



# What and how do SOF operators eat ?

*PARIS SOF-CMC conference*

Friday October 21, 2022



*Session 5A : SOF physical constraints*



## Introduction

1. International literature review
2. Study in a French SOF unit
3. Analysis and Discussion

## Conclusions and Perspectives

*There are no conflicts of interest to disclose.*

# ○ — Introduction

- SOF operators = « top athletes » (intensive training and mission)
- SOF operator body = every day work tool = selfcare about nutrition
- What are their nutritional and consumption habits, motivations and information sources among SOF operators ?
- Training sessions and programs for SOF medics ?



# ***International literature review on nutritional intakes and habits in Army and SOF***

- 1) Is there a link between eating behaviors and physical fitness and body composition ? An American study***
  - 2) Is there a link between the average energy intake and initial training in army ? An international meta-analysis***
  - 3) Use of ergogenic dietary supplements by French soldiers during a deployment. A French Study***
  - 4) Ergogenic supplements consumption during a French army deployment. A French study***
  - 5) Inventory of solicitation, knowledge and practice of military physicians on dietary supplements. A French thesis***
- 6) Is there a link between a nutrition intervention and diet quality improvement ? An American study***
  - 7) Implementation and assessment of educational intervention about dietary supplements among French military physicians. A French thesis***

# *International literature review :*

## *1) Eating behaviors, physical fitness and body composition*

American cross-sectional study among 1,591 US Army soldiers

Nutritional factors	Results
Eating mostly at a dining facility	Lower odds of body composition failure.
Eating at a fast rate	Body composition failure and physical fitness failure.
Skipping breakfast	Lower odds of high physical performance.
Nutritional education	Higher odds of high physical performance.

Reference: *Eating Behaviors Are Associated With Physical Fitness and Body Composition Among US Army Soldiers* ; Julianna M. Jayne PhD, RDN, CHES, J. Philip Karl PhD, RD, Susan M. McGraw, Kristie O'Connor MLA, RD, Adam J. DiChiara, Renee E. Cole PhD, RDN ; Journal of Nutrition Education and Behavior ; Volume 53, Issue 6, June 2021, Pages 480-488.

# International literature review :

## 2) Average energy intake and initial training in the army

Synthesis of **14 studies** (6 conducted in the USA, 4 in Australia and 4 in Israel)

Nutritional factors	Results
Average energy intake	Decrease between the beginning of training and the later weeks of training.
Carbohydrate intake	Greater deficits compared with other macronutrients.
Extra protein intake	One study showing a significant improvement in push-up performance.

**Army recruits = likely to be underconsuming energy for extended periods of their initial training.**

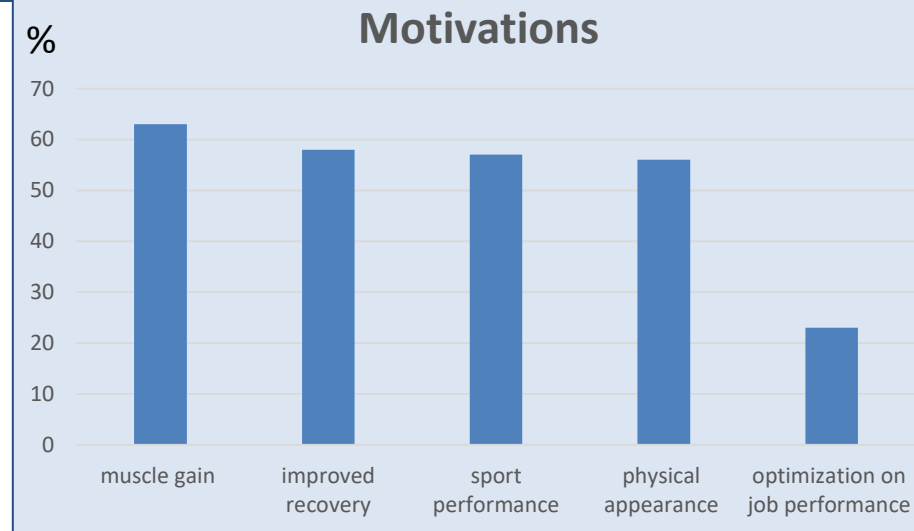
Reference: *The Influence of Training on New Army Recruits' Energy and Macronutrient Intakes and Performance: A Systematic Literature Review* ; Bradley A. Baker MDietSt, APD, AccSD, Matthew B. Cooke PhD, Regina Belski PhD, AdvAPD, AdvSD, RNutr, Julia E. CarinsPhD ; Journal of the Academy of Nutrition and Dietetics ; Volume 120, Issue 10, October 2020, Pages 1687-1705.

# International literature review :

## 3) Ergogenic dietary supplements during a deployment

- French descriptive observational epidemiological study
- Prevalence and consumption habits of ergogenic dietary supplements
- 1,391 French soldiers
- Deployment in 2012 in Afghanistan
- **21% of them used ergogenic aids during their deployment**
  - **76% of consumers started during deployment**

Association between consumption and mission abroad



# International literature review :

## 4) Ergogenic supplements consumption during a deployment

- French transversal monocentric study
- Self-administered test about ergogenic substances
- Soldiers of 2 combat units, during a deployment.

