



## **The Contribution of Teachers' Interpersonal Behaviors to Learners' Autonomous and Controlled Motivation**

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English as a foreign language (EFL) teachers differ in their autonomy-supportive and controlling interpersonal behavioral styles when motivating learners. Drawing upon the self-determination theory (SDT) and the model of interpersonal teacher behavior (MITB), this study aimed to investigate the impact of teachers' interpersonal behaviors, according to eight behavioral dimensions: leadership, helpful/friendly, understanding, student responsibility/freedom, uncertain, dissatisfied, admonishing, and strict. 1,209 Iranian EFL learners were requested to assess their teachers' interpersonal behavior via the Questionnaire on Teacher Interaction (QTI) as well as their degree and type of motivation (autonomous and controlled) through the Academic Self-Regulation Questionnaire (SDQ-A). The results of the partial least squares structural equation modelling revealed that teachers' controlling behaviours of leadership and strictness significantly enhanced EFL learners' controlled motivation, while their autonomy-supportive behaviours of helpfulness/friendliness and understanding positively influenced learners' autonomous motivation. Teachers' autonomy-suppressive behaviour of uncertainty negatively influenced learners' autonomous motivation. This study's findings encourage stakeholders in the educational sector to consider EFL teachers' interpersonal behaviours and the influence of these behaviors on learning motivation.

**Keywords:** teacher interpersonal behaviours, autonomous motivation, controlled motivation, autonomy-supportive behaviours, controlling behaviours.

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## **Introduction**

The motivation of learners of English can be impacted by social-psychological variables, such as positive and supportive environments as well as effective interpersonal behaviors (Al Rifai, 2010; Deci & Ryan, 1985; Noels, 2001). Autonomous and controlled motivation are two motivation types determined by self-determination theory (SDT). SDT is a pragmatic macro-theory of motivation that focuses on social and classroom factors and has been successfully applied in several educational settings (Alamer & Lee, 2019; Legault, 2017; Noels et al., 2019; Ryan & Deci, 2000). Autonomous or self-determined motivation leads learners to behave willingly, with desire and enjoyment, while controlled motivation describes acting under pressure and obligation from either external sources (e.g., rewards and punishments) or internal ones (e.g., guilt and contingent self-esteem) (Legault, 2017; Ryan & Deci, 2000, 2016). Researchers believe that the outcomes of autonomous motivation surpass those of controlled motivation in terms of learners' psychological and academic achievements. For example, autonomous motivation initiates a greater sense of psychological well-being, improved performance, and higher participation in learning activities. In contrast, controlled motivation correlates with a higher degree of anti-social behavior and ill-being (Cheon et al., 2018; Lim & Wang, 2009; Mouratidis et al., 2008; Ntoumanis, 2001). A fundamental tenet of SDT is that an autonomy-supportive environment, which fulfills learners' psychological needs and personal interests, can be promoted through teachers' specific interpersonal behaviours that are geared toward improving autonomous motivation in learners (Reeve, 2002; Ryan & Deci, 2000).

Among different socio-psychological variables fostering English learners' autonomous motivation (particularly in the EFL learning context), teachers' autonomy-supportive interpersonal behaviors are noteworthy as these have the potential to excite, energize, and motivate students. Past literature defines teachers' interpersonal behavior as a compilation of various strategies that are used to create different relational patterns between teachers and students, resolve interpersonal conflicts, and construct more positive relations and social skills (Behfar et al., 2010; Lei et al., 2018; Linnenbrink-Garcia et al., 2011). Concurrent with globalization and postmodern theories of EFL teaching, becoming an effective EFL teacher today not only means accumulating knowledge and experience while focusing on instructional methods and materials but also entails possessing certain features, such as appropriate interpersonal behaviors, to promote motivation and autonomy among English learners (Lim & Wang, 2009; Reeve, 2002; Ryan & Deci, 2000). Dornyei (2001) states that the teacher's role is so important that "almost everything a teacher does in the classroom has a motivational influence on students" (p. 32). Thus, students' perceptions on teachers' interpersonal behaviors are influential variables worth examining. To develop EFL learners' motivation, one must adopt an appropriate teacher-student rapport as a prerequisite (Al-Seghayer, 2017; den Brok et al., 2006; Lei et al., 2018; Vatankhah & Tanbakooei, 2014) as well as master all necessary subject areas (den Brok et al., 2004; Wubbels & Brekelmans, 2005). However, while such behavior is a major component of classroom management, many teachers still experience problems in this domain (Wubbels et al., 2006).

### *The Model of Interpersonal Teacher Behavior (MITB)*

The model of interpersonal teacher behavior (MITB) (Wubbels & Levy, 1991), which is based on the Leary's Model of Interpersonal Behavior (Leary, 1957), depicts teacher-student interpersonal behavior on a two-dimensional coordinate system. This system includes two dimensions: proximity (cooperation-opposition) and influence (dominance-submission). Proximity refers to the degree of a teacher's cooperative or friendly behavior, whereas influence is the degree of a teacher's demonstration of control or dominance in front of students. According to the MITB, teacher-student interpersonal behaviors are operationalized based on eight types of behavior: *leadership*, *helpful/friendly*, *understanding*, *student responsibility/freedom*, *uncertain*, *dissatisfied*, *admonishing*, and *strict* (den Brok et al., 2004; Wubbels & Levy, 1991; Wubbels et al., 2006).

These behaviors are described as:

- *Leadership* behavior represents the extent to which a teacher leads, organizes, gives orders, and determines learning procedures.
- *Helpful/friendly* behavior is the extent to which a teacher shows interest, behaves in a friendly manner, and inspires both confidence and trust among students.
- *Understanding* behavior describes the extent to which a teacher listens with interest, showing confidence and understanding while remaining open-minded.
- *Student responsibility/freedom* behavior describes the extent to which a teacher provides the opportunity for students to conduct independent work, offering them a sense of freedom as well as responsibility.
- *Uncertain* behavior represents the extent to which a teacher behaves in an indecisive manner while lacking assertiveness.
- *Dissatisfied* behavior is the extent to which a teacher expresses dissatisfaction, appears unhappy, and criticizes students.
- *Admonishing* behavior represents the extent to which a teacher becomes angry, expresses irritation, and either punishes students or forbids them to perform a certain action.
- *Strict* behavior is the extent to which a teacher checks on students, maintains a silent classroom environment, and strictly enforces the rules (Fisher et al., 2001, p. 4).

Previous studies reveal both positive and negative correlations of EFL teachers' interpersonal behaviors with the EFL learners' academic achievement (Aldhafiri, 2015; den Brok et al., 2004; Telli et al., 2007), learning motivation (den Brok et al., 2006; Lei et al., 2018; Misbah et al., 2015; Vatankhah & Tanbakooei, 2014; Wubbels & Brekelmans, 2005), and attitude (den Brok et al., 2005). In this context, Chinese teachers' uncertainty behavior negatively correlates with EFL student achievement (Wei et al., 2015). Moreover, Lu (2015) claims that the EFL learning environment could improve if Chinese EFL teachers demonstrate more *helpful/friendly* behavior and less *admonishing* behavior.

