Travail humain, Volume 79, Issue 2, 2016, pp.169-185
DOI: 10.3917/th.792.0169

Titre court: *PERCEPTION DES INSTRUCTEURS DE TRANSFORMATIONNEL*

TITRE LONG : LES COMPORTEMENTS PERÇUS INSTRUCTEUR TRANSFORMATIONNEL ET LA MOTIVATION À APPRENDRE: UN MODÈLE MÉDIATION

VICTORIA SMY, KATHERINE SHELTON, MICHAL TOMBS, & JOHN PATRICK

RÈSUMÈ

LES COMPORTEMENTS PERÇUS INSTRUCTEUR TRANSFORMATIONNEL ET LA MOTIVATION À APPRENDRE: UN MODÈLE MÉDIATION

La motivation à apprendre est un déterminant important de divers indicateurs dans l'efficacité de la formation. Par exemple, l'amélioration de la satisfaction de la formation, plus l'auto-efficacité, une plus grande intention de transférer les compétences formés, et l'amélioration des connaissances declaratives (Colquitt, LePine, & Noe, 2000). De même, le leadership transformationnel améliore les attitudes et la performance des employés, en grande partie grâce à ses effets de motivation (Bass, 1999). Toutefois, peu de recherches ont étonnamment étudié dans quelle mesure le style de comportement transformationnel l'instructeur dans des contextes de formation, peut influencer les attitudes liées à la formation ainsi que la réussite de cette formation. Un modèle a été développé sur les effets de l'instructeur, sur les attitudes des stagiaires, y compris la motivation à apprendre. Des mesures et des modèles structurels ont été évalués en utilisant les données de 578 recrues militaires britanniques subissant la première phase de la formation des recrues. Les résultats indiquent que les perceptions des stagiaires à propos des comportements de leadership de leur instructeur ont été associés positivement à la motivation à apprendre. L'instructeur a également été positivement associée à l'attitude des stagiaires concernant l'instrumentalité (Mathieu, Tannenbaum, & Salas, 1992) et la valence (l'opportunité de bien faire dans le cadre de la formation, Colquitt & Simmering, 1998), avec où les attitudes médiatisent partiellement le lien entre le style de leadership transformationnel de l'instructeur et la motivation à apprendre. La validation croisée du modèle en utilisant 371 stagiaires en formation plus spécialisée a révélé un même pattern de résultats. Ces résultats ont des implications pour les

Published by Presses Universitaires de France. This is the Author Accepted Manuscript issued with: Creative Commons Attribution Non-Commercial License (CC:BY:NC 4.0).
The final published version (version of record) is available online at DOI:10.3917/th.792.0169. Please refer to any applicable publisher terms of use.

modèles théoriques de la motivation de la formation, par identification d'un nouveau antécédent de motivation à apprendre. De plus, ces résultats ont des implications pratiques sur la formation des formateurs en les conduisant à adopter des comportements de transformation effectifs en mesure d'améliorer la motivation des stagiaires. Il existe des preuves qui suggèrent que les individus peuvent être formés au leadership transformationnel (par exemple, Dvir, Eden, Avolio & Shamir, 2002).

SUMMARY

PERCEIVED TRANSFORMATIONAL INSTRUCTOR BEHAVIOR AND MOTIVATION TO LEARN: A MEDIATED MODEL

Motivation to learn is an important determinant of various indicators of training effectiveness, such as improved satisfaction with training, higher self-efficacy, greater intent to transfer trained skills, and improved declarative knowledge (Colquitt, LePine, & Noe, 2000). Similarly, transformational leadership improves employee attitudes and performance, largely through its motivational effects (Bass, 1999). However, surprisingly little research addresses whether transformational instructor behavior, in training contexts, impacts upon training-related attitudes, and therefore also influences subsequent training success. A model was developed concerning associations between perceived transformational instructor behaviors and trainee attitudes, including motivation to learn. Measurement and structural models were assessed using data from 578 UK military recruits undergoing phase one of recruit training. Results indicate that trainee perceptions of their instructor's transformational leadership behaviors were positively associated with motivation to learn. Instructor transformational leadership was also positively associated with trainee attitudes concerning instrumentality (the Mathieu, Tannenbaum, & Salas, 1992) and valence (the desirability of doing well within the training context, Colquitt & Simmering, 1998), with these attitudes partially mediating the association between instructor transformational leadership and motivation to learn. Cross-validation of the model using 371different trainees in the more specialized, phase two phase of recruit training revealed the same pattern of significant associations. These findings have theoretical implications for models of training motivation which need to incorporate perceptions of transformational instruction. In addition, present results have practical implications as interventions aimed at training instructors to more effectively adopt transformational behaviors should be used to improve the motivation of trainees, and there is evidence to suggest that individuals can be trained to demonstrate greater transformational leadership (e.g., Dvir et al., 2002).

MOTS -CLÈS: formation; la motivation à apprendre; perceptions du comportement transformationnel

KEYWORDS: training; motivation to learn; perceptions of transformational behavior

I LES COMPORTEMENTS PERÇUS INSTRUCTEUR TRANSFORMATIONNEL ET LA MOTIVATION À APPRENDRE: UN MODÈLE MÉDIATION

PERCEIVED TRANSFORMATIONAL INSTRUCTOR BEHAVIOR AND MOTIVATION TO LEARN: A MEDIATED MODEL

This study aims to connect the training and leadership literatures by examining whether the perceived transformational leadership qualities exhibited by instructors affect trainee motivation. Theoretical models and associated evidence have emphasized the importance of trainee attitudes and motivation as important antecedents of training effectiveness (Colquitt et al., 2000; Patrick, Smy, Tombs, & Shelton, 2012). In organizational settings, transformational leaders exert positive effects on many aspects of follower behavior. Preliminary evidence indicates transformational leadership is also of relevance within training contexts (Patrick, Scrase, Ahmed, & Tombs, 2009). The following discussion considers theoretical models and empirical research from the training motivation and leadership literatures. Relationships between these research themes are outlined, and a model of perceived instructor transformational leadership and its associations with aspects of training motivation is proposed. Whilst both transformational leadership and training motivation have been applied to a diverse variety of educational and vocational contexts, the present study focuses on the impact of perceived leadership within a military training environment.

