

# **State of the Unit: a Description of Instruments and Scales**

## **Part I: Testing the Model**

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### **ABSTRACT**

The Netherlands' Defense Services Centre (NLDSC) Behavioral Sciences has as its' main goal to support and enhance the Netherlands' Ministry of Defense (MoD) by means of practical social science research and advise. Last year, the NLDSC faced future research budget cuts to be executed in 2011, and was challenged to redesign – among other programs - the research program for monitoring wellbeing (PICTURE unit climate questionnaire). Besides this main purpose concerning effectiveness (do more, or at least the same, with less), a second purpose was to diminish the number of questionnaires submitted to the Dutch MoD personnel. Third, other NLDSC research programs should benefit from items and constructs included in the revised PICTURE questionnaire (e.g. MoD Leadership Monitor). In order to meet these requirements, the research model, method and questionnaire were revised in 2010, and submitted to two large Dutch MoD organizations in the first months of 2011. This paper describes the revised PICTURE research model, method and questionnaire. The revised model is tested using Structural Equation Modeling (SEM). Results indicate differences in model fit measures and significant pathways, not only between both MoD organizations, but also between hierarchical levels within the organization. Finally, consequences of these differences are discussed.

## INTRODUCTION

To support and enhance the Netherlands' Ministry of Defense (MoD) the Netherlands' Defense Services Centre (NLDSC) Behavioral Sciences executes various research programs. One of the main research programs monitors well being within all Dutch MoD units and organizations every two to three years. Since 2004 the NLDSC Behavioral Sciences has used the PICTURE questionnaire to assess unit climate. Commanders' evaluations show that they appreciate this support and use the results and advice to maintain and/or improve the well being of the personnel within their unit or organization. Among other things, commanders also use these results to fulfill requirements by law for assessing periodic risk evaluations. However, commanders' evaluations also show shortcomings in reporting the PICTURE questionnaire results. The main critique is the commanders' desire to exactly know the 'knob to turn on' to get better unit climate, better performance and less absenteeism. In their evaluations, they advise to enhance the possibilities to get a more detailed 'picture' of their unit or organization.

Last year, the NLDSC faced future research budget cuts to be executed in 2011, and was challenged to redesign – among other programs - the PICTURE research program. The main purpose was to do more, or at least the same, with less. This challenge for redesign also created the opportunity to evaluate shortcomings and to improve the PICTURE program for assessing well being. Examples for improvement are to diminish the number of questionnaires submitted to the Dutch MoD personnel, to benefit from items and constructs included in the (revised) PICTURE questionnaire to serve as input for other research programs (e.g. MoD Leadership Monitor), and to improve the model to get a more detailed picture of important unit climate aspects.

In the first months of 2011, the revised PICTURE questionnaire was submitted to the personnel of two large Dutch MoD organizations. The revised PICTURE model and method were used to report results to commanders at different levels of both organizations. Using these preliminary results, the central question of this paper is how the revised PICTURE model fits the data of both organizations.

### PICTURE Unit Climate Research

The PICTURE (acronym for Periodic Information for Commanders Through Unit specific REports) questionnaire measures unit climate during peace time situation every two or three years. The PICTURE model (Figure 1) is based on extensive literature study (e.g. Job Characteristics Model; Hackman & Oldham, 1976) and experience with measuring unit climate within the MoD. In 2009 the PICTURE model and separate measures were tested, based on research data of the preceding four years (2005-2008, 22.125 respondents).



Figure 1. The Dutch PICTURE model

Job satisfaction and commitment are measured at both unit and organizational level (e.g. “*Considering everything, I am satisfied about working with my unit / MoD*”, “*I am proud to tell that I belong to my unit / MoD*”). The 2009 evaluation of the PICTURE model showed a diffuse factor structure for these measures: within some units, job satisfaction and commitment were separate measures at unit and organizational level, other units showed a combination at both levels. The latter combination was also found in earlier research (*unit bond* and *organizational bond*; De Hooze, 2004). Job satisfaction and commitment are also measured indirectly by several *workplace related factors* (e.g. work atmosphere, leadership, social support) and are assumed to be related to measures of *absenteeism* and *turnover intention*.

As stated before, commanders expressed the desire to know in more detail the ‘knob to turn on’ to get better unit climate, better performance and less absenteeism. To enhance the PICTURE model to support commanders with more detail, the model developed for morale assessments during the deployment cycle in the Netherlands’ Armed Forces is used. This model is more detailed than the PICTURE model (Figure 1) and is evaluated positively by unit commanders during the preparation and execution of their units’ missions.

### **Morale Research**

In morale assessments in the Netherlands’ Armed Forces morale is defined as ‘the enthusiasm and persistence with which a member of a group engages in the prescribed activities of that group’ (Manning, 1991). The model for measuring morale during the deployment cycle (Figure 2) is based on the Job-Demand Resources Model (Demerouti, Bakker, Nachreiner, & Schaufeli, 2001). For both indicators of morale, *enthusiasm* and *persistence*, the Dutch Morale Questionnaire uses existing measures for *work engagement* (González-Romá, Schaufeli, Bakker, & Lloret, 2006; Schaufeli & Bakker (2004)): *dedication* (strong involvement in one’s work, experience work as useful and meaningful, inspiring and challenging, with feelings of pride and enthusiasm) and *vigor* (having high levels of energy and (mental) resilience, feeling strong and fit, not getting tired too soon, persistence even in the face of difficulties). For the indicators of psychological distress, *cynicism* and (*mental*) *exhaustion*, the characterizations for *burnout* are used (González-Romá et al., 2006): *cynicism* (a negative, callous, and cynical attitude towards one’s job) and *emotional exhaustion* (the draining of emotional resources).