Furthermore, teachers' interpersonal behaviors have been broadly classified as autonomy-supportive and controlling behaviors; while the former leads to autonomous motivation in learners, the latter leads to controlled motivation (Amoura et al., 2015; Reeve & Cheon, 2016). Thus, teachers' autonomy-supportive behaviors are thought to include a sense of awareness concerning learners' attitudes, providing choices to students, encouraging self-initiation, minimizing the use of control and pressure, accepting criticism from students, and supporting students' initiatives. In contrast, controlling teachers generally determine procedures for learners to follow that entail controlling their goals and behaviors toward a prescribed end (Alhodiry, 2016; Chen & Vibulphol, 2019). Based on the classification of the MITB (Wubbels & Levy, 1991), Yu and Chen (2012) report that teacher's *leadership, helpful/friendly, understanding, and student responsibility/freedom* behaviors are learner-centered interpersonal behaviors that allow students to actively participate in learning to build their knowledge. In contrast, *uncertainty, dissatisfaction, admonishment, and strictness* are teacher-centered interpersonal behaviors that generate a sense of control and order while merely transmitting knowledge from the teachers to students rather than encouraging knowledge construction through teacher-student interactions.

#### *Teacher's Interpersonal Behaviors and Learners' SDT-based Motivation*

According to a number of researchers following SDT Model (e.g., Hein, 2012; Hu & Zhang, 2017; Standage et al., 2006), the extent of perceived autonomy support resulting from teachers' interpersonal behavior is associated with learners' autonomous motivation. Cross-cultural studies among students from Britain, Greece, Poland, Singapore (Hagger et al., 2005) and among Estonia, Finland, and Hungary (Hagger et al., 2007) confirm this association in physical education. Additionally, in the EFL context, Dincer and Yesilyurt (2017), Rahmanpanah (2017), and Reeve (2002) have confirmed this association. Moreover, high levels of learning motivation have been reported when EFL students perceive their teacher as *friendly/helpful*. On the contrary, when learners perceive their teacher as *admonishing, dissatisfied, strict, and uncertain*, they have low levels of learning motivation (Amiryousefi et al., 2019; Ghafarpour et al., 2018; Wei et al., 2015; Wubbels & Brekelmans, 2005).

In summary, the importance of increasing autonomous motivation in EFL learners, because of its positive effect on psychological and academic outcomes, intensifies the need to investigate the unique role that EFL teachers' interpersonal (autonomy-supportive and controlling) behaviors play in this process. As EFL teachers foster learners' autonomous motivation, learners are better able to recognize their authentic selves, which lead to their personal growth and an improved sense of well-being. Additionally, they can take responsibility for their learning and construct their identities. In a controlling environment, however, teachers do not provide a meaningful and encouraging rationale for their behaviors; instead, they use pressuring language, forcing students to think, feel, or behave in a specific way (Carreira, 2012; Deci & Ryan, 1985). Thus, enhancing EFL teachers' awareness about the qualities of their interpersonal behavior is necessary not

only to improve their motivational techniques but also to ensure the effective functioning of educational systems (Babai Shishavan & Sadeghi, 2009; Melek Koc, 2012).

This leads us to the categorization of EFL teachers' interpersonal behavior as either autonomy-supportive or controlling. We hypothesized that teachers' leadership, helpful/friendly, understanding, and student responsibility/freedom behaviors are autonomy-supportive and promote EFL learners' autonomous motivation, while teachers' uncertainty, dissatisfaction, admonishment, and strictness are controlling behaviors that promote the controlled motivation of EFL learners. Despite the dearth of literature on this topic, these hypotheses were primarily formulated based on the characteristics of proximity and influence dimensions (Leary, 1957). Moreover, Yu and Chen's (2012) claims about the nature of teacher interpersonal behavior as autonomy-supportive and controlling were also considered. Besides, researchers also reveal associations between the extent of perceived autonomy support from teachers' interpersonal behavior and learners' autonomous motivation (e.g., Dincer & Yesilyurt, 2017; Hein, 2012; Hu & Zhang, 2017; Rahmanpanah, 2017; Reeve, 2002; Standage et al., 2006). Thus, the present study examines the effect of teachers' interpersonal behavior (via eight dimensions) on Iranian EFL learners' autonomous and controlled motivation through the learners' perceptions. The initial model representing the proposed causal relationships between dependent and independent variables is depicted in Figure 1.

## **Methodology**

### *Participants*

This study's participants comprised 1209 male (42.6%) and female (57.4%) Iranian EFL learners, within the age range of 16–19 ( $M=17.5$ ,  $SD=4.72$ ). The setting spanned across 107 classes from 24 English language institutes in East Azerbaijan, Iran. The participants were chosen by a stratified random sampling among the upper-middle class to ensure they could understand the English questionnaires. All participants volunteered and were guaranteed that their confidentiality would be maintained.

### *Instruments*

*Academic Self-Regulation Questionnaire (SRQ-A)*. To assess EFL learners' motivation, the English version of the SDQ-A (Black & Deci, 2000) was employed. This questionnaire consists of two main scales, autonomous and controlled motivation. The questionnaire contains four questions concerning why students may engage in learning-related behaviors, and each is followed by eight responses that are rated on a four-point Likert scale (1="not at all true;" 4="very true"), including 14 items for autonomous and 18 items for controlled motivation. In the pilot study, Cronbach's alpha coefficients for each scale were  $\alpha=0.809$  (autonomous motivation) and  $\alpha=0.879$  (controlled motivation), indicating a high internal consistency. Additionally, the questionnaire's validity has been verified by many studies (e.g., Gomes et al., 2019; Kröner et al., 2017).