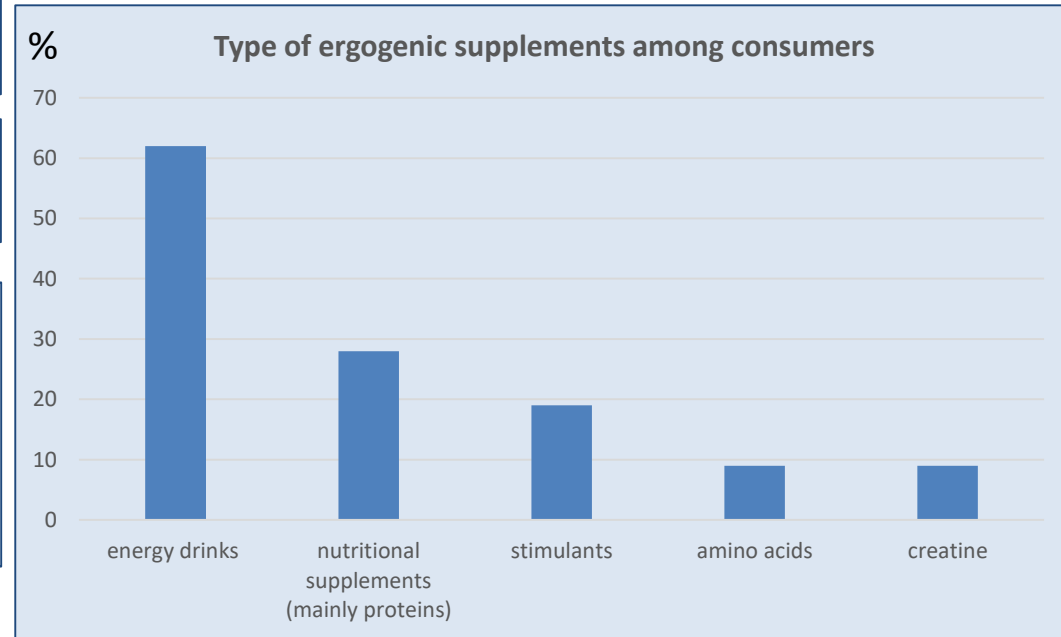
**73%** of soldiers used substances considered as ergogenics.

Association between consumption and resistance training (at least 4 hours /week)

NO association between consumption and endurance training

### Motivations :

- Increased workload during training
- Æsthetics
- Performance enhancement
- Alertness enhancement



Reference: *Ergogenic supplements consumption among army combat units during deployment* ;

P. Lafourcade, J. Delanoye, X.Bigard, A.Malgoyre ; Science & Sports, Volume 32, Issue 6, December 2017, Pages 334-343.



# ○ *International literature review :*

## *5) Solicitation, knowledge and practice of military physicians on dietary supplements*

- French thesis
- Study of the knowledge of French military physicians
- Consumption of dietary supplements by French soldiers
- 129 answers
  
- **64% of doctors were asked :**
  - 67% : able to meet the patients' expectations
  - **73%** : insufficient knowledge level
  - 84% : want a more thorough training
  
- **98%** interested in guidelines (practitioner and patient guidance sheets).



# *A study in a French SOF unit*

- **Direct impact of nutritional aspects on operators' physical abilities.**
- Prevalence rate of ergogenic = higher during deployment (2 French studies)

- Investigation targets :
  - Nutritional habits
  - Motivations
  - Information sources
  - Comparison during and out of external operations



# ○ — *Materials and Methods*

- Descriptive, observational and epidemiological study
- 63 French SOF operators
- September 2022
- Anonymous questionnaire
- Questions about nutrition habits in France (*over the past 2 years*)
- Same questions during their last mission abroad (4 months long)

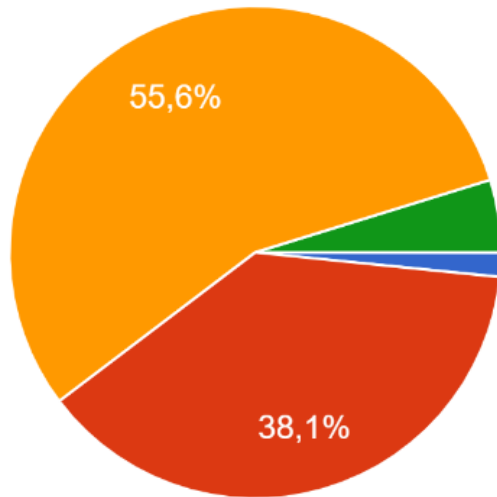
# Population

- Age :
  - 43% between 30 and 35
  - 30% between 25 and 30
- Time within the army :
  - 64% > 10 years
- Time within the SOF :
  - 46% < 5 years
  - 84% < 10 years

