictions that were found related to the adoption of different goal orientations. As different goal orientations are known to influence both achievement and socio-emotional outcomes in beneficial or disadvantageous ways, increased understanding of the antecedents to their development and adoption holds importance for both educational research and practice. For example, high levels of temperamental sensitivity to punishment or interindividual reward may induce experiencing instruction or certain pedagogical practices, such as excessive assessment or an ethos of competition, as threatening or otherwise unpleasant. This may contribute to underachievement or increased school exhaustion. Heightened awareness of these innate individual differences would therefore be important in both classroom practices and teacher training. Recognising the mechanisms linking temperament and motivation as well as their developmental nature holds importance for educational research. Future studies should focus on longitudinal settings to examine the stability and development of both temperamental sensitivities and their influence on goal orientations.

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#### References

- Archer, J. (1994). Achievement goals as a measure of motivation in university students. Contemporary Educational Psychology, 19(4), 430–446. doi:10.1006/ceps.1994.1031
- Barron, K. E., & Harackiewicz, J. M. (2003). Revisiting the benefits of performance-approach goals in the college classroom: Exploring the role of goals in advanced college courses. *International Journal of Educational Research*, 39(4), 357–374. doi:10.1016/j.ijer.2004.06.004
- Bjørnebekk, G. (2007). Reinforcement sensitivity theory and major motivational and self-regulatory processes in children. *Personality* and Individual Differences, 43(8), 1908–1990. doi:10.1016/j.paid.2007.06.010
- Bjørnebekk, G. & Diseth, Å. (2010). Approach and avoidance temperaments and achievement goals among children. *Personality* and Individual Differences, 49(8), 938–943. doi:10.1016/j.paid.2010.07.034
- Carver, C. S., & White, T. L. (1994). Behavioral inhibition, behavioral activation, and affective responses to impending reward and punishment: The BIS/BAS scales. *Journal of Personality and Social Psychology*, 67(2), 319–333. doi: 10.1037/0022-3514.67.2.319
- Caseras, X., Àvila, C., & Torrubia, R. (2003). The measurement of individual differences in behavioural inhibition and behavioural activation systems: a comparison of personality scales. *Personality* and Individual Differences, 34(6), 999–1013. doi:10.1016/S0191-8869(02)00084-3
- Cloninger, C. R., Svarkic, D. M., & Przybeck, T. R. (1993). A psychobiological model of temperament and character. Archives of General Psychiatry, 50(12), 975–990. doi:10.1001/archpsyc.1993.01820240059008
- Colder, C. R. & O'Connor, R. M. (2004). Gray's reinforcement sensitivity model and child psychopathology: laboratory and questionnaire assessment of the BAS and BIS. *Journal of Abnormal Child Psychology, 32*(4), 435–451. doi:

178 Rawlings, Tapola, Niemivirta–Temperament and Motivation

10.1023/B:JACP.0000030296.54122.b6

- Colder, C. R., Trucco, E. M., Lopez, H. I., Hawk Jr., L. W., Read, J. P., Lengua, L. J., & Eiden, R. D. (2011). Revised reinforcement sensitivity theory and laboratory assessment of BIS and BAS in children. *Journal of Research in Personality*, 45(2), 198–207. doi:10.1016/j.jrp.2011.01.005
- Corr, P. J. (2002). JA Gray's reinforcement sensitivity theory: Tests of the joint subsystems hypothesis of anxiety and impulsivity. *Personality and Individual Differences*, 33(4), 511–532. doi:10.1016/S0191-8869(01)00170-2
- Corr, P. J. (2008). Reinforcement sensitivity theory (RST): introduction. In P. J. Corr (Ed.), *The Reinforcement Sensitivity Theory of Personality*. New York, NY, US: Cambridge University Press. 1– 43.
- Corr, P. J., & Cooper, A. J. (2016, February 4). The Reinforcement Sensitivity Theory of Personality Questionnaire (RST-PQ): Development and validation. *Psychological Assessment*. Advance online publication. doi: 10.1037/pas0000273
- Corr, P. J. & McNaughton, N. (2008). Reinforcement sensitivity theory and personality. In P. J. Corr (Ed.), *The Reinforcement Sensitivity Theory of Personality*. New York, NY, US: Cambridge University Press. 155–187.
- Elliot, A. J., & Covington, M. V. (2001). Approach and avoidance motivation. *Educational Psychology Review*, 13(2), 73–92. doi: 10.1023/A:1009009018235
- Elliot, A. J. & McGregor, H. A. (2001). A 2 x 2 achievement goal framework. *Journal of Personality and Social Psychology*, 80(3), 501–519. doi: 10.1037/0022-3514.80.3.501
- Elliot, A. J. & Thrash, T. M. (2002). Approach–avoidance motivation in personality: Approach and avoidance temperaments and goals. *Journal of Personality and Social Psychology*, 82(5), 804–818. doi: 10.1037/0022-3514.82.5.804
- Elliot, A. J. & Thrash, T. M. (2010). Approach and avoidance temperament as basic dimensions of personality. *Journal of Personality*, *78*(3), 865–906. doi: 10.1111/j.1467-6494.2010.00636.x

- Fuentes-Claramonte, P., Ávila, C., Rodríguez-Pujadas, A., Costumero, V., Ventura-Campos, N., Bustamante, J. C., ... & Barrós-Loscertales, A. (2016). Characterizing individual differences in reward sensitivity from the brain networks involved in response inhibition. *Neuroimage*, 124, 287–299. doi: 10.1016/j.neuroimage.2015.08.067
- Grant, H., & Dweck, C. S. (2003). Clarifying achievement goals and their impact. *Journal of Personality and Social Psychology*, 85(3), 541– 553. doi: 10.1037/0022-3514.85.3.541
- Gray, J. A., & McNaughton, N. (2003). *The Neuropsychology of Anxiety.* An Enquiry into the Functions of the Septo-Hippocampal System (2nd ed.). Oxford, UK: Oxford University Press.
- Harackiewicz, J. M., Barron, K. E., Tauer, J. M., & Elliot, A. J. (2002).
  Predicting success in college: A longitudinal study of achievement goals and ability measures as predictors of interest and performance from freshman year through graduation. *Journal of Educational Psychology*, *94*(3), 562–575. doi: 10.1037/0022-0663.94.3.562
- Harackiewicz, J. M., Durik, A. M., Barron, K. E., Linnenbrink-Garcia, L., & Tauer, J. M. (2008). The role of achievement goals in the development of interest: Reciprocal relations between achievement goals, interest, and performance. *Journal of Educational Psychology*, *100*(1), 105–122. doi: 10.1037/0022-0663.100.1.105
- Hulleman, C. S., Schrager, S. M., Bodmann, S. M., & Harackiewicz, J. M. (2010). A meta-analytical review of achievement goal measures: Different labels for the same constructs or different constructs with similar labels? *Psychological Bulletin*, *136*(3), 442–449. doi: 10.1037/a00118947
- Hu, L., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling: A Multidisciplinary Journal*, 6(1), 1–55. doi: 10.1080/10705519909540118
- Kaplan, A., & Maehr, M. L. (1999). Achievement goals and student wellbeing. *Contemporary Educational Psychology*, 24(4), 330–358. doi:10.1006/ceps.1999.0993

