

Emotional reframing as a mediator of the relationships between transformational school leadership and teachers' motivation and commitment

Izhak Berkovich

Department of Education and Psychology, The Open University of Israel, Ra'anana, Israel

and

Ori Eyal

School of Education, The Hebrew University of Jerusalem, Jerusalem, Israel

Abstract

Purpose - Empirical evidence links transformational school leadership to teachers' autonomous motivation and affective organizational commitment. Little empirical research, however, has focused on the emotional mechanisms behind these relations. Following the argument in the literature that transformational leadership can transform followers' emotions, we examine whether teacher's experience of emotional reframing by principal mediates the relationships between transformational school leadership and these work-related outcomes (i.e., teachers' motivation and commitment).

Design/methodology/approach – Questionnaires were used to collect information from 639 primary school teachers nested in 69 randomly sampled schools. The data were analyzed using multilevel path analysis software.

Findings - The results indicated that the effect of transformational school leadership behaviors on teachers' autonomous motivation was fully mediated by emotional reframing, and that the effect of transformational school leadership on affective organizational commitment was partially mediated by it. We further found an indirect relationship of transformational school leadership with affective organizational commitment through emotional reframing and autonomous motivation.

Originality/value – The present study makes a unique contribution to the literature by confirming that teachers' sense of emotional reframing is a key affective mechanism by which school leaders influence teachers' motivation and commitment.

Keywords Affective organizational commitment, Autonomous motivation, Emotional reframing, Transformational leadership

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Post-bureaucratic governance in modern education systems, particularly in Western countries, challenges school leaders in their attempts to promote schooling, and drives them to embrace socio-emotional leadership behaviors with the aim of promoting organizational success (Bush, 2014). One of the most noted leadership models that combines task and social-emotional oriented behaviors is transformational leadership (Yukl, 1999). Transformational leadership has been identified as a highly effective coping strategy of principals in the current policy environment of schooling that pushes for school change (Hallinger, 2003). Transformational leadership is said to be specifically designed to create and facilitate organizational change (Derue *et al.*, 2011, p. 16).

A large number of studies have demonstrated the positive effects of transformational leadership on followers' workplace attitudes and behaviors (see meta-analyses by Dumdum *et al.*, 2002; Judge and Piccolo, 2004). Two followers' work-related outcomes in particular have been in the center of leadership literature interest: autonomous motivation, which is the extent to which an individual pursues a goal out of interest or personal importance (Bono and Judge, 2003), and affective organizational commitment, which is the individual's emotional attachment to the organization and identification with it (Walumbwa *et al.*, 2004). Empirical works in education confirmed these links between transformational school leadership and teachers' motivation and commitment, and emphasized their importance (Eyal and Roth, 2011; Nguni *et al.*, 2006).

Despite prior research focusing on these topics, however, little is empirically known about the core emotional mechanisms by which transformational leadership behaviors exercise their influence on followers' subjective work-related attitudes (Gooty *et al.*, 2010). Hence, additional research of affect-related mediators is required to better understand how transformational school leadership makes teachers become more motivated and committed. We propose that teachers' emotional experiences merit special attention since the theoretical literature suggests that transformational leadership promotes a positive emotional change in followers (Bass, 1985). Specifically, the present paper focuses on teachers' emotional reframing by principal. Emotional reframing is a subjective experience of a positive transformation of one's negative emotions as a result of the encouragement of another social actor to adopt a new viewpoint (Ashforth and Kreiner, 2002; Williams, 2007). Thus, we focus on

emotional reframing, which involves teachers' cognitive sense making as a product of social construction by principals.

The present study aims to investigate the mediating role that emotional reframing plays in the relationships between transformational school leadership and teachers' autonomous motivation and organizational commitment. This argument is based on scholarly claims that suggest that successful principals shape teachers' motivation and commitment through their effect on teachers' emotions (Leithwood *et al.*, 2008). According to the literature, emotional reframing can have a key role in promoting motivation and commitment. For example, in emotion-focused therapy and emotion coaching, participants describe the transformation of their negative emotions to more positive ones as a result of expanding the alternative meanings of emotion-eliciting events and cultivating a sense of personal agency (Fosha, 2000). In times of crisis, emotional reframing in manager-employee interactions is said to enhance employees' sense of integration in the organization (Ashforth and Kreiner, 2002). The theoretical model that guides the present study is presented in Figure I.