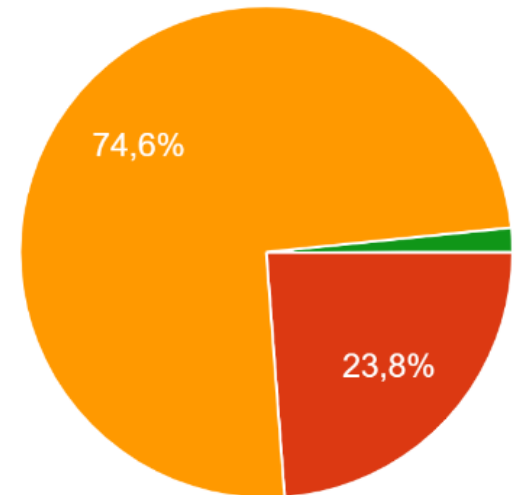
# ○ — *Main results*

## *How many real meals a day ?*

France



Latest mission  
abroad

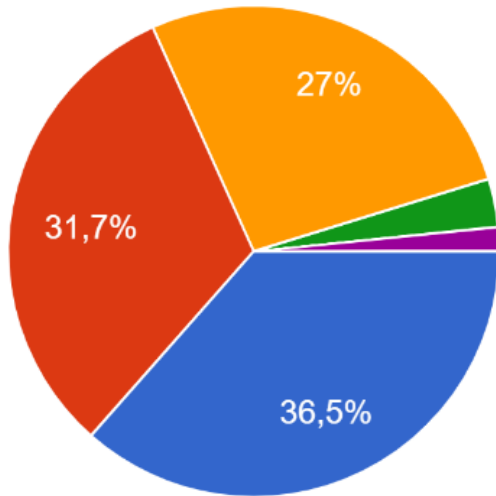


***More real meals during the mission***

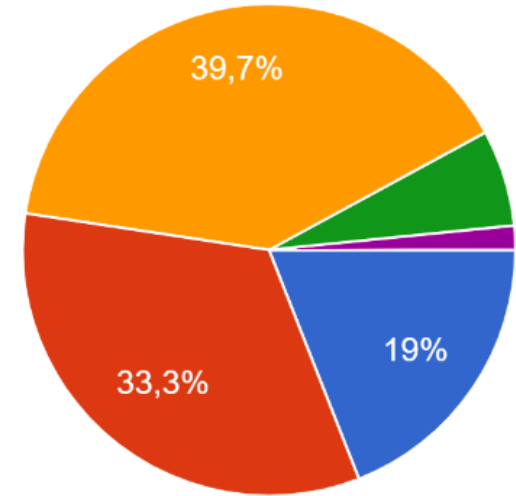
# Main results

## How many snacks a day ?

France



Latest mission abroad

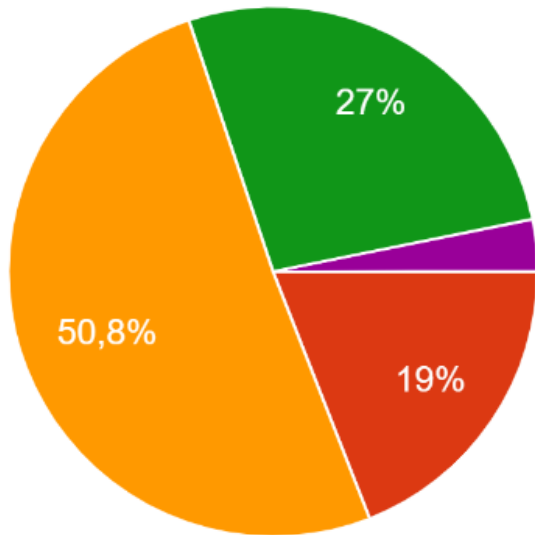


**Only 12 operators /63 do not take snacks during the mission**

# Main results

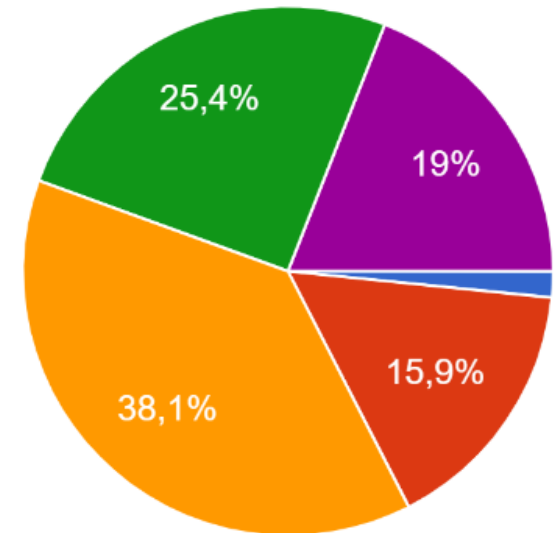
## When do you eat « junk food » ?

