



Conceptualizing and measuring resilience

Development of the Military Resilience Monitor (MRM)

Roos Delahaij
Wim Kamphuis
Coen van den Berg
Olaf Binsch





Conceptualising and measuring resilience

Objective

- › Monitoring psychological resilience throughout military career
- › Focus on resources that can be enhanced through interventions
- › Measuring effectiveness of interventions

Approach

- › Literature review
 - › Key determinants of military resilience
 - › Measures of resilience
- › Development of Resilience Model for Netherlands Armed Forces
- › Development of Military Resilience Monitor (MRM)
- › Validation of MRM



Review of literature

› Scope

- › Determinants of resilience in high risk professions: 1027 → 127 publications
- › Review of 12 resilience measures (military and non-military)

› Result

- › ‘successful adaptation to adversity’
- › ‘ability to bounce back’
- › Heterogeneity in conceptualisation (Masten, 2001/ Zautra, 2010/2011)
- › Trait, process or outcome
- › Internal (individual) and external (environmental) resources



Review of resilience measures

- › Great diversity in factors measured in resilience questionnaires
- › Factor structure not always stable over populations
- › Focus on internal resources
- › Resilience scales as 'black box'
- › No demands or outcomes included

Conclusions

1. Domain specific conceptualisation and operationalisation is needed.
2. Not only focus on internal resources but also include external resources and demands and outcomes



Development of Resilience Model

- › **Resilience as outcome of process:**
 - › Despite stressful and demanding environment
 - › Optimal performance
 - › Well-being and recovery
 - › Sustainable motivation
 - › Internal and external resources
- › **Key components of model:**
 - › Resources (internal and external)
 - › Phase specific demands and outcomes
- › **Selection of resources, demands and outcomes**
 - › Literature
 - › Interviews



Development of Military Resilience Model

Identify 5 levels of resources
(articles on resources)