Cognitive ability alone does not account for why some trainees are more successful than others. A vital determinant of training effectiveness is due to motivation to learn (Mathieu & Martineau, 1997). Positive links have been established between training motivation and transfer intentions (Patrick et al., 2012), knowledge and skill acquisition (Klein, Noe, & Wang, 2006) and post-training self-efficacy (Mathieu, Martineau, & Tannenbaum, 1993). Indeed, in an extensive meta-analysis, Colquitt et al. (2000) linked training motivation to each of Kirkpatrick's (1967) indicators of training effectiveness; trainee reactions, learning, behavior, and organizational results. Therefore, motivation in training is a crucial determinant of training effectiveness.

In the past, it has been assumed that a well-designed training program would necessarily be motivating to trainees. However, evidence now highlights the importance of trainees' pre-training attitudes and situational factors in affecting

motivation during training (Salas, Tannenbaum, Kraiger, & Smith-Jentsch, 2012). Attitudinal antecedents of training motivation include pre-training self-efficacy (Colquitt et al., 2000), organisational commitment (Carlson, Bozeman, Kacmar, Wright, & McMahan, 2000), perceptions of training instrumentality (Mathieu et al. , 1992), and goal orientation (Chiaburu & Mirinova, 2005). Situational factors include environmental stressors (LePine, LePine, & Jackson, 2004), the reputation of the training program (Facteau, Dobbins, Russell, Ladd, & Kurdish, 1995), and being in one's chosen job (Patrick et al., 2012). In addition, interpersonal factors such as supervisor support (Al-Eisa, Furayyan, & Alhemoud, 2009) have also been found to be a factor in motivating trainees.

One such interpersonal factor that may be linked to motivation is transformational leadership. Den Hartog, van Muijen, and Koopman (1997) suggested that transformational leadership is best understood via its contrast from transactional leadership. Transactional leadership occurs when a leader exchanges resources and valued rewards for a desired level of subordinate performance or behavior (Bass, 1985). In such instances, leaders and subordinates act out of self-interest, with a transactional leader investing enough effort to provide the necessary direction and motivation to achieve organizational goals (Den Hartog et al., 1997). In contrast, transformational leaders motivate their subordinates to improved levels of performance for the collective benefit of all involved (Podsakoff, MacKenzie, Moorman, & Fetter, 1990). A transformational leader achieves this by highlighting the importance of work outcomes and activating a subordinate's desire for challenge and personal development. Transformational leaders support and encourage followers, motivating them to engage with the task in hand and invest additional efforts (Dvir et al. 2002). Transformational leaders facilitate positive change by constructing, communicating and modeling a shared vision (Podsakoff, MacKenzie, & Bommer, 1996). Bass (1985) proposed four categories of transformational behavior. Subsequent descriptions have varied in their categorizations (c.f., Bycio, Hackett, & Allen, 1995). The present paper examines transformational leadership as a general leadership style, entailing six behavioral dimensions (adapted from Podsakoff, et al., 1990): *inspirational motivation*; *appropriate role model*; *fostering the acceptance of group goals*; *high performance expectations*; *individualized consideration*; *intellectual stimulation*.

Beneficial attitudinal outcomes associated with transformational leadership include increased loyalty and engagement with organizational goals (Bass, 1999); increased employee wellbeing (Kelloway, Turner, Barling, & Loughlin, 2012), and improved levels of performance (Wang, Oh, Courtright, & Colbert, 2011). There are positive effects of transformational leadership at the organizational, team and individual performance levels (Dvir et al., 2002). Benefits are evident in multiple occupational contexts, including, but not limited to, healthcare (Munir, Nielsen, Garde, Albertsen, & Carneiro, 2012), education (Leithwood & Sun, 2012), hospitality (Gill, Flaschner, & Shacher, 2006), and military contexts (Dvir et al., 2002).

I.1 UN MODÈLE DE COMPORTMEMENT TRANSFORMATIONNEL DE L'INSTRUCTEUR SUR LA MOTIVATION DANS LA FORMATION

A MODEL OF TRANSFORMATIONAL INSTRUCTOR BEHAVIOR ON MOTIVATION IN TRAINING

Pounder (2008) suggested that transformational leadership is relevant within instructional contexts as such situations may be conceived of as small organizations. Likewise, Harrison (2011) proposed that there are sufficient similarities between organizational leaders and instructors, as both leadership and instruction situations entail complex interactions requiring communication, control and the coordination of activities, all of which takes place in a context characterized by power differentials between individuals. A critical incident study of instructor behaviors by Patrick et al. (2009) found strong relationships between multiple dimensions of instructor behavior and transformational leadership (for example, the use of instructional strategies and individual consideration). Given such characteristics, it may be expected that instructors may influence their trainees and help to shape their development through the transformational behaviors they display (Bolkan, Goodboy, & Griffin, 2011).

Preliminary evidence of the effect of perceived transformational instructor behavior in educational settings reveals positive effects of transformational qualities on cognitive learning (Harrison, 2011). Perceptions of transformational coaching behaviors have been reported to exert positive effects on the performance of athletes (Arthur, Woodman, Ong, Hardy, & Ntoumanis, 2011). In a military training setting, Hardy, Arthur, Jones et al. (2010) found that trainee perceptions of certain transformational instructor behaviors could discriminate between trainees passing or failing their training module. What has not yet been directly examined empirically is whether perceived transformational instructor behavior affects trainee attitudes pertaining to motivation to learn. Indeed, as one of the basic tenets of transformational leadership is in motivating subordinates, and motivation in training promotes training effectiveness, instructors' transformational behavior, as leaders in training domains, should contribute to improved training effectiveness. Therefore, we predict that perceptions of transformational instructor leadership will be related to improved training outcomes through its positive association with motivation to learn.