France



- Every day
- Several times a week
- Once a week
- One to 3 times a month
- Never

Latest mission abroad



**Less junk food consumption during the mission**

## ***Main results***

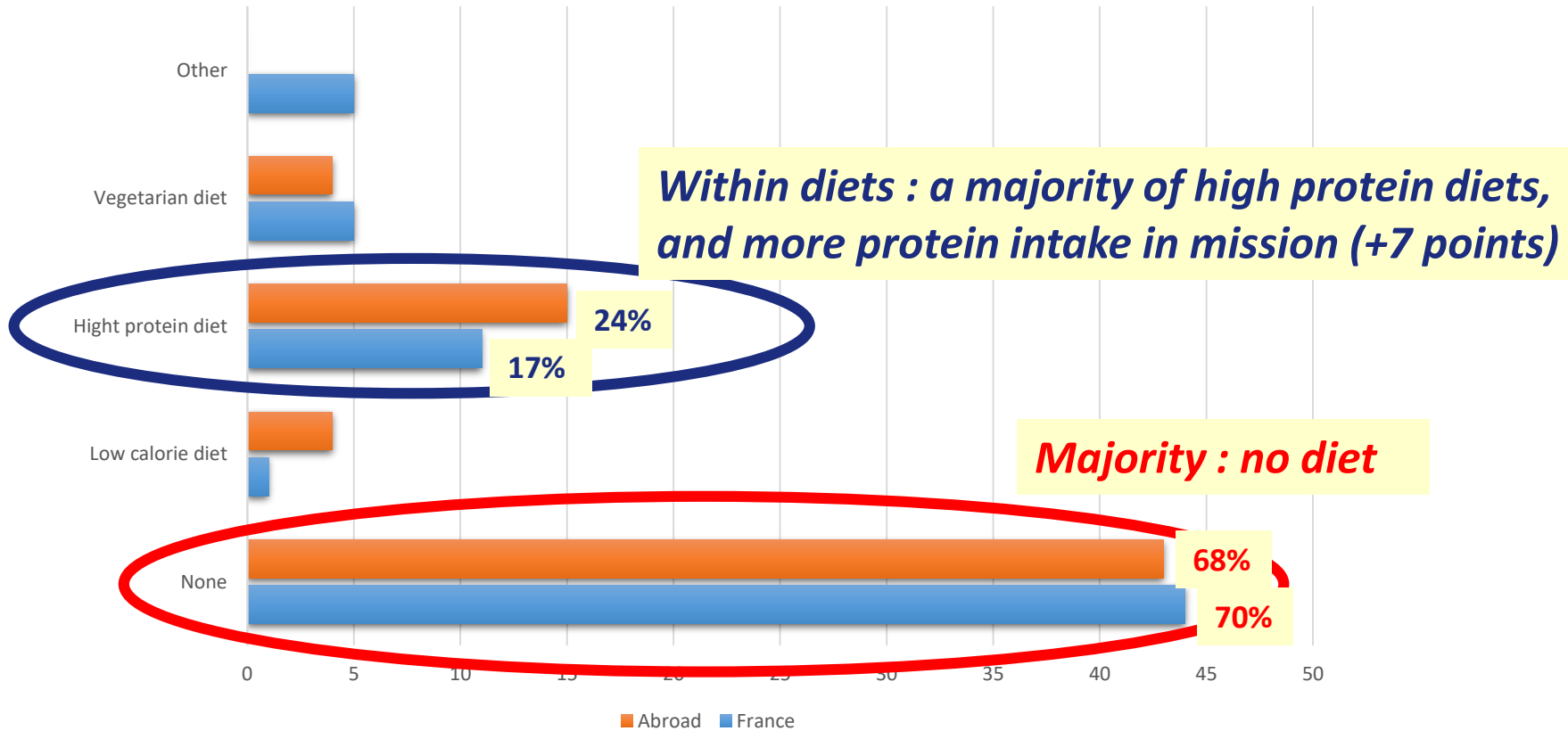
***Are you monitored for your dietary habits by a qualified health practitioner ?***

No, neither in France nor abroad.



# Main results

## Do you follow a diet ? What kind of diet ?



*Within diets : a majority of high protein diets, and more protein intake in mission (+7 points)*