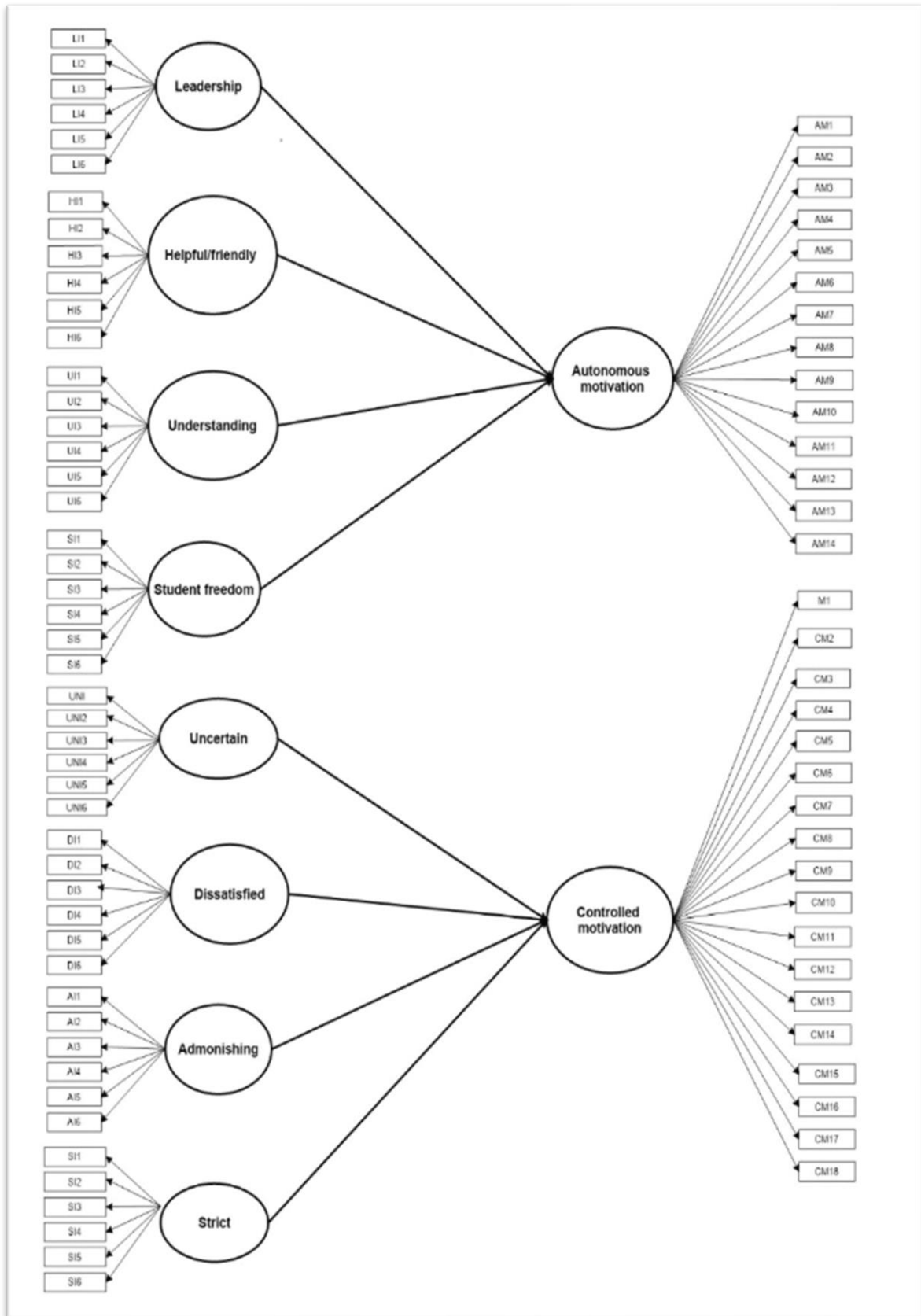


Figure 1. The Initial Hypothetical Model

*Questionnaire on Teacher Interaction (QTI)*. The 48-item English version of the QTI (Wubbels & Levy, 1991) was employed to assess the Iranian EFL learners' perceptions about their teachers' interpersonal behaviors. The QTI has six items in each of the eight scales and is answered using a five-point Likert scale (0="never;" 4="always") with eight sectors that can be categorized into two dimensions: dominance-submission (DS) and cooperation-opposition (CO). The questionnaire asks learners about their relationship with their teachers.

Numerous studies have reported on the validity of this questionnaire (e.g., Fraser et al., 2010; Maulana et al., 2011; Jong et al., 2013). In addition, Cronbach's alpha coefficients in the pilot study for each subscale were  $\alpha=0.844$  (*leadership*),  $\alpha=0.820$  (*helpful/friendly*),  $\alpha=0.788$  (*understanding*),  $\alpha=0.779$  (*student freedom*),  $\alpha=0.843$  (*uncertain*),  $\alpha=0.766$  (*dissatisfied*),  $\alpha=0.791$  (*admonishing*), and  $\alpha=0.844$  (*strict*). These values indicated a high internal consistency.

### *Design and Procedure*

The independent variables of this exploratory, non-experimental, and quantitative study were EFL teachers' eight subscales of interpersonal behaviors. The dependent variables were EFL learners' autonomous and controlled motivation. After piloting the questionnaires to ensure validity and reliability, the main research data were collected from EFL upper-intermediate learners (N=1,209) across 24 English language institutes in Iran who were selected via stratified random sampling. The questionnaires were given to participants after the first half of the semester to ensure that they had become acquainted with their teachers. For each class, the questionnaires were completed in approximately ten minutes. First, the QTI was given to EFL learners so they could identify their teachers' perceived interpersonal behaviors. Then, the SRQ-A questionnaire was administered to evaluate the type and degree of learners' motivation. The quantitative data were processed using the Smart-PLS-3 software for data analysis. To test the hypothetical model, a PLS-SEM was employed by using two subsequent reflective models, including the measurement and structural models.

### *Measurement Model*

The measurement model aimed to confirm the correlations between the latent constructs and their observable variables as well as verify the measurements' reliability and validity through a confirmatory factor analysis (CFA). This process included examining the indicator loadings, assessing the composite reliability, evaluating the convergent validity of each construct using average variance extracted (AVE), and assessing the discriminant validity (Hair et al., 2019). For a reflective model to be well fitted, the path loadings should be greater than 0.7; t-values, which test the significance of both the inner and outer models, should be greater than 1.96; the value of composite reliability should be 0.7 or greater in exploratory investigations; AVE values for convergent validity should be 0.5 or greater, indicating that the exogenous constructs could explain at least of 50% of the endogenous latent constructs' variance; and finally, based on the Fornell-Larcker criterion for

assessing discriminant validity, the square root of AVE for each latent variable should be greater than the correlations between the latent variables (Henseler et al., 2012).

### *Structural Model*

Once the construct measures in the measurement model were confirmed, a structural model was employed to evaluate the model's predictive power to test the hypotheses about the causal relationships between the latent constructs. With this purpose in mind, the following were assessed: path coefficients ( $\beta$  value), t-statistic values, the coefficient of determination ( $R^2$ ), and the goodness-of-fit (GOF) index. Path coefficients ( $\beta$ -value, varying from  $-1$  to  $+1$ ) tested the significance of the hypothetical causal relationships between the latent variables, where a higher  $\beta$ -value implied a stronger impact of exogenous constructs (i.e., the teacher's interpersonal behaviors across the eight domains) on endogenous latent constructs (i.e., learners' autonomous and controlled motivation). For a significant path, the standardized path coefficient would have had to be higher than 0.30. Meanwhile, t-statistics, which were utilized to test the significance of both the inner and outer models, would have had to be greater than 1.96. As the most common measure of effect size in path models,  $R^2$  reports the degree of variance in endogenous variables, as explained by exogenous counterparts.  $R^2$  values of 0.75, 0.50, and 0.25 are substantial, moderate, and weak, respectively (Hair et al., 2011).

### *Data Analysis*

To organize and summarize the numerical data, descriptive statistics were conducted using SPSS-25. To analyze the inferential statistics, test the research hypotheses, and examine the significance of the causal relationships between the independent and dependent variables, the PLS-SEM was employed using the Smart-PLS-3 package. Compared to the CB-SEM, which is used in confirmatory studies, the PLS-SEM is appropriate for exploratory research where the primary study intention involves formulating predictions or generating a theory. Thus, when neither a strong theory nor established literature exists and a study does not attempt to confirm or reject a theory (like in the present study), the PLS-SEM facilitates the generation of a theory by modeling the complex causal relationships among variables (Hair et al., 2011; Hair et al., 2017).

## **Results**

Table I and II present the descriptive statistics for the eight subscales of EFL teachers' interpersonal behaviors and the autonomous and controlled motivations of EFL learners, respectively. *Leadership* ( $M=24.14$ ,  $SD=4.17$ ) and *Uncertain* ( $M=12.07$ ,  $SD=4.59$ ) subscales represented the highest and lowest averages of teachers' interpersonal behaviors, respectively. Furthermore, the average amount of controlled motivation was higher ( $M=55.60$ ,  $SD=7.70$ ) than that of the autonomous motivation ( $M=48.49$ ,  $SD=5.00$ ).



