Psychological Reports: Employment Psychology & Marketing
2014, 114, 1, 68-77. © Psychological Reports 2014

TEACHER SELF-EFFICACY AND PERCEIVED AUTONOMY: RELATIONS WITH TEACHER ENGAGEMENT, JOB SATISFACTION, AND EMOTIONAL EXHAUSTION[1]

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Summary.—When studied separately, research shows that both teacher self-efficacy and teacher autonomy are associated with adaptive motivational and emotional outcomes. This study tested whether teacher self-efficacy and teacher autonomy are independently associated with engagement, job satisfaction, and emotional exhaustion. 2,569 Norwegian teachers in elementary school and middle school (719 men, 1,850 women; *M* age=45.0 yr., *SD*=11.5) were administered the Norwegian Teacher Self-Efficacy Scale, the Teacher Autonomy Scale, the Utrecht Work Engagement Scale, the Teacher Job Satisfaction Scale, and the Maslach Burnout Inventory. The analysis revealed that both teacher autonomy and self-efficacy were independent predictors of engagement, job satisfaction, and emotional exhaustion. This study suggests that autonomy or decision latitude works positively but through different processes for teachers with high and low mastery expectations.

When studied separately, research shows that both teacher self-efficacy and teacher autonomy are associated with adaptive motivational and emotional outcomes. The purpose of this study was to test whether teacher self-efficacy and teacher autonomy were independent predictors of teachers' engagement, job satisfaction, and emotional exhaustion.

Teacher Autonomy and Self-efficacy

According to self-determination theory, autonomy and self-perceived competence are fundamental universal psychological needs that are important for motivation and psychological well-being (Deci & Ryan, 2000; Gagne & Deci, 2005). The theory postulates that satisfaction of these basic needs nourishes intrinsic motivation; people need to feel competent and autonomous to maintain their intrinsic motivation (Gagne & Deci, 2005). Following this theory we should expect perceived autonomy to predict teacher engagement and job satisfaction positively. Additionally, in the teaching profession, some autonomy is also necessary for teachers to be able to deal immediately and adequately with unexpected situations.

According to Black and Deci (2000), behaviors that are autonomous have an internal perceived locus of causality, are experienced as volitional,

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DOI 10.2466/14.02.PR0.114k14w0 ISSN 0033-2941

and are performed out of interest or personal importance. Similarly, Deci and Ryan (2000) emphasized that autonomy concerns the experience of integration and freedom. Following these conceptualizations, teacher autonomy may concern the freedom to choose goals, teaching methods, and educational strategies that are concordant with the teacher's personal educational beliefs and values.

In accordance with these theoretical reflections, empirical research shows that teacher autonomy is positively associated with job satisfaction. In a factor analysis, Avanzi, Miglioretti, Velasco, Balducci, Vecchio, Fraccaroli, *et al.* (2013) found a correlation of $r = .36$ between teacher autonomy and job satisfaction, Koustelios, Karabatzaki, and Kousteliou (2004) reported a correlation of $r = .21$, whereas Skaalvik and Skaalvik in two different studies (2009, 2010) reported correlations of $r = .37$ and .24, respectively. Research evidence also shows that perceived autonomy is negatively related to burnout and emotional exhaustion. Skaalvik and Skaalvik (2009) found that perceived teacher autonomy was negatively correlated with all the traditional dimensions of burnout: emotional exhaustion ($r = –.27$), depersonalization ($r = –.26$), and feeling of reduced accomplishment ($r = –.31$). Also, in a SEM-analysis controlling for work overload, discipline problems, and relations with both colleagues and the school principal, Skaalvik and Skaalvik (2010) found that teacher autonomy was negatively but weakly related to emotional exhaustion (the standardized regression coefficient was –.12).