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- Kaplan, A., & Maehr, M. L. (2007). The contributions and prospects of goal orientation theory. *Educational Psychological Review*, 19(2), 141–184. doi: 10.1007/s10648-006-9012-5
- Kingsbury, A., Coplan, R. J., Weeks, M., & Rose-Krasnor, L. (2013). Covering all the BAS's: A closer look at the links between BIS, BAS, and socio-emotional functioning in childhood. *Personality* and Individual Differences, 55(5), 521–526. doi:10.1016/j.paid.2013.04.021
- Mardaga, S., & Hansenne, M. (2007). Relationships between Cloninger's biosocial model of personality and the behavioral inhibition/approach systems (BIS/BAS). *Personality and Individual Differences*, 42(4), 715–722. doi:10.1016/j.paid.2006.08.013
- Marsh, H. W., Morin, A. J. S., Parker, P. D., and Kaur, G. (2014). Exploratory Structural Equation Modeling: An integration of the best features of exploratory and confirmatory factor analysis. *Annual Clinical Review of Psychology*, 10, 85–110. doi: 10.1146/annurev-clinpsy-032813-153700
- Muthén, L. K. & Muthén, B. (1998-2015). *Mplus User's Guide. Seventh Edition.* Los Angeles, CA: Muthén & Muthén.
- Nicholls, J. G. (1989). *The Competitive Ethos and Democratic Education*. Cambridge, MA: Harvard University Press.
- Nicholls, J. G., Patashnick, M. & Nolen, S. B. (1985). Adolescents' theories of education. *Journal of Educational Psychology*, 77(6), 683–692. doi: 10.1037/0022-0663.77.6.683
- Niemivirta, M. (2002). Motivation and performance in context: The influence of goal orientations and instructional setting on situational appraisals and task performance. *Psychologia*, 45(4), 250–270. doi: 10.2117/psysoc.2002.250
- Niemivirta, M., Pulkka, A.-T., Tapola, A., & Tuominen, H. (2017). Achievement goal orientations: A person-oriented approach. To appear in A. Renninger & S. E. Hidi (Eds.), *Handbook on Motivation and Learning*. Cambridge University Press.
- Pulkka, A., & Niemivirta, M. (2013). Adult students' achievement goal orientations and evaluations of the learning environment: a person-

centred longitudinal analysis. *Educational Research and Evaluation: An International Journal on Theory and Practice* 19(4), 297–322. doi: 10.1080/13803611.2013.767741

- Renninger, K. A., & Hidi, S. (2011). Revisiting the conceptualization, measurement, and generation of interest. *Educational Psychologist*, 46(3), 168–184. doi: 10.1080/00461520.2011.587723
- Rothbart, M. K. (2007). Temperament, development, and personality. *Current Directions in Psychological Science*, *16*(4), 207–212. doi: 10.1111/j.1467-8721.2007.00505.x
- Sideridis, G. D., & Kaplan, A. (2011). Achievement goals and persistence across tasks: The roles of failure and success. *The Journal of Experimental Education*, 79(4), 429–451.doi: 10.1080/00220973.2010.539634
- Silvia, P. J., & Sanders, C. E. (2010). Why are smart people curious? Fluid intelligence, openness to experience, and interest. *Learning and Individual Differences*, 20(3), 242–245. doi:10.1016/j.lindif.2010.01.006
- Statistics Finland. (2014). Retrieved May 29, 2017, from http://www.stat.fi/til/khak/2014/khak\_2014\_2016-03-22 tau 001 en.html
- Statistics Finland. (2015). Retrieved May 29, 2017, from http://www.stat.fi/til/yop/2015/yop\_2015\_2016-05-10\_tie\_001\_en.html
- Steinmayr, R. & Spinath, B. (2009). The importance of motivation as a predictor of school achievement. *Learning and Individual Differences*, 19(1), 80–90. doi:10.1016/j.lindif.2008.05.004
- Tapola, A., Jaakkola, T., & Niemivirta, M. (2014). The influence of achievement goal orientations and task concreteness on situational interest. *The Journal of Experimental Education*, 82(4), 455–479. doi: 10.1080/00220973.2013.813370
- Tapola, A., & Niemivirta, M. (2008). The role of achievement goal orientations in students' perceptions of and preferences for classroom environment. *British Journal of Educational Psychology*, 78(2), 291–312. doi: 10.1348/000709907X205272

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- Torrubia, R., Ávila, C., Moltó, J. & Caseras, X. (2001). The sensitivity to punishment and sensitivity to reward questionnaire (SPSRQ) as a measure of Gray's anxiety and impulsivity dimensions. *Personality and Individual Differences*, 31(4), 837–862. doi:10.1016/S0191-8869(00)00183-5
- Tuominen-Soini, H., Salmela-Aro, K., & Niemivirta, M. (2008). Achievement goal orientations and subjective well-being: A person-centred analysis. *Learning and Instruction*, 18(3), 251–266. doi: 10.1016/j.learninstruc.2007.05.003
- Tuominen-Soini, H., Salmela-Aro, K. & Niemivirta, M. (2012). Achievement goal orientations and academic well-being across the transition to upper secondary education. *Learning and Individual Differences*, 22(3), 290–305. doi:10.1016/j.lindif.2012.01.002
- van Beek, I., Kranenburg, I. C., Taris, T. W., & Schaufeli, W. B. (2013). BIS- and BAS-activation and study outcomes: A mediation study. *Personality and Individual Differences*, 55(5), 474–479. doi:10.1016/j.paid.2013.04.013

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# Using Metaphors to Know the Conceptions about the Teaching Profession in Initial Teacher Education

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## Using Metaphors to Know the Conceptions about the Teaching Profession in Initial Teacher Education

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#### Abstract

The Conceptions about the teaching profession affect professional performance, and metaphors are a tool to identify them. In this qualitative study metaphors are used to gain insight into conceptions held by pre-service teachers, and their development during Initial Teacher Training in the Bachelor's Degree in Primary Education. A total of 247 students participated in this cross-sectional study; 145 were first-year students, and 102 were fourth-year students. Participants were requested to submit a metaphor following the open-ended formula: "the teacher is like.... because..." In order to categorize their answers, we used an inductive method and calculated frequencies and percentages. Metaphors were grouped according to the following categories: a) Main Character; b) Support; c) Family; d) Social Agent e) Teaching; f) Importance. The most frequent category was Support, followed by Teaching and Family. First-year pre-service teachers referred to Family, Teaching and the Main Character role of teachers more often than students in their fourth year, whereas the latter allude more often than the former to the teachers' role as providers of Support and as Social Agents. There is evidence of moving from a transmissive to a constructivist and transformative educational perspective, but there is no indication of any evolution towards a socioconstructivist outlook.

**Keywords:** professional identity, initial teacher education, metaphor, primary education, qualitative research.

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## Utilizando la Metáfora para Conocer las Concepciones sobre la Profesión Docente en la Formación Inicial del Profesorado

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#### Resumen

Las concepciones sobre la profesión son importantes porque afectan al desempeño. La metáfora es una herramienta para identificarlas. En esta investigación se utiliza la metáfora para conocer las concepciones de los estudiantes de profesorado y su evolución a lo largo de la formación inicial en el Grado de Educación Primaria. Es un estudio transversal en el que han participado un total de 247 estudiantes, 145 de primer curso y 102 de cuarto. Se les preguntó la metáfora de forma abierta: "el profesor es como ... porque ...". Para categorizar las respuestas se siguió el método inductivo. Una vez establecidas éstas, se calcularon frecuencias y porcentajes. Las metáforas se agrupan en las siguientes categorías: a) protagonista; b) apoyo; c) familia, d) agente social; e) enseñanza y f) importancia. La más frecuente es el Apoyo, seguida de la Enseñanza y la Familia. Los estudiantes de primer curso hacen más referencia a la Familia, a la Enseñanza y al papel Protagonista del profesor que los de cuarto, y éstos hacen más referencia al Apoyo y al profesor como Agente Social que los de primero. Se percibe evolución de una perspectiva transmisiva de la enseñanza a una perspectiva constructivista y transformadora, pero no a una perspectiva socioconstructivista.