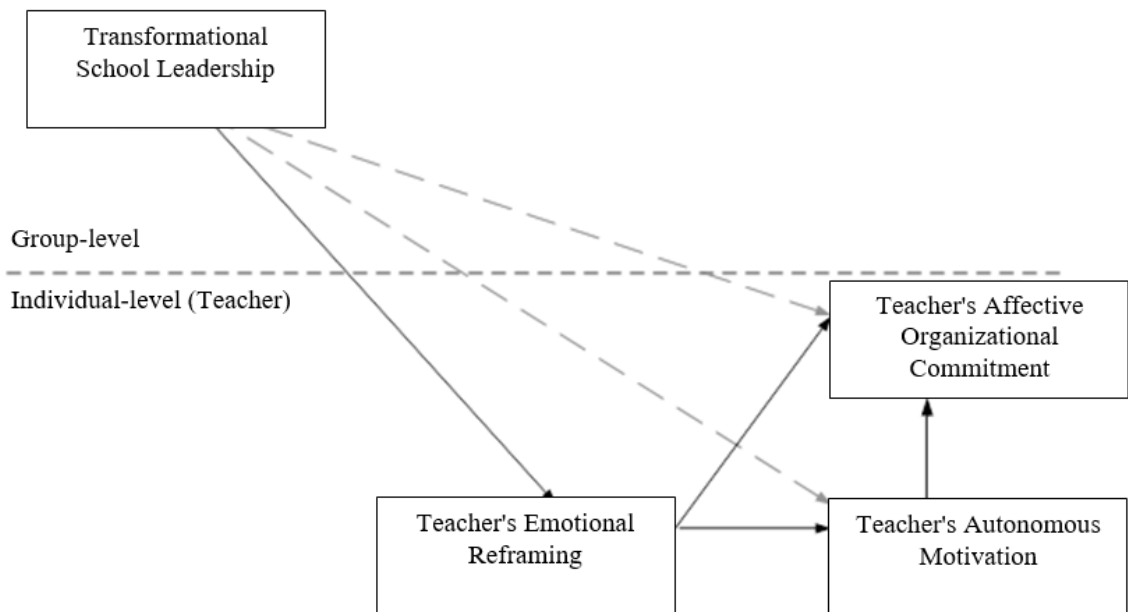


Figure I. Proposed model. All the hypothesized relationships are positive

Theoretical framework and hypotheses

Transformational leadership and followers' emotional reframing by a leader

Transformational leadership is considered to be an ideal model for school leaders, and has been proven to promote student development indirectly by effecting teachers' attitudes and behaviors (Leithwood and Sun, 2012). Transformational behaviors are said to encourage followers to transcend their self-interest for the good of the organization (Bass, 1985). The transformational style includes behaviors exhibiting idealized influence (charisma), motivational inspiration, intellectual stimulation, and individual consideration (Bass and Avolio, 1994). Numerous scholars have argued that part of transformational leaders' power lies in their ability to alter followers' emotional experiences (Ashforth and Humphrey, 1995; Popper, 2005). Empirical findings show that charismatic leadership (included in the transformational leadership construct) is positively related to followers' positive emotions and negatively to their negative ones (Erez *et al.*, 2008). Scholarly claims also portray transformational educational leadership as having an emotional base (Slater, 2005) and suggest that it can stimulate hope (Walker, 2006). Empirical evidence shows that principals' transformational leadership predicts teachers' sense of being energized by their work (Geijsel *et al.*, 2003). However, it is unclear how such emotional influence is produced.

One promising mechanism describing the emotional change associated with transformational school leadership is related to emotional reframing. Social players in organizations frequently try to reframe and improve the negative emotions of the target by introducing new information or new perspective regarding the meaning of the emotion or situation (Ashforth and Kreiner, 2002; Williams, 2007). According to Kupers and Weibler (2006), transformational behaviors cause followers to reinterpret negative emotions in a more positive way, mainly by challenging them intellectually and offering a different outlook on the situation, and by providing them personal support and encouragement. Qualitative evidence attests to the presence of principals' behavior that encourages teachers to consider alternative perspectives of a potential negativity-eliciting event, and that such behavior is effective (Hanhimäki and Tirri, 2009). The literature above draws attention to the emotional reframing of subordinates caused by transformational leaders, and emphasizes the need to investigate this variable as a possible mechanism of the various effects transformational leadership exerts.

Emotional reframing as mediating the relationship between transformational leadership and followers' autonomous motivation

Work motivation is the individual drive to pursue job-related goals (Gagne and Deci, 2005). Motivation is especially valuable for organizations in its autonomous form, when the goals are pursued out of one's own interest or because the individual attributes importance to it (Williams *et al.*, 2002). According to self-determination theory, when psychological needs of autonomy, self-competence, and relatedness are fulfilled, individuals experience autonomous motivation in their activities (Ryan and Deci, 2000). They also experience autonomous motivation (i.e., being self-determined) when they perceive themselves as selecting activity goals through internal agency and initiative (Roth *et al.*, 2007), so that their interest, or the recognition of the importance of external goals and values lead them to self-determination (Ryan and Deci, 2000). Individuals are more likely to experience autonomous motivation when they feel competent (Ryan and Deci, 2000), as self-motivation involves using self-prescribed standards, such as perceived self-efficacy, to assess one's performance in a given activity (Bandura, 1977). Autonomous motivation is particularly important in teaching because teachers work behind closed doors (Eden, 2001) and because teachers' motivation has an emotional basis (Sutton and Wheatley, 2003).

Scholars have traditionally connected transformational leadership behaviors with followers' autonomous motivation; the behaviors were described as incorporating elements of autonomy and competence support (Bono and Judge, 2003; Eyal and Roth, 2011). More specifically, the literature suggests that transformational behaviors shape a non-controlling work environment that supports employees' self-determination, because leaders acknowledge employees' viewpoints and support their needs (Bono and Judge, 2003; Eyal and Roth, 2011). Furthermore, transformational leaders articulate a value-based vision that frames the meaning of work (Shamir *et al.*, 1993), which becomes shared with the teachers and valued by them, thus cultivating their autonomous motivation (Bono and Judge, 2003). Empirical studies conducted in business organizations (Bono and Judge, 2003) and in educational settings (Eyal and Roth, 2011) show that transformational leadership affects followers' autonomous motivation. Although the link between transformational leadership and autonomous motivation has been explored (Eyal and Roth, 2011), the role that emotional

mechanisms play in mediating the effects of leadership behaviors on followers' motivation is underexplored.

The literature has offered some insights about the role of followers' experiences of emotional reframing by a leader as a mediator of the effect between transformational leadership and motivation. Evidence from psychological research indicates that in therapy, emotional reframing experiences are associated with developing patients' internal agency (Fosha, 2000). Such intrinsic agentic inclination is closely related to the description of self-determination. Moreover, positive emotions in themselves provide additional psychological resources and expand one's thought repertoire (Fredrickson and Branigan, 2005), thus supporting competence and autonomy. Similar effects were noted in educational research. For example, teachers who experienced ethical dilemmas and perceived their principals as encouraging them to reframe their emotions, described an increase in their sense of capability and adaptability (Hanhimäki and Tirri, 2009), which promoted their sense of self-competence. Therefore, we hypothesize that:

Hypothesis 1: Teachers' emotional reframing mediates the relationship between principals' transformational leadership behaviors and teachers' autonomous motivation.

