

Supplementary Material S2:

Quantitative questionnaire including analysis of 309 questionnaires.

[The Department of Forests (DoF) in Cyprus adopted the incident command system (ICS) during the operation of the management system of forest fires (MSFF). For the purposes of this study the management system of forest fires in DoF is referred to as FFICS.]

A. Reactions and perceptions in the forest firefighting workplace at the Department of Forests

A.1 To what extent are you satisfied at work with your participation in the FFICS of Department of Forests? (Mark with √)

Not at all satisfied	3.9%	Slightly satisfied	12.7%	Satisfied	38%	Very satisfied	24%	Extremely satisfied	21.4%
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A.2 To what extent are you familiar with the FFICS and the way it is applied in the evolution of forest fire episodes? (Mark with √)

Not at all satisfied	3.2%	Slightly satisfied	15.6%	Satisfied	29.2%	Very satisfied	31.5%	Extremely satisfied	20.5%
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A.3 To what extent do you agree that your direct superior's professional experience in the FFICS is a decisive factor in developing leadership and management traits relevant to the superior's position at the FFICS? (Mark with √)

Not at all satisfied	2.6%	Slightly satisfied	5.2%	Satisfied	24.7%	Very satisfied	30.2%	Extremely satisfied	37.3%
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A.4 Mark with √ which of the following statements (only one) corresponds to how you view "leadership in the FFICS":

Leadership relates to the operational planning of the FFICS.	26.6%
Leadership relates to the creation of structures for executing the necessary functions of the FFICS.	25%
Leadership relates to the influence of the behaviour and actions of the Department of Forests staff, in order to achieve the objectives of the FFICS.	48.4%

A.5 Mark with √ which of the following statements (only one) corresponds to how you view "management in the FFICS":

Management contributes to the planning of actions for promoting the value of the FFICS to society.	20.1%
Management contributes to the technical and financial development of the FFICS, in order to maximise its profit.	23.4%
Management contributes to structure development and necessary functions execution of the FFICS, which are vital for implementing its actions and objectives.	56.5%

A.6 In your opinion, the leadership and management traits of your immediate leader (supervisor) in the FFICS, are more likely to strengthen the following:

Group function of FFICS	88.6%	Individuals function of FFICS	11.4%
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B. Leadership and management traits of the FFICS in the Department of Forests (1-5, 6-8)

B.1 In your opinion, what should be the leadership traits of your immediate leader (supervisor) in the FFICS? On each row below, sort the following personality traits in order of importance [1: Least Important – 4: Most Important].

Leader-ship traits	Personality traits	Classification			
		<i>Least important</i>	<i>Slightly important</i>	<i>Important</i>	<i>Very important</i>
(1) Intelligence & Capabilities	Judgment/critical thinking	16,9%	9,6%	16,6%	57%
	Decisiveness	11%	20,6%	34,9%	33,6%
	Self-awareness	16,9%	30,9%	27,9%	24,3%
	Persuasion	34,21%	18,9%	23,3%	23,6%
(2) Personality	Creativity and innovation	30,2%	21,3%	18,6%	29,9%
	Confidence	12%	24,9%	29,2%	33,9%
	Integrity	22,3%	20,6%	31,9%	25,2%
	Ethical behaviour	17,3%	15%	22,3%	45,5%
(3) Social traits	Ability to develop a team (collaborativeness)	15%	7,3%	10%	67,8%
	Discretion	16,6%	28,9%	34,2%	20,3%
	Interpersonal skills (sociability)	12,3%	30,6%	39,2%	17,9%
	Diplomacy	40,2%	22,9%	14%	22,9%
(4) Work-related traits	Completion of goals, success of results	15,6%	18,3%	27,2%	38,9%
	Responsibility	9,6%	21,9%	21,6%	46,8%
	Goal-oriented ability	17,3%	24,3%	30,6%	27,9%
	Ability to search for the different and new	37,9%	16,6%	19,6%	25,9%

B.2 Following question B1, sort in order of importance [1: Least important – 4: Very important], the leadership traits that should distinguish your immediate leader (supervisor) in the FFICS.