Given the malleability of motivation in training, outlining and examining mediators of the effects of motivational antecedents will contribute to determining a more comprehensive model of training effectiveness. Colquitt et al.'s (2000) meta-analysis identified valence as a mediator of multiple pre-training variables and motivation to learn. Valence, the desirability of performing well during training (Colquitt & Simmering, 1998), is one of Vroom's (1964) proposed components of motivating behavior within workplace learning contexts. A further, related construct is instrumentality, the expected long-term utility of training for improving subsequent job performance and career prospects (Burke & Hutchins, 2007). Therefore, both valence and instrumentality reflect trainees' perceptions and desires concerning the

utility or importance of engaging in training. Greater perceptions of training utility should engender greater motivation to master training content.

At present, there is no research attesting to an association between transformational instructor leadership and trainee perceptions of valence or instrumentality. However, we propose that transformational instructor leadership will be positively associated with both, through many of the transformational behaviors outlined by Podsakoff et al. (1990). For example, the perceived valence of training may be increased by instructors' demonstration of high performance expectations, as trainees may wish to achieve such standards in order to satisfy their instructor.

To summarize, the beneficial effects of transformational leadership are well-established and there are theoretical and empirical reasons to suggest that perceived transformational instructor leadership is relevant to, and can exert positive effects within training settings. However, the relationship between perceived transformational instructor leadership and motivation to learn during training has not been assessed. As motivation in training is linked to important indicators of training effectiveness, identifying attitudinal variables that are associated with motivation to learn is important. Should a link exist, identifying mediators of transformational instructor leadership will also be vital when constructing a comprehensive model of training effectiveness. Perceived instrumentality and valence are proposed as potential mediators of an association between perceived transformational instructor behaviors and motivation to learn.

II MÉTHODE

METHOD

II.1 CONTEXTE DE LA RESEARCHE

RESEARCH CONTEXT

Present research concerned the nature of training within the UK military services, following an initiative to move away from a more traditional, transactional approach, towards a more coaching-oriented approach, incorporating more transformational leadership skills in instructor behaviors. Therefore, the instructors of focus within the present research had undertaken training in both coaching and leadership skills. This had involved undertaking nine modules covering: the concepts of coaching; stressors in training; motivation; transactional vs. transformational leadership, observation, effective questioning; feedback; goal setting and visualization. On average, each module took 52 minutes to complete. Following this change, data was collected concerning perceptions of these instructors, from differing trainees during phase one and phase two of military recruit training at a total of ten different training sites. All three military services, the Army, the Royal Navy and the Royal Air Force were sampled. Basic training is compulsory for all military recruits and is divided into two phases. Phase one lasts approximately 12 weeks and is generic across all military

services. In order to pass phase one training, recruits must show a set standard of competence in a number of physical and strategic skills. Once a recruit had done so, they progress onto phase two of training. Here recruits train for the job role they will undertake during their military careers. As such, the training content, the training intensity and the length of phase two training varies considerably.

II.2 LES PARTICIPANTS

PARTICIPANTS

The phase one training sample entailed 578 recruits. Of those sampled, 87 served within the Royal Navy, 389 within the Army, and 102 within the Royal Air Force. The mean age was 20.35 years (*SD* = 2.87) and mean length of service was 2.47 months (*SD* = 1.13 months). Twenty-seven were female, 498 were male, and 80 did not disclose their gender. The phase two training sample consisted of a separate sample of 371 trainees (none of whom were sampled at phase 1). Of those sampled, 140 served within the Royal Navy, 86 within the Army, and 145 within the Royal Air Force. Mean age of this sample was 20.41 years (*SD* = 2.82) and mean length of service was 6 months (*SD* = 2.00 months), 255 were male, 29 female and 87 did not disclose their gender.

II.3 LA PROCEDURE

PROCEDURE

Questionnaires took the form of a paper and pencil survey that took approximately 30 minutes to distribute and complete. They were administered in classroom settings by researchers, and course trainers were not present.

Cronbach's alpha is reported for each measure. Whilst an alpha of .70 or above is recommended, lower coefficients can be satisfactory when a measure has a small number of items (Sijtsma, 2009). As such, alpha coefficients of .60 and above were deemed acceptable (Anastasi, 1990), although High performance expectations had a marginal value of .59. Consequently all leadership behaviors were scrutinized via confirmatory factor analysis in order to determine the measurement model with the best fit to the data (Mackenzie, Podsakoff, & Podsakoff, 2011).

II.4 MESURES DU QUESTIONNAIRE

QUESTIONNAIRE MEASURES

II.4.A Comportement de l'instructuer transformationnal

Transformational instructor behavior

Trainees rated transformational behaviors via 28 items adapted from Podsakoff et al. (1990). Items were altered so that any word referencing 'leader' ('supervisor') was changed to 'instructor'. These items measured six dimensions of transformational instructor leadership: inspirational motivation (4 items, Cronbach's α = .62; example, "Expresses confidence that standards will be achieved"); high performance expectations (4 items, Cronbach's α = .59; example, "Will not settle for second best"); individual consideration (5 items, Cronbach's α = .79; example, "Consider that you have different strengths and abilities"); appropriate role model (6 items, Cronbach's α = .76; example, "Leads by example"); fosters the acceptance of group goals (4 items, Cronbach's α = .65; example, "Encourage us to be team players"); intellectual stimulation (5 items, Cronbach's α = .80; example, "Challenges me to think about problems in a new way"). Responses to these items were made on a five-point scale assessing the perceived frequency ("1 = *not at all*", "2 = *once in a while*", "3 = *sometimes*", "4 = *fairly often*", and "5 = *all of the time*").

II.4.B D'autres variables de formation d'attitudes

Other attitudinal training variables

The measures of all the following training related attitudes utilized seven-point Likert scales with responses ranging from "1 = *strongly disagree*" to "7 = *strongly agree*".