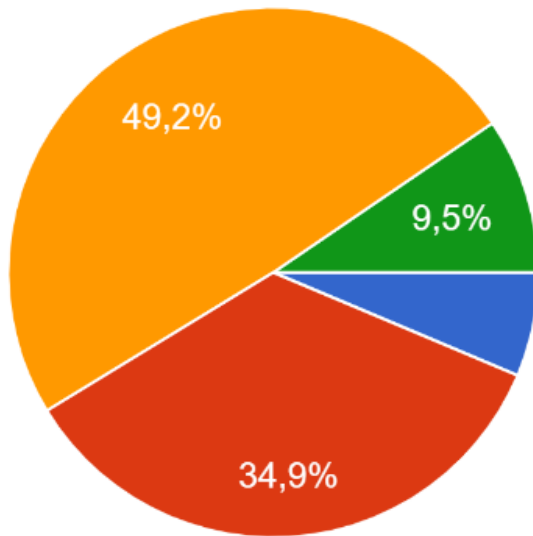
**Majority : no diet**

Number of consumers

# Main results

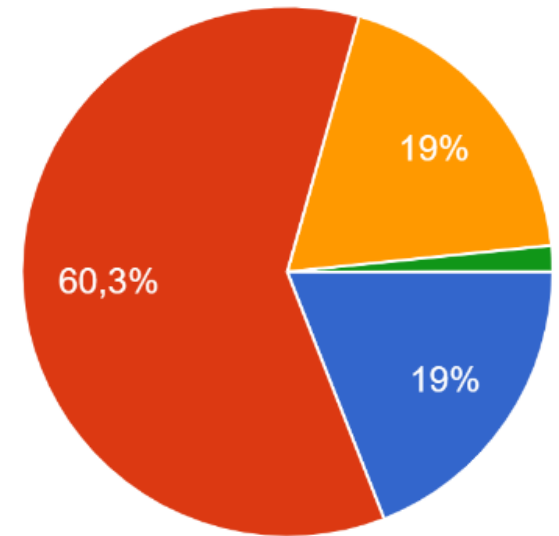
## How often do you practice sport per week ?

France



- > 7 /week
- Between 5 and 7
- Between 3 and 5
- < 3

Latest mission abroad

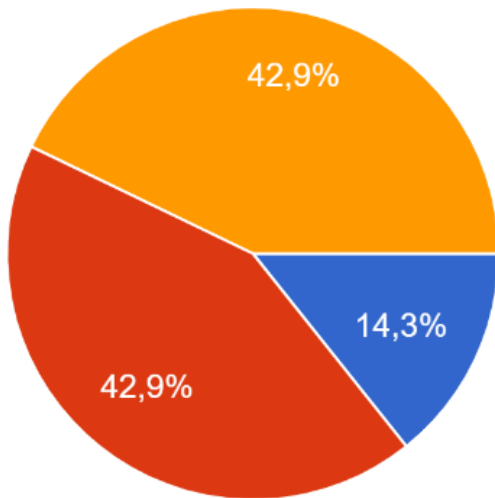


**Much more sport during the mission**

# ○ — *Main results*

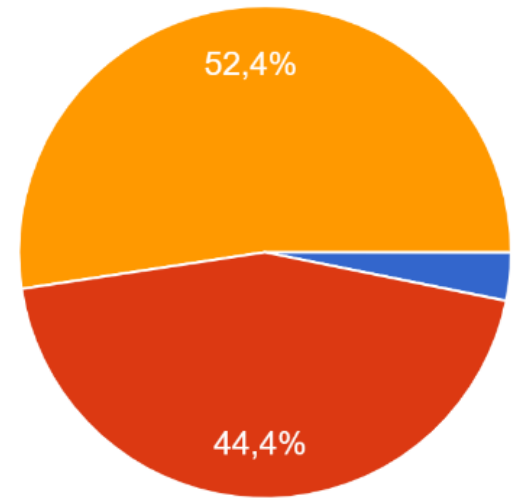
## *What kind of sport ? Endurance or strength training ?*