Bandura (1986, p. 391) defined self-efficacy as "people's judgments of their capabilities to organize and execute courses of action required to attain designated types of performances." Thus, as pointed out by Bong and Skaalvik (2003), efficacy judgements are not general judgements of one's skills and abilities but judgements of what one can do with whatever skills and abilities one possesses. Self-efficacy is therefore often referred to as mastery expectations and is one dimension of self-perceived competence. In accordance with this conceptualization, Skaalvik and Skaalvik (2007) defined teacher self-efficacy as "individual teachers' beliefs about their own abilities to plan, organize, and carry out activities required to attain given educational goals." Examples of teacher self-efficacy may therefore be teachers' expectations to be able to engage all students in learning activities, to keep discipline, or to explain a mathematics problem so that even low-achieving students understand it.

According to social cognitive theory, self-efficacy affects both peoples' cognitions and emotions (Pajares, 1997). Mastery expectations influence how people perceive opportunities and obstacles in the environment (Bandura, 2006) and affect choices, effort, and endurance when working with difficult tasks. Bandura (1997) hypothesized that people with low

mastery expectations would dwell on their own weaknesses and enlarge possible threats.

Research on teachers shows that self-efficacy is positively related to work engagement and job satisfaction, and negatively related to burnout. For instance, Federici and Skaalvik (2012) found that teacher self-efficacy was positively related to job satisfaction ($r = .46$) and negatively related to emotional exhaustion ($r = -.25$). Avanzi, *et al*., 2013) also found that teacher self-efficacy was positively related to job satisfaction ($r = .35$) and negatively related to work-related burnout ($r = -.24$). Using confirmatory factor analysis, Skaalvik and Skaalvik (2010) also found moderate negative associations between teacher self-efficacy and emotional exhaustion ($r = -.29$) and depersonalization ($r = -.41$).

Based both on previous research and on theory emphasizing that autonomy and self-perceived competence are universal needs, the following hypotheses are proposed.

Hypothesis 1. Teacher self-efficacy and teacher autonomy will be uniquely and positively related to engagement and job satisfaction.

Hypothesis 2. Self-efficacy and autonomy would be negatively related to emotional exhaustion, since autonomy implies that teachers are not instructed to use teaching methods that they are not comfortable with and which might require extra time for preparation.

Is Autonomy Adaptive for All Teachers Regardless of Self-efficacy?

As argued above, from a self-determination perspective, which conceptualizes autonomy as a universal need, autonomy is expected to be adaptive for all teachers, regardless of the teaching situation and their mastery expectations. Alternatively, the benefit of autonomy may be conceptualized as situation specific, for instance as dependent on the teachers' mastery expectations. Autonomy does not only provide freedom to choose instructional practices, but also makes the individual teacher responsible for both the practices and the results. For teachers with high mastery expectations, autonomy may therefore be perceived as an opportunity to teach according to one's values and ideas, and to experiment with teaching methods. This may be experienced as challenging and as an opportunity to use one's resources. It was therefore expected that autonomy would be strongly related to engagement and job satisfaction for high self-efficacy teachers. In contrast, teachers with low mastery expectations might feel less comfortable when they are made responsible for choosing educational practices. The authors therefore expected autonomy to be less

strongly related to engagement and job satisfaction for low self-efficacy teachers. When predicting engagement and job satisfaction:

Hypothesis 3. A statistically significant interaction will be observed between self-efficacy and autonomy.

Method

Participants and Procedure

The data used in this study was part of a larger data collection (see Skaalvik & Skaalvik, 2011). Participants in the study were 2,569 teachers (719 men, 1,850 women; *M* age = 45.0 yr., *SD* = 11.5) from 127 Norwegian elementary and middle schools (Grades 1–10). Norway was divided into five geographical regions. From each region about 25 schools were drawn from one city, two towns, and two rural areas. The first contact with each school was made with the school principal, and the only question put to the principal was whether he or she would agree to let data be collected at the school. Only two schools had to be replaced by other schools from the same region because of the principals not agreeing to the data collection. The next step was to contact the teachers' representative at each school. The teachers' representative informed the teachers about the data collection, that the purpose of the study was to explore working conditions for the teachers, and that the participation was anonymous and voluntary for the individual teachers. At that point, the decision to participate was made by the teaching staff at each school. The teachers' representative also arranged for a specific period of time (60 min.) to be set aside for teachers to simultaneously respond to the questionnaire. The data collection was administered by two trained research assistants visiting the schools and bringing the questionnaires back. Eighty-four percent of the teachers at the selected schools participated in the study.