Leadership traits	Classification			
	<i>Least important</i>	<i>Slightly important</i>	<i>Important</i>	<i>Very important</i>
Intelligence and Capabilities	8,8%	5,9%	16%	69,4%

Leadership traits	Classification			
	<i>Least important</i>	<i>Slightly im- portant</i>	<i>Important</i>	<i>Very im- portant</i>
Personality	14%	28%	27,7%	30,3%
Social traits	24,5%	25,7%	30,6%	19,5%
Work-related traits	16%	13,4%	29%	41,7%

B.3 In your opinion, sort in order of preference (1: Slightly Preferred – 2: Preferred – 3: Fairly Preferable) the **leader-ship style** of your immediate leader, **before** (P: pre-suppression) **and during the activation** (S: forest fire suppression) **of the FFICS**.

Leadership style (<i>distinctive traits</i>)	Implemen- tion stage	Classification		
		1	2	3
The leader (supervisor) makes the decisions himself , bearing the institutional (legal) responsibility for them.	P	34,9%	32,6%	32,6%
	S	27,4%	35,6%	37%
The leader takes into account the views of the employees , but the leader makes the final decision.	P	13,2%	27,6%	59,2%
	S	10,9%	27,8%	61,3%
The leader has a limited role, and does not take enough responsibility for planning the work execution.	P	59,2%	20,7%	20,1%
	S	54%	23,5%	22,5%
The leader shows confidence in the team's abilities, renouncing any decision and responsibility .	P	37,2%	27,6%	35,2%
	S	34,8%	28,5%	36,8%
Employees implement the orders and instructions of the leader , without hesitation or disagreement, achieving rapid action.	P	19,1%	37,2%	43,8%
	S	19,9%	31,5%	48,7%
Only with the presence of the leader does employee productivity increase.	P	41,4%	29,3%	29,3%
	S	36,1%	28,1%	35,8%
The leader encourages employee participation , developing a sense of responsibility, however without employees having institutional responsibility.	P	22,4%	27,6%	40%
	S	14,2%	33,8%	52%
The leader enhances motivation and skills development during employees' work and during the System's operation, thus, however, running the risk of losing time in cases of crisis and/or cases of reaction time being limited.	P	21,1%	45,4%	33,6%
	S	27,5%	38,1%	34,4%

Leadership style (distinctive traits)	Implemen- tation stage	Classification		
		1	2	3
The leader does not set goals, thus hindering productivity and progress , creating little interest for work and a relaxed sense of teamwork.	P	58,2%	23%	18%
	S	51,3%	25,5%	23,2%
The leader grants autonomy to the employees, contributing to the development of high performance , however <u>if employees are inexperienced and are unaware of how to manage time</u> , this can be disastrous for productivity.	P	31,6%	39,1%	29,3%
	S	32,1%	34,8%	32,8%

B.4 In your opinion, sort emotional intelligence components that should characterise your immediate leader (supervisor)? [Circle in each case – 1: Least Important, 2: Little Important, 3: Neutral, 4: Important, 5: Most Important]?

Emotional intelligence components	Classification					Mean Ranks [‡]
	1	2	3	4	5	
Awareness of the leader's own strengths and weaknesses.	2.9%	4.9%	13.4%	20.2%	58.6%	3.17
Adaptability , at ease with changes.	2%	5.9%	19.5%	31.6%	41%	2.72
Motivation and optimism for work and for new challenges.	2.9%	4.6%	15.7%	31.7%	45.1%	2.88
Understanding of employees' emotional state.	2.9%	4.9%	13.4%	20.2%	58.6%	3.12
Managing interpersonal relations between employees, aiming at guiding them towards goals achievement.	2.6%	5.9%	13.1%	24.2%	54.2%	3.10

[‡]Mean Ranks of Friedman test: N = 306; Chi-Square=35.509; df=4; p<0.000(***)

B.5 In your opinion, sort the following formulations, related to the approach-leadership theory that should distinguish your immediate leader (supervisor) [1: Least Important, 2: Little Important, 3: Neutral, 4: Important, 5: Most Important]

Formulations	Level of Importance					Mean Ranks [‡]
	1	2	3	4	5	
Idealised Influence – Behaviour	(Average of classification #5: 57.7%; S.D.: 7.36)					
To create a feeling of pride to those who cooperate with him/her.	4.3%	8.2%	12.1%	25.2%	50.2%	9.52

