

Investigating the Applicability of Contingency Leadership Theory in the South African National Defence Forces: A Comparative Study of Combat and Support Divisions

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ABSTRACT: This study aimed to assist leaders in the South African National Defence Forces (SANDF) understand the contingency factors that influenced choice of leadership styles and help such leaders to select the appropriate leadership style(s) for enhancing leadership effectiveness. To do that, the study tested the applicability of the contingency leadership theory to the SANDF, identified the contingent leadership factors within the SANDF and recommended the appropriate leadership style. The study was based on a sample of randomly selected n=120 staff from one of SANDF's unit, split equally between support and combat staff. Four instruments were administered, the Demographic instrument, the Task Work Instrument (WSI), the Leader-Member Exchange (LMX) instrument, the Utrecht Work Engagement Scale (UWES) and the Least Preferred Co-worker (LPC) instrument. Descriptive statistics, correlation, T-tests and regression analyses were used to analyse the data. T-test results showed that there were statistically significant differences between staff in support and combat staff in terms of task structure, work engagement and leader-member exchange. In addition, these three leadership contingent factors were found to significantly influence the choice of leadership within SANDF's combat division. Within the support division, task structure was an insignificant factor in determining the influence of leadership style but work engagement and leader-member exchange were significant contributors to the choice of leadership style in that division. Therefore, the differences in these contingent factors point to the applicability of the contingent theory to SANDF. While the dominant leadership style in the combat division was relationship-oriented, a combination of relationship-oriented and task-oriented leadership styles was dominant in the support division. Training and development was proposed as a way of enhancing the adaptability of leaders in the SANDF, thereby improving their mobility across the two diverse divisions. Finally, the size of the sample, relative to the target population, choice of contingent factors and reliance on quantitative methodology, all presented some limitations. Recommendations for future research has been given in light of these limitations.

KEYWORDS: Contingency Leadership Theory; Leadership Styles; Leadership Effectiveness; Leader-Member Exchange (LMX); Task Structure; Work Engagement; Leadership Training and Development

Introduction

The purpose of this study is to assist leaders in the South African National Defence Forces (SANDF) to understand the contingency factors that can affect their choices of leadership styles and help such leaders to select the appropriate leadership style(s) which can positively influence their effectiveness. To do so, this study seeks to test the applicability of the contingency leadership theory to the SANDF, identify the contingent factors within the SANDF and recommend the appropriate leadership style.

Research objectives

Based on the aim above, the objectives of this study are to:

1. Examine the key theories and concepts on leadership, with a focus on leadership in the military
2. To explore the leadership challenges at SANDF

3. To evaluate the extent to which particular leadership styles apply to SANDF to match the challenges identified

Leadership theories

Leadership is a complex phenomenon that cannot be explored from a universal perspective (Hassan, et al., 2014). As such, several theories have been advanced to explain both the nature and process of leadership. Figure 2.1 illustrates the commonly-referred leadership theories.



Figure 1. Leadership Theories
Source: Corporate Financial Institute (2021)

Leadership theories can be broadly classified into the Great Man, Trait, Contingency, Situational and Behavioural theories as shown in Figure 2.1. The Great Man Theory, sometimes referred to as the Great Person Theory, holds that individuals become leaders because they are naturally born as leaders (Louw & Venter, 2018). The theory states that qualities such as individual confidence, charisma, intellect, communication and social skills are all attributes that leaders possess naturally (Hassan, et al., 2014). This perspective on leadership implies that programmes such as leadership development and leadership education are all pointless since it is not possible to teach individuals to become leaders if they are not born as leaders in the first place (Kaplan, 2020). Leadership theory and research have since discredited this perspective of leadership (Kaplan, 2020; Northouse, 2016).

The traits theory of leadership is similar to the Great Person Theory in that it holds that leaders possess certain skills and traits. However, this theory acknowledges that not all leaders are born with leadership traits and some have to learn these traits to become leaders (Mathis & Jackson, 2015). Thus, leadership development programmes are of value in that they help potential leaders to learn these traits and skills (Mathis & Jackson, 2015).

In addition, the Situational Theory holds that no one leadership style is effective in all contexts, rather, leadership effectiveness depends on the leaders' ability to tailor their style to the specific situation within which they lead (Grobler & Singh, 2018). The theory proposes that leadership effectiveness depends on the leader's ability to match leadership style and the followers' maturity levels, defined by the followers' level of motivation and skills (Mathis & Jackson, 2015). The main difference between the Situational Theory and the Contingent Theory (discussed in the next section) is that while the Situational Theory focuses on the leader-centric

factors and the followers' maturity levels, the Contingent Theory focuses on any potential variable which can be the choice of leadership style.