Emotional reframing as mediating the relationship between transformational leadership and followers' affective organizational commitment

The second type of desired organizational outcomes frequently associated with transformational school leadership is organizational commitment (Sun, 2015). At present, schools are said to be highly dependent for success on teachers who are committed to school objectives and values (Hulpia *et al.*, 2011; Somech and Bogler, 2002). Organizational commitment is “a psychological link between the employee and his or her organization” (Allen and Meyer, 1996, p. 252). Organizational commitment is a multi-component construct, but affective organizational commitment is often the main focus of organizational behavior research because it represents the positive attachment of employees to the organization, reflected in their sense of belonging and loyalty to the organization (Avolio *et al.*, 2004; Walumbwa and Lawler, 2003). The literature suggests that transformational leadership that address followers' needs, promotes shared responsibility and identification of followers with the

organizational vision, and thus encourages high levels of affective organizational commitment (Shamir *et al.*, 1993; Walumbwa and Lawler, 2003). Empirical evidence supports the existence of this association (Walumbwa *et al.*, 2004).

The link between transformational leadership and subordinates' organizational commitment has also been explored and confirmed in principal-teacher relations. Multiple works including: Koh, Steers, and Terborg (1995) who explored 846 Singaporean teachers; Geijsel, Slegers, Leithwood, and Jantzi (2003) who studied 1,347 teachers from the Netherlands; and Canada, Nguni, Slegers, and Denessen (2006) who surveyed 560 teachers in Tanzania and Ross and Gray (2006) who explored 3,074 teachers in Canada, demonstrated that transformational school leadership had direct effect on teachers' organizational commitment.

Despite the interest in the link between transformational leadership and organizational commitment, it is unclear what role emotional mechanisms play in exercising the effects of leadership behaviors on commitment. Teachers' organizational commitment is perceived to have an emotional base (Sun and Leithwood, 2015), but these claims have not occupied center stage in empirical investigations in school leadership research. The organizational literature suggests that transformational leaders attend to followers' needs by providing socio-emotional support to them (Harms and Credé, 2010). Managers' emotional support of employees by promoting emotional reframing is said to be most relevant when employees experience intense negative emotions at work, which might threaten their attachment to the job and to the organization (Ashforth and Kreiner, 2002). Moreover, some arguments in the psychological literature propose that emotions and emotional transformations may play a key role in promoting commitment (Fosha, 2000; Lawler, 2001) because they influence one's attachments (Meyer and Turner, 2002). Thus, it is possible that principals' transformational behaviors influence teachers' experience of emotional reframing which in turn promotes teachers' commitment. Accordingly, we hypothesize that:

Hypothesis 2: Teachers' emotional reframing mediates the relationship between principals' transformational leadership behaviors and teachers' affective organizational commitment.

Followers' autonomous motivation and emotional reframing as mediating the relationship between transformational leadership and followers' organizational commitment

Based on the literature, we suggest that the emotional and motivational mechanisms through which transformational leadership influence teachers' affective commitment are linked to goal appraisals that play a key role in all these constructs.

Transformational leadership has been found to affect employees' goal valence and goal clarity (Wright *et al.*, 2012). It has been suggested that employees' emotional experiences influence their cognitive expectancy about the probability that their behaviors will lead to the desired outcomes, thus indirectly affecting their commitment and their efforts in the service of the goal (Seo *et al.*, 2004). Research has also found that politicians' messages (somewhat parallel to visionary behaviors of transformational leaders) inspired enthusiasm and thus motivate potential voters to participate in elections and strengthen their existing loyalties (Brader, 2005).

Moreover, lab experiments revealed that even the mere representations of significant others (including general authority figures) influence the significance that individuals ascribe to their efforts and to the level of their goal commitment (Shah, 2003).

Transformational leadership is therefore likely to affect both followers' motivation and commitment through experiences of emotional transformation, such as emotional reframing.

To further develop the model, we suggest an additional path between teachers' motivation and their commitment. In the context of a workplace, motivation and commitment are viewed as closely related. Whereas one's motivation indicates willingness to devote personal resources and effort to assigned tasks, one's commitment indicates the intention to invest resources and effort to make a career in the organization (Nias, 1981). In education, discussing teachers' organizational commitment, Kushman (1992), claimed that being organizationally committed has led teachers to devote more time and energy in school. Empirical evidence from longitudinal studies indicates that employees' autonomous motivation at T1 is positively related to their affective organizational commitment at T2 (Bono and Judge, 2003; Gagné *et al.*, 2008). The educational literature indicates that teachers' self-efficacy, which is often viewed as a component of motivation, is an important mediator of relationships between transformational school leadership and teachers' commitment to change, extra effort, their participation in decision making, and their

engagement in professional learning (Geijsel *et al.*, 2003; Thoonen *et al.*, 2011). Thus, we hypothesize that:

Hypothesis 3: Teachers' emotional reframing and their autonomous motivation mediate the relationship between transformational school leadership and teachers' affective organizational commitment (i.e., transformational school leadership → emotional reframing → autonomous motivation → affective organizational commitment).