Motivation to learn. Motivation to learn, the desirability to learn and master training material, was measured via three items (adapted from Noe & Schmitt, 1986): "I am keen to make use of the learning and development opportunities during this course"; "I will try to learn as much as I can during this course"; "I am motivated to learn the material during this course" (Cronbach's α = .68).

Valence and instrumentality. Valence was measured via three items (adapted from Colquitt & Simmering, 1998), an example item is, "It is desirable for me to do well during this course" (Cronbach's α = .78). Instrumentality was measured via five items (adapted from Mathieu et al., 1992). An example is, "It is of best interest for me to attend this course because it has the potential to advance my career" (Cronbach's α = .86). Previous research has been inconsistent in the definition, distinctions and measurement of these constructs (Mathieu et al., 1991; Mathieu et al., 1992; Noe & Schmidt, 1986). These attitudes are related and may exhibit shared variance, a justification for considering combining these variables into a latent construct. However, there are theoretical justifications for distinguishing between these

attitudes. For instance, valence is the desirability of performing well during training (Colquitt & Simmering, 1998), whilst instrumentality refers to the expected long-term utility of training for improving subsequent job performance and career prospects (Burke & Hutchins, 2007). Whilst we propose the incorporation of these constructs based on their individual theoretical merits, the possibility that they should be combined as a latent attitudinal variable representing '*utility*' is explored in the following section.

III RÉSULTATS

RESULTS

Structural equation modelling (SEM) with maximum likelihood estimation (Jöreskog & Sörbom, 1996) was selected as the analytic approach for present research purposes as it afforded a number of benefits. Firstly, it allows an assessment of differing measurement models to improve construct reliability. Secondly, SEM produces multiple indices to test model fit. The five indices used to assess the model fit were: the chi-square index (χ^2); the root-mean square error of approximation (RMSEA); the goodness-of-fit index (GFI); the adjusted GFI (AGFI); the comparative fit index (CFI). RMSEA values less than .08 indicate a good fit to the data (Kline, 2004). GFI, AGFI, and CFI values range from 0 to 1, with higher values (> .95) denoting better fit (Marsh, Hau, & Wen, 2004). Finally, SEM allows the modeling of measurement error in order to determine its impact on results. The following sections present a two-stage analytic approach. Firstly, the reliability of the measurement model is assessed. Secondly the proposed structural model is examined.

III.1 ANALYSE PRÉLIMINAIRE

PRELIMINARY ANALYSES

Before the proposed model is tested, the construct validity of the measurement model was assessed. Table 1 displays these indices for each theoretical construct tested. Model 1 tested the construct validity of transformational instructor leadership as a latent variable entailing the six behavioral indicators outlined above. A reasonable fit to the data was evident, χ^2 (24) = 80.20, $p < .001$. However, a low factor loading for high performance expectations relative to other TFL indicators was evident (.45 in comparison with .75-.82). MacKenzie et al. (2011) suggest that latent indicators with standardized loadings of below .50 are problematic as they suggest low reliability and validity. Therefore, Model 2 assessed fit without high performance expectations as an indicator of perceived transformational instructor leadership. Factor loadings for leadership indicators were now all of a similar value. In addition, model fit was significantly improved, $\Delta\chi^2$ (7) = 56.93, $\Delta p < .001$). Consequently a latent factor of transformational instructor leadership incorporating five indicators was adopted. Model 1 and 2 assessed model fit with valence and instrumentality as

separate constructs. In order to determine whether the data would be better represented as a latent construct, valence and instrumentality were assessed as indicators of utility in Model 3. Reasonable factor loadings were apparent. However, model fit deteriorated significantly from Model 2 to Model 3, $\Delta\chi^2$ (1) = 28.73, Δp < .001. Therefore, empirical findings converged with theoretical justifications for the inclusion of valence and instrumentality as separate constructs. Model 2 is the basis for subsequent SEM analysis of the proposed structural model.

Table 1. *Les chargements de factuer latent et indices d'adjustment pour les comparaisons de modèles de mesure*
Latent factor loadings and fit indices for measurement model comparisons

Model	Latent Variables	Indicators (Factor loadings – *β)*	χ^2 (*df*)	RMSEA	GFI	AGFI	CFI	$\Delta\chi^2$ (Δdf)
1.	Transformational instructor leadership	6(.45-.82)	80.20* (24)	.06	.97	.95	.97	
2.	Transformational instructor leadership	5(.74-.82)	23.27* (17)	3	.99	.98	.99	56.93* (7)
3.	Transformational instructor leadership	5(.75-.82)	52.00* (18)	.06	.98	.96	.98	28.73* (1)
	Utility	2(.64-.73)						

Note: Standardized coefficients are reported. *N* = 578. RMSEA is the root-mean square error of approximation; GFI is the goodness-of-fit index; AGFI is the adjusted GFI; CFI is the comparative fit index (CFI). * $p < .001$

III.2 TESTER LE MODÈLE STRUCTUREL

TESTING THE STRUCTURAL MODEL

Table 2 displays descriptive statistics and intercorrelations between the study variables for phase 1 military recruits. Intercorrelations ranged between .18 and .66. Intercorrelations for phase 2 recruits, whilst not displayed were within a similar with one exception, the intercorrelation between valence and instrumentality (r = .72**).

Figure 1 displays the hypothesised structural model as applied to phase 1 recruits. Fit indices indicate a good fit between the structural model and data, $\chi^2(17) = 23.26$ (p = .14), RMSEA = .03, GFI = .99, AGFI = .98, and CFI = .99. All model pathways were significant at the $p < .001$ level, confirming hypothesised associations between percieved transformational instructor leadership and other model constructs (*b*s = .28, .50, & .29 for valence, instrumentality, and motivation to learn respectively). In addition, valence and instrumentality were also positively associated with motivation to learn (*b*s = .34 & .23 respectively). In order to assess whether common method variance affected results by introducing measurement error, a further structural model

incorporating measurement error as an unmeasured latent construct, was assessed (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003; Podsakoff, MacKenzie, & Podsakoff, 2012). The pattern of pathway significance was not altered, fit indices remained unchanged, and the overall model fit did not improve significantly, $\Delta\chi^2$ (1) = .14, $\Delta p > .05$, suggesting that measurement error such as common method variance did not adversely affect these results.