Finally, the behavioural leadership theory holds that to be effective, leaders need to behave and act in certain ways, irrespective of their traits or skills (Gachingiri, 2015). The theory acknowledges that leaders can acquire this leadership behaviour and skills over time, through experience (Mathis & Jackson, 2015). For example, a transformational leader can be effective by learning to create a vision and motivate followers to work towards that vision (Bass, 2011; Xiaoxia, et al., 2006). On the other hand, a transactional leader can be effective by learning how to set up systems and procedures to which followers have to adhere (Deichmann & Stam, 2015).

The foregoing discussion illustrates the predicament of leadership theory, the divergence of views among scholars. The resultant multiplicity of theories makes leadership a little messy. Leadership practitioners are left without proper guidance on what they have to do despite having several options. The Situational Theory attempts to deal with this problem by leaving the choice to leaders to decide on how they should lead. However, the theory's focus on leader-centric factors and the followers' maturity levels leaves the theory too prescriptive to be of much value to leaders whose situational factors may not be either of these two factors. The Contingent Theory captures any potential leadership contingent factor. This theory is discussed next.

Contingency leadership theory

The contingency theory of leadership is based on the belief that there is no universally acceptable leadership style that leaders must adopt; rather the effectiveness of leaders depends on how they fit their styles to the factors within which they practice their leadership (Popp & Hadwiche, 2018). According to Madlock (2018), contingency leadership theory implies that leadership effectiveness is contingent on the situation in which leaders find themselves. The original contingent theory was developed by Fielder in the 1950s-60s and identified three situational factors which he believed to influence leadership effectiveness, namely leader-member relations, task structure and position power (Yun, et al., 2005; Madlock, 2018). These factors are elaborated on below.

Leader-member relations

Leader-member relations, sometimes known as leader-member exchange (LMX) refers to the extent to which members of the group accept, and are loyal to the leader (Yun, et al., 2005). LMX is an expression of the professional relationship between the leader and the followers. According to Graen and Uhl-Bien (1995), LMX can be measured in terms of the trust, respect and obligation exchanged between the leader and the follower. Since LMX is based on the idea of exchange of trust, respect and obligation between the leader and the follower, it assumes that the leader is a listening one (Drollinger, Comer, & Warrington, 2006). The higher the LMX, the higher the level of reciprocal trust, expectations about relational obligations and mutual respect between the leader and the follower (Worthington & Bodie., 2018). The level of LMX determines the favourableness of the context for the leader (Popp & Hadwiche, 2018). Therefore, the situation is favourable to the leader if LMX is high and vice versa.

Task structure

Task structure refers to the level of clarity and precision with which tasks, which employees have to perform, are defined (Moniz, 2010). Clearly defined tasks increase the favourableness of the situation for the leader, while vaguely defined tasks increase the unfavourableness of the situation. That is because poorly defined tasks increase the chances of disagreements between the leader and the follower on how such tasks should be performed (Matthes, et al., 2014). On the other hand, it is easier for the leader and follower to agree on operating procedures if the tasks are clearly defined

(Lindley, 2012). Adherence to these operating procedures can then be used to decide the follower's reward or punishment (Matthes, et al., 2014). This way, it is clear to both the leader and the follower what needs to be done and the consequences thereof. Task clarity can be influenced by factors such as the level of the routine of tasks, the level of autonomy given to the follower, the interactivity of the task and the level of analytical or physical effort required to perform the task (Yamaguchi, 2012).

Position power

Finally, position power defines the extent to which the leader can reward or sanction subordinates for their behaviour (Madlock, 2018). It refers to the reward-punishment power vested in the leader due to the position he/she holds within the organisation. High position power increases the favourableness of the situation for the leader and vice versa.

Leadership style within the contingent theory

Having considered the contingency factors, the contingency theory holds that leadership style is inherent in the leader and the leader cannot change their style (Yun, et al., 2005). Using the Least Preferred Coworker (LPC) Scale, Fieldler identified two dominant leadership styles, namely the relationship-oriented leader and task-oriented leadership styles (Waters, 2013). For leaders to be effective, they have to be placed in an environment that fits their style. Empirical research on Fieldler's situational theory shows that the task-oriented leadership style is more effective at the extreme ends, that is when situational factors are either highly favourable or highly unfavourable (Yun, et al., 2005; Madlock, 2018). The relations-oriented is effective when the situation is somewhere in the middle between highly favourable and high highly unfavourable (Popp & Hadwich, 2018).