Table I. QTI Descriptive Statistics Results

Subscales	Minimum	Maximum	Mean	Standard Deviation	Skewness	Kurtosis	Items
Leadership	9	30	24.14	4.179	-1.258	1.907	6
Helpful/friendly	10	30	21.84	4.800	-0.605	-0.382	6
Understanding	10	30	22.88	4.217	-0.817	0.335	6
Student Freedom	11	27	18.04	3.012	0.321	0.030	6
Uncertain	6	26	12.07	4.594	1.001	0.650	6
Dissatisfied	6	27	12.13	4.592	0.641	-0.125	6
Admonishing	6	28	12.09	c	1.292	1.594	6
Strict	7	27	16.65	3.821	0.042	-0.060	6

Table II. SRQ-A Descriptive Statistics Results

Subscales	Minimum	Maximum	Mean	Standard Deviation	Skewness	Kurtosis	Items
Autonomous Motivation	27	56	48.49	5.009	-0.914	1.249	14
Controlled Motivation	33	70	55.60	7.702	-0.188	-0.333	18

Table III summarizes the results of the CFA for the reflective measurement model; it shows that all the indicators gained an outer loading that was greater than 0.7 and t-values above 1.96, except for five items: HI6 ( $\beta=0.103$ ,  $t=1.04$ ), AM2 ( $\beta=0.628$ ,  $t=0.94$ ), AM14 ( $\beta=0.687$ ,  $t=1.04$ ), CM9 ( $\beta=0.115$ ,  $t=1.06$ ), and CM15 ( $\beta=0.103$ ,  $t=0.81$ ), which were removed from the final model to yield the desired index levels. Moreover, the values for the composite reliability and convergent validity were satisfactory because all the constructs had values that were higher than 0.7. Discriminant validity was also verified because the square root of AVE for each latent variable was greater than the correlations between the latent variables (Table IV). Thus, the CFA yielded acceptable outcomes for the measurement model.

Table III. Evaluation of the Measurement Model Results

Latent variables	Indicators	Loading	t value	Internal consistency	Composite Reliability	AVE
Autonomous Motivation	27	56	48.49	5.009	-0.914	1.249
Controlled Motivation	33	70	55.60	7.702	-0.188	-0.333

Latent variables	Indicators	Loading	t value	Internal consistency	Composite Reliability	AVE
Leadership	LI1	0.778	4.66	0.775	0.847	0.931
	LI2	0.722	4.23			
	LI3	0.794	4.78			
	LI4	0.782	4.71			
	LI5	0.829	5.31			
	LI6	0.822	5.24			
Helpful <sup>a</sup>	HI1	0.749	4.32	0.866	0.841	0.685
	HI2	0.823	5.63			
	HI3	0.827	5.68			
	HI4	0.897	6.04			
	HI5	0.802	4.88			
	HI6	0.103	1.04			
Understanding	UI1	0.783	3.81	0.791	0.813	0.625
	UI2	0.775	3.36			
	UI3	0.749	3.12			
	UI4	0.776	3.36			
	UI5	0.816	4.22			
	UI6	0.798	3.92			
Student responsibility	SI1	0.783	6.77	0.822	0.792	0.771
	SI2	0.775	3.59			
	SI3	0.749	2.98			
	SI4	0.776	3.41			
	SI5	0.816	2.83			
	SI6	0.798	3.48			
Uncertain	UNI1	0.708	3.04	0.782	0.771	0.776
	UNI2	0.812	4.11			
	UNI3	0.719	3.17			
	UNI4	0.737	3.31			
	UNI5	0.781	3.64			
	UNI6	0.756	3.57			
Dissatisfied	DI1	0.763	5.62	0.855	0.768	0.689
	DI2	0.867	6.41			
	DI3	0.773	5.65			
	DI4	0.725	5.68			
	DI5	0.832	6.31			
	DI6	0.865	6.4			
Admonishing	AI1	0.708	5.33	0.766	0.707	0.735
	AI2	0.752	5.68			
	AI3	0.897	6.77			
	AI4	0.719	5.41			
	AI5	0.737	5.45			
	AI6	0.708	3.64			
Strict	STI1	0.744	3.27	0.812	0.731	0.779
	STI2	0.833	4.61			
	STI3	0.799	3.86			
	STI4	0.766	3.41			
	STI5	0.763	3.41			
	STI6	0.711	3.06			
Autonomous motivation <sup>b</sup>	AM1	0.799	4.85	0.875	0.801	0.731
	AM2	0.628	0.94			
	AM3	0.767	3.79			
	AM4	0.845	5.88			

Latent variables	Indicators	Loading	t value	Internal consistency	Composite Reliability	AVE
Controlled motivation <sup>c</sup>	AM5	0.732	3.34	0.786	0.766	0.687
	AM6	0.804	5.65			
	AM7	0.675	2.35			
	AM8	0.748	3.77			
	AM9	0.763	3.96			
	AM10	0.801	5.77			
	AM11	0.745	3.75			
	AM12	0.885	6.13			
	AM13	0.863	6.01			
	AM14	0.687	1.04			
	CM1	0.833	5.71			
	CM2	0.815	5.52			
	CM3	0.791	4.33			
	CM4	0.813	5.45			
	CM5	0.793	4.35			
	CM6	0.763	4.26			
	CM7	0.788	4.34			
	CM8	0.797	4.35			
CM9	0.115	1.06				
CM10	0.706	3.82				
CM11	0.712	3.92				
CM12	0.799	4.35				
CM13	0.752	4.23				
CM14	0.727	4.05				
CM15	0.103	0.81				
CM16	0.794	4.31				
CM17	0.762	4.25				
CM18	0.737	4.08				

Note. <sup>a</sup> Item HI6 gained low indicator loading and *t*-value.

<sup>b</sup> Items AM2 and AM14 gained low indicator loading and *t*-value.

<sup>c</sup> Items CM9 and CM15 gained low indicator loading and *t*-value.

Table IV. Fornell-Larcker Criterion Analysis for Assessing Discriminant Validity

	L	H	U	S	UN	D	A	ST	AM	CM
Leadership	0.73									
Helpful	0.49	0.81								
Understanding	0.73	0.75	0.89							
Student	0.59	0.66	0.59	0.77						
Responsibility										
Uncertain	-0.31	-0.01	-0.19	-0.18	0.87					
Dissatisfied	-0.26	-0.03	-0.23	-0.23	0.61	0.74				
Admonishing	-0.30	0.11	-0.21	-0.12	0.59	0.49	0.93			
Strict	0.09	0.29	0.01	0.27	-0.02	-0.02	-0.06	0.76		
Autonomous	0.69	0.67	0.62	0.67	-0.17	-0.22	-0.14	0.13	0.79	
Motivation										
Controlled	0.48	0.88	0.69	0.68	-0.01	-0.13	-0.03	0.31	0.67	0.81
Motivation										

Generally speaking, goodness-of-fit (GOF) is an appropriate index for evaluating the overall predictive power of the measurement model to indicate a path model's global validation. It can be measured through the geometric mean of the AVE values and the average  $R^2$  of the endogenous latent variables in the structural model (Henseler & Sarstedt, 2013). GOF values of 0.10, 0.25, and 0.36 are small, medium, and large, respectively. In the current study, the GOF index for the initial model was 0.689 representing an acceptable predicted value.