Measures

Teacher self-efficacy was measured by a multidimensional 24-item Norwegian Teacher Self-Efficacy Scale (NTSES; Skaalvik & Skaalvik, 2007). The scale has six dimensions, self-efficacy for: instruction, adapting education to individual students' needs, motivating students, keeping discipline, cooperating with colleagues and parents, and coping with changes and challenges. Responses are given on a 7-point scale with anchors 1: Not certain at all and 7: Absolutely certain, and scores can range from 24 to 168. The six sub-scales are extensively described elsewhere (Skaalvik & Skaalvik, 2007; Avanzi, *et al*., 2013). Examples of items are "How certain are you that you can provide a realistic challenge for all students even in mixed ability classes?" (Adapting education to individual needs), and "How certain are you that you can wake the desire to learn even among the lowest-achieving students?" (Motivating students) Cronbach's alpha

internal consistency reliability of the total scale was .93 and the scale's test-retest reliability in an Italian sample of teachers was .65 with a time lag of six months (Avanzi, *et al*., 2013). External validity was supported (Skaalvik & Skaalvik, 2007; Skaalvik & Skaalvik, 2010).

Teacher autonomy was measured by means of a three-item Teacher Autonomy Scale (Skaalvik & Skaalvik, 2009). Responses are given on a 6-point scale with response options anchored by 1: Strongly disagree and 6: Strongly agree; scores can range from 6 to 18. An example of an item is "In my daily teaching I am free to choose teaching methods and strategies." Cronbach's alpha internal consistency reliability of the scale was .84 and the scale's external validity was supported (Skaalvik & Skaalvik, 2009).

Engagement for teaching was measured by the nine-item short version of the Utrecht Work Engagement Scale (UWES; Schaufeli & Bakker, 2004). The scale includes items measuring three correlated dimensions of work engagement: vigor, dedication, and absorption. Vigor is characterized by investing high energy and mental strength in the work, whereas dedication refers to experiencing enthusiasm, inspiration, pride, and challenge. Absorption refers to being concentrated and involved in one's own work. Responses are given on a 7-point scale with anchors 1: Never and 7: Daily, and scores can range from 9 to 63. Cronbach's alpha internal consistency reliability of the scale is .91, its test-retest reliability with a one-year time period varied from .61 to .71 for different groups (Schaufeli & Bakker, 2004), and its external validity has been supported (Schaufeli & Bakker, 2004).

Job satisfaction was measured by means of a four-item Teacher Job Satisfaction Scale (Skaalvik & Skaalvik, 2011). The items were: "I enjoy working as a teacher," "I look forward to going to school every day," "Working as a teacher is extremely rewarding," and "When I get up in the morning I look forward to going to work." Responses are given on a 6-point scale with anchors 1: Strongly disagree and 6: Strongly agree, and scores can range from 6 to 24. Cronbach's alpha internal consistency reliability of the scale was .91 and the scale's external validity was supported (Skaalvik & Skaalvik, 2011).

Emotional exhaustion was measured by a short six-item modified version of the emotional exhaustion dimension of the Maslach Burnout Inventory – Educators Survey (MBI: Maslach, Jackson, & Leiter, 1996). Participants rated statements indicating that their work made them feel emotionally drained or exhausted. The original scale was reduced from nine to six items and the response scale was changed into a 6-point scale, with anchors 1: Strongly disagree and 6: Strongly agree. Scores can range from 6 to 36. Cronbach's alpha internal consistency reliability of the scale was .90, test-retest reliability was .89 (Malach-Pines, 2005), and the scale's external validity has been supported (Maslach, *et al*., 1996; Malach-Pines, 2005).

Data Analysis

The data were analyzed with Pearson correlations and regression analyses.