The challenge with the original model is that it assumes that leadership style is rigid, hence supports the traits theory of leadership which holds that leaders are born and cannot be created through training and development. Thus this earlier version of the theory has been empirically discredited (Kaplan, 2020; Northouse, 2016; Grobler & Singh, 2018), rendering Fiedler's theory questionable. Later views on contingent leadership theory have held that leaders need to adjust their leadership style to suit their situation (Madlock, 2018; Yun, et al., 2005; Grobler & Singh, 2018), implying leadership flexibility. The contingent factors put forward can be classified into environmental contingency factors (factors influencing the degree of environmental stability) and internal contingency factors such as organisation size, employees' participation in decision-making and the type of employees to be led (Waters, 2013).

Leadership in the military context

It is apparent from the foregoing discussion that context matters for leadership effectiveness. According to Hamad (2015), the same applies to military leadership. Hamad (2015:6) assert that the choice of "leadership style [in the military] depends on the situation, leader's ability to influence the followers, and a period to deliver." The situation can be either favourable or unfavourable to the military leader as explained by Yun, et al. (2005) and Madlock (2018). The leader's ability to influence followers is similar to the LMX as defined by Graen and Uhl-Bien (1995). However, Hamad (2015) has added contingent factors in the military context, time. For example, where a task has to be completed urgently, such as a delicate military mission, transactional leadership style can be more effective than would be the case where there a plenty of time to complete a task. In addition, the level of LMX may vary depending on the nature of the tasks. For example, a command style is necessary where the mission requires meticulous planning such as in a rescue mission. On the other hand, the transformational leadership style may be more effective in cases where the success of the mission on the followers feeling "that they are a part of the task and their contribution is most needed" (Hamad, 2015:6).

A study by Earnhardt (2008) tested the applicability of servant leadership, characterised by love, humility, altruism, vision, trust, empowerment, and service, in the military context. The study supported concluded that because military leadership is characterised by sacrifice and service, it fits well with the servant leadership model. The study was based on military combat based at the Department of Defense facility located in Colorado, USA.

On the other, Halpin (2011) noted that military missions are becoming complex, stemming from the uncertainty of opponents' missions. As a result, it is difficult to rely on leadership styles such as transactional where there should be laid down procedures since that would require tasks to be repetitive.

What is apparent from the discussion in this and preceding sections is that the choice of leadership style is dependent on several contextual factors. Thus, military leadership is not exempt from the need to consider these contextual factors. The fact that these factors depend on context implies that each organisational context may have a separate set of such factors since no one organisation is the same as the other. The next section explores potential contextual factors in the SANDF.

Specific contingent factors for the SANDF

The previous discussion provides a case for leadership flexibility. In other words, given the multiplicity of factors that influence leadership effectiveness as indicated in previous sections, it is unlikely that adopting a uni-dimensional leadership style can be effective in all circumstances. Potential situational factors relevant to the SANDF include task structure, leader-member relations and work engagement. The influence of this contingent on the choice of leadership style is investigated. Though task structure can be defined in many ways, for this study, it refers to the routine or non-routine of the task (Matthes, et al., 2014). Leader-member relations, as defined above, refers to the quality of the two-way relationship between the leader and the follower (Worthington & Bodie, 2017).

Work engagement is defined as “a positive, fulfilling work-related state of mind that is characterised by vigour, dedication, and absorption” (Eldor & Harpaz, 2016:214). The level of work engagement determines the extent to which employees are emotionally, physically and cognitively attached to their assigned task (Schaufeli, et al., 2002). Employee vigour refers to the level of energy, mental resilience, perseverance even when employees are confronted with difficulties and the employee's willingness to put the effort into their work (Roozeboom & Schelvis, 2016). Dedication refers to the employee's commitment to the work which the employee views as fulfilling and evoking a sense of pride. Dedicated employees commit to accomplishing their assigned tasks knowing that such accomplishment brings about a sense of pride (Schaufeli, et al., 2002). Finally, employee absorption is characterised by the extent to which employees are fully and deeply engrossed and concentrated in their work (Schaufeli, et al., 2002). High levels of absorption mean that time passes quickly for employees while performing the task which they find difficult to detach from (Eldor & Harpaz, 2016).

Given the diversity of these factors, it is difficult to find leaders who perfectly match such situations. Thus, instead of seeking to appoint leaders based on their suitability to the situation, this study seeks to explore how leaders can adapt their leadership styles to match their specific situations.