The structural model evaluated the model's predictive power concerning the effect of any independent variable (i.e., a teacher's interpersonal behavior based on the eight dimensions) on dependent variables (i.e., learners' autonomous and controlled motivation) (Table V). To check the research hypothesis, the obtained t-values and path coefficients show that teachers' *leadership* behavior significantly promoted learners' controlled motivation ( $\beta=0.409$ ,  $t=5.986$ ); teachers' *helpful/friendly* behavior had significant positive effect on learners' autonomous motivation ( $\beta=0.417$ ,  $t=6.031$ ); teachers' *understanding* behavior had a significant positive effect on learners' autonomous motivation ( $\beta=0.395$ ,  $t=5.13$ ); teachers' *student freedom* behavior did not have any significant effect on learners' autonomous motivation ( $\beta=0.175$ ,  $t=1.225$ ); teachers' *uncertain* behavior negatively affected learners' autonomous motivation ( $\beta=-0.378$ ,  $t=3.045$ ), but not controlled motivation ( $\beta=-0.105$ ,  $t=0.673$ ); teachers' *dissatisfied* behavior did not significantly impacted learners' controlled motivation ( $\beta=-0.199$ ,  $t=1.445$ ); teachers' *admonishing* behavior did not significantly affected learners' controlled motivation ( $\beta=-0.197$ ,  $t=1.502$ ); and finally, teachers' *strictness* significantly promoted learners' controlled motivation ( $\beta=0.549$ ,  $t=6.374$ ).

Table V. The Impact of Any Independent Latent Variable on the Dependent Latent Variables

Paths	Path coefficient ( $\beta$ )	t-values	$\rho$ -value
Leadership →Autonomous motivation	0.185	1.38	0.174
Leadership →Controlled motivation	0.409	5.986	0.000
Helpful →Autonomous motivation	0.417	6.031	0.000
Helpful →Controlled motivation	0.099	0.966	0.399
Understanding →Autonomous motivation	0.395	5.13	0.000
Understanding →Controlled motivation	0.113	1.012	0.323
Student responsibility →Autonomous motivation	0.179	1.391	0.198
Student responsibility →Controlled motivation	0.175	1.225	0.202
Uncertain →Autonomous motivation	-0.378	3.045	0.001
Uncertain →Controlled motivation	-0.105	0.673	0.388
Dissatisfied →Autonomous motivation	-0.189	1.023	0.278
Dissatisfied →Controlled motivation	-0.199	1.445	0.203
Admonishing →Autonomous motivation	-0.132	0.912	0.201
Admonishing →Controlled motivation	-0.197	1.502	0.149
Strict →Autonomous motivation	0.174	1.243	0.215
Strict →Controlled motivation	0.549	6.374	0.000

Moreover, the GOF index of 0.751 indicated that the final model has a high predictive power (Table VI). Furthermore,  $R^2$  values, which are attached to the endogenous variables, shows that 61.3% of the variance in autonomous motivation and 83.4% of the variance in controlled motivation depend upon the variance in their exogenous counterparts.

Table VI. Goodness-of-fit Index for the Model

Construct	AVE (Communality)	R Square	R Square Adjusted
Autonomous Motivation	0.739	0.613	0.601
Controlled Motivation	0.783	0.834	0.815
$\overline{AVE} \times \overline{R^2}$	0.564619		
Chi2	2.795 (sig=0.315, df=1198)		
SRMR	0.431		
NFI	0.973		
$GOF = \sqrt{\overline{AVE} \times \overline{R^2}}$	0.751412		

## Discussion

The current study investigated the effects of Iranian EFL learners' perceptions in relation to their teachers' interpersonal behaviors, as the latter impact students' autonomous and controlled motivation types. The descriptive statistics reveal a higher degree of perceived leadership behavior than other interpersonal behavior types among Iranian EFL teachers and, according to the MTIB dimensions, teachers were perceived as more dominant than cooperative, demonstrating a lesser degree of opposition and submission. Furthermore, Iranian EFL learners possessed a greater degree of controlled motivation than autonomous motivation; hence, their behaviors were more likely influenced by a feeling of pressure and obligation from external and internal sources than feelings of willingness, desire, enjoyment, volition, and choice (Legault, 2017).

The evaluation of the measurement model indicated high degrees of reliability, validity, and indicator loadings which support the standardization of the tools used in this study. Moreover, the structural models achieved high levels of fitness ( $GOF=0.751$ ), meaning that a high degree of predictive power was attained. The results of the final structural model, as illustrated in Figure 2, are further discussed below:

1. Teacher *leadership* behavior significantly promoted controlled motivation among Iranian EFL learners, which is inconsistent with the idea presented by Yu and Chen (2012), who state that *leadership* is a controlling behavior. This can be justified because, according to the MITB (Wubbels & Levy, 1991), *leadership* is a more dominant behavior than cooperative. Teachers exhibiting this behavior are the ones who lead, organize, give orders, and determine the procedure.
2. A teacher's *helpful/friendly* behavior significantly improved learners' autonomous motivation, which is justified by MTIB because it is more of a cooperative behavior. This leads teachers to show an interest in their students and behave in a friendly manner toward them while inspiring both confidence

and trust (den Brok et al., 2006). This result is consistent with Yu and Chen (2012), who report that *helpful/friendly* behavior is an autonomy-supportive interpersonal behavior among teachers.

3. Due to a high level of proximity and cooperation, a teacher's *understanding* behavior boosted learners' autonomous motivation, aligning with Yu and Chen (2012) who believe that this is an autonomy-supportive interpersonal behavior among teachers. When they possess a sense of *understanding*, teachers listen to their students with interest, showing them confidence and empathy while remaining open to their needs or ideas.
4. Surprisingly, the behavior involving *student responsibility/freedom* had no significant effect on either EFL learners' autonomous or controlled motivation. This result contradicts the findings of Yu and Chen (2012), Hein (2012), and Hagger et al. (2005), who all demonstrate that autonomy-supportive teachers, through *student responsibility/freedom* behaviors, promote learners' autonomous motivation.
5. A teacher's *uncertain* behaviors were shown to negatively affect EFL learners' autonomous motivation; so, these behaviors are considered autonomy-suppressive, lowering EFL learners' autonomous motivation. This result can be justified by the fact that *uncertain* teachers lack powerful professional identities, which mutually affects learners' senses of confidence.
6. A teacher's *dissatisfied* behavior had a non-significant negative influence on learners' autonomous and controlled motivation. Thus, when a teacher expressed dissatisfaction, appeared unhappy, and frequently criticized EFL learners, the EFL learners' motivation was not significantly affected
7. A teacher's *admonishing* behavior affected neither the autonomous nor controlled motivation of learners. Reasonably, when a teacher becomes bad-tempered, angry, or irritated, which could result in them punishing learners or placing restrictions on certain activities or items, this was found to have no significant effect on EFL learners' motivation. The possible explanation is that this behavior is not so much common (M=12.09 , SD=12.09) among Iranian EFL teachers in English institutes
8. A teacher's *strictness* promoted controlled motivation among learners. Justifiably, when a teacher repeatedly checks on students, maintains a silent classroom environment, and strictly enforces the rules, it creates conditions that stimulate EFL learners' discipline and obedience, subsequently promoting their controlled motivation. This result is consistent with Yu and Chen, (2012) who regard strictness as a controlling behavior.