As shown in Figure 2, morale and psychological distress are assumed to have both performance consequences (*perceived performance* and *organizational citizenship behavior (OCB)*) and psychological consequences (*organizational commitment*). *Resources* at individual, team and organizational level are suggested to have a positive relation with enthusiasm and persistence (higher scores on resources lead to higher morale), and *work demands* a positive relation with psychological distress (higher work demands lead to more distress). For a detailed description of the instrument for measuring morale in the Netherlands’ Armed Forces, see Van Boxtmeer, Verwijns, De Bruin and Duel (2007).

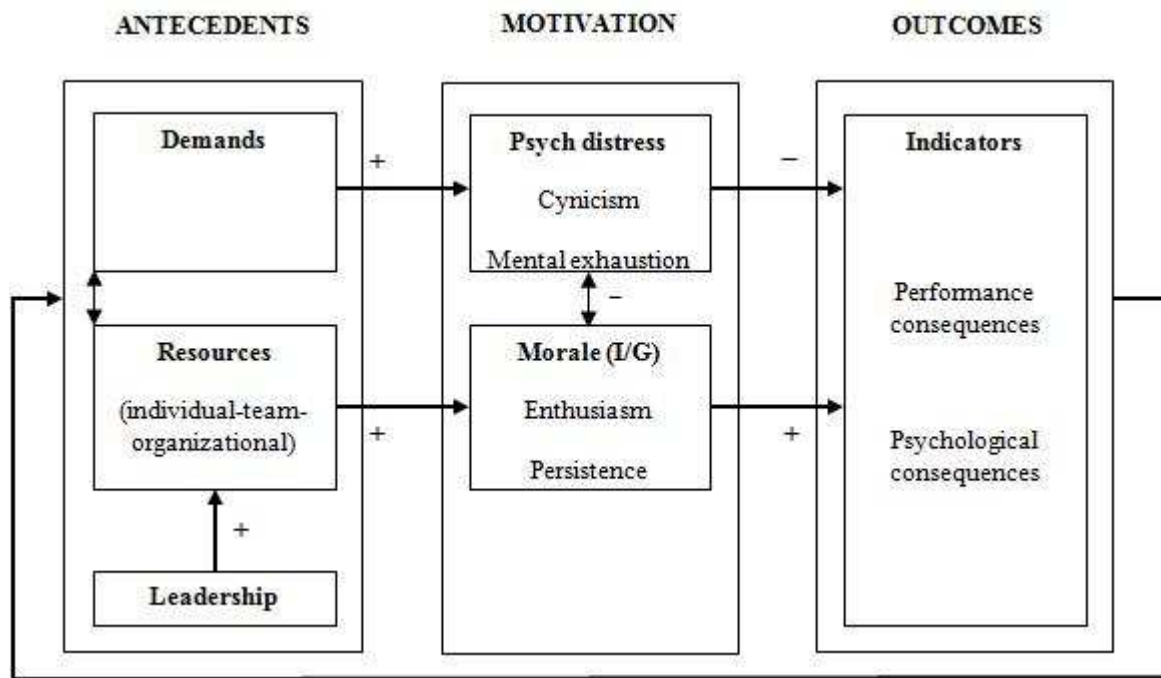


Figure 2. A model of morale during the deployment cycle.

### Redesigned PICTURE Unit Climate Research

*Revised model.* The revised PICTURE model is shown in Figure 3, combining elements from both the PICTURE and morale research. The model includes all aspects of the former PICTURE research model (e.g. *job content, satisfaction, turnover intentions*), but these aspects are organized in a more detailed way based on the morale model. The former work related factors (see Figure 1) are now divided among *resources*, work *demands* and *leadership*. Based on the 2009 evaluation of the PICTURE model and earlier research (De Hooge, 2004), *job satisfaction* and *commitment* are now combined at unit and organizational level. *Turnover intentions* and *absenteeism* are the final outcome measures in the model.

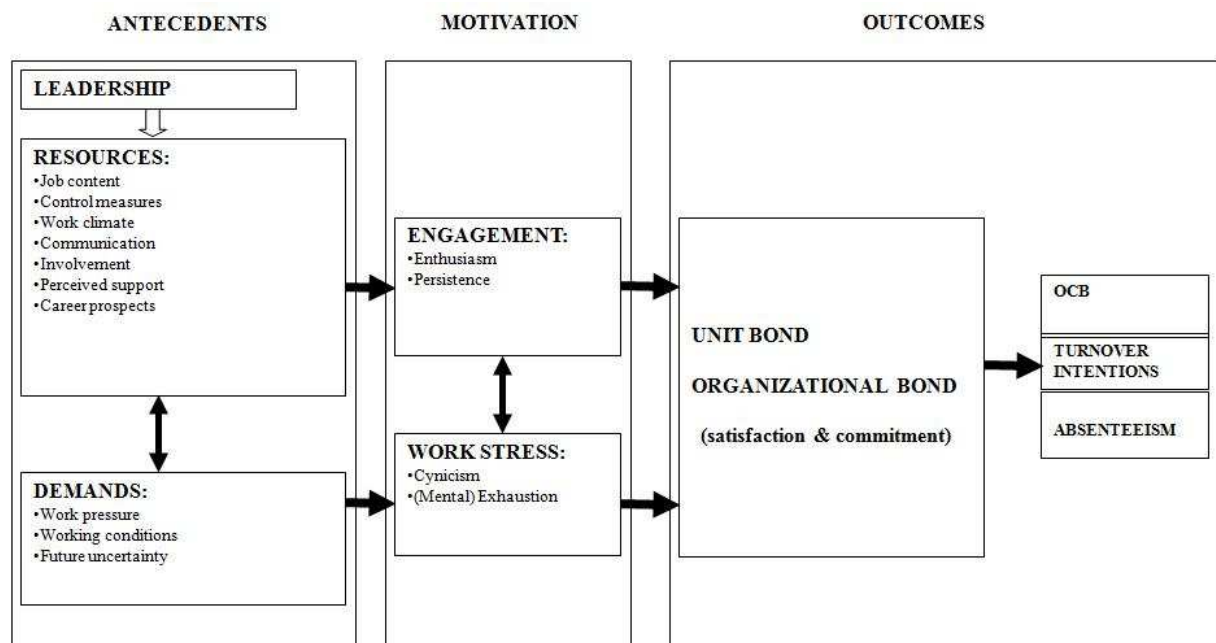


Figure 3. Revised PICTURE model.