Results

Mean scores of the five scales including standard deviations, inter-scale correlations, and intra-scale internal consistency are presented in Table 1. These correlations support previous studies showing that both self-efficacy and autonomy, when analyzed separately, were positively associated with teachers' engagement and job satisfaction, and negatively with emotional exhaustion. Self-efficacy and autonomy were positively but moderately associated.

TABLE 1
Mean Sum Scores, Standard Deviations, Correlations, and Internal Consistencies of the Five Scales (N=2,569)

Study Variable	1	2	3	4	5
1. Self-efficacy	*.93*	.22†	.48†	.41†	–.23†
2. Autonomy		*.84*	.28†	.34†	–.28†
3. Engagement			*.91*	.72†	–.43†
4. Job satisfaction				*.91*	–.51†
5. Emotional exhaustion					*.90*
M	113.83	13.86	47.91	18.58	18.41
SD	15.95	2.66	9.90	3.93	7.04

Note.—Cronbach's αs on diagonal in italics. †p<.01.

To test the hypotheses, three separate regression analyses were conducted, including interaction effects. Table 2 summarizes the results of these analyses. Both teacher self-efficacy and teacher autonomy were positively and uniquely related to engagement and job satisfaction. Thus, Hypothesis 1 was supported. Emotional exhaustion was not significantly associated with self-efficacy or autonomy. This seemed to be caused by a non-significant interaction effect; a regression analysis where the interaction was not included showed that emotional exhaustion was significantly and negatively predicted by both self-efficacy (t=– 9.10, β=–0.17, p<.001) and autonomy (t=–12.74, β=–0.24, p<.001). Hypothesis 2 was therefore supported. A significant interaction was also hypothesized between self-efficacy and autonomy when analyzing engagement and job satisfaction. As shown in Table 2, the regression analysis predicting job satisfaction revealed no significant interaction. Hypothesis 3 was therefore rejected for job satisfaction. The result of the analysis predicting teacher engagement revealed a small but significant interaction.

TABLE 2
SUMMARY OF REGRESSION ANALYSES PREDICTING ENGAGEMENT, JOB SATISFACTION, AND EMOTIONAL EXHAUSTION ($N = 2,569$)

Variable	Engagement			Job Satisfaction			Emotional Exhaustion		
	B	*SE B*	β	*B*	*SE B*	β	*B*	*SE B*	β
Self-efficacy	0.37‡	0.05	0.60	0.10‡	0.02	0.42	–0.05	0.04	–0.11
Autonomy	1.55‡	0.42	0.42	0.51†	0.17	0.34	–0.42	0.33	–0.16
Interaction	–0.007*	0.004	–0.31	–0.001	0.001	–0.11	–0.002	0.003	–0.12
R2		.26			.24			.11	

Note.—Interaction = self-efficacy × autonomy interaction. *$p < .05$. †$p < .01$. ‡$p < .001$.

Although a weak interaction was found between self-efficacy and autonomy when analyzing engagement, the pattern of the interaction was different from this study's expectation. The expectation was that autonomy would be most strongly related to engagement for high self-efficacy teachers. In contrast, the analysis showed a weak tendency that autonomy was most strongly associated with engagement for low self-efficacy teachers. This tendency is shown in Table 3 and in Fig. 1. Figure 1 was produced by means of the Interaction program developed by Soper (2013). Thus, Hypothesis 3 was rejected also for engagement.