Thus, the *helpful/friendly* and *understanding* behaviors were identified as being autonomy-supportive, the *leadership* and *strictness* behaviors were recognized as controlling behaviors, and *uncertain* behavior was revealed to be autonomy-suppressive. However, due to the paucity of research in this domain, we cannot compare these findings with other relevant studies.

Furthermore,  $R^2$  values revealed that the controlled motivation of Iranian EFL learners is influenced more by a teacher's interpersonal behaviors than autonomous motivation. On the other hand, in addition to a teacher's interpersonal behaviors, other effective variables would have influenced EFL learners' autonomous and controlled motivation as well.

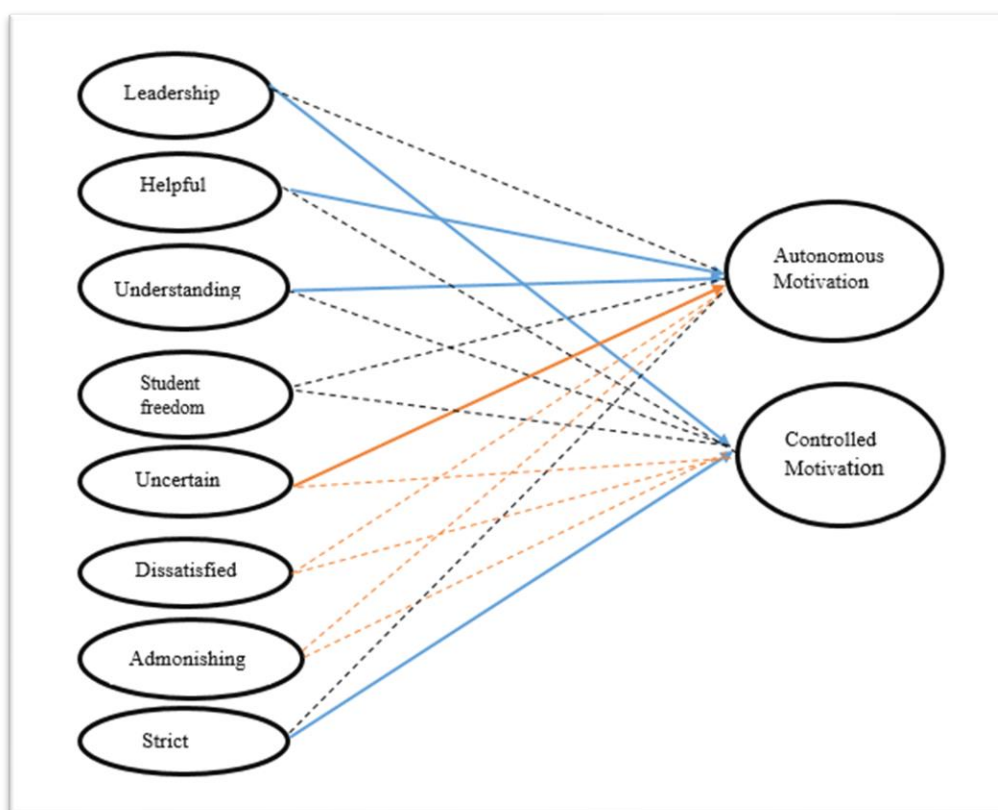


Figure 2. Final Model of the role of Teachers' Interpersonal Behaviors in EFL Learners' Autonomous and Controlled Motivation

- Positive causal relationship
- Negative causal relationship
- - - - Not significant positive relationship
- - - - Not significant negative relationship

### *Pedagogical implications*

With the dominance of English as a global language, EFL learners are more inclined toward participating in a communicative English education that is active, open-minded, and focused on autonomous learners. Having equal and cooperative teacher-student relationships are clearly preferred by students. Therefore, examining teacher-learner interpersonal behaviors in the EFL learning context deserves more attention in the field, and public awareness should be created about these behaviors among both inexperienced and experienced teachers. The teachers can improve not only their behavioral repertoire but also the quality of their teacher-student relationships, thus promoting EFL learning by enhancing learners' motivation (Wubbels et al., 2006).

Since the educational and psychological outcomes of autonomous motivation surpass controlled motivation (Lim & Wang, 2009; Mouratidis et al., 2008; Ntoumanis, 2005), it seems that Iranian EFL learners' autonomous motivation needs to be promoted. In addition, as modern EFL pedagogy places a greater

significance on the role positive emotions play in educational and psychological outcomes, teacher-training courses should draw teachers' attention to the important effects that establishing a positive relationship with students can have on students' learning, motivation, and subsequent achievement. Moreover, Iranian EFL teachers in Iranian English institutes need psychological and behavioral training to improve their cooperative interpersonal behavior by learning to be less dominant in communicative contexts (Babai Shishavan & Sadeghi, 2009; Melek Koc, 2012).

This study's findings can inspire policymakers or other stakeholders in education to further examine EFL teachers' autonomy-supportive and controlling interpersonal behaviors, including both their boosting and hindering effects. During their professional development process, EFL teachers can acquire more appropriate autonomy-supportive interpersonal behaviors and skills, including the ability to consider the opinions of others, use non-controlling language, share feelings, and so forth (Deci & Ryan, 1985). Besides, these findings can be used as a practical framework for examining student-teacher interpersonal relationships and investigating the positive and negative effects among the eight domains of teacher interpersonal behaviors on learners' affective, academic, and social achievements in EFL or other interdisciplinary contexts.

## Conclusion

Overall, this study manifested strong relationships between EFL learners' autonomous motivation and teacher behaviors. *Helpful/friendly* and *understanding* behaviors are autonomy-supportive, while *uncertain* behaviors are autonomy-suppressive. Moreover, teachers' controlling behaviors of *leadership* and *strictness* highly influenced controlled motivation among learners. In future research, it is important to note that teachers' behaviors should be considered as being dependent on both the context and culture, since the present study only covered the East Azerbaijan province in Iran. Thus, cross-cultural differences should be considered as variables for further research. The sample was also limited due to the participants' level of English proficiency and their cultural background. Thus, the replication of this research with other groups of EFL learners will promote the generalizability of the findings. It may also be beneficial to use a qualitative method of videotaping and observing the classroom to investigate whether teachers' practices in the classroom correspond with learners' perceptions. Furthermore, surveying learners who have been taught by their teacher for a longer period might be more useful in that the learners may be better able to judge their teachers' interpersonal behavior.

## References

- Al Rifai, N. (2010). Attitude, motivation, and difficulties involved in learning the English language and factors that affect motivation in learning it. *Procedia Social and Behavioral Sciences*, 2, 5216–5227.
- Alamer, A. & Lee, J. (2019). A motivational process model explaining L2 Saudi students' achievement of English. *System*, 87. <http://dx.doi.org/10.1016/j.system.2019.102133>.