New elements in the revised model are *engagement* and work related stress (*work stress*), including *enthusiasm* and *persistence* respectively *cynicism* and (*mental*) *exhaustion*, as used in the morale model. Including these elements has two advantages. First, unit commanders can be supported and advised in a more detailed way, using the former (informative) aspects of unit climate. Second, commanders can recognize the same aspects in both NLDSC research programs for unit climate and morale research. This enables synchronization of support and advice both in the peacetime situation and during the deployment cycle. Other new elements included in the revised PICTURE model concern measures for *work pressure*, *future uncertainty* and *organizational citizenship behaviour (OCB)*. Finally, in the revised PICTURE model both measures for *job satisfaction* and *commitment* are possible consequences of engagement (Schaufeli & Bakker, 2004) and work related stress, and defined as organizational outcome measures.

*Revised questionnaire.* Based on the revised PICTURE model as described above, the PICTURE questionnaire has been changed in several ways. First, the layout is modernized to be more attractive to respondents. Second, measures are organized in resources, demands, leadership, engagement, work stress and organizational outcomes. The measures for resources are organized based the different levels: starting with measures on individual level (e.g. *job content*) followed by measures on unit level (e.g. *work climate*) and measures on organizational level (e.g. *career prospects*). Finally, some extra items are included to try to enhance measures that have not met expectations in the former questionnaire (e.g. work pressure) or that have received more attention within the Dutch MoD (e.g. leadership).

*Revised research program.* The research program for unit climate has been revised on aspects of planning, reports and advice. In general, until 2010 the PICTURE research was planned and executed at battalion level. In a period of two to three years, all battalions within a single brigade prepared and executed their own battalion PICTURE surveys. As these surveys were conducted at different moments in this two to three year period, it was not possible to have an overall report on brigade level, including all battalions measured at approximately the same time. All battalion commanders received a report and feedback by NLDSC researchers. In this feedback session all measures of the PICTURE model were explained and discussed. Frequently, company commanders were present in this feedback session as these lower level commanders did not receive their own reports and feedback by de NLDSC researchers.

In the revised program, planning is synchronized at brigade level, including all battalions executing a PICTURE survey within a one-month timeframe. Every battalion commander receives a report like before. This synchronized planning and execution also enables a report on brigade level that can reveal aspects that involve all battalions and could demand the brigade commander's attention. Unfortunately, in the revised PICTURE research program the feedback and advice by NLDSC researchers have diminished because of cuts in NLDSC research capacity. The brigade commander and every battalion commander are still informed by the NLDSC researchers in feedback sessions. But instead of explaining and discussing all measures, these sessions only include a description of the model and the main results, and an explanation how to read the report. On request, a four hour workshop can be hosted by NLDSC researchers to train selected persons within battalions and brigade staff how to read the report and how to organize follow-up sessions based on the conclusions.

## Research model

As stated before, the central question of this paper is how the revised PICTURE model fits the preliminary data of two MoD organizations. The revised PICTURE model shown in Figure 3 is used to inform unit commanders, but cannot be used for analysis using structural equation modeling (SEM). The research model is shown in Figure 4. The latent factors for engagement (enthusiasm, persistence) and work related stress (cynicism, exhaustion) are allowed to covary. This also applies to the latent factors defining resources, demands, leadership respectively unit/organizational bond. Measures will be described in the method section.

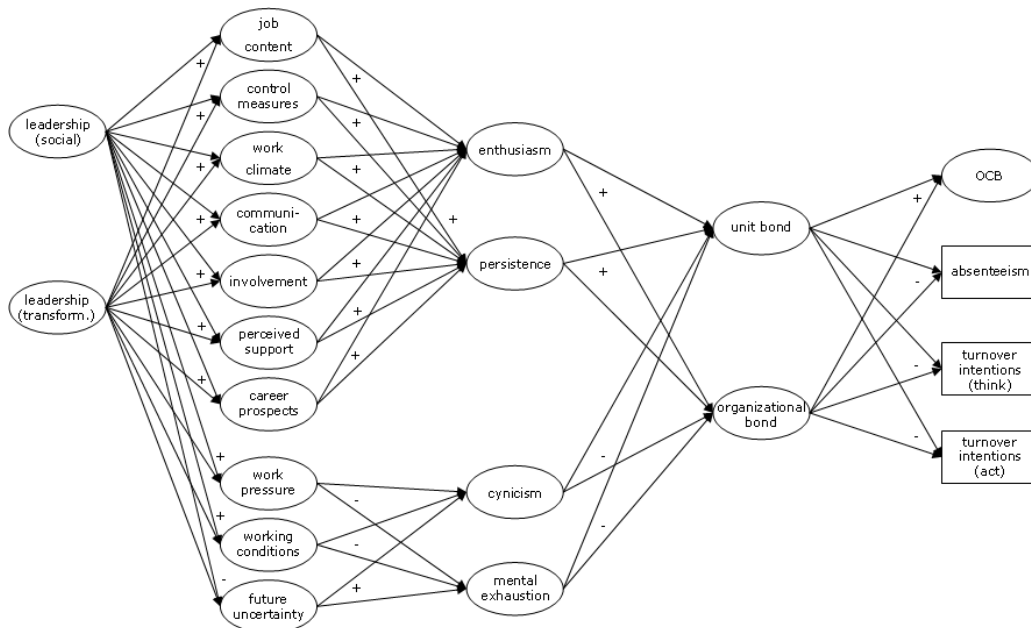


Figure 4. The research model. For simplicity, error terms, indicators and covariances have been omitted.