TABLE 3
MEANS AND STANDARD DEVIATIONS OF ENGAGEMENT ARRANGED BY TEACHERS' SELF-EFFICACY AND AUTONOMY

Autonomy	*n*	Self-efficacy					
		Low ($n = 857$)		Average ($n = 852$)		High ($n = 837$)	
		M	*SD*	*M*	*SD*	*M*	*SD*
Low	424	39.26	10.09	43.79	10.26	50.26	8.56
Below average	952	42.25	10.01	47.74	8.70	52.28	7.17
Above average	751	45.65	9.61	49.32	8.54	53.29	6.74
High	419	47.24	10.76	50.10	7.74	54.79	7.28

DISCUSSION

Previous research shows that, when studied separately, both teacher self-efficacy and teacher autonomy are associated with adaptive motivational and emotional outcomes. One purpose of this study was to test whether teacher self-efficacy and teacher autonomy are independently associated with engagement, job satisfaction, and emotional exhaustion among teachers. Regression analyses showed that, independently of each other, teacher self-efficacy and perceived autonomy positively predicted engagement and job satisfaction and negatively predicted emotional exhaustion. The analy-

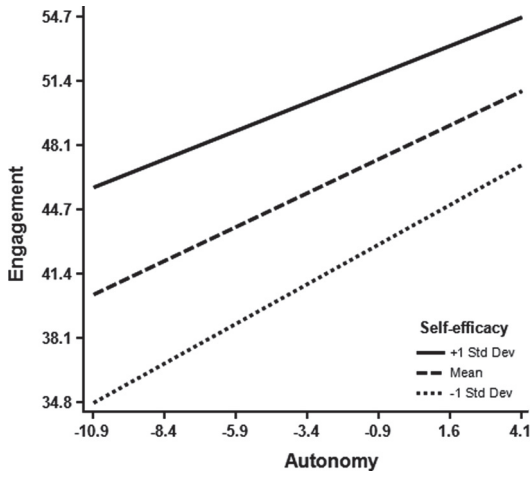

FIG. 1. Mean sum scores of engagement by teachers' self-efficacy and autonomy

sis of job satisfaction and emotional exhaustion revealed no significant interactions, whereas the analysis of engagement showed a significant but weak interaction between self-efficacy and autonomy.

The finding that self-efficacy predicted both engagement and job satisfaction positively and emotional exhaustion negatively supports self-efficacy theory, which claims that self-efficacy beliefs determine how environmental opportunities and impediments are perceived (Bandura, 2006). Also, self-efficacy has been shown in a number of areas, including teaching, to increase motivation and to decrease stress and burnout.

The expectation that autonomy would positively predict engagement and job satisfaction and negatively predict emotional exhaustion, even when controlled for the effect of self-efficacy, was also supported. Contrary to expectation, the association between autonomy and engagement tended to be even stronger for teachers with low self-efficacy than for those with high self-efficacy. Although the interaction effect needs to be tested in future research, the analyses clearly show that autonomy is positively associated with engagement and job satisfaction regardless of self-efficacy. These findings support expectations that can be derived from Self Determination Theory, which conceptualizes autonomy as a universal psychological need. Based on this theory, satisfaction of the need for autonomy may be expected to be equally important for all teachers.

However, even if one regards autonomy as a universal need, this study proposes that high autonomy puts teachers with high and low mastery expectations in quite different situations. The authors therefore suggest that autonomy or decision latitude works positively, but through

different processes, for teachers with high and low mastery expectations. Teachers with strong mastery expectations may perceive autonomy as an opportunity to teach according to their own values, to use their resources, to experiment with new practices, and to change practices according to the situation and to the students' needs. Through these processes, high autonomy may lead to greater engagement and job satisfaction. It is also likely that experimenting with teaching methods and changing practices to meet students' needs serves as a learning process and that it will lead to personal learning and development. For teachers with low mastery expectations, autonomy may provide an opportunity to avoid challenges and to hide self-perceived deficits and shortcomings. This is a self-protective strategy that may increase engagement and job satisfaction and decrease emotional exhaustion in the short run. But avoiding challenges may also represent a barrier to personal learning and development. In the long run, autonomy may therefore not be beneficial for learning and development for teachers with low mastery expectations. The authors emphasize that this interpretation is merely a speculation that needs to be addressed in future research.