Formulations	Level of Importance					Mean Ranks [#]
	1	2	3	4	5	
To outweigh the benefit of the group over his/her own self-interest.	3.6%	3%	8.2%	23.9%	61.3%	11.29
To earn respect by the manner in which he/she operates.	2%	2.3%	7.9%	21.6%	66.2%	11.89
To demonstrate a sense of strength and confidence .	2.3%	2.6%	11.8%	30.2%	53.1%	10.53
Idealised Influence – Attributed	(Average of classification #5: 48.5%; S.D.: 5.36)					
To exhibit values and views that enhance his role in the work-place.	3.3%	2.3%	13.1%	37%	44.3%	9.59
To prioritise the importance of events, according to the purposes of the system.	1.3%	3.3%	17.7%	32.5%	45.2%	9.58
To consider the moral consequences of decisions.	2.3%	4.9%	13.1%	31.1%	48.5%	9.98
To highlight collaborative work and mission .	3%	3%	12.1%	25.9%	56.1%	10.52
Inspirational motivator	(Average of classification #5: 44.2%; S.D.: 6.03)					
To exhibit a sense of optimism for the future.	3.6%	4.6%	17%	36.1%	38.7%	8.76
To refer enthusiastically to the goals to be achieved.	2.3%	6.2%	16.1%	33.1%	42.3%	9.00
To exhibit a vision for the future.	3%	6.2%	16.1%	33.1%	42.3%	9.12
To create confidence in achieving goals .	2.3%	2.6%	9.2%	33.1%	52.8%	10.69
Intellectual stimulator	(Average of classification #5: 46%; S.D.: 6.72)					
To be in a process of reviewing critical elements that are taken for granted.	3.3%	6.2%	11.5%	40.7%	38.4%	8.99
To deal with problems by seeking for different possible solutions .	3.3%	4.9%	11.5%	28.5%	51.8%	10.02
To encourage employees to perceive problems in many ways (different perspectives) instead of single-dimensionally.	2%	2%	13.4%	31.1%	51.5%	10.46
To propose approaches to completing projects/tasks by adopting new ways .	3.6%	2.6%	16.1%	35.4%	42.3%	9.24
Individualized consideration	(Average of classification #5: 52.3%; S.D.: 3.72)					
To dedicate time for employees, teaching and leading.	3%	2.3%	12.5%	28.9%	53.4%	10.40
To treat each group member as an individual and not just as mere group members.	3.6%	3%	12.8%	25.2%	55.4%	10.53

Formulations	Level of Importance					Mean Ranks [‡]
	1	2	3	4	5	
To treat each group member as an individual with different needs , abilities and aspirations.	3.9%	2.6%	14.1%	31.1%	48.2%	9.79

[‡]Mean Ranks of Friedman test: N = 304; Chi-Square=214.7; df=18; p<0.000(***)

B.6 Based on your professional experience, sort the administrative functions that your immediate leader (supervisor) at the FFICS should perform. [1: Least Important, 2: Little Important, 3: Neutral, 4: Important, 5: Most Important]

Administrative functions	Classification				
	1	2	3	4	5
Planning: Setting goals, selecting methods and actions for fulfilling these goals.	10.5%	8.9%	15.4%	21%	44.3%
Decision making: Identifying actions and exploring solutions to problems, implementing an optimal solution and evaluating the outcome.	4.3%	11.1%	15.4%	23.9%	45.2%
Organisation: Division of work, definition of activities, definition of employee roles, formulation of work rules and relationships, organisation of material resources.	3.6%	3%	17.4%	22%	54.1%
Direction: Creating a favourable organisational climate and optimal management, supervision, guidance and motivation of human resources.	10.8%	8.9%	7.9%	28.5%	43.9%
Control: Assessing final work results, formulating potential problems and errors, determining corrective interventions to achieve results.	10.8%	8.9%	7.9%	28.5%	43.9%

B.7 Circle the importance of the skills and management characteristics (traits) that should distinguish your direct leader (supervisor) at the FFICS [1: Least Important, 2: Somewhat Important, 3: Neutral, 4: Important, 5: Most Important]:

Characteristic	Classification					Mean Ranks [‡]
	1	2	3	4	5	
Leader's Activity	(Average of classification #5: 48.1%; S.D.: 11.24)					
To have a vision for his/her service.	4.6%	3.3%	14.8%	34.1%	43.3 %	12.59