## METHODS AND ANALYSIS

### Participants, procedure and data preparation

Surveys were administered to personnel of a large military maintenance unit ( $n = 909$ , response rate 84%) and a large military organization, including staff, operational and training units ( $n = 3.775$ , response rate 66%) in the beginning of 2011. As the use of AMOS Structural Equation Modelling software requires low percentages of missing values (less than 10%, Kline, 1998), all respondents with 10 percent or more missing values on the predictor and dependent variables were removed. The remaining two datasets ( $n = 812$ , response rate 75%;  $n = 3.611$ , response rate 63%) are used for further analyses. In order to be able to cross validate results, dataset 2 was randomly split into two approximately equal parts, using the SPSS 18.0 Select Cases: Random Sample option (dataset 2a:  $n = 1.810$ ; dataset 2b:  $n = 1.801$ ).

Dataset 1 ( $n = 812$ ) consisted of 494 civilians (60.9%) and 266 militaries (32.8%), 52 respondents were unspecified (6.4%). The sample was predominately male (79.1% male, 9.6% female and 11.3% unspecified), older than 35 years (72.9%) and had been working within the MoD for more than 10 years (65.9%). Dataset 2 ( $n = 3.611$ ) consisted of 400 civilians (11.0%) and 3.211 militaries (89.0%). The sample was predominately male (83.4% male, 14.7% female and 1.9% unspecified), equally divided among younger and older personnel (48.7% younger, 49.1% older than 35 years, 2.2% unspecified) and had been working within the MoD for more than 10 years (60.0%).

All distributions were found normal, both by visual inspection of the distributions of single items and analysis for skewness ( $\leq 2$ ) and kurtosis ( $\leq 7$ ; Fabrigar, Wegener, MacCallum & Strahan, 1999), and showed no signs of multicollinearity.

### Measures

The measures used in the revised PICTURE model are based on measures used in the standardized PICTURE questionnaire during the last six years, combined with measures used in the Dutch Morale questionnaire (Van Boxtmeer et al., 2007) and relevant items from literature studies. Item-level maximum likelihood confirmatory factor analyses with oblique rotation method on the three datasets confirmed the proposed factor structure. Reliability analyses showed sufficient ( $\alpha = .68$ ) to excellent ( $\alpha = .96$ ) reliability values. The measure for *work pressure* showed only marginal reliability values (ranging from  $\alpha = .55$  to  $\alpha = .61$ ).

*Job resources.* The seven job resources used in the PICTURE model are rated on a 5-point scale (1 = *totally disagree*, 5 = *totally agree*): *job content* (5 items; e.g., "I have enough variety in my job";  $\alpha = .83$  to  $\alpha = .86$ ), *control measures* (4 items; e.g., "I can set my own work speed";  $\alpha = .66$  to  $\alpha = .70$ ), *work climate* (6 items; e.g., "We cooperate well to get the job done";  $\alpha = .86$  to  $\alpha = .88$ ), *communication* (6 items; e.g., "I receive all information needed to carry out my tasks";  $\alpha = .84$  to  $\alpha = .88$ ), *involvement* (3 items; e.g., "I can give my opinion during discussions of progress";  $\alpha = .81$  to  $\alpha = .87$ ), *perceived support* (4 items; e.g., "Within my unit, I am treated fair";  $\alpha = .80$  to  $\alpha = .89$ ) and *career prospects* (4 items; e.g., "I am satisfied with my career prospects within the MoD";  $\alpha = .88$  to  $\alpha = .89$ ).

*Job demands.* Three job demands are measured in the PICTURE model. *Work pressure* was rated on a 5-point scale (1 = *never*, 5 = *always*; 4 items; e.g., "I have plenty of time to do my tasks properly";  $\alpha = .55$  to  $\alpha = .61$ ). Two measures were rated on a 5-point scale (1 = *totally disagree*, 5 = *totally agree*): *working conditions* (6 items; e.g., "I am satisfied with the quality of the means with which I have to work";  $\alpha = .81$  to  $\alpha = .86$ ) and *future uncertainty* (2 items; e.g., "I am worried about my job";  $\alpha = .66$  to  $\alpha = .69$ ).

*Leadership.* Leadership was initially measured with one single measure with 21 items rated on a 5-point scale (1 = *totally disagree*, 5 = *totally agree*). Factor analyses showed two

separate measures that will be used in the PICTURE model: *leadership (transformational aspects)* with 16 items (e.g., “My leader inspires me”;  $\alpha = .96$ ) and *leadership (social aspects)* with 5 items (e.g., “My leader stimulates and strengthens professional behaviour in the team”;  $\alpha = .92$  to  $\alpha = .95$ ).

*Engagement and work related stress.* The measures for engagement and work related stress are based on measures used in the Dutch morale questionnaire supplemented with extra items. The measures in the PICTURE model are rated on a 5-point scale (1 = *totally disagree*, 5 = *totally agree*): *enthusiasm* (5 items; e.g., “I am proud of the work I do”), *persistence* (5 items; e.g., “When I am working, I feel fit and strong”), *cynicism* (4 items; e.g., “I doubt the usefulness of my work”) and *mental exhaustion* (4 items; e.g., “At the end of a working day I feel burned-out”).

*Job satisfaction and commitment.* In the PICTURE model two measures for job satisfaction and commitment are defined on unit and organizational level. Factor analyses confirmed this factor structure, earlier described by De Hooge (2004). Both measures are rated a 5-point scale (1 = *totally disagree*, 5 = *totally agree*): *unit bond* (4 items; e.g., “Considering everything, I am satisfied to work with my unit”;  $\alpha = .83$  to  $\alpha = .85$ ) and *organizational bond* (5 items; e.g., “I am proud to be able to tell that I am part of the MoD”;  $\alpha = .90$  to  $\alpha = .92$ ).