- Aldhafiri, N. R. (2015). The role of interpersonal EFL teacher behavior in enhancing Saudi students' learning. *International Journal of English Language Teaching*, 2(1), 47–55.
- Alhodiry, A. A. (2016). The Libyan EFL teachers' role in developing students' motivation. *Procedia-Social and Behavioral Sciences*, 232, 83–89. <https://doi.org/10.1016/j.sbspro.2016.10.020>.
- Al-Seghayer, K. (2017). The central characteristics of successful ESL/EFL teachers. *Journal of Language Teaching and Research*, 8(5), 881–890. <http://dx.doi.org/10.17507/jltr.0805.06>.
- Amiryousefi, M., Amirian, Z., & Ansari, A. (2019). Relationship between classroom environment, teacher behavior, cognitive and emotional engagement, and state motivation. *Journal of English Language Teaching and Learning*, 11(23), 27–59. [elt.tabrizu.https://elt.tabrizu.ac.ir/article\\_8937.html](https://elt.tabrizu.ac.ir/article_8937.html).
- Amoura, C., Berjot, S., Gillet, N., Caruana, S., Cohen, J., & Finez, L. (2015). Autonomy-supportive and controlling styles of teaching, opposite or distinct teaching styles? *Swiss Journal of Psychology*, 74(3), 141–158. <https://doi.org/10.1024/1421-0185/a000156>.
- Babai Shishavan, H. & Sadeghi, K. (2009). Characteristics of an effective English language teacher as perceived by Iranian teachers and learners of English. *English Language Teaching*, 2(4), 130–143. <https://doi.org/10.5539/elt.v2n4p130>.
- Behfar, K. J., Mannix, E. A., Peterson, R. S., & Trochim, M. T. (2010). Conflict in small groups: the meaning and consequences of process conflict. *Small Group Research*, 42(2), 127–176. <http://dx.doi.org/10.1177/1046496410389194>.
- 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(6), 740–756. [https://doi.org/10.1002/1098-237X\(200011\)84:6<740::AID-SCE4>3.0.CO;2-3](https://doi.org/10.1002/1098-237X(200011)84:6<740::AID-SCE4>3.0.CO;2-3).
- Carreira, J. M. (2012). Motivational orientations and psychological needs in EFL learning among elementary school students in Japan. *System*, 40, 191–202. <https://doi.org/10.1016/j.system.2012.02.001>.
- Chen, X., & Vibulphol, J. (2019). An exploration of motivational strategies and factors that affect strategies: A case of Chinese EFL teachers. *International Education Studies*, 12(11), 47–58. <http://doi:10.5539/ies.v12n11p47>.
- Cheon, S. H., Reeve, J., & Ntoumanis, N. (2018). A needs-supportive intervention to help PE teachers enhance students' prosocial behavior & diminish antisocial behavior. *Psychology of Sport and Exercise*, 35, 74–88. <https://doi.org/10.1016/j.psychsport.2017.11.010>.
- Deci, E. L., & Ryan, R. M. (1985). *Intrinsic motivation and self-determination in human behavior*. Plenum.
- den Brok, P., Brekelmans, M., & Wubbels, T. (2004). Interpersonal teacher behavior and student outcomes. *School Effectiveness and School Improvement*, 15, 407–422. <http://doi.org/10.1080/09243450512331383262>.
- den Brok, P., Fisher, D., & Koul, R. (2005). The importance of teacher interpersonal behavior for secondary science students' attitudes in Kashmir. *Journal of Classroom Interaction*, 40(2), 5-19.

- den Brok, P., Levy, J., Brekelmans, M., & Wubbels, T. (2006). The effect of teacher interpersonal behavior on students' subject-specific motivation. *Journal of Classroom Interaction*, 40(2), 20–33. Jstor. <https://www.jstor.org/stable/23870661>.
- Dincer, A., & Yesilyurt, Y. (2017). Motivation to speak English: A self-determination theory perspective. *PASAA*, 53, 1–25. files.eric. <https://files.eric.ed.gov/fulltext/EJ1153672.pdf>.
- Dornyei, Z. (2001). *Motivational strategies in the language classroom*. Cambridge University Press.
- Fisher, D. L., Rickards, T., & Newby, M. (2001). *A multi-level model of classroom interactions using teacher and student perceptions*. Paper presented at the annual meeting of the Australian Association for Research in Education, Fremantle, Australia.
- Fraser, B. J., Aldridge, J. M., & Soerjaningsih, W. (2010). Instructor-student interpersonal interaction and student outcomes at the university level in Indonesia. *The Open Education Journal*, 3, 32–44. <https://doi.org/10.2174/1874920801003010021>.
- Ghafarpour, H., Moinzadeh, A., & Eslamirasekh, A. (2018). I am good at it because I like its teacher: To what extent does teacher behavior motivate students to learn? *Teaching English Language*, 12(2), 67–87. <https://doi.org/10.22132/tel.2018.75184>.
- Gomes, M., Monteiro, V., Mata, L., Peixoto, F., Santos, N., & Sanches, C. (2019). The Academic Self-Regulation Questionnaire: a study with Portuguese elementary school children. *Psicologia: Reflexão e Crítica*, 32(8), 1–9. <https://doi.org/10.1186/s41155-019-0124-5>.
- Hagger, M.S., Chatzisarantis, N. L. D., Hein, V., Pihu, M., Soós, I., Karsai, I. (2007). The perceived autonomy support scale for exercise settings (PASSES): Development, validity, and cross-cultural invariance in young people. *Psychology of Sport and Exercise*, 8, 632–653.
- Hagger, M.S., Chatzisarantis, N.L.D., Barkoukis, V., Wang, C.K.J., & Baranowski, J. (2005). Perceived autonomy support in physical education and leisure-time physical activity: A cross-cultural evaluation of the trans-contextual model. *Journal of Educational Psychology*, 97(3), 376–390. <https://doi.org/10.1037/0022-0663.97.3.376>.
- Hair, J. F., Matthews, L. M., Matthews, R. L. & Sarstedt, M. (2017). PLS-SEM or CB-SEM, Updated guidelines on which method to use. *International Journal of Multivariate Data Analysis*, 1(2), 107–23. <https://doi.org/10.1504/IJMDA.2017.087624>.
- Hair, J. F., Ringle, C. M., & Sarstedt, M. (2011). PLS-SEM, Indeed a silver bullet. *Journal of Marketing theory and Practice*, 19(2), 139–152. <https://doi.org/10.2753/MTP1069-6679190202>.
- Hair, J. F., Risher, J. J., Sarstedt, M., & Ringle, C. M. (2019). When to use and how to report the results of PLS-SEM. *European Business Review*, 31(1), 2–24. <https://doi.org/10.1108/EBR-11-2018-0203>.
- Hein, V. (2012). The effect of teacher behavior on students' motivation and learning outcomes: A review. *Acta Kinesiologiae Universitatis Tartuensis*, 18, 9–19. <https://doi.org/10.12697/akut.2012.18.02>.
- Henseler, J., & Sarstedt, M. (2013). Goodness-of-fit indices for partial least squares path modelling. *Computational Statistics*, 28(2), 565–580. <https://doi.org/10.1007/s00180-012-0317-1>.