Method

Participants and procedure

The data used in the study is part of a database on school leaders and emotions, but the present hypotheses are first presented and explored here. Data were collected from a random sample of 69 primary schools located in Israel. The Israeli educational system was founded as a centralized one. This feature is manifest in the tight control in financial, administrative, organizational, pedagogical, and structural aspects of public primary schooling (Addi-Raccah, 2015). The nature of public primary education, however, has changed in recent decades. The introduction of autonomous schools, parental choice, and self-based management in the 1990s, and national standardized testing in the early 2000s (Berkovich, 2014; Feniger *et al.*, 2016) promoted marketization and accountability in primary public education (Addi-Raccah, 2015; Feniger *et al.*, 2016). Changes in education, particularly those motivated by neoliberal logic, have been associated with teachers' experiencing emotional turmoil, lower intrinsic motivation, and lower commitment (Van Veen and Slegers, 2009). Somewhat similar effects have been documented in Israel (Avgar *et al.*, 2012). In light of these findings, the possibility that principals reframe teachers' negative emotions seems significant in the face of school reforms.

The sampling frame was based on a list of the Ministry of Education (64% recruitment rate out of 107 schools approached). All surveys were performed at schools during work hours, in the presence of research assistants. Teachers' participation in the study was voluntary (79% response rate). The respondents were assured anonymity, and specific assurances were made that data collected will be available only to the research staff, be used solely for scientific study, and that teachers' and schools' identities will not be disclosed in publication. On average 9.5

teachers ($SD = 2.27$) per school participated in the study, and in total 639 teachers responded to the survey. Of these, 92% were women, similarly to their proportion in the national system (CBS, 2013). Their average age was 41.62 years ($SD = 10.20$) and their average organizational tenure was 16.82 years ($SD = 9.70$). We divided participants in each school into two equal groups in order to reduce common method variance (Podsakoff *et al.*, 2012). The split sample method has been found effective in reducing parameters' bias in data collected in cross-sectional designs (Lai *et al.*, 2013). Group A teachers evaluated the school principals' transformational leadership behaviors, whereas Group B teachers evaluated their individual levels of emotional reframing, autonomous motivation, and affective organizational commitment. Surveys were conducted in a pen-and-paper format.

Measures

Transformational school leadership. Transformational leadership is defined as a set of behaviors that encourage individuals to transcend their self-interest and perform beyond expectations for the good of the group or organization (Bass, 1985). We used the Multifactor Leadership Questionnaire (MLQ) version 5X to assess transformational leadership (Bass and Avolio, 1994). The instrument contains 16 items divided into 4 sub-scales measuring idealized influence, inspirational motivation, intellectual stimulation, and individualized consideration behaviors. Since the focus of this study was principal behavior and not attributes, we omitted the sub-dimension of idealized influence relating to subordinates' attributions of principal charisma (Føllesdal and Hagtvet, 2013). Sample items: "Provides reasons to change my way of thinking about problems" and "Communicates a positive and hopeful outlook for the future of our organization." Responses were provided on a five-point Likert scale, ranging from 1 (not at all) to 5 (always).

The correlations between the four transformational leadership sub-scales ranged from .76 to .96, with an average r of .86. This led us to explore an alternative integrated index of transformational leadership that is often adopted in the literature (see Dust *et al.*, 2014; Liao and Chuang, 2007), which is considered a more preferable structure for reasons of parsimony (Carless, 1998). The results of the confirmatory factor analysis (CFA) conducted using Mplus 6.12 (Muthén and Muthén, 1998-2011) demonstrated a good fit of the one-factor model: $\chi^2 (96, N = 319) = 218.51$, comparative fit index (CFI) = .95, Tucker Lewis index (TLI) = .94, root-mean-square

error of approximation (RMSEA) = .06, and standardized root-mean-square residual (SRMR) = .06. Thus, we calculated a combined scale of transformational leadership, for which Cronbach's alpha was 0.91.

Teacher's experience of emotional reframing by principal. Emotional reframing can be defined as cognitive sense-making that involves the transformation of negative affect, which occurs when an individual reevaluates a self-relevant emotion-stimulating situation in a more positive manner, as the product of a social construction that is encouraged by another individual. We used an adaptation of the emotional reappraisal sub-scale from the Emotion-Regulation Questionnaire (ERQ) of Gross and John (2003) to measure emotional reframing. Similar logic to the one used in our adaptation, i.e., building on self-emotion regulation strategies to conceptualize or to measure equivalent interpersonal emotion regulation strategies, can be found in other works in management studies, such as Williams (2007) and Thiel, Connelly and Griffith (2012). Six items were adapted from self-report to other-report to describe interpersonal effect of others on one's emotional experience. Sample item: "When my principal wants me to feel a more positive emotion, he/she changes the way I'm thinking about the situation." As we speculated that emotional reframing by supervisor is an implicit phenomenon that is more difficult to bring to awareness, we anticipated the responses to distribute at the extremes, therefore we selected an agreement scale that is recommended in the literature for these kinds of situations (Marfeo *et al.*, 2014). Participants were asked to rank their agreement on a 7-point Likert scale, ranging from 1 (strongly disagree) to 7 (strongly agree). Cronbach's alpha was .87 for the scale.

Teacher's autonomous motivation. Autonomous motivation is defined as the extent to which a goal is pursued based on internal drive and meaning, which reflect one's core self (Eyal and Roth, 2011). We used the scale developed by Roth *et al.* (2007), which was specifically designed to measure autonomous motivation among teachers. The autonomous motivation scale contains two types of motivation (4 items each): identified/integrated (the two cannot be separated empirically, see Eyal and Roth, 2011) and intrinsic. Respondents were asked to indicate the extent to which they agreed with various causes describing their investment in their work. Sample item representing identified/integrated motivation: "[...] because it is important for me to make children feel that I care about them;" sample item representing intrinsic motivation: "[...] because I enjoy finding unique solutions to various students."

Responses were provided on a 5-point Likert scale, ranging from 1 (disagree) to 5 (fully agree). The autonomous motivation score combined the identified/integrated and intrinsic scales (see Eyal and Roth, 2011). Cronbach's alpha was 0.82 for the scale.