Methodology

This study employed a survey strategy and adopts a deductive reasoning approach. Deductive reasoning is a research approach that involves the testing of theoretical propositions by employing a research strategy that is designed to test such a proposition (Kothari, 2014). This study adopted a quantitative research methodology. More specifically, a survey will be conducted to understand the perceptions of employees at the SANDF on the leadership styles and contingent factors at the

organisation. The sample of the study consists of 120 randomly selected employees within the organisation, 60 from military combat and 60 from military support services. The data were analysed using statistical measures, including descriptive, correlation and regression analysis. Four instruments were administered, the Demographic instrument, the Task Work Instrument (WSI), the Leader-Member Exchange (LMX) instrument, the Utrecht Work Engagement Scale (UWES) and the Least Preferred Co-worker (LPC) instrument. Descriptive statistics, correlation, T-tests and regression analyses were used to analyse the data.

Findings and discussion

Descriptive statistics

This study aimed to investigate the factors which influenced leadership style at SANDF. In Section 2.6, three contingent factors were identified as relevant to the SANDF, namely task structure, leader-member relations and work engagement. In this section, descriptive statistics are used to evaluate the current level of these factors at SANDF and investigate any differences in the level of these factors between Combat and Support staff.

Least Preferred Co-worker

The Least Preferred Coworker (LPC) instrument was used to understand the leadership styles which were prevalent at the SANDF in its Combat and Support divisions. The descriptive statistical analyses are presented in Appendix A. The results show that generally, mean scores were higher for combat, with a mean score of 75.70 (SD = 26.81) compared to a mean of 68.73 (SD = 30.79) for support staff. According to Fiedler, O'Brien and Ilgen (1969), a score of 73 or above shows that the leader is perceived to be relationship-oriented. On the other hand, a score between 65 and 72 shows that the leader is perceived to be a mixture of both task-orientated and relationship-oriented. Therefore, it can be concluded, based on the results in Table 4.3, that leaders at SANDF's combat were perceived as relationship-oriented while those at the support division were a mixture of both. To confirm the existence of these differences. The results from the following T-Test can be used to summarise the differences.

Table 1. T-test

	Paired Differences					t	df	Sig. (2-tailed)
	Mean	SD	Std. Error Mean	95% Confidence Interval of the Difference				
				Lower	Upper			
LPC_C minus(-) LPC_S	6.97	42.80	5.53	-4.09	18.02	1.26	59	p < .001
<ul style="list-style-type: none"> • LPC_C – Least Preferred Coworker for Combat Staff • LPC_S – Least Preferred Coworker for Support Staff 								

It can be seen from the T-Test above that there were significant differences between the mean scores of employees in combat compared to support staff. The difference is presented as combat staff's scores minus support staff's scores. Therefore, the positive mean scores for combat staff were significantly higher than those of support staff. That supports the findings in the mean scores above. To save words, from now on, T-Test results will be presented if they show significant differences from descriptive statistics.

Task Structure

As indicated in Chapter 3, the Work Structure Instrument (WSI) was used to measure the structure of tasks carried out at SANDF's Combat and Support Divisions. Descriptive statistics are shown in Appendix B. Appendix B shows that the mean scores for combat staff were lower (Mean = 18.95, SD = 3.68) than those support staff (Mean = 20.42, SD = 4.75). More importantly, item WSI_5 (How often do the work assignments at your job change?) and WSI_6 (How often do you have to perform tasks at work that you did not do before?) recorded mean scores lower than 3 for combat staff, none of the items for support staff recorded similar scores. Therefore, tasks at SANDF were more structured for combat staff and less so for support staff. The results show that there were significant differences between the task structure for the two groups of employees.

Work Engagement

Work engagement was also identified as one of the contingent factors that could potentially influence the choice of leadership style at SANDF. Descriptive statistics relating to the items in the UWES are shown in Appendix C. As noted under literature review, Work Engagement is measured through vigour, dedication and absorption. These constructs have already been defined in the same chapter. Appendix C shows that the mean scores for vigour, dedication and absorption were all higher for support staff compared to combat staff. This means that on average, the level of Work Engagement was higher in the support division than in the combat division.

Contribution of contingent factors to the choice of leadership style

In this section regression analysis results are presented and interpreted. More specifically, this section discusses results on the contribution of each of the contingent factors to the choice of leadership style in SANDF.