Table 2. *Descriptives et corrélations*
Descriptives and intercorrelations

	Variable	M	SD	1	2	3	4	5	6	7
1	Inspirational motivation	16.25	2.39	-						
2	Individual consideration	18.30	3.98	.61**	-					
3	Appropriate role model	24.15	4.36	.56**	.61**	-				
4	Fostering acceptance of group goals	17.14	2.48	.59**	.59**	.59**	-			
5	Intellectual stimulation	19.15	3.56	.60**	.66**	.62**	.64**	-		
6	Instrumentality	32.22	3.83	.33**	.35**	.41**	.42**	.44**	-	.
7	Valence	20.65	1.13	.18**	.20**	.22**	.21**	.27**	.47**	-
8	Motivation to learn	19.11	2.25	.35**	.38**	.37**	.43**	.41**	.53**	.53**

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

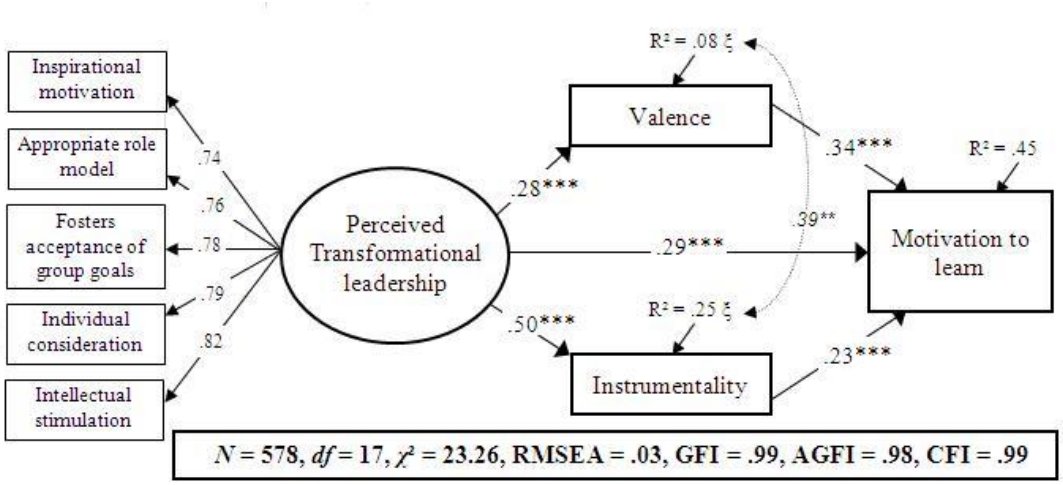


Figure 1. Estimation du maximum de vraisemblance du modèle théorique
Maximum likelihood estimation of the theoretical model

In order for mediation to be established, the magnitude of the coefficients between perceptions of transformational instructor behaviour and motivation to learn

should be significantly reduced once the mediators are accounted for (MacKinnon, Lockwood, Hoffman, West & Sheets, 2002). Indeed, the magnitude of this association dropped from b = .50, to b = .29 (ps <.001) once valence and instrumentality were accounted for, indicative of partial mediation. Assessment of the significance of indirect associations, conducted by means of the t statistic, confirmed that valence and instrumentality partially mediated the association between perceived transformational instructor leadership and motivation to learn (t = 4.39, & t = 4.72, ps < .001 for valence and instrumentality respectively).

As a further precaution, due to concerns that testing the measurement and structural model on the same data yields overly positive results, cross-validation of the structural model was performed using a separate sample of military recruits in order to examine the stability of model pathways (Schreiber, Stage, King, Nora, & Barlow, 2006). A reasonable fit to the data was achieved, $\chi^2(17) = 36.97$ ($p < .01$), RMSEA = .06, GFI = .96, AGFI = .95, and CFI = .99. Once again, associations between perceived transformational instructor behavior and other model constructs (bs = .40, .48, & .21, ps < .001, for valence, instrumentality, and motivation to learn respectively) were established. Valence and instrumentality were also positively associated with motivation to learn (bs = .34 & .26, ps < .001, respectively). In addition, the association between transformational instructor leadership and motivation to learn dropped substantially once model mediators were accounted for (from b = .47, to b = .21), and indirect effects tests confirm that valence and instrumentality partially mediate the association between perceived transformational instructor leadership and motivation to learn (t = 4.71, & t = 3.38, ps < .001 for valence and instrumentality respectively). As before, the effect of measurement error was estimated via the inclusion of an unmeasured latent construct. Whilst some model fit indices changed slightly (GFI = .98, AGFI = .94), model fit was not improved, $\Delta\chi^2$ (1) = .40, $\Delta p > .05$.

IV DISCUSSION

Results indicate a positive association between perceived transformational instructor leadership behaviors and trainee motivation to learn, the latter being an important antecedent of many aspects of training effectiveness (Colquitt et al., 2000). In addition, perceived transformational instructor behavior was positively associated with valence and instrumentality. Cross-validation of the hypothesized effects in a second, independent sample found a similar pattern of positive associations and mediation, indicative of a degree of stability for the associations proposed. Such results are consistent with Bass's (1999) assertion that there are ubiquitous and wide-ranging positive links between transformational leadership and many beneficial subordinate outcomes. Results are also consistent with previous research concerning the positive links between utility attitudes and motivation (e.g., Hicks & Klimoski, 1987). Most importantly however, our present results identify novel associations between perceived transformational instructor leadership and training-related

attitudes, and indicate the need to extend the generality of transformational leadership theory into training contexts.