Teacher's affective organizational commitment. Affective organizational commitment is defined as the employee's emotional attachment and identification with the organization (Avolio *et al.*, 2004). We used the questionnaire developed by Porter, Mowday, Steers, and Boulian (1974) to measure teachers' affective organizational commitment. The questionnaire contains 9 items. Sample item: "This school has a great deal of personal meaning for me." Participants were asked to rank their responses on a 5-point Likert scale, ranging from 1 (disagree) to 5 (fully agree). Cronbach's alpha was 0.89.

Control variables. We controlled for the following variables: teacher's age, scope of employment, principal's gender, and team size. We controlled for age because previous research suggested that it may affect organizational commitment (Walumbwa *et al.*, 2004) and autonomous motivation (Wang and Gagné, 2013). Additionally, we included scope of employment as a control variable (i.e., part time/full time) because it has been suggested that it affects employee commitment levels (Lee and Johnson, 1991). We also controlled for possible effects of team size because previous research suggested that team size affects employees' organizational commitment (Kirkman and Shapiro, 2001) and their autonomous motivation (Leroy *et al.*, 2012). Finally, we controlled for principal's gender because it has been suggested that leader's gender correlates with followers' affective organizational commitment (Zhu *et al.*, 2013) and can confound the relationships between the variables of interest.

Construct validity of the individual-level data

We conducted a set of confirmatory factor analyses (CFA) to examine the discriminant validity of the individual-level data collected by teachers' self-report measures (i.e., emotional reframing, autonomous motivation, and organizational commitment) (see Table I). We used Mplus software, version 6.12 (Muthén and Muthén, 1998-2011) to load the items about various configurations of latent factors and compare the fit of different measurement models. First, we specified a model in which the items were set to load on their three theoretical factors. Results demonstrated that the three-factor model (CFA1) in which the factor correlation

parameters were not constrained fit the data well: $\chi^2 (226, N = 320) = 394.11$, CFI = .94, TLI = .94, RMSEA = .05, and SRMR = .04. Next, in a second alternative two-factor model (CFA2) we set the correlation parameters between two constructs (i.e., emotional reframing and autonomous motivation) at 1.0. Additionally, we set the covariances between the emotional reframing and autonomous motivation on one hand, and the third factor on the other, as equal. This second model fit the data significantly worse than did the hypothesized three-factor model: $\Delta\chi^2 (2, N = 320) = 143.55, p < .01$. Subsequently, we established a third two-factor model (CFA3) by constraining emotional reframing and organizational commitment to perfectly correlate with each other. In this model as well, we fixed the two previously mentioned factors to have equal covariances with the other factor. Results indicated that this model also displays inferior fit compared with the proposed three-factor model: $\Delta\chi^2 (2, N = 320) = 94.69, p < .01$. We further explored a fourth alternative model (CFA4), in which we fixed the correlations between two work-related constructs, that is, autonomous motivation and organizational commitment, at 1.0, and constrained them to have equal covariances with the third factor. This model also showed worse fit than did the base model: $\Delta\chi^2 (2, N = 320) = 198.61, p < .01$. Next, we specified a fifth alternative one-factor measurement model (CFA5), in which the correlation parameters between all three factors were set to 1.0. This one-factor model showed poorer fit to the data than did the hypothesized three-factor model: $\Delta\chi^2 (3, N = 320) = 200.90, p < .01$.

Table I. Results of confirmatory factor analyses

Measurement Models	χ^2 (<i>df</i>)	$\Delta\chi^2$ (Δdf)	CFI	TLI	RMSEA	SRMR
CFA1: three-factor model (ER, AM, AOC)	394.11 (226)	-	.94	.94	.05	.04
CFA2: two-factor model (ER and AM combined, AOC)	537.66 (228)	143.55 (2) ***	.89	.89	.07	.08
CFA3: two-factor model (ER and AOC combined, AM)	488.80 (228)	94.69 (2) ***	.91	.90	.06	.05
CFA4: two-factor model (ER, AM and AOC combined)	592.72 (228)	198.61 (2) ***	.88	.87	.07	.06
CFA5: one-factor model	595.01 (229)	200.90 (3) ***	.88	.87	.07	.06
CFA6: three-factor plus CM factor model	373.66 (225)	20.45 (1) ***	.95	.94	.05	.04

Notes: CFI = comparative-fit index; TFI = Tucker Lewis index; RMSEA = root mean square of approximation; SRMR = standardized root mean square residual.

ER – emotional reframing; AM – autonomous motivation; AOC – affective organizational commitment

*** $p < .001$.

Finally, as our individual-level data were collected concurrently from teachers in Group A by a self-report questionnaire, we considered it appropriate to include an unmeasured common method (CM) factor in a sixth alternative model (CFA6) to inspect the common method effect. Following the statistical remedies suggested in the literature (Podsakoff *et al.*, 2012), we included a latent method factor and loaded all individual level self-reported items on their theoretical constructs, as well as on a single CM factor. Additionally, we specified the loadings on the CM factor as equals and the CM factor correlations with the latent variables as zero. The sixth model with the CM factor resulted in a significant improvement in model fit: ($\Delta\chi^2(1) = 20.45, p < .01$). The results, however, indicated that the CM factor was responsible for only 14.44% of the total variance described by the measurement model. This proportion was much lower than the 25% limit of common method variance reported in the literature (see Williams *et al.*, 1989). Therefore, despite the accounted influence of the common method on individual level self-reported data, it is unlikely that it dramatically biases the testing of the hypotheses.