Combat staff

The following table shows the contribution of each of the contingent factors to the choice of leadership style in SANDF's combat division.

Table 2. Regression Modelling

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	F change	Sig.
1	.529 ^a	.280	.267	22.95	22.54	<.001
2	.531 ^b	.282	.256	23.12	11.17	<.001
3	.536 ^c	.287	.249	23.23	7.52	<.001
a. Predictors: (Constant), LMX_C						
b. Predictors: (Constant), LMX_C, WSI_Total_C						
c. Predictors: (Constant), LMX_C, WSI_Total_C, UWES_C						

The first model (Model a), Leader-Member Exchange (LMX) was used to predict leadership style (LPC). The model shows that LMX could predict 28% (R Square = .280, $p < .001$) of the variations in LPC. It was noted in Chapter 3 that the coefficient of determination (R Square) can be interpreted as showing a weak ($R < 0.40$), medium ($0.40 \leq R \leq 0.49$) or strong ($R \geq 0.50$) causal effect between the dependent and the independent variables (Schober, Boer, & Schwarte, 2018; Gogtay, Deshpande, & Thatte, 2017). Therefore, the results above show that LMX has a weak power to predict variations in LPC. Despite being small, the predictive value is statistically significant ($p < .001$). Thus, it can be concluded that as far as combat staffs at SANDF are concerned, LMX is a significant predictor of the choice of leadership style.

Work Structure (WSI) was added to the second model (Model b) and the model's predictive value rose by .2% to 28.2% (R Square = .282, $p < .001$). Again, that is a very small addition to the model's predictive value. Nonetheless, the addition was still statistically significant ($p < .001$).

In the final model, Model c, Work Engagement (UWES) was added. The result was that the model's predictive value rose to 28.7% (R = .287, $p < .001$). In other words, LMX, WSI and UWES could now predict 28.7% of variations in the choice of leadership style for combat staff at SANDF. Again, that prediction is statistically significant ($p < .001$). In the next section, regression analysis for support staff is presented.

Support staff

Table 3. Regression Modelling - Support staff

Model Summary					F change	Sig.
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate		
1	.110 ^a	.012	.005	30.87	.712	<.001
2	.112 ^b	.013	.022	31.13	.361	.402
3	.116 ^c	.014	.039	31.39	.256	< .05
a. Predictors: (Constant), LMX_S						
b. Predictors: (Constant), LMX_S, WSI_Total_S						
c. Predictors: (Constant), LMX_S, WSI_Total_S, UWES_S						

In the first model (Model 1), LMX was used to predict LPC and the model shows that LMX could predict 1.2% (R Square = .012, $p < .001$) of the variations in LPC. The results above show that LMX has very weak power to predict variations in LPC for support staff at SANDF, though that predictive value is statistically significant ($p < .001$). Again, it can be concluded that as far as support staffs at SANDF are concerned, LMX is a significant predictor of the choice of leadership style. In Model 2, Work Structure (WSI) was added and the model's predictive value increased marginally by .1% to 1.3% (R Square = .013, $p = .402$). That is a very small and statistically insignificant addition to the model's predictive value. That means that as far as support staff are concerned, variations in WSI is not a significant predictor of LPC.

In Model 3, Work Engagement (UWES) was added. The result was that the model's predictive value rose to 1.4% (R = .014, $p < .001$), representing only .1% increase in the model's predictive value. Thus, all the variables, LMX, WSI and UWES, combined, could only predict a very small amount of variations in LPC, 1.4%. Nonetheless, the model is still statistically significant. of variations in the choice of leadership style for combat staff at SANDF. Again, that prediction is statistically significant ($p < .001$). In the next section, regression analysis for support staff is presented.

Discussion of results

In Chapter 1, the first empirical research objective was "to explore the leadership challenges at SANDF." The notable challenge from the results presented above is that leaders at the SANDF have to manage two sets of diverse groups of employees. Firstly, the results have indicated that there are significant differences between these groups in terms of their preferred leadership styles. While employees in combat prefer a relationship-oriented leadership style, those in combat prefer a balance between relationship-oriented and task-oriented leadership styles.

The results have also shown that the nature of tasks at SANDF was significantly different. Tasks were found to be highly structured for combat in the combat division. That is in line with

previous studies. For example, Hamad (2015) indicated that even though the military environment is dynamic, the majority of the tasks are still so structured that they can be accomplished through systematic instructions. On the other hand, tasks were found to be significantly less structured for support staff. Graen and Uhl-Bien (1995) indicated that the extent to which tasks are structured can have significant implications on the appropriateness of leadership styles. Therefore, the challenge of leaders at SANDF is to understand these differences and tailor their leadership styles to the specific context within which they lead. That may be easier for leaders who practice their leadership in either combat or support division. However, for leaders whose subordinates consist of both combat and support staff, the adaptation of leadership style is likely to be complex since the situation may require the simultaneous use of several leadership styles.