*France*



- > 50% of endurance sports
- About 50/50
- > 50% of strength training

*Latest mission  
abroad*



***More strength training in  
proportion during the mission***

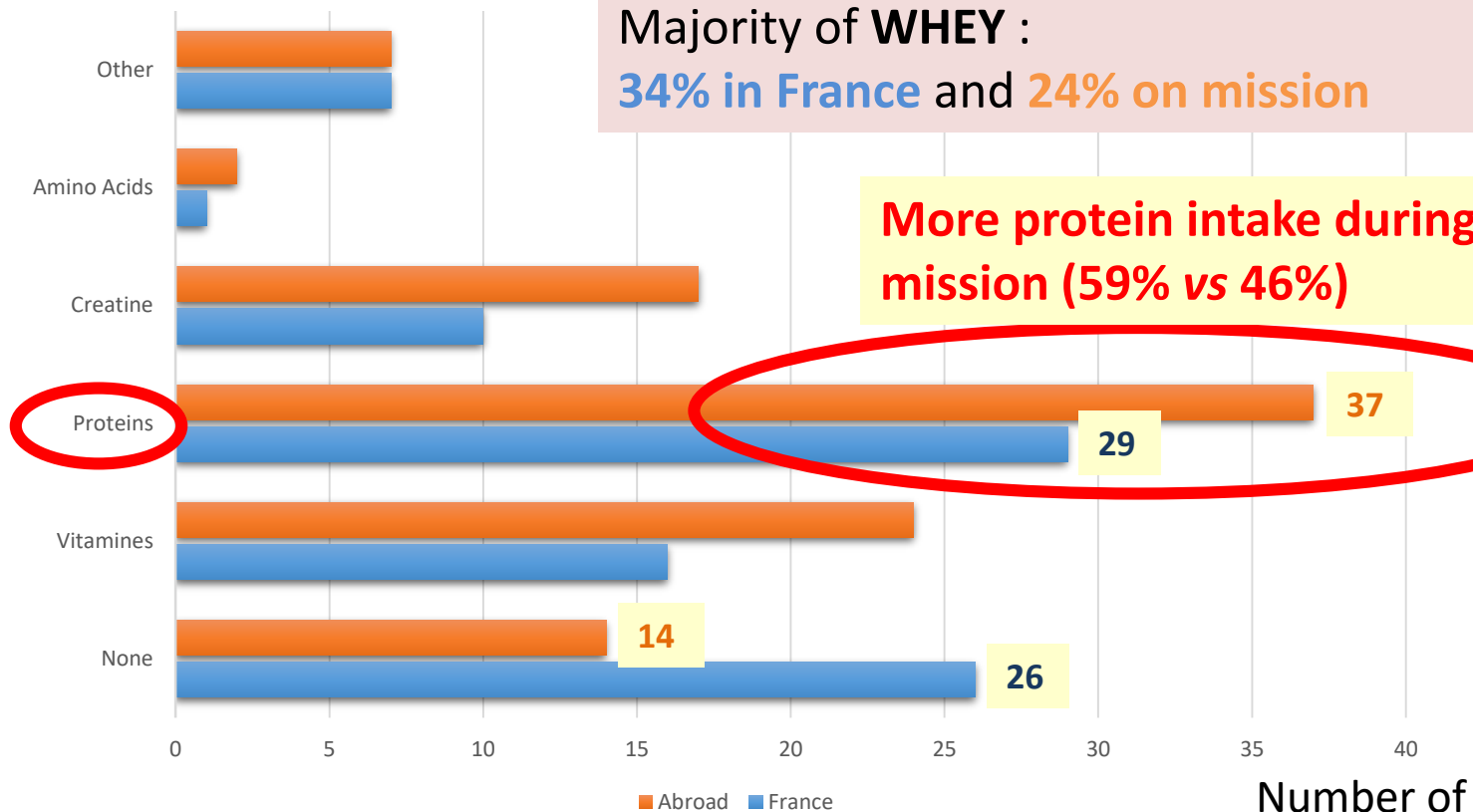
# Main results

## Do you take dietary supplements ?

### What kind of proteins ?

Majority of **WHEY** :  
34% in France and 24% on mission

More protein intake during the mission (59% vs 46%)