To date, little research has bridged the gap between transformational leadership and the training literature. Theoretical justifications for connecting these research areas focus on the qualitative similarities between dimensions of instructor and leadership behavior (Patrick et al., 2009), and further commonalities with respect to the nature of interactions between supervisor-employee, and instructor-trainee pairings (Harrison, 2011). Recently, a body of empirical research attesting to the predictive value of perceived transformational leadership in instructional contexts has emerged (Arthur et al., 2011; Hardy et al., 2010; Pounder, 2008). Present findings offer further confirmation of the utility of examining transformational behaviors in training contexts by outlining its associations with the training-related attitudes, valence, instrumentality, and motivation to learn.

There are a couple of methodological considerations of note concerning the present research. Firstly, high performance expectations did not achieve a satisfactory level of construct reliability (Mackenzie et al., 2011). Indeed, when it was excluded as an indicator of transformational instructor leadership, the fit of the measurement model improved significantly. There is some suggestion that transformational leadership, and the measurement of it, may change based on contextual factors (Arthur et al., 2011). The training of military recruits occurs in a unique climate, one characterized by high expectations and high performance standards from the onset. Therefore, the perceived frequency of high performance expectations demonstrated by instructors may not be a reliable indicator of effective leadership within this context, as it may be indistinguishable from a background level of high expectations. Indeed, Hardy et al. (2010) found high performance expectations to have no discriminatory power in respects to recruits' pass and fail rates within a military training context, adding weight to such a supposition. Secondly, the research occurred following an initiative within the military to move away from a more traditional, transactional approach, towards a more coaching-oriented approach, incorporating more transformational leadership skills in instructor behaviors. As such, it is possible that managerial changes and observation per se could have influenced the present results. However, the specificity of our research predictions and theoretical underpinnings together with our results minimalize the likelihood of a Hawthorne type of effect.

There are also some methodological limitations that should be acknowledged as they may affect the interpretation of present results. Our cross-sectional data is unable to establish and confirm causal relationships in our model of perceived instructor behavior and trainee motivation. Consequently future work should incorporate longitudinal studies to test the proposed relationships in the present study. In addition, military recruits are trained in a distinct environment and training takes place over an extended period. Therefore, it is important to examine the generalizability of the effects of transformational instructor behaviors and trainee attitudes beyond the military context. A further limitation is that valence and instrumentality, whilst not highly correlated in phase 1 recuits, were highly correlated amongst phase 2 recuits.

This is perhaps unsurprising given that phase 2 of recruit training is more specific to the career role that each recruit would be pursuing. As such, the desirability of performing well (valence) in this context is likely to exhibit greater overlap with perceptions of the future utility of that training to career performance (instrumentality). Additionally, all data were collected via self-report. Self-report measures allowed only trainee perceptions of transformational instructor behavior and it is possible that recall and memory effects may have impacted on the perceptions reported. Future research should incorporate observational data of instructors transformational behaviors so that the conclusions drawn do not rely solely on self-report. Finally, a further limitation of using self-report is the potential for common method bias (Schmitt, 1994). Whilst care was taken to reduce the influence of this on results by having different response formats for predictor and criterion variables, statistical adjustment for method bias was also undertaken via the inclusion of it as an unmeasured latent construct (Podsakoff et al., 2012). Assessment of the methods construct indicated only minor adjustments on the magnitude of fit indices, with overall statistical significance unchanged.

In line with a growing research trend for examining the differential effects of transformational instructor behaviors (Hardy et al., 2010), further research could examine the effects of individual dimensions of transformational behavior on motivation to learn and other training attitudes. Another avenue for future research involves assessing moderators of the association between perceived transformational instructor leadership and training motivation.

The present study has practical and theoretical implications. From a practical perspective these findings suggest that, whenever possible, trainees could benefit from exposure to instructors who exhibit transformational leadership styles. Many factors contribute to (and can be used to predict) the expression, use, and perceptions concerning transformational behaviors (e.g., organizational structure and culture, Shamir & Howell, 1999; follower characteristics, Dvir & Shamir, 2003; job characteristics, Piccolo & Colquitt, 2006). Recent evidence indicates that individuals who themselves have a self-leadership style that incorporates transformational qualities are more likely to exhibit transformational behaviors when interacting with followers (Furtner, Baldegger, & Rauthmann, 2013). Therefore, selection of instructors with a transformational self-leadership style may improve trainee perceptions of transformational behaviors and subsequently, also improve training attitudes. Alternatively, consideration should be given to training schemes that train instructors to develop their transformational qualities. Presently, several studies attest to the success of such interventions in increasing the use of transformational behavior (Dvir et al., 2002). From a theoretical perspective, we have established that perceived transformational leadership qualities, manifested in instructor behavior when interacting with trainees, is a potentially important socio-contextual variable that is associated with increased motivation to learn, and may in turn have an impact upon the effectiveness of training. It therefore needs inclusion in models of training motivation.

V RÉFÉRENCES

REFERENCES

Al-Eisa, A. S., Furayyan, M. A., & Alhemoud, A. M. (2009). An empirical examination of the effects of self-efficacy, supervisor support and motivation to learn on transfer intention. *Management Decision*, *47*, 1221-1244. DOI:10.1108/00251740910984514

Anastasi, A. (1990). *Psychological testing.* New York: Macmillan.

Arthur, C. A., Woodman, T., Ong, C. W., Hardy, L., & Ntoumanis, N. (2011). The role of athlete narcissism in moderating the relationship between coaches' transformational leader behaviors and athlete motivation. *Journal of Sport & Exercise Psychology, 33,* 3-19.

Bass, B. M. (1985). *Leadership and performance beyond expectations*. New York: Basic Books.