**Palabras clave:** identidad profesional, formación inicial de profesorado, metáfora, educación primaria, investigación cualitati

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onceptions of teaching are a key part of professional identity. In this case, and based on the definition provided by Sexton (2008), professional identity can be defined as the subjective meaning of being a teacher in a specific context. The conceptions regarding the teaching profession can affect professional performance (McGrath, 2006; Mahlios, Massengill-Shaw and Barry, 2010); consequently, their impact on the quality of education and on teacher training makes them an important subject of study (Impedovo, 2016). Furthermore, beliefs regarding the teaching profession, which start coalescing during the early stages of students' lives, shape both what is learned and how it is learned during initial teacher education; therefore, these beliefs must be identified (Farrell, 2006), most notably because one of the objectives of initial teacher education is the development of a system of reasoned beliefs that can substitute the unquestioned, unreasoned conceptions (Seferoglu, Korkmazgil and Ölcü, 2009) stemming in part from pre-service teachers' own experience as students (Boyd, 2014).

Conceptions are not easy to measure or identify, because they are mostly implicit (Wegner and Nückes, 2015). However, metaphors are a valid resource to gather information on conceptions, as people use metaphors to provide structure to abstract concepts such as justice and spirituality, among others (Landau, Meier and Keefer, 2010), which makes them an important cognitive tool and an essential vehicle for communication (Nikitina and Furuoka, 2008). Metaphors act as lenses through which we perceive the world around us (Wegner and Nückes, 2015). Complex concepts can become simplified through metaphors, which helps understand both world and experience (Tait-McCutcheon and Drake, 2016). In essence, metaphors are windows that provide insight onto the way in which people conceptualize the world and reality (Lakoff and Johnson, 1980).

Wegner and Nückles (2015) remark that not all research interprets in the same way the cognitive theory on metaphors proposed by Lakoff and Johnson (1980). The "strong version" regards metaphors as constituting the conception itself, whereas the "weak version" considers metaphors to help express or identify an underlying conception based on shared features. Thus, metaphors are the source –usually something more specific and familiar– 186 Martínez-de-la-Hidalga & Villardón-Gallego – Using Teaching Metaphors

that facilitates an understanding of the professional image, more abstract and harder to communicate.

It is interesting to interpret metaphors bearing in mind the distinction, as devised by Schön (1979) (cited by Vadeboncoeur and Torres, 2003), between generative or deep metaphors and superficial metaphors. The former are assumptions, of which we are often not fully aware, that sometimes limit our perceptions and our search for solutions. The latter, more explicit, provide clues that reveal the former; a new superficial metaphor can generate new perceptions and explanations. In the subject at hand, deep metaphors help understand the underlying discourse as teachers; the superficial ones, in turn, provide information regarding the process of building and reshaping the roles of teachers and teaching itself.

Many studies on education have used metaphors as tools to gather information. Most of them have focused on the conceptions of teachers or pre-service teachers regarding teaching and learning (Wegner and Nückles, 2015), as well as professional practice and the profession (Kramsch, 2003; Leavy, McSorley and Boté, 2007; Kasoutas and Malamitsa, 2009; Saban, Kocbeker and Saban, 2006). Others have focused on specific aspects of professional practice, such as educational supervision (Akan, Yalçin and Yildirim, 2013) or educational institutions (Konakli and Gogus, 2013). Additionally, some studies have used metaphors to promote and study the evolution of conceptions related to a variety of aspects of professional performance throughout training in order to determine the efficacy of a specific training approach (Perry and Cooper, 2001; Akar and Yildirin, 2009; Farrell, 2006).

Emmerson and Mansvelt (2014) reviewed the classifications of metaphors related to teaching and learning. The simplest is Sfard's (1998), who distinguishes only two: the category for acquisition, in which learning is described as the individual acquisition of knowledge, and the metaphor of participation, in which learning is conceived as participation in a learning community. Martínez, Sauleda and Huber (2001), in turn, describe three categories for metaphors: the category for metaphors that support a behavioral approach (representative of teaching-learning, in which students adopt a passive role); the one for metaphors that support a cognitive/constructivist approach, in which students adopt an active role in

the building of knowledge; and metaphors that support the sociohistorical perspective of social learning, which regards learning as happening in a community of practice, through dialogue and collaboration, rather than individually.

Pinnegar, Mangelson, Reed and Groves (2011), analyzed the metaphors of female applicants wishing to pursue teacher education in college, and they identified 12 roles of teachers: celebrity, creator, expert, friend, leader, learner, mentor, nurturer, performer, redeemer, scaffolder, and self-sacrificer.

There are no studies in our geographical area that use metaphors to study the professional conceptions of pre-service teachers and their evolution throughout training. Therefore, the goal of this study is to get to know, by use of metaphors, the conception of profession held by pre-service teachers in Bizkaia. Additionally, this study will analyze the differences that might exist between the ideas pre-service teachers have at the beginning of their training (1<sup>st</sup> year) and their ideas at the end of their initial teacher training (4<sup>th</sup> year), in order to determine how training affects the development of the professional image.

#### Method

#### **Participants**

The population comprises first-year students and final-year students in the Bachelor's Degree in Primary Education at the Faculty of Psychology and Education of the University of Deusto (UD), as well as the UD -affiliated Begoñako Andra Mari (BAM).

The total sample of volunteering pre-service teachers is composed of 247 undergraduate students, of which 144 are women and 103 are men. The average age of the students taking part in the study was 20.6 years of age. The students in their first year of university had initiated their studies in the 2013-2014 school year, whereas the students in their fourth year finished their studies in the 2012-2013 school year.

The sub-sample of first-year students in the Bachelor's Degree in Primary Education is composed of 145 students (Table 1).

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Table 1

Sub-sample of first-year students, according to university, concentration and gender.

University	Concentration	Gender				
	Concentration	Female	Male			
	Physical Education	7	43			
BAM <sup>1</sup>	Foreign Languages	10	6			
	Curriculum	17	8			
UD <sup>2</sup>	Foreign Languages	14	8			
	Special Education	27	5			

<sup>1</sup> BAM: Begoñako Andra Mari

<sup>2</sup> UD: University of Deusto

Of the 145 first-year undergraduate students that volunteered for the study, 54 belonged to the University of Deusto (37.24%) and 91 belonged to the Begoñako Andra Mari, the affiliated institution (62.76%); 75 were women (51.72%) and 70 were men (48.28%), which accurately reflects the real demographics of first-year students in the Bachelor's Degree in Primary Education. The average age of the participants was 18.5 years of age.

Regarding the concentrations pursued by the participants, 50 students had chosen Physical Education (34.48%); 25 had elected a concentration on Curriculum (17.24%); 38 students had opted for Foreign Languages (26.21%); and, finally, 32 students had selected Special Education (22.07%).

The sub-sample of  $4^{\text{th}}$  year students in the Bachelor's Degree in Primary Education, in turn, comprises 102 students (Table 2), of which 49 belonged to the University of Deusto (48.03%), whereas 53 belonged to Begoñako Andra Mari (51.97%). The participants were 69 women (67.65%) and 33 men (33.35%). Their average age was 22.7 years old.

Table 2

Sub-sample of fourth-year students, according to university, concentration and gender.

University	Concentration	Gender	Gender				
	Concentration	Female	Male				
	Physical Education	6	14				
BAM <sup>1</sup>	Foreign Languages	5	4				
	Curriculum	17	7				
$UD^2$	Foreign Languages	15	3				
	Special Education	26	5				

<sup>1</sup> BAM: Begoñako Andra Mari

<sup>2</sup> UD: University of Deusto

The 4<sup>th</sup> year students were pursuing the following concentrations: 20 students had opted for Physical Education (19.61%); 24 students had chosen the concentration on Curriculum (23.53%); 27 students pursued Foreign Languages (26.47%); and 31 students had selected to Special Education (30.39%).