*Organizational outcomes.* The *organizational citizenship behaviour (OCB)* measure is rated on a 5-point scale (1 = *totally disagree*, 5 = *totally agree*) and contains 4 items (e.g., “When my colleagues need help, they can call me”;  $\alpha = .85$  to  $\alpha = .88$ ). *Absenteeism* is measured by one item (“In the last 12 months, did you stay at home because of sickness?”) rated on a 6-point scale (1 = *no*, 6 = *yes, 5 times or more*). *Turnover intentions* are measured by two separate, dummy-coded items: “Recently, I think of looking for another job” and “In the last 3 months, I took specific steps to get another job, or will take these steps in the next three months” (0 = *No, or within the MoD*, 1 = *Yes, outside the MoD*).

## Analysis

SEM analyses were performed using the AMOS software package (Arbuckle, 2005). First, all measures in the research model (Figure 4) were modeled as first order latent factors with their respective items as their indicators. The single items on absenteeism and turnover intentions were modeled as observed indicators. The fit of the model was evaluated in several stages. The measurement model was tested first (Kline, 2005), followed by the structural model. Finally, it was analyzed whether this structural model could be improved by removing non-significant relations between latent factors and/or indicators. As the largest dataset was split into two datasets to enable cross validation, SEM analyses were firstly conducted on dataset 2a and dataset 2b. Next, analyses on dataset 1 were conducted and compared to the results of these two datasets.

The fit of the model was assessed with the root mean square error of approximation (RMSEA), the normed fit index (NFI) and the comparative fit index (CFI). In general, the fit of a model is (reasonably) good when the RMSEA is lower than .08 (good when lower than .05) and the NFI and CFI are larger than .90 (Kline, 2005). The commonly used model chi square test was inspected, but was not used as a fit index as this test is prone to type II errors with larger samples (Kline, 2005).

## RESULTS

### Descriptives

The means, standard deviations, Cronbach's alpha's and correlations of the scales are reported in Appendix 1 for the three datasets.

### SEM analyses

*Dataset 2a.* SEM analysis on dataset 2a shows different results on model fit for the measurement model (RMSEA=.04; NFI=.86; CFI=.89). The RMSEA fit index shows good fit (<.05), the NFI and CFI fit indices show unsatisfactory fit (<.90). These results are reflected in the structural model SEM analysis results on dataset 2a (RMSEA=.04; NFI=.84; CFI=.87). Removing non-significant relations between latent factors and/or indicators showed some improvement in chi square values, but no improvement in the reported fit indices. The final research model for dataset 2a is shown in Figure 5.

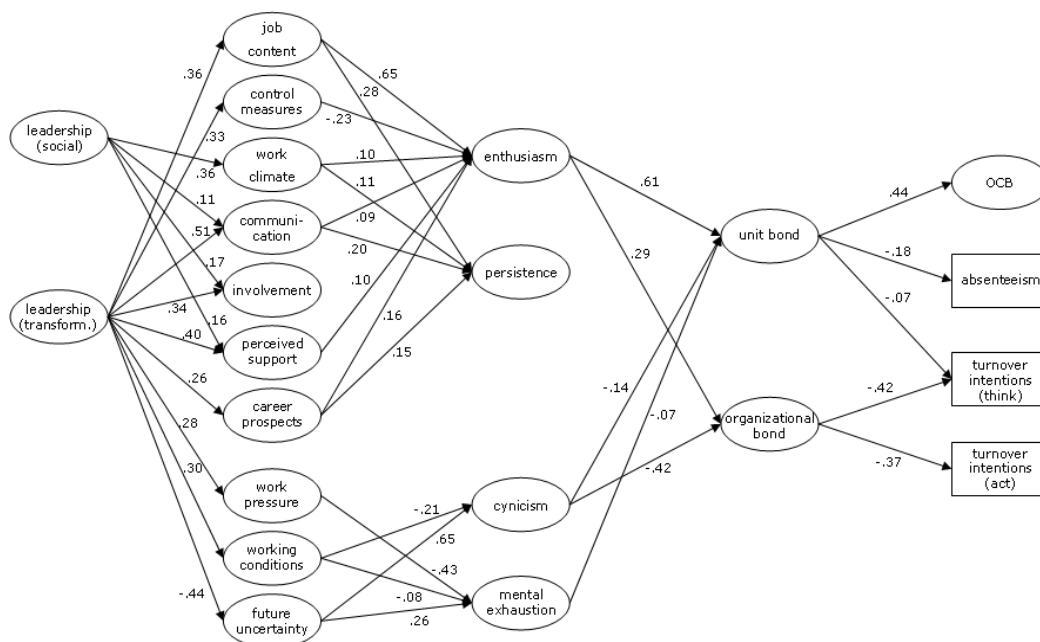


Figure 5. The final research model for dataset 2a. For simplicity, error terms, indicators and covariances have been omitted.

*Dataset 2b.* SEM analyses on dataset 2b were used to cross validate the results on dataset 2a and showed similar results on model fit for the measurement model (RMSEA=.04; NFI=.85; CFI=.89) and the structural model (RMSEA=.05; NFI=.84; CFI=.87). Removing non-significant relations between latent factors and/or indicators showed some improvement in chi square values, but no improvement in the reported fit indices. The final research model for dataset 2b is shown in Figure 6. Although fit indices values for both datasets are similar, the final research models for both datasets show differences in significance of relations between factors (e.g. *organizational bond* to *OCB*) and in strengths of relations between factors (e.g. *future uncertainty* to *mental exhaustion*).