Bass, B. M. (1999). Two decades of research and development in transformational leadership. *European Journal of Work and Organizational Psychology, 8,* 9-32. DOI:10.1080/135943299398410

Bolkan, S., Goodboy, A. K., & Griffin, D. J. (2011). Teacher leadership and intellectual stimulation: Improving students' approaches to studying through intrinsic motivation. *Communication Research Reports, 28(4),* 337-346. DOI:10.1080/08824096.2011.615958

Burke, L. A., & Hutchins, H. M. (2007). Training transfer: An integrative literature review. *Human Resource Development Review*, *6*, 263-296. DOI:10.1177/1534484307303035

Bycio, P., Hackett, R. D., & Allen, J. S. (1995). Further assessments of Bass's (1985) conceptualization of transactional and transformational leadership. *Journal of Applied Psychology*, *80*, 468-478. DOI:10.1037/0021-9010.80.4.468

Carlson, D. S., Bozeman, D. P., Kacmar, K. M., Wright, P. M., & McMahan, G. C. (2000). Training motivation in organizations: An analysis of individual-level antecedents. *Journal of Managerial Issues, 12*, 271-87.

Chiaburu, D. S., & Marinova, S. V. (2005). What predicts skill transfer? An exploratory study of goal orientation, training self‐efficacy and organizational supports. *International Journal of Training and Development*, *9*, 110-123. DOI:10.1111/j.1468-2419.2005.00225.x

Colquitt, J. A., LePine, A., & Noe, R. A. (2000). Toward an integrative theory of training motivation: A meta-analytic path analysis of 20 years of research. *Journal of Applied Psychology, 85,* 678–707. DOI:10.1037//0021-9010.85.5.678

Colquitt, J. A., & Simmering, M. J. (1998). Conscientiousness, goal orientation, and motivation to learn during the learning process: A longitudinal study. *Journal of Applied Psychology, 85,* 654–665. DOI:10.1037/0021-9010.83.4.654

Dvir, T., Eden, D., Avolio, B. J., & Shamir, B. (2002). Impact of transformational leadership on follower development and performance: A field experiment. *Academy of Management Journal, 45,* 735-744. DOI:10.2307/3069307

Dvir, T., & Shamir, B. (2003). Follower developmental characteristics as predicting transformational leadership: A longitudinal field study. *The Leadership Quarterly*, *14*(3), 327-344. DOI: 10.1016/S1048-9843(03)00018-3

Facteau, J. D., Dobbins, G. H., Russell, J. E. A., Ladd, R. T., & Kudisch, J. D. (1995). The influence of general perceptions of the training environment on pretraining motivation and perceived training transfer. *Journal of Management, 21*, 1-25. DOI:10.1177/014920639502100101

Furtner, M. R., Baldegger, U., & Rauthmann, J. F. (2013). Leading yourself and leading others: Linking self-leadership to transformational, transactional, and laissez-faire leadership. *European Journal of Work and Organizational Psychology, 22,* 436-449. DOI**:**10.1080/1359432X.2012.658157

Gill, A. S., Flaschner, A. B., & Shachar, M. (2006). Mitigating stress and burnout by implementing transformational-leadership. *International Journal of Contemporary Hospitality Management*, *18*, 469-481. DOI:10.1108/09596110610681511

Hardy, L., Arthur, C. A., Jones, G., Shariff, A., Munnoch, K., Isaacs, I., & Allsopp, A. J. (2010). The relationship between transformational leadership behaviors, psychological, and training outcomes in elite military recruits. *The Leadership Quarterly, 21,* 20-32. DOI:1 0.1016/j.leaqua.2009.10.002

Den Hartog, D. N., Van Muijen, J. J., & Koopman, P. L. (1997). Transactional versus transformational leadership: An analysis of the MLQ. *Journal of Occupational and Organizational Psychology*, *70*, 19-34.

Harrison, J. L. (2011). Instructor transformational leadership and student outcomes. *Emerging Leadership Journeys*, *4*(1), 91-119.

Hicks, W. D., & Klimoski, R. J. (1987). Entry into training programs and its effects on training outcomes: A field experiment. *Academy of Management Journal*, *30*(3), 542-552. DOI: 10.2307/256013

Jöreskog, K. G., & Sörbom, D. (1996). *LISREL 8: Structural equation modeling with the SIMPLIS command language.* Mahwah, NJ: Erlbaum.

Kelloway, E. K., Turner, N., Barling, J., & Loughlin, C. (2012). Transformational leadership and employee psychological well-being: The mediating role of employee trust in leadership. *Work & Stress*, *26*, 39-55. DOI:10.1080/02678373.2012.660774

Kirkpatrick, D. L. (1967). Evaluation of training. In R. L. Craig & L. R. Bittel (Eds.) *Training and development handbook* (3rd Ed.). New York: McGraw-Hill.

Klein, H., Noe, R., & Wang, C. (2006). Motivation to learn and course outcomes: The impact of delivery mode, learning goal orientation and perceived barriers and enablers. *Personnel Psychology, 59,* 665-702. DOI:10.1111/j.1744-6570.2006.00050.x

Kline, R. B. (2004). *Principles and practice of structural equation modeling* (Vol. 2). New York, NY: Guilford Press.

Leithwood, K., & Sun, J. (2012). The nature and effects of transformational school leadership: A meta-analytic review of unpublished research. *Educational Administration Quarterly*, *48*, 387-423. DOI:10.1177/0013161X11436268

LePine, J. A., LePine, M. A., & Jackson, C. L. (2004). Challenge and hindrance stress: Relationships with exhaustion, motivation to learn, and learning performance. *Journal of Applied Psychology, 89,* 883-891. DOI:10.1037/0021-9010.89.5.883

MacKenzie, S. B., Podsakoff, P. M., & Podsakoff, N. P. (2011). Construct measurement and validation procedures in MIS and behavioral research: Integrating new and existing techniques. *MIS quarterly*, *35*, 293-334.