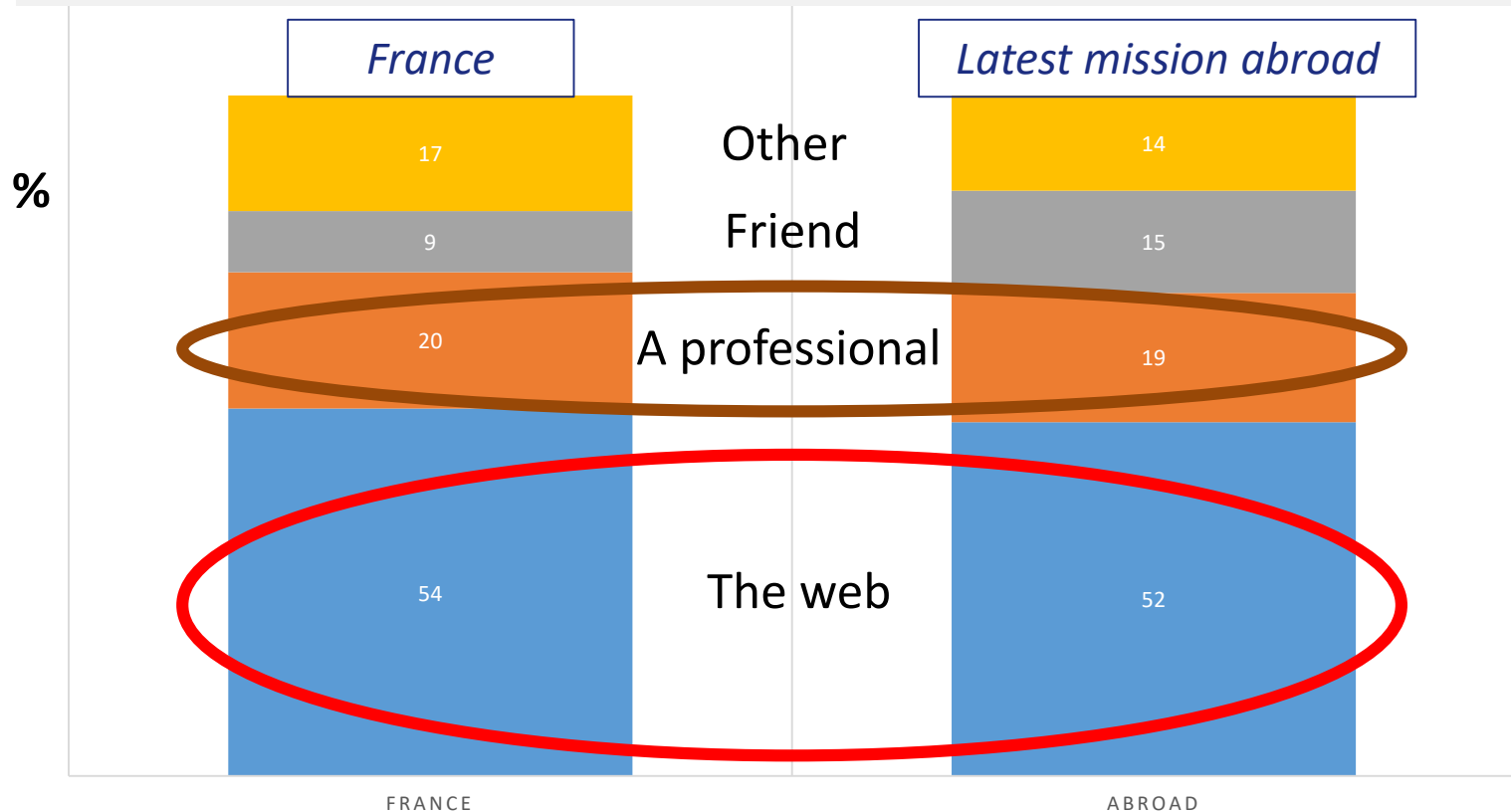


Number of consumers

# Main results

Where did you find information on dietary supplements ?

And only 20% got dietary information from a health practitioner !

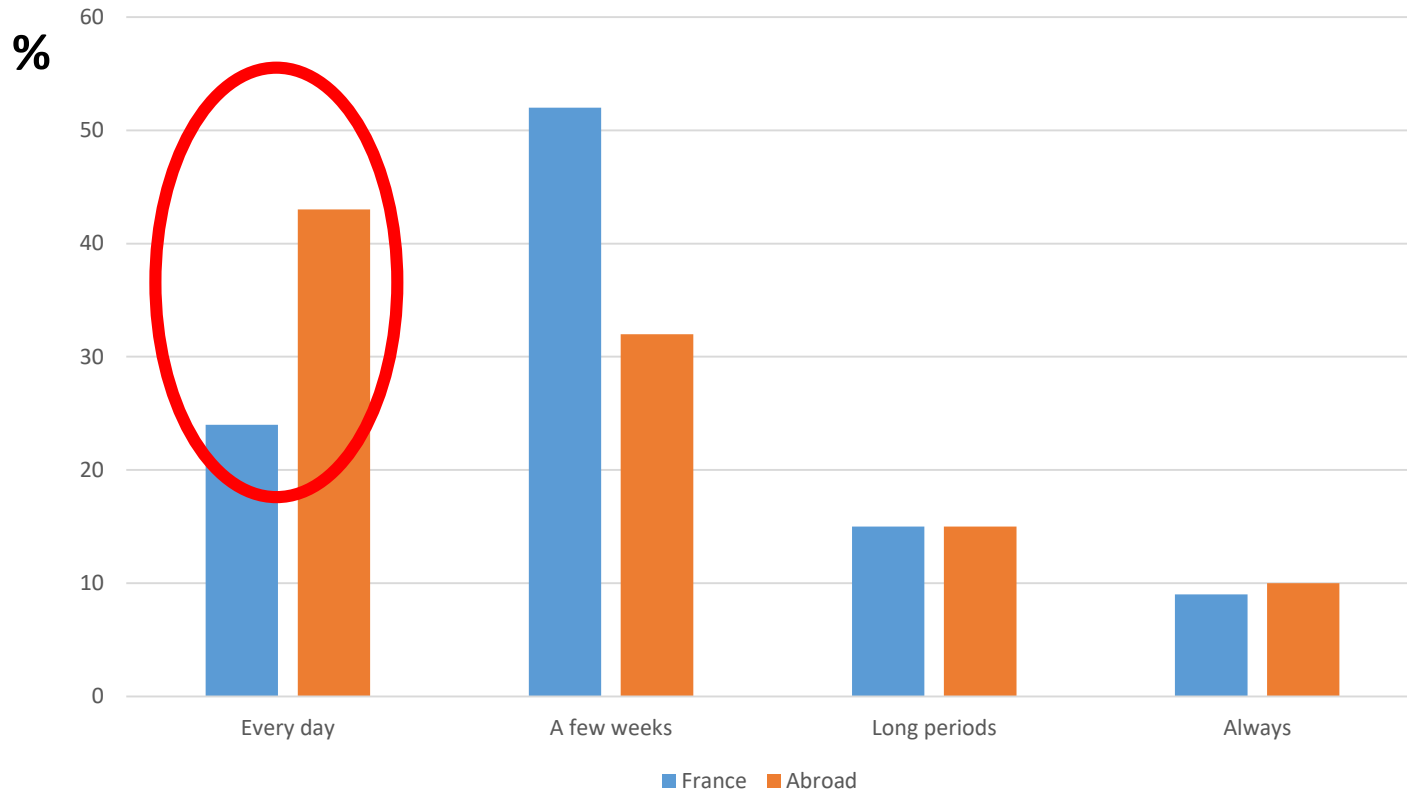


51% found dietary information on the web !