### Instruments

Metaphors were used in an open-ended on-line interview on the perception of the teaching profession. This study assumes the "weak version" (Wegner and Nückes, 2015) of the cognitive theory on metaphors (Lakoff and Johnson, 1980), which considers metaphors to be the means through which conceptions are expressed, by way of a comparative process that identifies certain similarities between the two (metaphor and conception). Consequently, when providing metaphors, participants are asked to also provide explanations. The question was formulated as follows: "Choose one metaphor that describes the figure of 'teacher' and explain why you have chosen it".

### Procedure

Upon garnering the approval to the research project from the ethics committee at the university, the managers from both institutions were contacted in order to explain the objectives of the study and request their collaboration. Subsequently, pre-service teachers were provided on-site 190 Martínez-de-la-Hidalga & Villardón-Gallego – Using Teaching Metaphors

information regarding the study and its volunteer-based, anonymous nature. Those who decided to participate then completed the on-line interview.

First year students completed the questionnaire at the beginning of the school year, in September 2013. Fourth year students, in turn, completed the questionnaire when they had finished their training, in May 2013. Later, the ethical committee of the university granted its approval to the research project.

#### Data analysis

The principles of grounded theory (Glaser and Strauss, 1967; Trinidad, Carrero and Soriano, 2006) were applied to the analysis of answers; consequently, an inductive methodology was used, which established categories after the fact, according to the content of said answers. This analytic method allows the theory to emerge from the information gathered. ATLAS.ti 7.0 software was used to analyze the contents. After categorizing the answers, frequencies and percentages were calculated in each category for each cohort.

#### Results

The metaphors used by students of the Bachelor's Degree in Primary Education to define teachers can be divided into six categories related to the teaching profession. These ideas on teachers are present both in first-year students (marked here with a lowercase "a") and in fourth-year students (marked with an uppercase "A"), although percentages differ.

The metaphors contributed by the pre-service teachers can be arranged in the following categories: a) teachers as main characters; b) teachers as support; c) teachers as family; d) teachers as social agents; e) role of teaching; and, finally, e) importance of the profession.

In the total sample, Support (24,3%) and Family (20,6%) by themselves, already represent the conceptions of nearly half the students, who think of teachers as figures that accompany and support people in their development; and nearly one-fourth of participants (21,9%) emphasize Teaching as the main role for teachers. Importance of the profession is alluded to by 15,8%,

while 9,3% highlight the importance of teachers in students' education. Finally, 6,1% considers them to be Social agents.

Table 3 features the frequencies and percentages obtained in each category of answers by participants in their first year and their fourth year of the Bachelor's Degree in Primary Education.

#### Table 3

Categories	1 <sup>st</sup>		2	L <sup>th</sup>	Total		
	Ν	%	Ν	%	Ν	%	
Social Agent	5	3.5	10	9.8	15	6.1	
Support	21	14.5	39	38.2	60	24.3	
Main Character	14	9.7	9	8.8	23	9.3	
Family	44	30.3	7	6.9	51	20.6	
Teaching	35	24.1	19	18.6	54	21.9	
Importance	21	14.5	18	17.7	39	15.8	
Unspecified	5	3.4	0	0	5	2.0	

Frequencies and percentages of answers in each category in 1<sup>st</sup> and 4<sup>th</sup> years

According to the data, the conception of teachers as *SUPPORT* is much more present at the end of teacher education (38.2%) than it is at the beginning (14.5%), which shows that throughout the Bachelor's Degree students become more aware of the importance of this role in the teaching profession.

In the Support category, students have submitted metaphors that underscore the role of the teacher as *Guide* that bears in mind students' realities, interests and differences. Hence, teachers are seen as "guides that must help students become aware of what they really like and are good at" (a94), "the key for students to be able to open different doors" (A40).

Many students consider the ultimate goal of education to be the transformation of students into *autonomous people*. The following image reflects that idea: "the branch that holds a worm, that, when ready to fly on

its own, transformed into a butterfly, lets go of it and follows its own path" (A73).

Other students have stressed the need for education to *unveil the full potential* of people. To that effect, teachers must perform their duties with care and dedication, tending and paying attention to their students. Different objects were used to portray this idea, such as "plant fertilizer; a complement that makes plants grow stronger and more secure" (A51); "salt flakes on a T-bone steak, that bring out the best in it" (A64), as well as jobs as "farmer" or "gardener" who must tend to the plants so that they grow and shine in all their glory.

These types of jobs make it necessary to determine the different types of plants to tend, as they have different needs, which refers to *diversity* in students and their different needs: "the farmer who grows his vegetables: lettuce, tomatoes, carrots, leeks, pumpkins... they are not all the same, so he is not going to tend to all of them in the same way. He will also be alert, watching whether everything is growing correctly, ready at all times to act if necessary" (a8).

Some participants consider teachers to be a *resource* on which to lean in their personal and academic development. The analogies used to convey this idea are "a walking stick" or "an outstretched hand".

Some metaphors reflect a conception of teaching in which the teacher is the *MAIN CHARACTER*. There are two levels in this category. One level places teachers at the *center of the training*, development and fate of students, with metaphors linked to artisanal jobs of having to shape amorphous or raw materials, in reference to students, with metaphors such as "jeweler polishing a rough diamond" (a35), "hammer shaping red-hot iron" (A7), or "baker kneading the dough" (A55).

On a somewhat lower level of prominence but still being ascribed a determining role in the lives of students, there are metaphors in which teachers define students' *path* as the only available option: "train engineer who has to drive all the students (the wagons) to their final destination" (A48); "the Pied Piper charming the animals with his music so that they will bend to his will..." (A45); or "a boat in the river, taking the students to the sea, which is knowledge" (a7).

The *TEACHING* category groups the metaphors referencing the teachinglearning process as the defining role of the teachers' professional performance. This professional conception is more frequent in first-year students (24.1%) than in final-year students (18.6%), which means that there are other roles for teachers, such as support and guidance, that become more prominent throughout their training.

This group of metaphors encompasses different conceptions of teachers as sources of knowledge, as role models or as teaching professionals.

In this category, most of the answers (11% for first-year answers and 11.8% for final-year answers) refer to teachers as source of knowledge, people who teach and convey everything they know. Metaphors reflecting this conception describe teachers as "great library", "hard disk drive", "open book", "computer", "encyclopedia", "sage" or "open dictionary".

Besides being a source of knowledge, teachers are also seen as *role models* or references from which students learn. Some metaphors reflecting this idea of teachers as "models" are taken from natural phenomena that provide "a light that guides you in the development process" (A53, a111), such as "the North star" (a107), "the leading wake of a comet crossing the summer skies, which illuminates your path in the darkest hours of the night" (a116) or "the sun" (A8). Other images that reflect this idea of teachers are "the lighthouse that guides the sailors to a safe harbor" (A6) or "a movie, project it and then people will take what they want" (A71).

This category also encompasses answers referencing teachers as professionals that teach not only contents, but also other types of knowledge, such as *values and attitudes*: "an open book but with the ability to teach how to develop other things, such as abilities, that books don't teach" (A11).

There were references to *FAMILY* figures or a close person in the metaphors of 30% of first-year students, whereas only 6.9% of the last-year students mentioned this aspect. Students undoubtedly highlight the importance of the affective dimension in education, but, as they undergo their teacher training, they become more aware of the need to acquire technical skills in order to become good teachers.

In the metaphors included in this category we can also find outlines of the familial educational model, with allusions to support and education, protection, discipline or commitment.