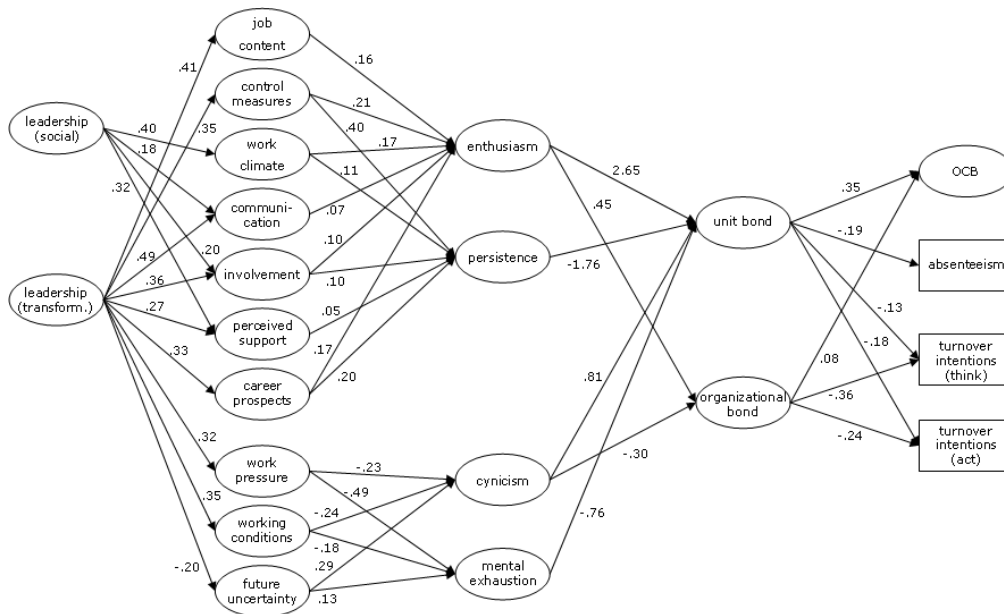


Figure 6. The final research model for dataset 2b. For simplicity, error terms, indicators and covariances have been omitted.

*Dataset 1.* Finally, SEM analyses on dataset 1 showed less satisfactory model fit than the two datasets described above for both the measurement model (RMSEA=.04; NFI=.79; CFI=.86) and the structural model (RMSEA=.05; NFI=.77; CFI=.84). Removing non-significant relations between latent factors and/or indicators showed some improvement in chi square values, but no improvement in the reported fit indices. The final research model for dataset 1 is shown in Figure 7.

As the final research models for datasets 2a and 2b show more or less the same significant relations between factors, the final research model for dataset 1 shows more non-significant relations. Examples are the relations between the resources *communication*, *involvement* and *perceived support* and the engagement factors *enthusiasm* and *persistence*, and *organizational bond* and *turnover intentions*.

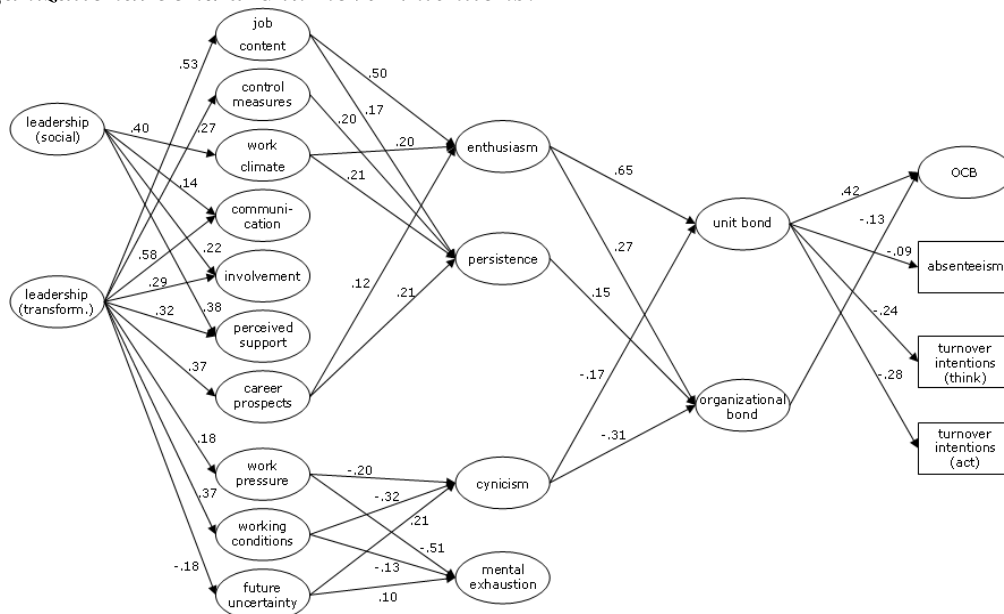


Figure 7. The final research model for dataset 1. For simplicity, error terms, indicators and covariances have been omitted.

## CONCLUSIONS AND DISCUSSION

The first purpose of this paper is to describe the revised PICTURE research model, method and questionnaire used by NLDSC Behavioral Sciences to monitor well being within all Dutch MoD units and organizations in the Dutch MoD. Items and measures in the model and questionnaire were described, combining NLDSC experiences and unit commanders' evaluations from two NLDSC programs for monitoring well being and morale. The revised method was described, illustrating the improvements for synchronization of conducting surveys within brigade level. Unfortunately, budget cuts have a price: the support and advice to commanders have diminished. Instead of an in-depth feedback session with each battalion commander (or even lower commanders), a one-hour presentation to all commanders explaining 'how to read the report' is now included in the revised PICTURE method.

The second purpose is to evaluate the revised PICTURE model fit, using preliminary data of two large Dutch MoD organizations. Results show that model fit is not satisfactory on all fit indices used in this paper, indicating that the revised PICTURE model does not give a good description of the data. First, these data are preliminary data of two MoD organizations. It is expected that at the end of 2011 PICTURE surveys are conducted on approximately half of the MoD organization. SEM analysis will examine model fit for this more representative MoD dataset. For the near future, further improvements of the PICTURE model should be examined by improving measures (e.g. *work pressure*) and reducing model complexity (e.g. using scale means instead of separate indicators).