Levels of analysis

It is presumed that leadership behaviors are applied in a uniform manner toward group members (see Bono and Judge, 2003), so that employees working under the same principal are influenced by similar leadership behaviors (Kark *et al.*, 2003). Therefore, transformational leadership was examined as a group-level variable. We calculated aggregation indices to verify whether it is possible to aggregate leadership ratings. Results of the interclass correlation coefficients indicated support for aggregation of transformational leadership: ICC (1) = .38, ICC (2) = .90. As employees rated their supervisors, with whom they have long-lasting relationships, it is likely that employees used a “go along to get along” heuristic, which influenced their systematic processing (Chen *et al.*, 1996), thus generating a skewed distribution. The average $rwg(j) = .73$ computed for the medium-skew distribution (range = 0.53–0.99) was above the minimum mean $rwg(j)$ value of .70 (James, 1988). We aggregated the transformational leadership score of teachers in Group A with the group level. By contrast, because we were interested in exploring the manifestations of emotional reframing, autonomous motivation, and affective organizational commitment at the individual level, we treated them as individual-level variables. We formulated a cross-level model in which we aggregated transformational leadership behaviors (a group-level variable) and tested their effects on emotional reframing, autonomous motivation, and affective organizational commitment (i.e., individual-level variables).

Analytic strategy

Because we aimed to explore data with a nested structure, we used multilevel structural equation modeling (ML-SEM) to test our hypotheses. We utilized the Mplus 6.12 software (Muthén and Muthén, 1998-2011) to estimate the hypothesized mediation model. The software allows examining hierarchical data in a path model and enables correct estimation of parameters and errors. Furthermore, to investigate our multilevel mediation hypotheses, we applied Preacher, Zyphur, and Zhang's (2010) Monte Carlo bootstrap method, which generates confidence intervals that assist in drawing conclusions about the significance of the indirect effect (see the online R-based calculator at <http://www.quantpsy.org>).

Results

Means, standard deviations, and bivariate correlations are shown in Table II. At the individual level, teachers' emotional reframing was positively correlated with their autonomous motivation ($r = .18, p < .01$) and with affective organizational commitment ($r = .39, p < .01$). The correlations found provided some preliminary support for the hypothesized relations.

Table II. Means, standard deviations, and bivariate correlations between studied variables

Variables	M	Individual -level (<i>SD</i>)	Group-level (<i>SD</i>)	1	2	3	4	5	6	7	8
<i>Group-level</i>											
1. Transformational school leadership (aggregated)	4.01		.43	.91							
2. Team size	21.30		3.17	.08	-						
3. Principal's gender (1 = male and 2 = female)	1.73		.44	.14	-.12	-					
<i>Individual-level (Teacher)</i>											
4. Emotional reframing	4.31	1.43					.87				
5. Autonomous motivation	4.39	.54					.18**	.82			
6. Affective organizational commitment	4.04	.62					.39**	.42**	.89		
7. Age	41.62	9.97					.08	.18**	-.01	-	
8. Scope of employment (in percentage)	87.18	20.22					.07	.19**	.08	-.03	-

Notes: N = 69 for group-level variables. N = 320 for individual-level variables. Cronbach's alphas are reported in bold on the diagonal.

* $p < .05$. ** $p < .01$.

The proposed model describing mediated effects of transformational school leadership on work-related outcomes through emotional reframing is displayed in Figure II (Hypothesized model: $-2 \log\text{-likelihood} = 7310.76$ [38], Akaike Information Criterion [AIC] = 7387.72, Bayesian Information Criterion [BIC] = 7529.59, Sample-Size Adjusted BIC = 7409.07). A comparison between the hypothesized model and an alternative restricted model, in which we restricted the direct paths from emotional reframing to teachers' work-related outcomes, produced a significantly worse fit of the constrained model ($\Delta\text{-2 Log Likelihood} = 39.52$ [2], $p < .001$, AIC = 7422.2, BIC = 7556.68, Sample-Size Adjusted BIC = 7442.50).

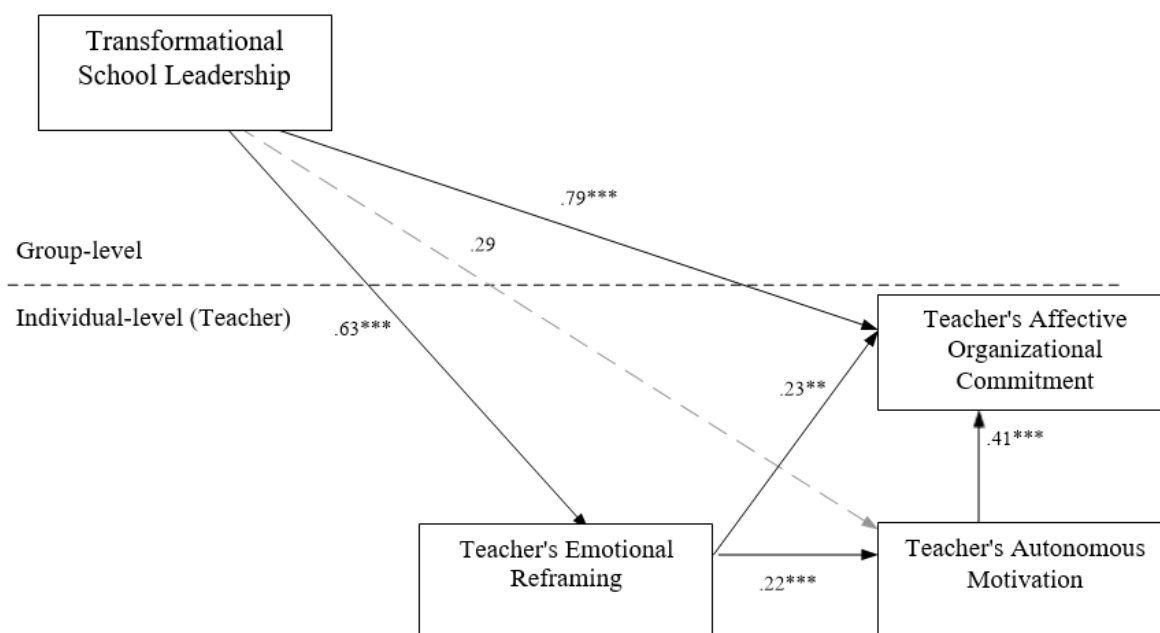


Figure II. Standardized path coefficients derived from the ML-SEM model. For the sake of brevity, the figure does not include the effects of principal's gender, team size, teacher's age, and scope of employment on individual-level variables. Interested readers can obtain these estimates by contacting the authors. ** $p < .01$. *** $p < .001$