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Along these lines, some metaphors allude to teachers as family members who not only teach, but also *educate and support* during students' development: "someone you can lean on, like your mother" (a17); "teachers are like family, because they're there in the good times and the bad, and they help us in everything, in addition to teaching us the necessary education" (a36).

Students are aware of the *affection* teachers inspire in students: "teachers are like pearls, because you are always very fond of your teacher when you're a child" (a141); "a beloved person, like a mother" (a53).

Other answers link teachers to family figures who prepare for maturity: "a lion that has to teach its cubs how to survive on their own in nature and for that it shares its wisdom to face the diverse problems that could arise in their lives" (a42); "the animal that teaches its child to walk and defend against adversity" (A77).

Additionally, some metaphors associate teachers with family, underscoring *discipline* and order as educational models; in this respect, teachers are shown to be authoritative, although capable of affection: "teachers have an authority similar to that of mothers, because students must obey and follow the rules established by the teacher" (a102); "it's like the alpha animal in a band of gorillas" (A9); "a mixture between father and big brother, because they help you when you need it the most, but there's also that distance and respect of someone who teaches you what to do and know, as well as admiration" (a61).

Lastly, in this category, some metaphors make reference to teachers' *selflessness*: "it's like an Non Governmental Organization" (A37); "it's like mothers, they give a lot and receive very little" (A75); "it's like a sponge... that wrings itself so it can give others its best" (a91).

Several of the metaphors used by students refer to teachers as *SOCIAL AGENTS*. They portray teachers as scaffolding on which social structure leans, and as builders of society; they also mention the fact that teaching performance is affected by external factors. This type of answer is more prevalent among last-year students (9.8%) than among first-year students (3.5%); these results may indicate that throughout training students develop their social conscience and become more aware of teachers' social repercussion.

Similes that reflect the idea of teachers as *scaffolding* on which society leans include "the skeleton of the society of tomorrow" (A18); "teachers are to society like foundations to a building" (A89); and "a pillar" (a28).

The images used to convey the conception of teachers as *builders* of society usually include design-related, technical jobs, geared towards providing solutions to diverse situations and needs: "engineers of future subjects" (a1); "architects of society; they must balance and calculate a building, which is, in this case, society" (a4).

Some students go even further and, through their metaphors, propound the idea that teachers must not confine themselves to providing a scaffolding for society, but must also contribute to its *improvement*. "A tree, that keeps its roots in the ground, keeping hold of the reality chanced on it, and striving to achieve daily goals. But the treetop looks to the skies, it has to dream up how it wants to change things so that they become better" (A49).

Some fourth-year students (n=7) have become aware of the need to take into consideration the *context* of professional performance; family environment, school, and the sociopolitical situation, are, after all, some of the elements that have either a positive or a negative influence on performance: "an elephant, who is king of the savannah, but without help from the herd (families, social environment) will most probably have trouble going on or will be 'eaten'" (A5); "a chameleon that has to change colors continually, adapting to circumstances" (A43); "teachers are like design and décor, houses have common features such as power sockets, kitchen, bathroom, bed, electricity and also rules determined by laws, but ultimately we have to decorate and build taking into account the context, and the characteristics and needs of the person who is going to live in the house" (A88); "a spring that shares its very pure water among the various small wells, that will gradually become full with it and also with rainwater, in the same way that children are educated by teachers and parents and other figures; teachers are a great source of water for the children but not the only one" (a145).

Perhaps unsurprisingly, given the roles students ascribe to teachers in the education of the people of the future –as main characters, providers of support, teachers, and educators–, many metaphors reflect the *IMPORTANCE* of the profession (15.8%).

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This importance shows different gradations; some consider it essential in the education of children, with similes such as "the wings of a bird; without them, the bird cannot fly; without the teacher, the child would have no wings to fly towards the future as a free bird" (a12); "like water, a basic necessity for life" (a27); "water and sun for a flower" (a26).

Some answers indicate that teachers provide the *foundation for the development* of people, because it provides the basis for it through education: "it's the Beginning" (a25); "the roots of a tree that grows until it becomes a tall tree that reaches far, like many children end up becoming great doctors... with the help of teachers (roots)" (a31); "the foundation when building a house, because they teach you things you will use your whole life, essential to communicate with society" (a33); "if the foundations of a house are not well built, you will never be able to build a good house, it will be slanted, it will have issues... teachers are the same thing, they provide the basis for everything" (A34); "a pillar, because anyone who invents something revolutionary or discovers the cure for some illness first started with learning" (a28); "the legs of a table, without a good educational basis, there can be no lofty goals" (a29).

Recognition of teachers' social responsibility, and the tasks and roles to perform, leads some participants to use metaphors that reflect the *complexity* of the job, even using fictional depictions: "a superhero" (a126); "a wizard... they have powers and strength for everything, or at least they should" (A10); "it's like an all-in-one, they must know how to do everything; be doctors, journalists, communicators, nurses, psychologists, artists, gymnasts, musicians, engineers, etc.; often we have to heal students, help families, create artworks, paint, play instruments, sing..." (A93).

Finally, their impact on students and society makes *continuous improvement* a necessity, as described in the metaphor of a fourth-year student: "the mountaineer always wants to climb higher" (A21).

#### **Discussion and Conclusions**

This study has used metaphors to get to know the professional conception of initial teacher education students and its evolution trough initial teacher training.

The metaphors advanced by students to describe teachers have been analyzed and, subsequently, six categories have been established, sorted according to prevalence: Support, Teaching, Family, Importance, Main Character and Social Agent.

Those six categories and their corresponding sub-categories encompass nearly all the roles of teachers as identified by Pinnegar, Mangelson, Reed and Groves (2011) in the metaphors by teacher training applicants, except for the role of teacher as learner, which has not been explicitly mentioned by the participants.

Nikitina and Furuoka (2008), after reviewing studies that employed metaphors to approach the conception of teachers and teaching, observed that certain images (teachers as father/mother and teachers as artists) feature in diverse educational and sociocultural contexts. Likewise, Massenhill-Shaw and Mahlios (2008) found that upbringing was one of the prevailing categories, as did Lin, Shein and Yang (2012). A study carried out with students in their fifth and eighth year of elementary school determined that, among the students, the most recurrent metaphor for teacher was that of father/mother (Karadag and Gültekin, 2012). It does seem that students of teacher training reach university with an assumed and unrealized conception of the profession, derived from their own experience as students or from their own culture (Palencia Villa, 2009), which ties to an interesting aspect to consider during training: prestige and the social conception of teaching.

The link between the teaching profession and familiar figures, either fatherly or motherly, is more usual in first-year undergraduate students, which could mean that, throughout their training, in addition to the affective side of teaching, students become more aware of the importance of acquiring technical skills required for their satisfactory professional performance. On that account, some students connect teachers to fathers or mothers because of the emotional bond, because of their selflessness or because they are a source of support, whereas other students create that connection because they consider teachers to be co-responsible for children's education, and several others because teachers offer protection, like "a lion would to his cubs". Some students also underscore order, respect and discipline, showing an autocratic vision of teachers (Seferoglu, Korkmazgil and Ölcü, 2009).

The awareness of the professional nature of teachers, which develops throughout training, involves the idea that teachers, as part of the educational

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system, are agents of social construction and transformation, and are therefore of paramount importance. Social metaphors connected to this idea include technical professions such as "architect" or "engineer". These results concur with the research carried out by Vadeboncoeur and Torres (2003), in which students in training, at the end of their studies, emphasize the role of teachers as social agents.

Metaphors provide a glimpse into different conceptions of teaching. Focusing on the classification devised by Martínez, Sauleda and Huber (2001), the metaphors submitted by the pre-service teachers can be regrouped according to the underlying model of education:

#### Behaviorist/transmissive

According to "locus of control" category (Buchanan, 2015), this conception includes a view of learning as teacher-centered (Thomson, 2015). They define teachers as "bakers", "hammers" or "jewelers" who shape materials, which in turn represent students.

