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Food for Thought, Wine for Debate: The Relevance of Pairing Rules Today

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Background

" The perfect marriage of food and wine is often viewed as the quintessential vinous experience. Wine becomes a liquid salve for the soul." (Jackson, 2009).

Problem Statement

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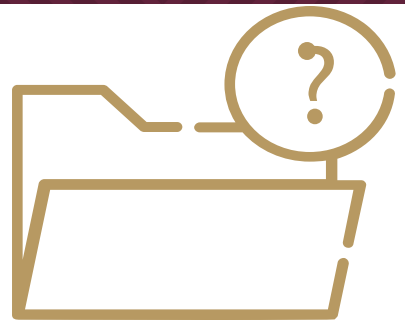

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Objectives

- Theoretical objectives
  1. To identify WFP principles from the Literature
- Empirical objectives
  1. Examine if consumer preferences align with
  2. Evaluate consumers' AWARENESS of
  3. Assess consumers' ADHERENCE to

  } WFP Principles
- Practical objectives
  1. Provide insights into consumer preferences

Methodology

- Multi-phase Wine and Food Pairing Experiment

1) **Sensory Test**

Consumer preferences WFP principles

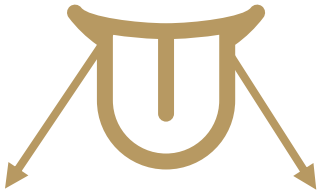
2) **Questionnaire**

Awareness of & Adherence to WFP principles

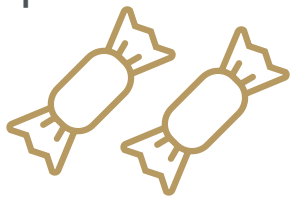
WFP Principles identified

Balance in weight/intensity

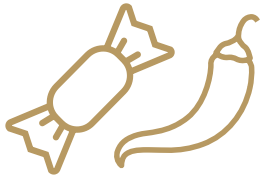
Flavour pairing principles



Complement / similarity

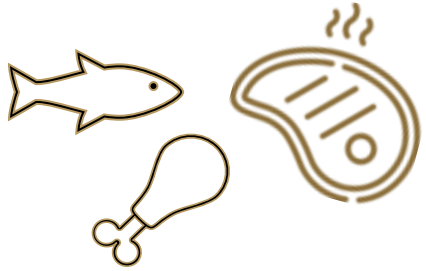


Contrast



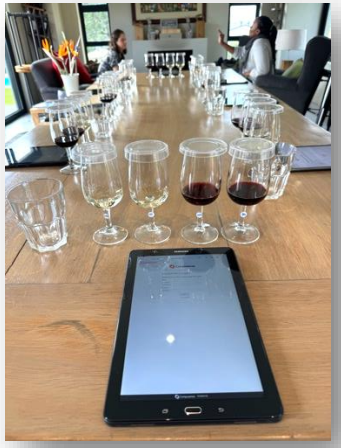
Regional pairing principle

Main ingredient pairing



Sauce base-ingredient pairing

Sensory Test



ROUND 1: WINE ALONE

2 X WHITE WINES
2 X RED WINES
/7

ROUND 2: FOOD ALONE

1 X CHICKEN PIE
1 X BOBOTIE
/7

ROUND 3: WINE AND WHITE MEAT

2 X WHITE WINES
2 X RED WINES
WITH CHICKEN PIE
/7

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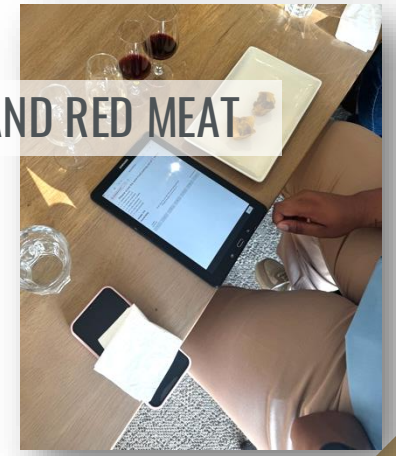
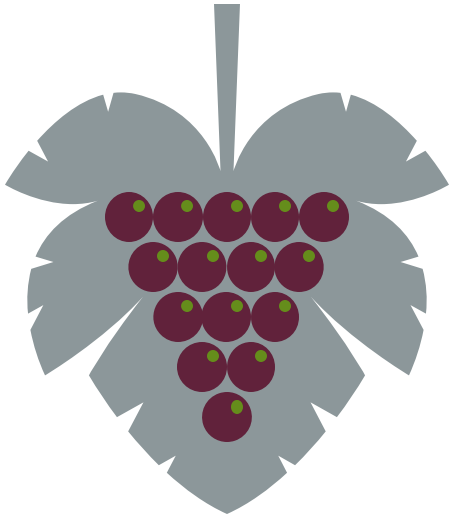