# ○ — Main results

*What are your consumption habits for dietary supplements ?*

***Rise of daily consumption during the mission (+19 points)***

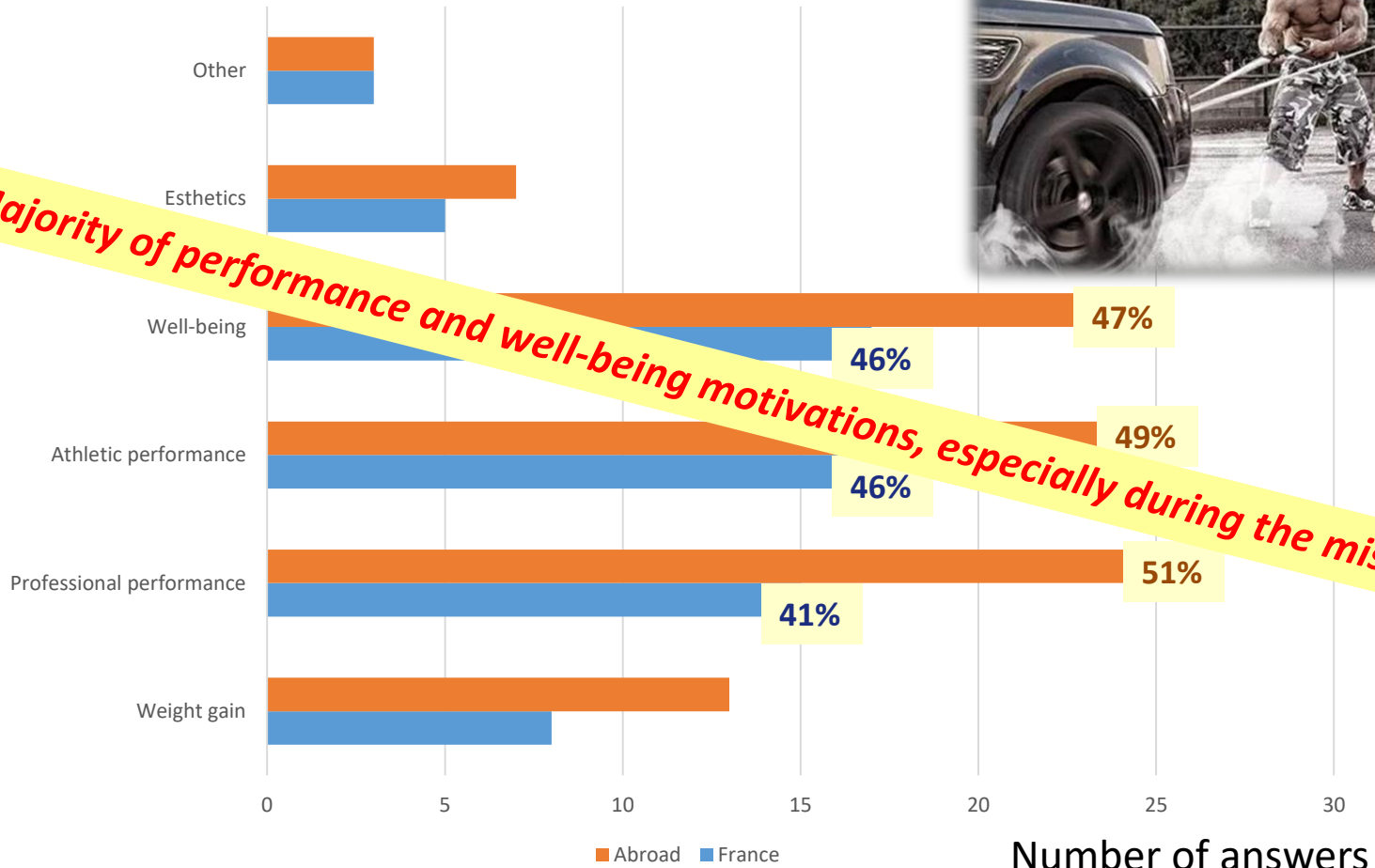


# Main results

## For which purpose do you take dietary supplements ?



**Majority of performance and well-being motivations, especially during the mission**



# ○ — *Analysis and Discussion*

- Major bias :
  - Limited sample size (63 operators)
  - Monocentric study
  - Declarative and retrospective study
    - Anonymous questionnaire
    - Fear of consequences on their career



# ○ — *Conclusions*

- SOF operators → great interest for high quality diet
- Many sources : reliability ???
- Majority of high protein diets during the mission
- Majority of performance and well-being motivations during the mission
- Most of the paramedical and medical SOF community = not enough knowledge about nutrition



# ○ — Perspectives

- Eating behaviors can be optimized
- Paramedical and medical SOF units should increase their knowledge in nutrition and organize more educational courses
- Raising awareness about fake news
- **Finding the best way to communicate with the operators for a better reception**
- *Further study could be done to evaluate the real impact and benefits of dietary supplements within the SOF community*



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 *Any questions ?*