Teachers are again the center of the teaching process for students who consider them to be a source of knowledge, comparing them to "an encyclopedia" or "the Internet", placing a greater weight on the transmission of subject-related knowledge rather than on other types of learnings.

Additionally, this perspective also includes students who assume there is one single possible path through which all students must be guided: "train engine pulling the wagons" or "boat that follows the river to the sea".

The view of teachers as family members who protect, bring order and discipline and take on a "fatherly" role would also enter this perspective of teaching.

In this study, metaphors related to Family are much more prevalent in the first year than in the fourth year, and the number of first-year students submitting metaphors with teachers as being the Main Characters is also slightly larger than that of fourth-year students. There is no difference, however, in the percentage of students who consider teachers to be a source of knowledge.

In light of these results, it is safe to say that, throughout training, there is a decline in the transmissive conception of education, with teachers being the main characters and students only being passive agents in the process. This result, however, contrasts with the results obtained by Mellado, Bermejo and Mellado (2012), who found a prevalence of this behaviorist conception of education in future Secondary School teachers at the end of their training. The fact that Secondary School teachers training students have first completed their undergraduate learning in other disciplines may account for that difference.

#### Cognitive/Constructivist

In this conception of education, learners take on an active role and teachers are companions who support and help in the process.

The Support category features metaphors that consider teachers to be guides and resources, whose objective is to create autonomous people who can develop their whole potential, which in turn requires diversity to be taken into account. The Teaching category includes metaphors that consider teachers to be references (North star, lighthouse), role models who guide students in their integral development.

For example, metaphors such as "key that helps open different doors" or "branch on which to lean until we can fly" consider teachers to be a resource on which one can lean, or a guide that ushers students in their development towards autonomy, which can follow different paths, reflect a constructivist leaning, that of student-centered teaching, focusing on individuality (Thomson, 2015). The conception of teachers as guides has surfaced in diverse studies (Seferogly, Korkmazgil and Ölcü, 2009; Yesilbursa, 2012).

Furthermore, from this perspective, a key task of teachers is the full development of each student's potential. In this regard, teachers must be "gardeners" or "farmers", "carefully tending to the plants so that they grow and shine in all their glory". In the research carried out by Kalra and Baveja (2012), teacher training students also used metaphors such as "plants", "flowers", and "trees" to refer to learners.

Metaphors included in the Support category are far more abundant among last-year students than among first-year students, which indicates a shift throughout training, from a transmissive to a more constructivist conception of education. Namely, in this study, participants who have finished their training consider Support to be more important, along with Teaching, which, albeit commonly linked to the idea of teachers and
considered to be an important task, features somewhat more prominently among first-year students.

In a study carried out by López-Luengo, Torrego-Egido and Vallés-Rapp (2015) with Early Childhood Education teachers, as found in this study, there are more metaphors with emotional content at the beginning of training, and, as training advances, there is a prevalence of metaphors linked to leading and guidance roles.

The differences in frequency in the answers for each category among students at the beginning of their training and students at the end of their training denote the shifts that happen throughout the training process in their conception of teaching and teachers. These results concur with the findings by Akar and Yildirin (2009) in their research on aspiring teachers: before the implementation of training based on constructivist learning environments, aspiring teachers chose metaphors related to leadership and control, adopting a disciplinarian position; however, after the exposure to such learning environments, they included messages of cooperation and sensitization towards individual differences. This evolution, from a transmissive conception of teaching to a more constructivist conception, has also been identified in other studies (Leavy, McSorley and Boté, 2007; Seung, Park and Narayan, 2011; Tannehill and MacPhail, 2012; Krull, Koni and Oras, 2013).

#### Sociohistorical/Social Learning

Some of the included metaphors, especially among last-year students, reflect the importance of context on professional performance. Strikingly, however, no metaphors have been found with clear references to social learning through interaction. This result must, without a doubt, spark reflection among teacher educators regarding the need to explicitly mention this element during teacher training. These results concur with those obtained by Krull, Koni and Oras (2013), who didn't find the conception of teaching to evolve towards a socioconstructivist outlook throughout initial teacher training. Sumsion (2003) suggests that the training curriculum itself could help perpetuate discourses and social conceptions regarding the figure of teachers.

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The model of education underlying superficial metaphors matches generative metaphors. Vadeboncoeur and Torres (2003), in their research with student teachers, identified two conceptions of teaching that can also be inferred from the results of this study: transmissive teaching and transformative teaching. The former defends an authoritarian role for teachers, who are responsible of improving students through their care and the transmission of knowledge. The latter, in turn, maintains that education must necessarily lead to the empowerment of people and the promotion of change in society. The first step in this transformative teaching is the creation of a suitable environment, which is protective and full of opportunities for students to actively build knowledge. Transmissive education coincides with the behavioral vision, whereas transformative education corresponds to the constructivist and social vision. As Vadeboncoeur and Torres found in their research, fourth-year undergraduate students submit more metaphors linked to the transformative conception with teachers as social agents- when compared to first-year students, which can be viewed as an effect of initial teacher training.

Some students, through their metaphors, highlight the importance of the figure of "teacher", either because education provides the foundation and fosters the development of people, or because of the aforementioned transformative power that can reshape society.

But in order to achieve an understanding of teaching in all its complexity, it is necessary to account for the context itself in which it is practiced. The profession also requires the development of many competences; so much so, that some students use fictional characters to represent teachers as "wizards" or "superheroes".

This complexity, along with the importance of the profession, leads directly to a clear need of teacher training that seeks to create excellent professionals, committed to their students and to society. And there can be no doubt that different conceptions of teaching entail different ways of practicing the profession, which is why it is important to become aware of our own conceptions, debate around them and reflect on them.

Consequently, it would be suitable to conclude that metaphors are an adequate tool to identify the diverse conceptions of teaching, and they are also a suitable resource to develop professional identity, if worked on deliberately (Kalra and Baveja, 2012; Tannehill and MacPhail, 2012), as a

way of overcoming conceptions of teaching derived from previous experiences as learners. This must be a central learning objective during initial teacher training due to the great influence those conceptions have on professional identity (Mahlios, Massengill-Shaw and Barry, 2010).

From a socioconstructivist standpoint, language is a tool to promote preservice teachers' cognitive development. More specifically, metaphors incorporate sociocultural and cognitive actions (Vygotsky, 2002); therefore, as metaphors help build representations of oneself and of the profession (Kramsch, 2003), they can be used during initial training (Perry and Cooper, 2001; Woollard, 2005). In this regard, reflection and dialogue on superficial metaphors can have a transformative effect on the teaching-related conceptions of teacher training students (Vadeboncoeur and Torres, 2003) and can provide a medium to connect teaching practice with theory (Leavy, McSorley and Boté, 2007). In fact, many studies have shown that working on metaphors helps modify conceptions on the teaching profession and teaching itself (Buaraphan, 2011; Sykes, 2011; Kim, 2012; Simon, 2013; Tait-McCutcheon and Drake, 2016).

In this study, the comparison between the metaphors at the beginning of training and those from the end of training has been cross-sectional, and not longitudinal. That is to say, there has not been a follow-up on the evolution of the professional image of the same cohort, gathering information at two different times; instead, information was gathered from two different cohorts, which introduces certain uncontrolled variables. Nevertheless, this study has provided insight into the professional conceptions that students hold and the differences found in these conceptions at different times in their initial teacher training.

It would be of interest to carry out a longitudinal study on the evolution of teaching-related conceptions through metaphors, both during initial teacher training and during the years of professional practice. Additionally, an analysis of the elements that motivate said shift or influence such an evolution, either contextually or deliberately during teacher training programs, could provide additional insight that would be of use when designing future curricula.