Characteristic	Classification					Mean Ranks [#]
	1	2	3	4	5	
To inspire respect and appreciation in his/her subordinates .	1.6%	3.6%	8.2%	21.6%	64.9%	16.24
To inspire respect and appreciation in his/her superiors .	2.6%	3.3%	9.2%	27.2%	57.7%	15.09
To clearly articulate the aims of the System.	2%	1.6%	13.8%	36.1%	46.6%	13.77
To believe that the goals will be achieved.	2.6%	1%	13.4%	38%	44.9%	13.55
To be interested in the efficiency and effectiveness of the System.	2.6%	2.3%	10.8%	34.8%	49.5%	14.22
To manage “ bureaucratically ”, staying true to formulas, business plans and procedures.	8.5%	16.4%	22.6%	23%	29.5%	9.19
Employee motivation (Average of classification #5: 52.2%; S.D.: 6.04)						
To manage in an employee-centered manner, aiming at effectively utilising employees at the lowest possible cost.	4.6%	4.3%	16.7%	30.8%	43.6%	12.56
To provide incentives to employees toward achieving the objectives of FFICS.	3.9%	1.6%	11.8%	28.2%	54.4%	14.44
To utilise the skills and knowledge of each employee separately.	3.9%	2.6%	6.6%	36.7%	50.2%	14.21
To distribute tasks and responsibilities fairly to all employees.	2.6%	3%	9.2%	32.1%	53.1%	14.72
To encourage employees to take initiative.	3.3%	4.6%	8.9%	33.8%	49.5%	13.94
To recognise and morally reward the effort and performance of employees.	2.3%	2.9%	10.5%	25.2%	59.2%	15.27
To guide and support employees.	2%	2.6%	7.2%	24.5%	63.7%	16.13
To treat mistakes as learning opportunities instead of punishing.	2.9%	2.9%	12.1%	34.6%	47.7%	13.65
To encourage employee participation in training activities.	2.3%	3.6%	10.8%	31.7%	51.6%	14.28
Cultivating a culture of cooperation and communication in the service (Average of classification #5: 52.2%; S.D.: 6.04)						
To effectively manage conflicts and crises in the workplace.	2%	3.9%	11.8%	24.8%	57.5%	14.84
To promote collective spirit and teamwork.	2.9%	1.6%	8.8%	28.8%	57.8%	15.34
To be characterised by a spirit of cooperation and communication.	1.6%	2.9%	10.8%	28.8%	55.9%	15.06
To be a skilled/effective negotiator .	2.9%	1.6%	16.7%	31.4%	47.1%	13.48
To deal effectively with negative behaviours .	3.3%	2%	11.1%	30.4%	53.3%	14.56
Promoting innovations in the service (Average of classification #5: 46.8%; S.D.: 5.02)						
To keep abreast of changes and new practices in service matters.	2.6%	2.3%	9.8%	32%	53.3%	14.66

Characteristic	Classification					Mean Ranks [‡]
	1	2	3	4	5	
To face changes positively .	3.6%	2.9%	15.4%	34%	44.1%	12.92
To remain adaptable to new situations.	2.9%	2.6%	13.4%	36.9%	44.1%	13.21
To promote suggestions for improving the FFICS.	2.6%	5.2%	11.4%	32.7%	48%	13.53
To contribute to increasing the sense of commitment of employees to the FFICS.	2.6%	2.9%	18%	36.6%	39.9%	12.33
To contribute to increasing the sense of duty among team members.	3.3%	1.6%	11.8%	32%	51.3%	14.22

[‡]Mean Ranks of Friedman test: N = 305; Chi-Square=446.12; df=26; p<0.000(***)

B.8 Evaluate the function of the FFICS **operational level** (group, front, sector, etc.), in which you participate [1: Unsatisfactory, 2: Somewhat Satisfactory, 3: Neutral, 4: Satisfactory, 5: Very Satisfactory]:

Characteristics	Classification					Mean Ranks [‡]
	1	2	3	4	5	
There is mutual trust between members.	5.6%	8.3%	24.8%	29.7%	31.7%	2.39
There is communication between members, together with a problem-solving and decision-making strategy.	5%	8.6%	21.5%	32%	33%	2.47
There is motivation and productivity , members cooperate and work effectively toward the purposes of the FFICS.	3.3%	6.9%	23.4%	35%	31.4%	2.54
There is control and planning , members distribute work based on ability; the scheme is flexible and members can operate independently.	5.3%	6.9%	17.8%	36.6%	33.3%	2.60

[‡]Mean Ranks of Friedman test: N = 303; Chi-Square=8.836; df=3; p<0.032(*)

C. Personal and Professional Information of Respondents (Personal Information – absolute values)

C.1 **Gender:** Male: Female:

C.2 **Position in the Organisation**

Forest firefighter:

Departmental Officer:

Team leader (*Forest Officer & 1st Grade Forest Officer*)

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Group leader (*Senior Officer*)

C.3 **Years of service:**

<2	58	3-8	62	9-15	51	16-23	71	24-32	42	>33	23
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