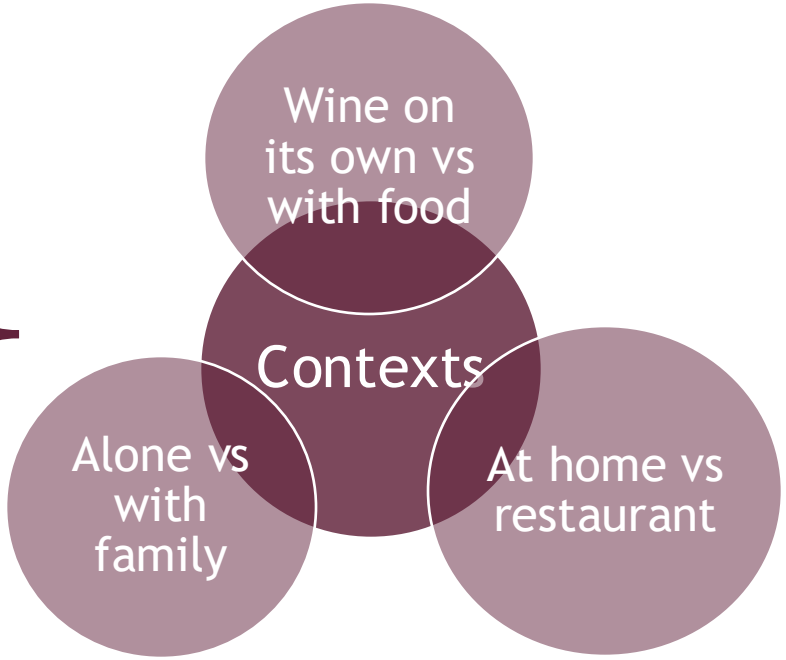
ROUND 4: WINE AND RED MEAT

2 X WHITE WINES
2 X RED WINES
WITH BOBOTIE
/7

Questionnaire

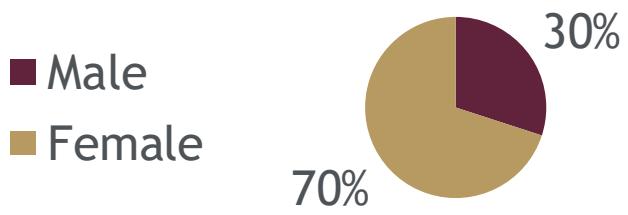


- Demographics
- Wine consumption habits & involvement
- Red & white wine preferences
- Awareness of WFP principles
- Adherence to WFP principles at home vs at a restaurant