Results also show differences between the two MoD organizations. Fit indices for dataset 1 are less satisfactory than for datasets 2a and 2b. The final research model for dataset 1 also shows differences in significant relations compared to the final research models for datasets 2a and 2b, which show more or less the same significant relations between factors. Some of these differences might be explained by differences in respondents, as in dataset 1 respondents were predominately civilians (60.9%) and in dataset 2 predominately militaries (89.0%). For example, differences in appointment within the MoD organization (civilians on a specific function, militaries within the organization performing different functions each two to three years) might explain differences in the relation of unit or organizational factors on turnover intentions. The 2009 evaluation of the PICTURE model also showed these differences.

Finally, while giving feedback on the preliminary results (dataset 2) to the highest level commander and the lower level commanders, NLDSC researchers encountered challenges on how to communicate SEM analyses results. First, not all commanders and officials present at the feedback session easily understood the backgrounds and contents of SEM aspects. Second, there were differences between levels within the unit comparable to the differences between the datasets described in this paper. SEM analyses showed specific aspects that were important (highest standardized regression weights) when analyzing the complete dataset for the highest level commander. However, these same aspects appeared less important or even non-significant when analyzing sub datasets for lower level units. Specific attention should be paid to communication of these differences. This aspect also contributed to the discussion whether SEM analyses on data for lower level units should be executed as such.

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Appendix 1. Means, standard deviations, Cronbach's alpha's and correlation of the scales.

	<i>M</i>	<i>SD</i>	$\alpha$	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	
Dataset 1 ( <i>n</i> = 812)																										
1. Leadership (social)	3.64	0.69	.92	1.00																						
2. Leadership (transformational)	3.59	0.71	.96	.82	1.00																					
3. Job content	3.74	0.69	.83	.46	.52	1.00																				
4. Control measures	3.89	0.55	.66	.19	.21	.46	1.00																			
5. Work climate	3.91	0.58	.86	.37	.33	.37	.26	1.00																		
6. Communication	3.50	0.61	.84	.58	.62	.50	.28	.38	1.00																	
7. Involvement	3.76	0.77	.81	.38	.39	.31	.10	.31	.51	1.00																
8. Perceived support	3.80	0.53	.80	.60	.60	.46	.25	.54	.65	.49	1.00															
9. Career prospects	3.01	0.89	.89	.33	.35	.44	.23	.22	.46	.26	.38	1.00														
10. Work pressure	3.47	0.60	.55	.11	.13	.09	.28	.15	.22	.04	.19	.20	1.00													
11. Working conditions	3.49	0.62	.81	.31	.32	.40	.28	.32	.50	.21	.41	.43	.28	1.00												
12. Future uncertainty	3.51	0.98	.69	-.12	-.12	-.19	-.15	-.11	-.19	-.10	-.16	-.27	-.07	-.18	1.00											
13. Enthusiasm	4.02	0.64	.89	.37	.40	.62	.31	.38	.43	.28	.41	.40	.13	.40	.13	.40	1.00									
14. Persistence	3.93	0.60	.86	.31	.30	.47	.33	.38	.38	.24	.39	.36	.20	.41	-.18	.70	1.00									
15. Cynicism	2.26	0.81	.85	-.36	-.37	-.47	-.30	-.32	-.45	-.24	-.40	-.39	-.25	-.40	.18	-.69	-.54	1.00								
16. Mental exhaustion	2.01	0.77	.90	-.20	-.21	-.24	-.27	-.21	-.27	-.09	-.31	-.27	-.43	-.32	.13	-.39	-.50	.51	1.00							
17. Unit bond	3.71	0.73	.83	.47	.47	.58	.32	.50	.57	.35	.56	.43	.20	.49	-.15	.66	.53	-.58	-.35	1.00						
18. Organizational bond	3.49	0.77	.92	.32	.33	.45	.26	.31	.50	.28	.38	.53	.17	.52	-.23	.57	.50	-.54	-.34	.68	1.00					
19. OCB	4.20	0.50	.85	.14	.12	.20	.22	.45	.21	.20	.27	.06	-.07	.17	-.04	.23	.24	-.14	-.07	.30	.19	1.00				
20. Absenteeism	2.06	1.12	-	-.01	-.02	-.09	-.11	-.14	-.08	-.11	-.16	-.08	-.02	-.07	.03	-.11	-.19	.10	.17	-.06	-.06	.00	1.00			
21. Turnover intentions (think)	0.14	0.35	-	-.10	-.12	-.21	-.12	-.09	-.16	-.04	-.10	-.21	-.09	-.25	.15	-.27	-.20	.30	.20	-.23	-.23	-.02	.07	1.00		
22. Turnover intentions (act)	0.07	0.26	-	-.16	-.17	-.23	-.09	-.10	-.12	-.07	-.12	-.22	-.04	-.13	.05	-.27	-.14	.27	.14	-.19	-.19	-.01	.01	.66	1.00	
Dataset 2a ( <i>n</i> = 1.810)																										
1. Leadership (social)	4.01	0.84	.95	1.00																						
2. Leadership (transformational)	3.88	0.74	.96	.84	1.00																					
3. Job content	3.87	0.78	.85	.32	.39	1.00																				
4. Control measures	3.94	0.64	.68	.22	.26	.65	1.00																			
5. Work climate	4.13	0.61	.87	.34	.32	.36	.29	1.00																		
6. Communication	3.65	0.67	.87	.50	.55	.51	.40	.41	1.00																	
7. Involvement	3.91	0.87	.87	.41	.44	.46	.31	.36	.58	1.00																
8. Perceived support	4.00	0.63	.86	.48	.52	.49	.42	.55	.63	.58	1.00															
9. Career prospects	3.02	0.93	.88	.19	.25	.38	.27	.21	.44	.28	.32	1.00														
10. Work pressure	3.93	0.50	.56	.20	.22	.02	.16	.14	.22	.08	.16	.12	1.00													
11. Working conditions	3.54	0.75	.85	.23	.28	.42	.36	.27	.47	.37	.38	.43	.14	1.00												
12. Future uncertainty	3.24	1.00	.66	-.12	-.14	-.19	-.11	-.09	-.27	-.17	-.18	-.36	-.12	-.13	1.00											
13. Enthusiasm	4.10	0.76	.92	.30	.34	.64	.40	.38	.44	.39	.45	.36	.09	.38	-.16	1.00										
14. Persistence	4.01	0.67	.89	.31	.33	.48	.36	.36	.42	.36	.39	.30	.17	.35	-.12	.73	1.00									
15. Cynicism	2.24	0.84	.87	-.34	-.37	-.54	-.36	-.35	-.48	-.38	-.43	-.38	-.19	-.37	.22	-.75	-.61	1.00								
16. Mental exhaustion	2.03	0.77	.90	-.24	-.25	-.24	-.25	-.24	-.30	-.22	-.26	-.21	-.41	-.25	.14	-.36	-.51	.44	1.00							
17. Unit bond	3.92	0.75	.84	.42	.46	.55	.39	.54	.57	.47	.61	.33	.14	.38	-.03	.64	.54	-.58	-.33	1.00						
18. Organizational bond	3.77	0.76	.91	.25	.29	.42	.31	.28	.45	.31	.37	.50	.16	.41	-.16	.57	.50	-.55	-.31	.54	1.00					
19. OCB	4.37	0.50	.85	.16	.18	.26	.26	.45	.27	.26	.35	.11	.08	.22	-.26	.30	.34	-.27	-.21	.37	.29	1.00				
20. Absenteeism	2.04	1.11	-	-.09	-.09	-.16	-.12	-.13	-.14	-.14	-.14	-.15	.00	-.11	.10	-.19	-.25	.17	.17	-.14	-.13	-.08	1.00			
21. Turnover intentions (think)	0.33	0.47	-	-.21	-.23	-.31	-.18	-.17	-.29	-.21	-.25	-.37	-.11	-.24	.28	-.37	-.25	.38	.16	-.31	-.43	-.07	.13	1.00		
22. Turnover intentions (act)	0.14	0.34	-	-.16	-.18	-.22	-.12	-.11	-.22	-.16	-.19	-.28	-.11	-.12	.19	-.29	-.19	.31	.12	-.24	-.32	-.04	.11	.59	1.00	