- Henseler, J., Ringle, C. M., & Sarstedt, M. (2012). Using partial least squares path modelling in advertising research: basic concepts and recent issues. In S. Okazaki (Ed.), *Handbook of research on international advertising* (pp. 252–276). Edward Elgar.
- Hu, P., & Zhang, J. A. (2017). Pathway to learner autonomy: a self-determination theory perspective. *Asia Pacific Education Review*, 18, 147–157. <http://doi:10.1007/s12564-016-9468-z>.
- Jong, R. de, Tartwijk, J. van, Wubbels, T., Veldman, I., & Verloop, N. (2013). Student teachers' discipline strategies: relations with self-images, anticipated student responses and control orientation. *Educational Studies*, 39(5), 582–597. <http://dx.doi.org/10.1080/03055698.2013.814562>.
- Kröner, J., Goussios, C., Schaitz, C., Streb, J., & Susic-Vasic, Z. (2017). The construct validity of the German academic self-regulation questionnaire (SRQ-A) within primary and secondary school children. *Frontiers in Psychology*, 8. <https://doi.org/10.3389/fpsyg.2017.01032>.
- Leary, T. (1957). *Interpersonal diagnosis of personality: A functional theory and methodology for personality evaluation*. Ronald Press.
- Legault, L. (2017). Self-Determination Theory. In book: *Encyclopedia of personality and individual differences*. Editors: V. Zeigler-Hill & T. Shackelford. Springer International Publishing. [http://doi:10.1007/978-3-319-28099-8\\_1162-1](http://doi:10.1007/978-3-319-28099-8_1162-1).
- Lei, H., Cui, Y., & Chiu, M. M. (2018). The relationship between teacher support and students' academic emotions: A meta-analysis. *Frontiers in Psychology*, 8, 1–12. <https://doi.org/10.3389/fpsyg.2017.02288>.
- Lim, B. S. C., & Wang, C. K. J. (2009). Perceived autonomy support, behavioral regulations in physical education and physical activity intention. *Psychology of Sport and Exercise*, 10(1), 52–60. <https://doi.org/10.1016/j.psychsport.2008.06.003>.
- Linnenbrink-Garcia, L., Rogat, T. K., & Koskey, K. L. K. (2011). Affect and engagement during small group instruction. *Contemporary Educational Psychology*, 36(1), 13–24. <http://dx.doi.org/10.1016/j.cedpsych.2010.09.001>.
- Lu, L. (2015). *Study of improving the teacher-student relationship in EFL in Chinese vocational college*. A Seminar paper presented to the Graduate Faculty University of Wisconsin-Platteville.
- Maulana, R., Opdenakker, M. C., Brok, P. den, & Bosker, R. (2011). Teacher-student interpersonal relationship in Indonesia: profiles and importance to student motivation. *Asia Pacific Journal of Education*, 31, 33-49.
- Melek Koc, E. (2012). Affective characteristics and teaching skills of English language teachers: Comparing perceptions of elementary, secondary and high school students. *Creative Education*, 4(2), 117–123. <https://doi.org/10.4236/ce.2013.42017>.
- Misbah, Z., Gulikers, J., Maulana, R., & Mulder, M. (2015). Teacher interpersonal behavior and student motivation in competence-based vocational education: Evidence from Indonesia. *Teaching and Teacher Education*, 50, 79-89.

- Mouratidis, A., Vansteenkiste, M., Lens, W., & Sideridis, G. (2008). The motivating role of positive feedback in sport and physical education: Evidence for a motivational model. *Journal of Sport and Exercise Psychology*, 30(2), 240–268. <https://doi.org/10.1123/jsep.30.2.240>.
- Noels, K. A. (2001). Learning Spanish as a second language: learners' orientations and perceptions of their teachers' communication style. *Language Learning*, 51(1), 107–144.
- Noels, K. A., Vargas Lascano, D. I., & Saumure, K. (2019). The development of self-determination across the language course: Trajectories of motivational change and the dynamic interplay of psychological needs, orientations, and engagement. *Studies in Second Language Acquisition*. <https://doi.org/10.1017/S0272263118000189>.
- Ntoumanis, N. (2001). A self-determination approach to the understanding of motivation in physical education. *British journal of educational psychology*, 71(2), 225–242. <https://doi.org/10.1348/000709901158497>.
- Ntoumanis, N. (2005). A prospective study of participation in optional school physical education using a self-determination theory framework. *Journal of Educational Psychology*, 97(3), 444–453. <https://doi.org/10.1037/0022-0663.97.3.444>.
- Rahmanpanah, H. (2017). Investigating teachers' communicative styles in EFL context: A self-determination theory perspective. *Journal of Applied Linguistics and Language Research*, 4(1), 268–289. <http://www.jallr.com/index.php/JALLR/article/view/523>.
- Reeve, J. (2002). Self-determination theory applied to educational settings. In E. L. Deci & R. M. Ryan (Eds.). *Handbook of self-determination research*. University of Rochester Press, pp. 161–182.
- Reeve, J., & Cheon, S. H. (2016). Teachers become more autonomy supportive after they believe it is easy to do. *Psychology of Sport and Exercise*, 22, 178–189. <https://doi.org/10.1016/j.psychsport.2015.08.001>.
- Ryan, R. M., & Deci, E. L. (2000). Self-determination theory and the facilitation of intrinsic motivation, social development, and wellbeing. *American Psychologist*, 55, 68–78. <https://doi.org/10.1037/0003-066X.55.1.68>.
- Ryan, R. M., & Deci, E. L. (2016). Facilitating and hindering motivation, learning, and wellbeing in schools. In K. R. Wentzel & D. Miele (Eds.), *Handbook of motivation at school* (pp. 96–119). Routledge.
- Standage, M., Duda, J. L., & Ntoumanis, N. (2006). Students' motivational processes and their relationship to teacher ratings in school physical education: A self-determination theory approach. *Research Quarterly for Exercise and Sport*, 77, 100–110. <https://doi.org/10.1080/02701367.2006.10599336>.
- Telli, S., den Brok, P., & Cakiroglu, J. (2007). Teacher-student interpersonal behavior in secondary science classes in Turkey. *Journal of Classroom Interaction*, 42, 31–40.
- Vatankhah, M., & Tanbakoei, N. (2014). The Role of social support on intrinsic and extrinsic motivation among Iranian EFL learners. *Procedia-Social and Behavioral Sciences*, 98, 1912–1918. <https://doi.org/10.1016/j.sbspro.2014.03.622>.

- Wei, M., Zhou, Y., Barber, C., & den Brok, P. (2015). Chinese students' perceptions of teacher-student interpersonal behavior and implications. *System*, 55, 134–144.  
<https://doi.org/10.1016/j.system.2015.09.007>.
- Wubbels, T., & Brekelmans, M. (2005). Two decades of research on teacher-student relationships in class. *International Journal of Educational Research*, 43(1), 6–24.  
<https://doi.org/10.1016/j.ijer.2006.03.003>.
- Wubbels, T., & Levy, J. (1991). A comparison of interpersonal behavior of Dutch and American teachers. *International Journal of Intercultural Relations*, 15(1), 1–18. [http://doi:10.1016/0147-1767\(91\)90070-W](http://doi:10.1016/0147-1767(91)90070-W).
- Wubbels, T., Brekelmans, M., den Brok, P., & van Tartwijk, J.W.F. (2006). An interpersonal perspective on Classroom Management in Secondary Classrooms in the Netherlands. In C. Evertson, & C. S. Weinstein (Eds.), *Handbook of classroom management: research, practice and contemporary issues*, pp. 1161–1191. Lawrence Erlbaum Associates.
- Yu, T., & Chen, C. (2012). Thinking styles and preferred teacher interpersonal behavior among Hong Kong students. *Learning and Individual Differences*, 22, 554–559.  
<https://doi.org/10.1016/j.lindif.2012.02.002>.