The study has found significantly low work engagement in combat. According to Hamad (2015), the structured nature of combat tasks, combat leadership is likely to be more instructional. These propositions are refuted in this study since the study found that combat staff perceived their current leadership to be relationship-oriented. Given that less structured task structure is positively correlated to high levels of work engagement (Earnhardt 2008; Halpin 2011), this study has failed to answer the question of why work engagement was low with combat staffs, despite their preference for relationship-oriented leadership style, which is a prerequisite of work engagement.

The other research question was “to evaluate the extent to which particular leadership styles apply to SANDF to match the challenges identified.” The findings showed that staff at SANDF’s combat division perceived their leaders to be relationship-oriented while those at the support division were a mixture of both. It is also worth noting that while all the three contingent factors considered in this study, task structure, leader-member exchange and work engagement, were found to significantly contribute to the choice of leadership at SANDF’s combat division, work structure was not a significant factor within the support division. The significant differences in the contribution of these contingent factors within the two-divisions can be seen as factors which explain the differences in the leadership styles within those divisions.

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Appendices

Appendix A: Descriptive statistics

Item	Combat		Support	
	Mean	SD	Mean	SD
LPC C 1	5.13	1.99	4.83	2.21
LPC C 2	5.12	2.04	4.78	2.15
LPC C 3	5.40	1.82	4.51	2.08
LPC C 4	5.23	1.89	4.60	2.14
LPC C 5	5.32	1.75	4.85	2.25
LPC C 6	5.10	2.14	4.52	2.43
LPC C 7	5.03	2.12	4.63	2.40
LPC C 8	5.05	2.35	4.47	2.42
LPC C 9	5.07	2.06	4.40	2.16
LPC C 10	4.85	2.07	4.53	2.14
LPC C 11	4.97	2.24	4.48	2.29
LPC C 12	4.98	2.21	4.47	2.30
LPC C 13	4.80	2.15	4.47	2.50
LPC C 14	4.98	2.10	4.75	2.33
LPC C 15	4.75	2.23	4.52	2.49
Total	75.70	26.81	68.73	30.79

LPC_1, LPC_2 ... refer to each of the items in the Least Preferred Coworker (LPC) instrument. The full description of these instruments can be found in Appendix B

Appendix B: Descriptive statistics

Item	Combat		Support	
	Mean	SD	Mean	SD
WSI_1	3.50	.98	3.63	1.06
WSI_2	3.58	.93	3.78	.96
WSI_3	3.18	.89	3.37	.90
WSI_4	3.32	1.00	3.38	1.04
WSI_5	2.93	.84	3.22	1.06
WSI_6	2.43	1.09	3.03	1.31
WSI Total	18.95	3.68	20.42	4.75

• WSI_1, WSI_2 ... refer to each of the items in the Work Structure Instrument. The full description of these instruments can be found in Appendix B

Appendix C: Work Engagement

	Combat		Support	
	Mean	SD	Mean	SD
Vigour				
UWES_1	5.05	1.17	4.92	1.20
UWES_2	4.83	1.15	4.73	1.09
UWES_3	5.02	1.13	4.82	1.10
UWES_4	5.07	.86	5.13	.91
UWES_5	5.02	1.17	4.97	1.18
UWES_6	5.07	1.06	4.68	1.23
Vigour Total	29.25	4.71	30.05	4.82
Dedication				
UWES_7	3.93	1.54	3.97	1.34
UWES_8	4.78	1.33	4.45	1.38
UWES_9	5.10	1.12	4.68	1.21
UWES_10	5.40	0.92	4.77	1.27
UWES_11	5.07	1.36	4.65	1.45
Dedication Total	22.52	5.32	24.28	4.48
Absorption				
UWES_12	3.80	1.64	3.75	1.57
UWES_13	4.65	1.25	4.45	1.57
UWES_14	3.68	1.93	3.55	1.98
Absorption Total	11.75	4.43	12.13	4.16
UWES Total	63.52	11.79	66.47	11.00

• UWES_1, UWES_2 ... refer to each of the items in the Utrecht Work Engagement Scale. The full description of these instruments can be found in Appendix B