	<i>M</i>	<i>SD</i>	<i>α</i>	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
Dataset 2b																									
1. Leadership (social)	4.02	0.85	.95	1.00																					
2. Leadership (transformational)	3.87	0.75	.96	.86	1.00																				
3. Job content	3.82	0.83	.86	.37	.43	1.00																			
4. Control measures	3.93	0.66	.70	.23	.27	.61	1.00																		
5. Work climate	4.13	0.62	.88	.37	.36	.40	.30	1.00																	
6. Communication	3.64	0.69	.87	.55	.60	.49	.38	.44	1.00																
7. Involvement	3.89	0.86	.86	.45	.48	.44	.32	.42	.58	1.00															
8. Perceived support	4.00	0.67	.89	.54	.55	.46	.38	.58	.65	.58	1.00														
9. Career prospects	2.99	0.94	.89	.28	.31	.40	.25	.23	.47	.30	.36	1.00													
10. Work pressure	3.93	0.52	.61	.20	.22	.02	.17	.16	.17	<u>.05</u>	.18	.09	1.00												
11. Working conditions	3.52	0.76	.86	.28	.33	.40	.32	.28	.51	.37	.40	.43	.15	1.00											
12. Future uncertainty	3.24	1.01	.66	-.14	-.15	-.17	-.12	-.07	-.22	-.13	-.13	-.32	-.09	-.11	1.00										
13. Enthusiasm	4.06	0.75	.91	.36	.39	.64	.41	.42	.45	.39	.42	.40	.10	.37	-.16	1.00									
14. Persistence	3.97	0.65	.87	.34	.37	.52	.39	.38	.43	.35	.40	.34	.22	.37	-.17	.74	1.00								
15. Cynicism	2.26	0.82	.86	-.33	-.36	-.52	-.33	-.35	-.46	-.29	-.38	-.36	-.20	-.35	.26	-.72	-.59	1.00							
16. Mental exhaustion	2.04	0.77	.90	-.23	-.25	-.23	-.24	-.25	-.28	-.17	-.28	-.25	-.46	-.27	.14	-.34	-.51	.42	1.00						
17. Unit bond	3.89	0.77	.85	.48	.50	.54	.38	.56	.57	.47	.58	.50	.17	.41	-.13	.63	.54	-.55	-.33	1.00					
18. Organizational bond	3.76	0.74	.90	.29	.31	.38	.30	.28	.46	.29	.34	.31	.10	.39	-.22	.54	.49	-.53	-.28	.51	1.00				
19. OCB	4.35	0.51	.88	.22	.18	.24	.25	.46	.25	.25	.25	.18	.10	.15	-.03	.26	.32	-.20	-.12	.33	.28	1.00			
20. Absenteeism	2.07	1.11	-	-.13	-.12	-.19	-.12	-.10	-.13	-.15	-.14	-.12	-.03	-.17	.06	-.19	-.26	.16	.18	-.18	-.14	<u>-.05</u>	1.00		
21. Turnover intentions (think)	0.34	0.47	-	-.19	-.21	-.30	-.21	-.20	-.28	-.20	-.23	-.21	-.11	-.27	.25	-.39	-.34	.43	.23	-.32	-.42	-.13	.12	1.00	
22. Turnover intentions (act)	0.15	0.36	-	-.15	-.17	-.25	-.17	-.17	-.22	-.17	-.18	-.17	-.11	-.18	.14	-.34	-.26	.34	.20	-.30	-.32	-.08	.10	.61	1.00

All correlations are significant at  $p < .01$ , except underscored correlations ( $p < .05$ ) and *cursive* correlations (*ns*).