Lastly, the evidence that students, throughout their initial teacher training, have not acquired conscience of the importance of social and

situated learning, based on dialogue and interaction, should lead a reflection on the training program being implemented, in order to determine the reasons behind such results and devise proposals for improvement in this area, as evidence already exists on the potential of dialogue and interaction for learning and development (Soler, 2015). Furthermore, it could also be important to further the idea that teachers also learn through dialogue and interaction with their students.

#### References

- Akan, D., Yalçin, S. & Yildirim, I. (2013). Teachers' mental /metaphorical perceptions to Education Inspector. *Mevlana International Journal of Education*, 3 (19), 58-67.
- Akar, H. & Yildirim, A. (2009). Change in teacher candidates' metaphorical images about classroom management in a social constructivist learning environment. *Teaching in Higher Education*, 14 (4), 401-415. doi: 10.1080/13562510903050152
- Boyd, P. (2014). Learning Teaching in School. In H. Cooper (ed.), *Professional Studies in Primary Education* (pp. 267-288). Los Angeles: Sage.
- Buaraphan, K. (2011). Metaphorical Roots of Beliefs about Teaching and Learning Science and their Modifications in the Standard-Based Science Teacher Preparation Programme. *International Journal of Science Education*, 33 (11), 1571-1595. doi: 10.1080/09500693.2010.528462
- Buchanan, J. (2015). Metaphors as Two-way Mirrors: Illuminating Preservice to In-service Teacher Identity Development. Australian Journal of Teacher Education, 40 (10), 33-50.
- Emerson, L. & Mansvelt, J. (2014). 'If they're the customer, I'm the meat in the sandwich': an exploration of tertiary teachers' metaphorical constructions of teaching. *Higher Education Research and Development*, 33 (3), 469-482. doi: 10.1080/07294360.2013.841653
- Farrell, T. (2006). "The teacher is an octopus": Uncovering preservice English language teachers' prior beliefs through metaphor analysis. *RELC*, 37 (2), 236-248. doi: 10.1177/0033688206067430

- Glaser, B. & Strauss, A. (1967). *The discovery of Grounded Theory: Strategies for qualitative Research*. New York: Aldine Publising.
- Impedovo, M. A. (2016). In-service Teachers' Sense of Agency after Participation in a Research Master Course. *International Journal of Educational Psychology*, 5 (3), 281-307. doi: 10.17583/ijep.2016.2206
- Kalra, M.B. & Baveja, B. (2012). Teacher thinking about knowledge, learning and learners: A metaphor analysis. Procedia – Social Behavioral Sciences, 55, 317-326. doi: 10.1016/j.sbspro.2012.09.509
- Karadag, R. & Gültekin, M. (2012). The Metaphors That Elementary School Students use to Describe the Term "Teacher". *Mersin University Journal of the Faculty of Education*, 8 (1), 69-83.
- Kasoutas M. & Malamitsa K. (2009). Exploring Greek Teachers' Beliefs Using Metaphors. Australian Journal of Teacher Education, 34 (2), 64-83. doi: 10.14221/ajte.2009v34n2.6
- Kim, M. S. (2012). Cultural–historical activity theory perspectives on constructing, ICT-mediated metaphors of teaching and learning. *European Journal of Teacher Education*, 35 (4), 435-448. doi:<u>10.1080/02619768.2011.643393</u>
- Konakli, T. & Gogus, N. (2013). Metaphorical Perceptions of pre-service teachers in related to faculty of education: Asample of Kokaeli University Faculty of Education. *International Journal of Human Sciences*, 10 (2), 67-93.
- Kramsch, C. (2003). "Metaphor and the subjective construction of beliefs". In P. Kalaja & A.M.F. Barcelos (eds.), *Beliefs about SLA* (pp. 109-128). Netherlands: Springer.
- Krull, E., Koni, I. & Oras, K. (2013). Impact on student teachers' conception of learning and teaching from studying a course in educational psychology. *Asia-Pacific Journal of Teacher Education*, 41 (2), 218– 231. doi: 10.1080/1359866X.2013.777026
- Lakoff, G. & Johnson, M. (1980). *Metaphors We Live By*, Chicago: University of Chicago Press.
- Landau, M. J., Meier, B. P., y Keefer, L. A. (2010). A metaphor-enriched social cognition. *Psychological bulletin*, 136 (6), 1045-1067. doi: 1045-1067. 10.1037/a0020970

- Leavy, A.M., McSorley, F.A. & Boté, L.A. (2007). An examination of what metaphor construction reveals about the evolution of preservice teachers' beliefs about teaching and learning. *Teaching and Teacher Education*, 23, 1217-1233. doi: 10.1016/j.tate.2006.07.016
- Lopez-Luengo, M. A., Torrego-Egido, L. M., & Vallés-Rapp, C. (2015). ¿Qué Metáforas Personales Definen al Profesorado de Educación Infantil en Formación? *REICE. Revista Iberoamericana sobre Calidad, Eficacia y Cambio en Educación, 13* (3), 37-56.
- Lin, W., Shein, P. P. & Yang, S. C. (2012). Exploring personal EFL teaching metaphors in pre-service teacher education. *English Teaching: Practice and Critique*, 11 (1), 183-199.
- Mahlios, M., Massengill-Shaw, D. & Barry, A. (2010). Making sense of teaching through metaphors: a review across three studies. *Teachers* and *Teaching: theory and practice*, 16 (1), 49-71. doi: 10.1080/13540600903475645
- Massenhill-Shaw, D. & Mahlios, M. (2008). Pre-service teachers' metaphors of teaching and literacy. *Reading Psychology*, 29 (3), 31-60. doi: 10.1080/02702710701568397
- Martinez, M.A., Sauleda, N. & Huber, G.L. (2001). Metaphors as blueprints of thinking about teaching and learning. *Teaching and Teacher Education*, *17* (8), 965–977.
- McGrath, I. (2006). Teachers' and learners' images for coursebooks. *ELT Journal*, 60 (2), 171–80.
- Mellado, L., Bermejo, M. L. & Mellado, V. (2012). Personal metaphors of prospective secondary economics and science teachers. *Asia-Pacific Journal of Teacher Education*, 40 (4), 395-408. doi: 10.1080/1359866X.2012.724658
- Nikitina, L. & Furuoka, F. (2008). Measuring Metaphors: A Factor Analysis of Students' Conceptions of Language Teachers Metaphor, *Metaphoric.de*, 15, 161-180.
- Palencia Villa, M. (2009). Transformaciones del modelo cultural de las educadoras de Preescolar. *Revista mexicana de investigación educativa, 14* (42), 787-811.
- Perry, C. & Cooper, M. (2001). Metaphors are good mirrors: reflecting on change for teacher educators. *Reflective practice*, 2 (1), 41-52. doi: 10.1080/14623940120035514