It was hypothesized that emotional reframing mediates the relationship between transformational school leadership and teachers' autonomous motivation (Hypothesis 1). Consistent with this hypothesis, Figure II shows that transformational school leadership was found to be positively related to emotional reframing ($\gamma = .63$, $p < .001$), and emotional reframing was positively related to teachers' autonomous motivation ($\gamma = .22$, $p < .001$), whereas the direct path between transformational school leadership and teachers' autonomous motivation was non-significant ($\gamma = .29$, ns). The hypothesized mediation model explained

7% of the total variance in autonomous motivation, and the use of emotional reframing as a mediator was specifically related to 4% of the explained variance in motivation. The proposed cross-level indirect relationship was explored by a parametric bootstrap method (Preacher *et al.*, 2010). Results of 20,000 Monte Carlo replications indicated that there was a positive indirect relationship between transformational school leadership and autonomous motivation through emotional reframing (indirect effect = .070, 95% bias-corrected bootstrap CI [.025, .123]). Thus, Hypothesis 1 was supported. According to Baron and Kenny (1986), this situation describes full mediation.

We also hypothesized that emotional reframing mediates the relationship between transformational school leadership and teachers' affective organizational commitment (Hypothesis 2). As shown in Figure II, transformational school leadership was positively related to emotional reframing ($\gamma = .63, p < .001$), and emotional reframing was positively related to teachers' affective organizational commitment ($\gamma = .23, p < .01$). The direct path between transformational school leadership and teachers' affective organizational commitment, however, remained significant ($\gamma = .79, p < .001$), indicating only partial mediation. The hypothesized mediation model explained 29% of the total variance in affective organizational commitment, and the use of emotional reframing as a mediator was specifically related to 5% of the explained variance in commitment. With 20,000 Monte Carlo reproductions, findings indicated that there was a positive indirect relationship between transformational school leadership and teachers' affective organizational commitment through emotional reframing (indirect effect .111, 95% bias-corrected bootstrap CI [.048, .189]). Therefore, results showed partial mediation (Baron and Kenny, 1986) and indicated partial support of Hypothesis 2.

Hypothesis 3 predicted that emotional reframing and autonomous motivation sequentially mediate the relationships between transformational school leadership and affective organizational commitment. In addition to the positive relations described above, the model indicated that teachers' autonomous motivation was positively related to affective organizational commitment ($\gamma = .41, p < .001$), which supported our hypothesis. Parametric Monte Carlo bootstrap results with 20,000 replications indicated that the indirect effect for transformational leadership \rightarrow emotional reframing \rightarrow autonomous motivation \rightarrow affective organizational commitment was .046, with a 95% CI of [.035, .057]. Hence, we found support for partial mediation (Baron and Kenny, 1986), and Hypothesis 3 was partially supported.

Discussion

The present study examined the role of emotional reframing as a mediator of the effect of transformational school leadership behaviors on teachers' work-related outcomes: autonomous motivation and organizational commitment. The findings support the hypothesized model. First, we found that teachers' emotional reframing fully mediated the cross-level effect of transformational school leadership on teachers' autonomous motivation. Second, we found that emotional reframing partially mediated the relationship between transformational school leadership and teachers' affective organizational commitment. Third, we found that teachers' emotional reframing and autonomous motivation partially mediated the relationship between transformational school leadership and teachers' affective organizational commitment.

Theoretical implications

The present study has several theoretical implications. First, our findings extend the current understanding of the operational emotional mechanism of transformational leadership. They support the theoretical claims that the strength of transformational leadership lies in its ability to transform followers' emotional experiences (Ashforth and Humphrey, 1995; Popper, 2005) and demonstrate the centrality of emotional reframing in mediating the effect of transformational school leadership on teachers' work-related attitudes. Emotional experience is crucial when exploring one's interactions with the social world, because it is a key lens used in the process of meaning making (Denzin, 1984). We conceptualize emotional reframing as an outcome of social construction resulting from interactions with principals, and not as an intrapsychic phenomenon, as our study specifically examined principals' role in mobilizing teachers' sense making. To the best of our knowledge, this is the first empirical study to explore teachers' experience of emotional reframing as a mechanism mediating the effects of transformational behaviors on teachers' work-related attitudes. This mechanism of operation may be particularly valuable when pressures on the institutional environment of schools increase, and principals are expected to act as buffers and stabilizers (Bidwell, 2001). For example, Blackmore (1996) found that during accountability reform principals serve as emotional middle managers assisting teachers emotionally.