Two limitations of this study should be noted. Because the study was designed as a cross-sectional survey, causal interpretations should be avoided. The study merely shows associations between the study variables. Autonomy was a self-report measure. School policies may be differently perceived by different teachers. Future research should use alternative measures of autonomy, both self-perceived and observed. Future research should also investigate the effect of teacher self-efficacy and teacher autonomy by means of longitudinal analysis. The authors also call for research that explores the processes or the mechanisms through which teacher autonomy works to increase engagement and job satisfaction for teachers with different mastery expectations.

REFERENCES

Avanzi, L., Miglioretti, M., Velasco, V., Balducci, C., Vecchio, L., Fraccaroli, F., & Skaalvik, E. M. (2013) Cross-validation of the Norwegian Teacher's Self-Efficacy Scale (NTSES). *Teaching and Teacher Education*, 31, 69-78.

Bandura, A. (1986) *Social foundations of thought and action: a social cognitive theory.* Englewood Cliffs, NJ: Prentice Hall.

Bandura, A. (1997) *Self-efficacy: the exercise of control.* New York: Freeman.

Bandura, A. (2006) Adolescent development from an agentic perspective. In F. Pajares & T. Urdan (Eds.), *Self-efficacy beliefs of adolescents.* Greenwich, CT: Information Age Publishing. Pp. 1-43.

Black, A. E., & Deci, E. L. (2000) The effects of instructors' autonomy support and students' autonomous motivation on learning organic chemistry: a self-determination theory perspective. *Science Education*, 84, 740-756.

Bong, M., & Skaalvik, E. M. (2003) Academic self-concept and self-efficacy: how different are they really? *Educational Psychology Review*, 15, 1-40.

Deci, E. L., & Ryan, R. M. (2000) The "what" and "why" of goal pursuits: human needs and the self-determination of behaviour. *Psychological Inquiry*, 11, 227-268.

Federici, R. A., & Skaalvik, E. M. (2012) Teacher and principal self-efficacy: relations with autonomy and emotional exhaustion. In B. L. Shari (Ed.), *Self-efficacy in school and community settings.* New York: Nova Science Publ. Pp. 125-150.

Gagne, M., & Deci, E. L. (2005) Self-determination theory and work motivation. *Journal of Organizational Behavior*, 26, 331-362.

Koustelios, A., Karabatzaki, D., & Kousteliou, I. (2004) Autonomy and job satisfaction for a sample of Greek teachers. *Psychological Reports*, 95, 883-886.

Malach-Pines, A. (2005) The Burnout Measure, short version. *International Journal of Stress Management*, 12, 78-88.

Maslach, C., Jackson, S. E., & Leiter, M. P. (1996) *Maslach Burnout Inventory manual.* (3rd ed.) Mountain View, CA: CPP, Inc.

Pajares, F. (1997) Current directions in self-efficacy research. In M. Meahr & P. R. Pintrich (Eds.), *Advances in motivation and achievement.* Greenwich, CT: Information Age Publishing.

Schaufeli, W. B., & Bakker, A. B. (2004) Utrecht Work Engagement Scale. Preliminary manual, Version 1.1. Retrieved from http://www.wilmarschaufeli.nl/publications/Schaufeli/Test%20Manuals/Test_manual_UWES_English.pdf.

Skaalvik, E. M., & Skaalvik, S. (2007) Dimensions of teacher self-efficacy and relations with strain factors, perceived collective teacher efficacy, and teacher burnout. *Journal of Educational Psychology*, 99, 611-625.

Skaalvik, E. M., & Skaalvik, S. (2009) Does school context matter? Relations with teacher burnout and job satisfaction. *Teaching and Teacher Education*, 25, 518-524.

Skaalvik, E. M., & Skaalvik, S. (2010) Teacher self-efficacy and teacher burnout: a study of relations. *Teaching and Teacher Education*, 26, 1059-1069.

Skaalvik, E. M., & Skaalvik, S. (2011) Teachers' feeling of belonging, exhaustion, and job satisfaction: the role of school goal structure and value consonance. *Anxiety, Stress, & Coping*, 24, 369-385.

Soper, D. S. (2013) *Interaction.* Retrieved at http://www.danielsoper.com/Interaction/.

Accepted December 20, 2013.