Resources for military resilience

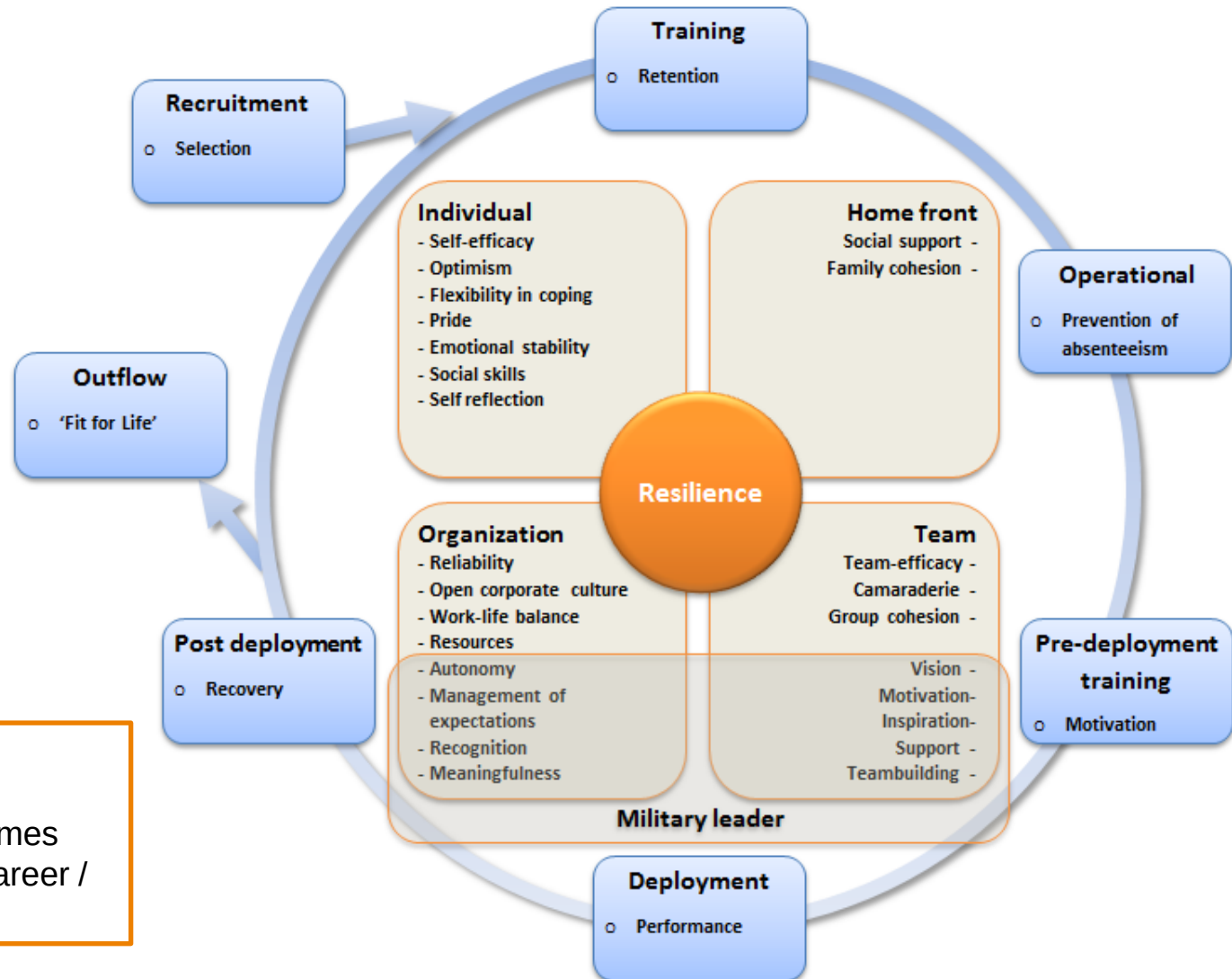
Selection relevant resources per level

* from literature review





Military life cycle related demands and outcomes



1. Demands
 2. Resources
 3. Preferred outcomes
- Are dependent on career / deployment phase



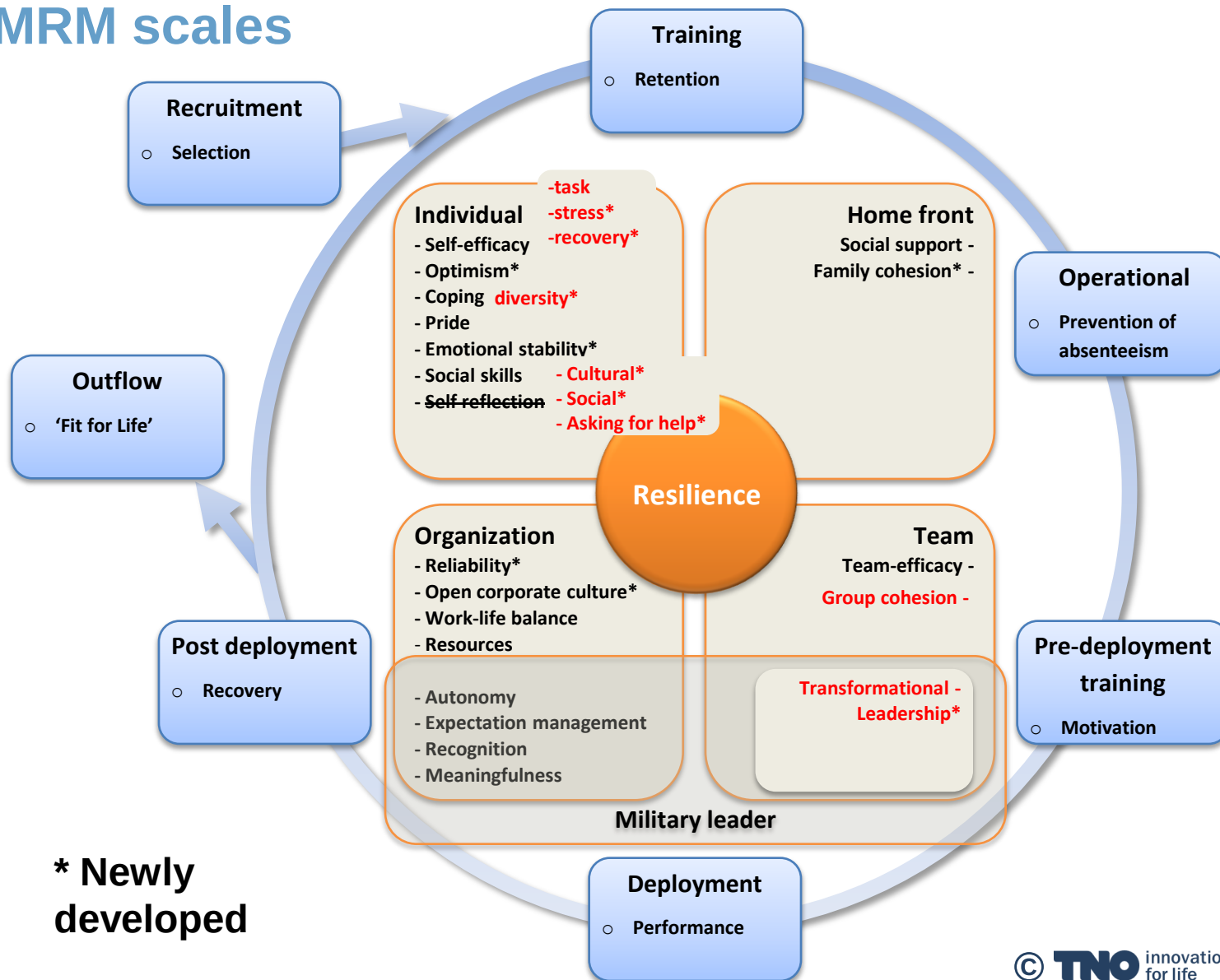
Development of Military Resilience Monitor