Second, study findings indicate the importance of emotional reframing in translating external effect on highly internalized attitudes, because it was found to fully mediate the effect of transformational school leadership on teachers' autonomous motivation. The literature suggests that leaders' effect on followers' autonomous motivation is exercised by

shaping contextual elements in the organizational structure and routine (Stone *et al.*, 2009). In education, however, principals' power to shape the work context is considered limited (Oplatka, 2007). The present findings suggest an alternative explanation as they emphasize that employees' subjective experience of emotional reframing is a main mechanism facilitating the effect of transformational principals. Hence, individuals' autonomous motivation is shaped by the emotional meaning they assign to the social world around them with principal's help. One possible interpretation of the findings is that emotional reframing expands teachers' autonomy because it enables them to assign alternative meaning to events. When there is a possibility of an alternative interpretation individuals feel that they have a choice, which is the basis for an autonomous experience. The results indicate that the effect of transformational leadership on followers' autonomous motivation is more modest, accounting for about 3% of the variance, than one might infer from claims in the theoretical leadership literature (e.g., Bass, 1985; Shamir *et al.*, 1993), but this was not the focus of the study. With that said, it is worth remembering that individuals are not devoid of motivation (i.e., a "blank canvass") in regard to job activities. For example, prospective teachers report a sense of personal calling motivating them to work in education (Farkas *et al.*, 2000). Thus, principals' effect on employees' with such highly internal drive can be interpreted as quite significant.

Third, our findings can offer new insights into how transformational school leadership promotes teachers' organizational commitment through emotional processes, given that we found support of a partial mediation effect. This finding may be viewed as expanding our knowledge about the emotional process involved in leaders' effect on followers' organizational identification (Shamir *et al.*, 1993). The findings help explain previous work indicating that teachers facing intense ethical dilemmas in school were assisted by principals' encouragement to reappraise the situation more positively and feel more integrated at the job and the school (Hanhimäki and Tirri, 2009). Promoting positive emotions around workplace events solves the cognitive dissonance and the mental distress produced by experiencing negative emotions at work while remaining in the organization. This issue is particularly important in education because teachers' professional identity is a confounding construct for organizational commitment. For example, Bogler and Somech's (2004) study of school teachers reports a 0.68 correlation between the two. Leaders' emotional support of employees is most crucial when they experience intense negative emotions at work (Ashforth and Kreiner, 2002). At the same time, we found only partial mediation effects of transformational school leadership on teachers' affective organizational commitment through emotional

reframing and in the chain that included both emotional reframing and motivation. These findings suggest that additional mediators may play a role in mediating this effect, which must be accounted in future works; nevertheless, emotional reframing proved to be an important mediating mechanism of the effect of transformational behaviors on commitment.

Forth, the current research contributes to the growing body of literature on teachers' emotions (see Schutz and Zembylas, 2016; Zembylas and Schutz, 2009). Psychological research on teacher emotions has focused on the influence of students' behaviors on teachers' affect (Frenzel, 2014), but little is known about the effect of other workplace actors' behaviors (e.g., principals) on teacher emotions (Berkovich and Eyal, 2015). The study contributes to knowledge about how teachers cope with their negative emotions. Teachers have stated in qualitative interviews that they use reactive emotion regulation strategies, which are based on conversations with peers, to improve their negative affect (Sutton *et al.*, 2009). But until the present study, the behavior of workplace social actors involved in such a process was unclear, and its importance to teachers' work outcomes was unknown. The present findings are particularly valuable because most of the current knowledge about teachers' emotions is the product of qualitative narratives, and few experimental designs and field surveys that can be generalized have been used (Frenzel, 2014). The present study and the construct of emotional reframing can open the door for exploring the roles of other social actors who are known to provide social support for teachers, such as partners, coordinators, school counselors and psychologists within schools (Tatar, 2009), and family and friends outside schools (Sutton *et al.*, 2009).

Practical implications

Our findings have several practical implications. The research was conducted in Israel at time of gradual systemic transition into accountability mode, which emphasizes evaluation of schooling outcomes (Berkovich, 2014). When reforms are frequent and evoke negative emotions in teachers (Blackmore, 1996; Kelchtermans, 2005), principals must reflect more about their leadership behaviors given the outcomes of these behaviors on teachers' emotional processes. Development initiatives for acting principals can help them become more aware of how teachers are emotionally affected by their actions. Moreover, preparation programs can train aspiring school leaders to understand how transformational behaviors are linked with the experience of emotional reframing. Such training initiatives may include the use of group-based training, which involves role playing (see Barling *et al.*, 1996). The findings also suggest that policymakers should promote teachers as autonomous professionals, and should

invest not only in developing teachers' pedagogical and didactic skills but also in enabling daily access to transformational school leaders who can provide the emotional support needed for the maintenance of teachers' self-determination and commitment.

Limitations and future research directions

The study has several limitations. First, because at the individual level study variables were measured from the same source by the same method at the same time, it is possible that common method variance artificially inflated the relations found. We applied the recommended statistical strategy to assess this effect (Podsakoff *et al.*, 2012) and found it to be relatively low. Although our findings are consistent with previous theoretical arguments, cross-sectional design in field study is known to limit the ability to infer causality, and therefore a cause-effect chain cannot be deduced. Future studies including similar variables should adopt a within-person longitudinal or experimental design and collect data at different points in time.

A second limitation is related to potential moderators relevant to real-life relationships such as relational trust and personality traits. Previous arguments suggest that leaders' perceived trustworthiness, manifested in relational transparency and consistency, is necessary to fully understand the relationship between leaders' behaviors and followers' emotional dynamics (De Cremer, 2006). Trust can shape the interpretation of the motives and actions of others (Uzzi, 1997). Another set of variables that may play a role in teachers' emotional reframing concerns personality traits. For example, personality traits such as neuroticism and extraversion, have been found to be linked with a tendency toward self-reappraisal (Gross and John, 2003) and to be associated with individuals' willingness to open up and seek help (Nir, 2009; Tatar, 2009). Further exploration is therefore advisable. Despite the limitations of the current study, the findings demonstrate for the first time the importance of teachers' emotional reframing by principal as a key mechanism mediating the positive effects of transformational leadership.

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