MacKinnon, D. P., Lockwood, C. M., Hoffman, J. M., West, S. G., & Sheets, V. (2002). A comparison of methods to test mediation and other intervening variable effects. *Psychological Methods*, *7*, 83–104. DOI:10.1037/1082-989X.7.1.83

Marsh, H. W., Hau, K., & Wen, Z. (2004). In search of golden rules: Comment on hypothesis testing approaches to setting cut off values for fit indexes and dangers in overgeneralizing Hu and Bentler's (1999) findings. *Structural Equation Modeling*, *11*, 320–341. DOI:10.1207/s15328007sem1103_2

Mathieu, J. E., & Martineau, J. W. (1997). Individual and situational influences on training motivation. In K. Ford, S. W. J. Kozlowski, K. Kraiger, E. Salas, & M. S. Teachout (Eds.), *Improving training effectiveness in work organizations* (pp. 193–221). Mahwah, NJ: Lawrence Erlbaum Associates.

Mathieu, J. E., Martineau, J. W., & Tannenbaum, S. I. (1993). Individual and situational influences on the development of self-efficacy: Implications for training effectiveness. *Personnel Psychology, 46,* 125–147. DOI:10.1111/j.1744-6570.1993.tb00870.x

Mathieu, J. E., Tannenbaum, S. I., & Salas, E. (1992). Influences of individual and situational characteristics on measures of training effectiveness. *Academy of Management Journal, 35,* 828-847. DOI:10.2307/256317

Munir, F., Nielsen, K., Garde, A. H., Albertsen, K., & Carneiro, I. G. (2012). Mediating the effects of work–life conflict between transformational leadership and health‐care workers' job satisfaction and psychological wellbeing. *Journal of Nursing Management*, *20*, 512-521. DOI:10.1111/j.1365-2834.2011.01308.x

Noe, R. A., & Schmitt, N. (1986). The influence of trainee attitudes on training effectiveness: Test of a model. *Personnel Psychology, 39,* 497-523. DOI:10.1111/j.1744-6570.1986.tb00950.x

Patrick, J., Scrase, G., Ahmed, A., & Tombs, M, (2009). Effectiveness of instructor behaviours and their relationship to leadership. *Journal of Occupational and Organizational Psychology, 82,* 491-509. DOI:10.1348/096317908X360693

Patrick, J., Smy, V., Tombs, M., & Shelton, K. (2012). Being in one's chosen job determines pre-training attitudes and training outcomes. *Journal of Occupational and Organizational Psychology. 85,* 245-257. DOI:10.1111/j.2044-8325.2011.02027.x

Piccolo, R. F., & Colquitt, J. A. (2006). Transformational leadership and job behaviors: The mediating role of core job characteristics. *Academy of Management Journal*, *49*(2), 327-340. DOI : 10.5465/AMJ.2006.20786079

Podsakoff, P. M., MacKenzie, S. B., Bommer, W. H. (1996). Transformational leader behaviors and substitutes for leadership as determinants of employee satisfaction, commitment, trust, and organizational citizenship behaviors. *Journal of Management, 22,* 259-298. DOI:10.1177/014920639602200204

Podsakoff, P.M., MacKenzie, S. B., Lee, J. Y., & Podsakoff, N. P. (2003). Common method bias in behavioral research: A critical review of the literature and recommended remedies. *Journal of Applied Psychology, 88,* 879-903. DOI:10.1037/0021-9010.88.5.879

Podsakoff, P. M., MacKenzie, S. B., Moorman, R. H., & Fetter, R. (1990). Transformational leader behaviors and their effects on followers' trust in leader, satisfaction, and organizational citizenship behaviors. *Leadership Quarterly, 1,* 107-142. DOI:10.1016/1048-9843(90)90009-7

Podsakoff, P.M., MacKenzie, S. B., & Podsakoff, N. P. (2012). Sources of method bias in social science research and recommendations on how to control it. *Annual Review of Psychology, 63,* 539-569. DOI:11.1146/annurev-psych-120710-100452

Pounder, J. S. (2008). Transformational classroom leadership: A novel approach to evaluating classroom performance. *Assessment and Evaluation in higher Education, 33,* 233-243. DOI:10.1080/02602930701292621

Salas, E., Tannenbaum, S. I., Kraiger, K., & Smith-Jentsch, K. A. (2012). The science of training and development in organizations: What matters in practice. *Psychological Science in the Public Interest*, *13*, 74-101. DOI:10.1177/1529100612436661

Schmitt, N. (1994). Method bias: The importance of theory and measurement. *Journal of Organizational Behavior, 15,* 393-398 DOI:10.1002/job.4030150504

Schreiber, J. B., Stage, F. K., King, J., Nora, A., & Barlow, E. A. (2006). Reporting structural equation modeling and confirmatory factor analysis results: A review. *The Journal of Educational Research, 99,* 323-337.

Shamir, B., & Howell, J.M. (1999). Organizational and contextual influences on the emergence and effectiveness of charismatic leadership. *The Leadership Quarterly, 10,* 257-283. DOI:10.1016/S1048-9843(99)00014-4

Sijtsma, K. (2009). On the use, the misuse, and the very limited usefulness of Cronbach's alpha. *Psychometrika*, *74*, 107-120. DOI:10.1007/s11336-008-9101-0

Vroom, V. H. (1964). *Work and motivation.* New York: Wiley.

Wang, G., Oh, I. S., Courtright, S. H., & Colbert, A. E. (2011). Transformational leadership and performance across criteria and levels: A meta-analytic review of 25 years of research. *Group and Organization Management*, *36*, 223-270. DOI: 10.1177/1059601111401



https://dspace.org/

Perceived transformational leadership, instructor behaviors, and motivation to learn: A mediated model

Smy, Victoria; Shelton, Katherine; Tombs, Michael; Patrick, John

2016-07-03
CAIRN
https://doi.org/10.3917/th.792.0169
Smy V, Shelton K, Tombs M, Patrick J. (2016) Perceived transformational leadership, instructor behaviors, and motivation to learn: A mediated model, Le Travail Humain, Volume 79, Issue 2, July 2016, pp 169-185

Downloaded from a DSpace repository. https://dspace.org/