- Pinegar, S., Mangelson, J., Reed, M. & Groves, S. (2011). Exploring preservice teacher' metaphors plotlines. *Teaching and Teacher Education*, 27, 639-647.
- Saban, A., Kocbeker, B. N. & Saban, A. (2006). An Investigation of the Concept of Teacher Among Prospective Teachers through Metaphor Analysis. *Educational Science: Theory y Practice*, 6 (2), 509-522.
- Seferoglu, G., Korkmazgil, S. & Ölcü, Z. (2009). Gaining insights into teachers' ways of thinking via metaphors. *Educational Studies*, 35 (3), 323-335.
- Seung E., Park, S. & Narayan, R. (2011). Exploring Elementary Pre-service Teachers' Beliefs about Science Teaching and Learning as Revealed in Their Metaphor Writing. *Journal of Science Education and Technology 20* (6), 703-714. doi: 10.1007/s10956-010-9263-2
- Sexton, D. M. (2008). Student Teacher Negotiating Identity, Role, and Agency. *Teacher Education Quarterly*, *35* (3), 73-87.
- Sfard, A. (1998). On two metaphors of learning and the dangers of choosing just one. *Educational Researcher*, 27 (2), 4-13. doi: 10.3102/0013189X027002004
- Simon, S. (2013). The Weaving of a Tapestry: a Metaphor for Teacher Education Curriculum Development. *Australian Journal of Teacher Education, 38*, (8), 73-91. doi: 10.14221/ajte.2013v38n8.5
- Soler, M. (2015). Biographies of "Invisible" People Who Transform Their Lives and Enhance Social Transformations Through Dialogic Gatherings. *Qualitative Inquiry*, 21 (10), 839-947.
- Sumsion, J. (2003). Rereading Metaphors as Cultural Texts: A Case Study of Early Childhood Teacher Attrition. *The Australian Educational Researcher*, *30* (3), 67-87. doi: 10.1080/09518390903443282
- Sykes, J. D. (2011). Facilitating reflection on implicit learner beliefs through metaphor elicitation. *Journal of Pan-Pacific Association of Applied Linguistics*, 15 (1), 91-113.
- Tait-McCutcheon S. & Drake, M. (2016). If the jacket fits: A metaphor for teacher professional learning and development. *Teaching and Teacher Education*, 55, 1-12. doi: 10.1016/j.tate.2015.12.0050742-051X/
- Tannehill, D. & MacPhail, A. (2012). What examining teaching metaphors tells us about pre-service teachers' developing beliefs about teaching

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and learning. *Physical Education and Sport Pedagogy*, 19 (2), 149-163. doi:10.1080/17408989.2012.732056

- Thomson, M.M. (2015). Metaphorical images of schooling: beliefs about teaching and learning among prospective teachers from the United States displaying different motivational profiles, *Educational Psychology: An International Journal of Experimental Educational Psychology*, 36 (3), 502-525. doi: 10.1080/01443410.2015.1024612
- Trinidad, A., Carrero, V. & Soriano, R. (2006). *Teoría fundamentada* <*Grounded theory>*. *La construcción de la teoría a través del análisis interpretacional*. Madrid: CIS (Centro de Investigaciones Sociológicas).
- Vadeboncoeur, J. A. & Torres, M. N. (2003). Constructing and Reconstructing Teaching Roles: a focus on generative metaphors and dichotomies. *Discourse: studies in the cultural politics of education*, 24 (1), 87-103. doi: 10.1080/0159630032000069402
- Vygotsky, L. 2002. Thought and language. Cambridge: MIT Press.
- Wegner, E. & Nückles, M. (2015). Training the brain or tending a garden? Students' metaphors of learning predict self-reported learning patterns. *Frontline Learning Research*, 4, 95-109. doi: 10.14786/flr.v3i4.212
- Woollard, J. (2005). The implications of the Pedagogic Metaphor for Teacher Education in Computing. *Technology, Pedagogy and Education, 14* (2), 189-204.
- Yesilbursa, A. (2012). Using metaphor to explore the professional role identities of higher education English language instructors. *Procedia Social and Behavioral Sciences*, 46, 468-472. doi: 10.1016/j.sbspro.2012.05.143.

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# Reading Students' Lives: Literacy Learning Across Time

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# Review

Compton-Lilly, C. (2017). *Reading students' lives: Literacy learning across time*. New York: Routledge.

Too often, educational research is conducted in the short-term. However, the trajectories of students' success or failure in school develop over time. Longitudinal studies are not prevalent in educational research, but Catherine Compton-Lilly's concluding volume of a ten-year study of ten children highlights the unique insights revealed when children are understood across time. For the children who Compton-Lilly taught as first-grade students, the process of *becoming* as readers, students, and people unfolds over time through repeated discourses, stories, and development of dispositions. Time, according to Compton-Lilly, is a significant factor in how people make sense of themselves and their worlds. This is the fourth volume in a series that focuses on the children.

Although some events in the children's lives are heartbreaking, in *Reading Students' Lives: Literacy Learning Across Time*, Compton-Lilly's provides some hope and direction for schools that exist in communities of high-poverty and work with children of color. Among her major conclusions, she states, "Schooling should be about creating possibilities, not a longitudinal process of cutting off options" (2017, p.44). As she traces these students from first-grade to age 19, Compton-Lilly celebrates the resiliency of the students and families in difficult circumstances and advocates for student-centered schooling that recognizes the need for relationship-building across time and the acknowledgement of the achievement debt (Ladson-Billings, 2006) that continues to frame education for children of color and those living in high-poverty communities.

As a former classroom teacher, researcher, scholar, and ally of these children, Compton-Lilly has the unique ability to outline theoretical frameworks in a clear and concise manner and then explicitly apply the frameworks to understand the data, and more specifically, the experiences of the ten children and their families. In this volume, she draws from Lemke's (2000) timescale analysis, Bourdieu's (1980/1990) construct of habitus, and Bakhtin's (1981) notion of chronotopic motifs. As a methodology, she uses temporal discourse analysis techniques, which she has developed, to understand how "people make sense of their experiences across and within time" (pg. 28). This technique focuses on the language markers of time that people use and reoccurring stories as they are retold, revised, or ignored. To further clarify her methodology, Compton-Lilly provides a full explanation in an Appendix.

In Chapter 2, Compton-Lilly applies each framework to make sense of Marvin's experiences in and out of school and illustrates how each provides a new lens to understand the complexities of these experiences across time. The importance and impact of understanding children longitudinally is highlighted when she states, in reference to a story about using the library that Marvin's grandfather related when Marvin was in first grade, "I originally interpreted [it] as simply an account of the challenges he faced in learning to read... over the course of the ten-year project, the library recurred as a motif of possibilities" (pg. 15). This is another major conclusion of the volume; that both researchers and educators need to consider the longitudinal experiences of children in schools that transcend traditional linear advancements of grade levels, developmental levels, and progress (or lack of progress). Short-term projects, or a particular grade level, are only snap-shots. Longitudinal studies and experiences with children provide for an opportunity to "view children as complex, nuanced, and multifaceted people with rich histories and experiences" (p. 120).

Besides the exceptional clarity in framing her research, Compton-Lilly is also an accomplished storyteller and the reader is quickly drawn into each of the lives of the ten children. Like her, the reader meets the children as sixyear-old children, filled with potential and possibilities, and walk with Compton-Lilly as she revisits the families across ten years. Each family is confronted with a culture of schooling that erects more barriers to the children's learning than opportunities. Compton-Lilly's use of Bourdieu's construct of habitus shows how, even with involved and caring parents or guardians, the systemic issues of poverty and race hinder successful school trajectories for many of the children. However, Compton-Lilly provides hope in the resiliency of the families and specific recommendations to support student-centered schooling, especially for those children who have been historically underserved.

#### References

- Bakhtin, M.M. (1981). The dialogic imagination: Four essays by M.M. Bakhtin. In M. Holquist (ed.), *Four essays by M.M. Bakhtin* (C. Emerson, M. Holquist, Trans.). Austin, TX: University of Texas Press.
- Bourdieu, P. (1980/1990). *The logic of practice*. (R. Nice, Trans.). Stanford, CA: Stanford University Press.
- Ladson-Billings, G. (2006). From the achievement gaps to the achievement debt: Understanding achievement in U.S. schools. *Educational Researcher*, *35*(7), 3012.
- Lemke, J. (2000). Across the scales of time: Artifacts, activities, and meaning in ecosocial systems. *Mind, Culture, and Activity,* 7(4), 273-290.

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