- › Operationalizing factors in military resilience model
 - › Building on existing Q's
 - › Short form: 3-5 items per factor
 - › Suitable for military domain, changing items if necessary

- › Studies to develop MRM
 - › 2012 (n=706). Logistic Brigade in garrison
 - › 2013 (n=250). Police training mission Kunduz (pre & during depl)
 - › 2013 (n=100). Air force mission Afghanistan (pre & during depl)
 - › 2013 (n=400). NATO Anti-Piracy Mission Atalanta (pre & during depl)



MRM scales





Resources: Item sources & examples

Concept	Scale (# items)	Sources	α	Example items
Individual	Optimism (3)	Lotr	.73	I am optimistic about the future
	Self-efficacy stress (3)	CD-risc / BRS	.80	I can stay focused under pressure
	Self-efficacy recovery (3)	CD-risc / BRS	.81	It does not take me long to recover from a stressful event
	Emotional stability (5)	Hexaco	.65	I do not worry as much as other people
	Coping diversity(5)	COPE		I focus on handling the situation
				I ask for advice
	Social competence (3)	MPQ / IRQ	.80	I make friends easily
	Cultural competence (3)	MPQ / IRQ	.76	I find it easy to relate with people from other cultures
Homefront	Help seeking (3)	MPQ / IRQ	.70	I ask for help easily
	Family cohesion (3)	RSA	.84	In my family we like to do things together
Team	Transformational Leadership (5)	Bass & Avolio	.89	My leader explains our goals clearly
				My leader shows appreciation for a job well done
				My leader coaches me
Organi- sation	Reliability (3)	Chun 2005	.89	The defence organisation is reliable
				The defence organisation is transparent
	Open culture (3)	Psych S Q	.76	In this organisation people can act like themselves
				Employees in this organisation can show vulnerability



Factor structure

	During deployment					Before deployment			
	ORG	IND	TEAM	HOME		ORG	IND	TEAM	HOME
Coping diversity		,257		,256					,539
Optimism	,513	,401				,427	,419		
Self-efficacy task		,224	,429	,633			,316	,765	
Self-efficacy stress		,784					,818		
Self-efficacy recovery		,746					,759		
Cultural competence		,672				,374	,536		
Social competence		,657					,546		,333
Emotional stability		,688					,794		
Family cohesion				,524					,576
Family support				,753				,612	,381
Team cohesion			,752			,650		,485	
Team efficacy			,747			,564		,509	
Transformational leadership			,628			,647		,213	
Open culture	,715					,587			,329
Autonomy	,278		,388	,528		,260		,681	
Recognition	,779					,698			
Meaning making	,641			,362		,452			,371
Work life balance	,530					,576			
Resources	,600					,643			
Expectation management	,588		,458			,733			



Future developments

- › Integration MRM scales in standardized testing
- › Dashboard for commanders
- › Linking MRM data to performance /personnel data

Thank you!



Outcomes: Item sources, alfa & examples

Concept	Scale	Sources	α	Example items
Well-being	Mental	SF-12 (3)	.80	Door emoties als angst, boosheid en/of somberheid.80
				- heb ik de afgelopen weken minder bereikt dan ik zou willen
				- deed ik mijn werk de afgelopen weken niet zo zorgvuldig als gewoonlijk
	Physical	SF-12 (3)	.71	Door een verminderde lichamelijke gezondheid..
				heb ik de afgelopen weken minder bereikt dan ik zou willen
	Sleep	SLC-90 (3)	.77	was ik de afgelopen weken beperkt in het uitvoeren van mijn werk
				Ik had moeite met inslapen
				Ik had last van te vroeg wakker worden



Examples of resilience measures

- › **CD-RISC** (Connor & Davidson, 2003)
 - › Resilience as a personal trait
 - › Personal competence, adaptation, acceptance, control, spiritual beliefs
- › **Resilience Scale for Adults** (RSA; Friborg, et al, 2005)
 - › Resilience as combination of person and environmental characteristics
 - › Personal competence & structure, social competence, family cohesion, social network
- › **Global Assessment Tool** (GAT; Peterson, Park, Castro, 2011)
 - › Military resilience as combination of fitness indexes
 - › Emotional, social, spiritual and family fitness
- › **Deployment Risk and Resilience Inventory** (DRRI; King, King & Vogt, 2003)
 - › Resilience factors: social support and self-efficacy