Results

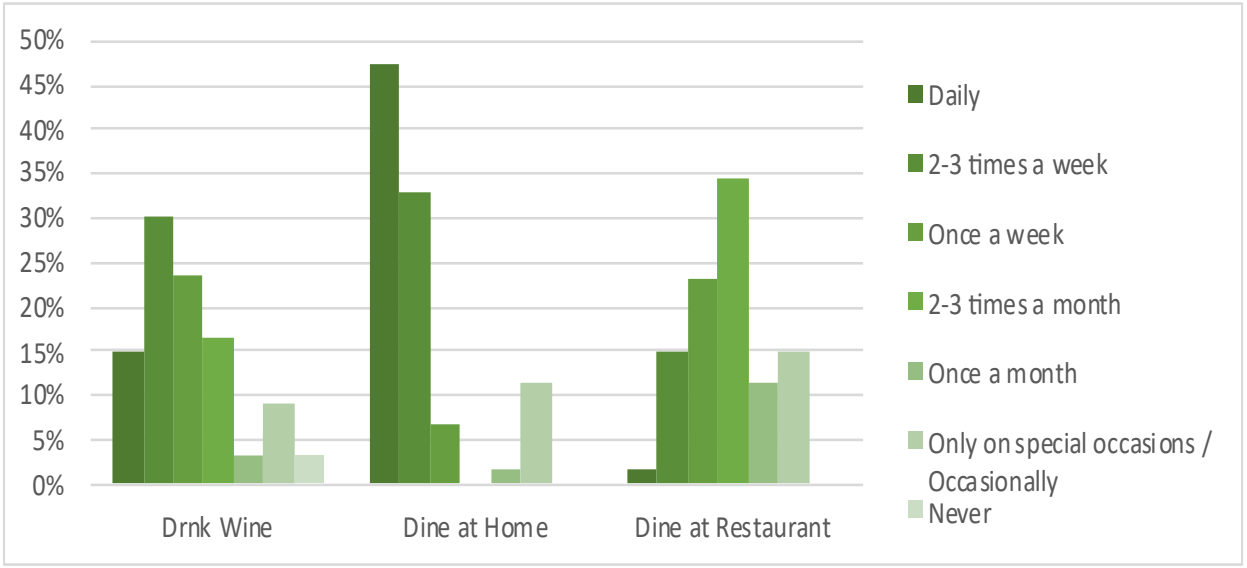
Gender



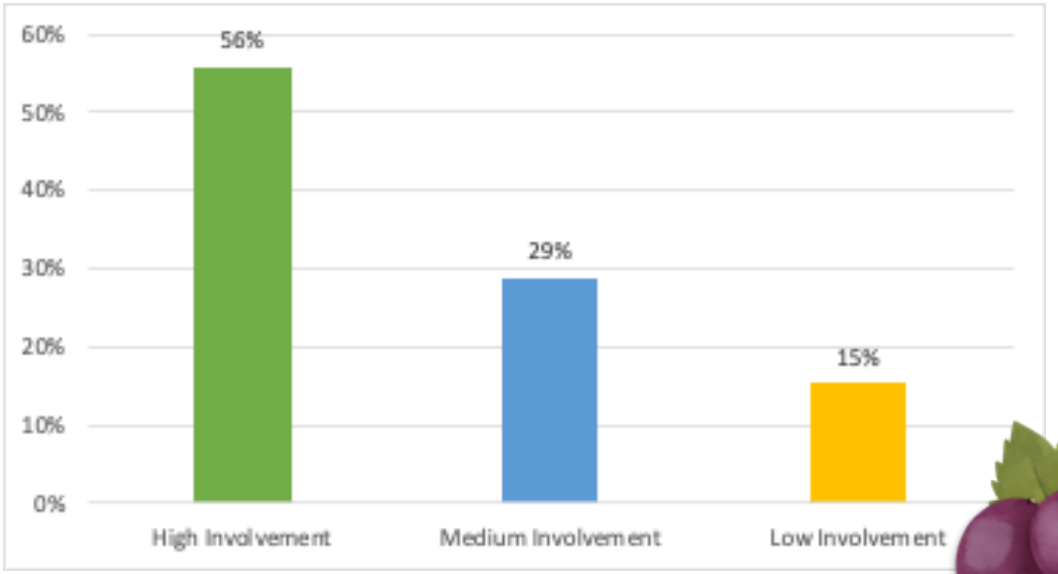
n = 60 participants

Age	
25-30	25%
20-25	18%
35-40	15%
40-45	10%
45-75	33%

Consumption frequency



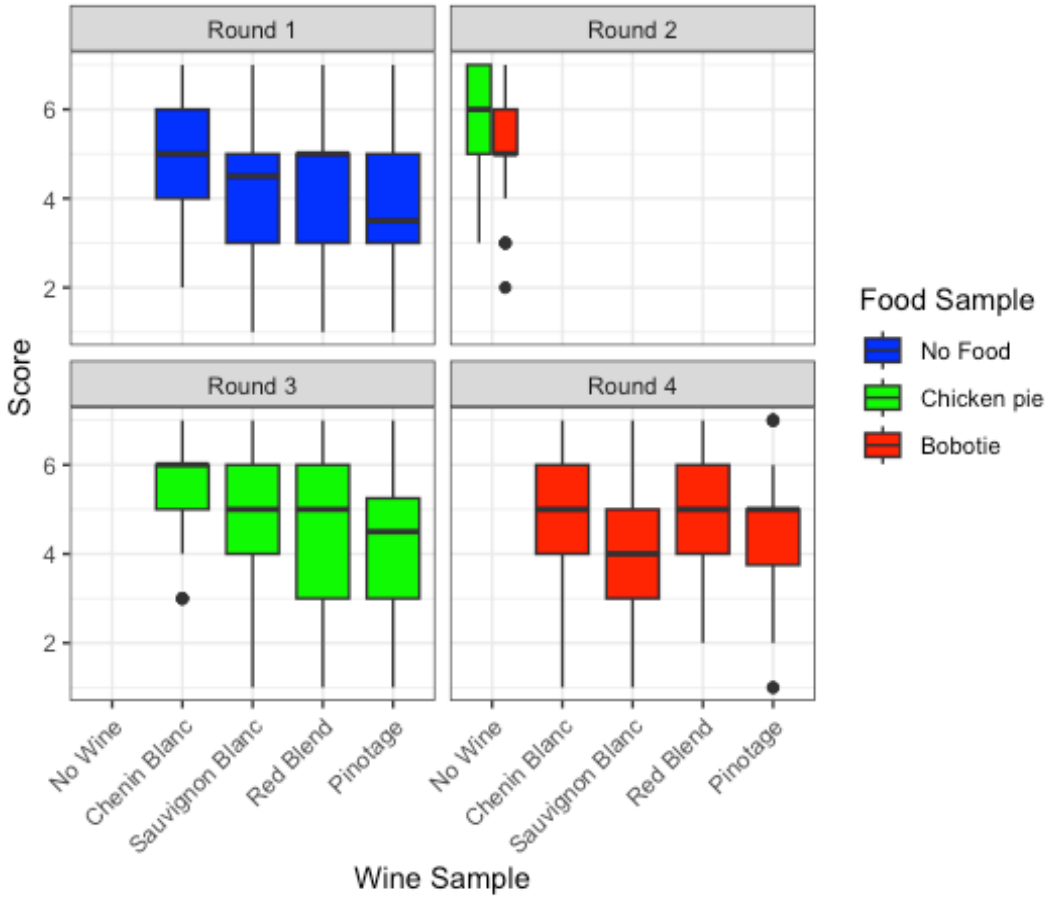
Wine Involvement



Sensory Test

Average Scores out of 7

	No Food	Chicken pie	Bobotie
No Wine	x	5,82	5,23
Chenin Blanc	4,97	5,33	4,60
Sauvignon Blanc	4,35	4,97	4,27
Red Blend	4,42	4,53	5,05
Pinotage	3,73	4,35	4,45



Linear Mixed Effects Model

LMM

Parameter	Estimate	Std. error	df	t-value	p-value	Sig.
(Intercept) Chicken Pie x Chenin Blanc	5.333	0.178	513	29.912	0.0000	***
Pinotage vs Chenin Blanc (with Chicken Pie)	-0.983	0.228	649	-4.322	0.0000	***
Red Blend vs Chenin Blanc (with Chicken Pie)	-0.800	0.228	649	-3.516	0.0005	***
Sauvignon Blanc vs Chenin Blanc (with Chicken Pie)	-0.367	0.228	649	-1.612	0.1075	
Bobotie vs. CBCP	-0.733	0.228	649	-3.223	0.0013	**
No Food vs CBCP	-0.383	0.228	649	-1.685	0.0925	.
Pinotage:Bobotie vs CBCP	0.833	0.322	649	2.590	0.0098	**
Red Blend Bobotie vs CBCP	1.250	0.322	649	3.885	0.0001	***
Sauvignon Blanc Bobotie vs CBCP	0.033	0.322	649	0.104	0.9175	
Pinotage No Food vs CBCP	-0.233	0.322	649	-0.725	0.4686	
Red Blend No Food vs CBCP	0.267	0.322	649	0.829	0.4075	
Sauvignon Blanc No food vs CBCP	-0.233	0.322	649	-0.725	0.4686	

Baseline pairing (reference condition): Chenin Blanc + Chicken Pie (CBCP)
All estimates are *differences in mean liking score compared to baseline.*

A linear mixed-effects model allows you to test how wine, food, and their interaction affect consumer liking scores *while accounting for repeated measurements* (many scores per participant).

Key Interpretation

Essentially:
Red wines performed significantly better with Bobotie than with Chicken Pie.
Chenin Blanc performed best with Chicken Pie.
Sauvignon Blanc was relatively unaffected by food pairing.
This supports traditional pairing expectations:
✓ Red meat → red wine
✓ White meat → white wine
✗ Mixing them → lower liking

Ordinal Mixed-Effects Model (Robustness Check)

Cumulative link mixed model (CLMM)

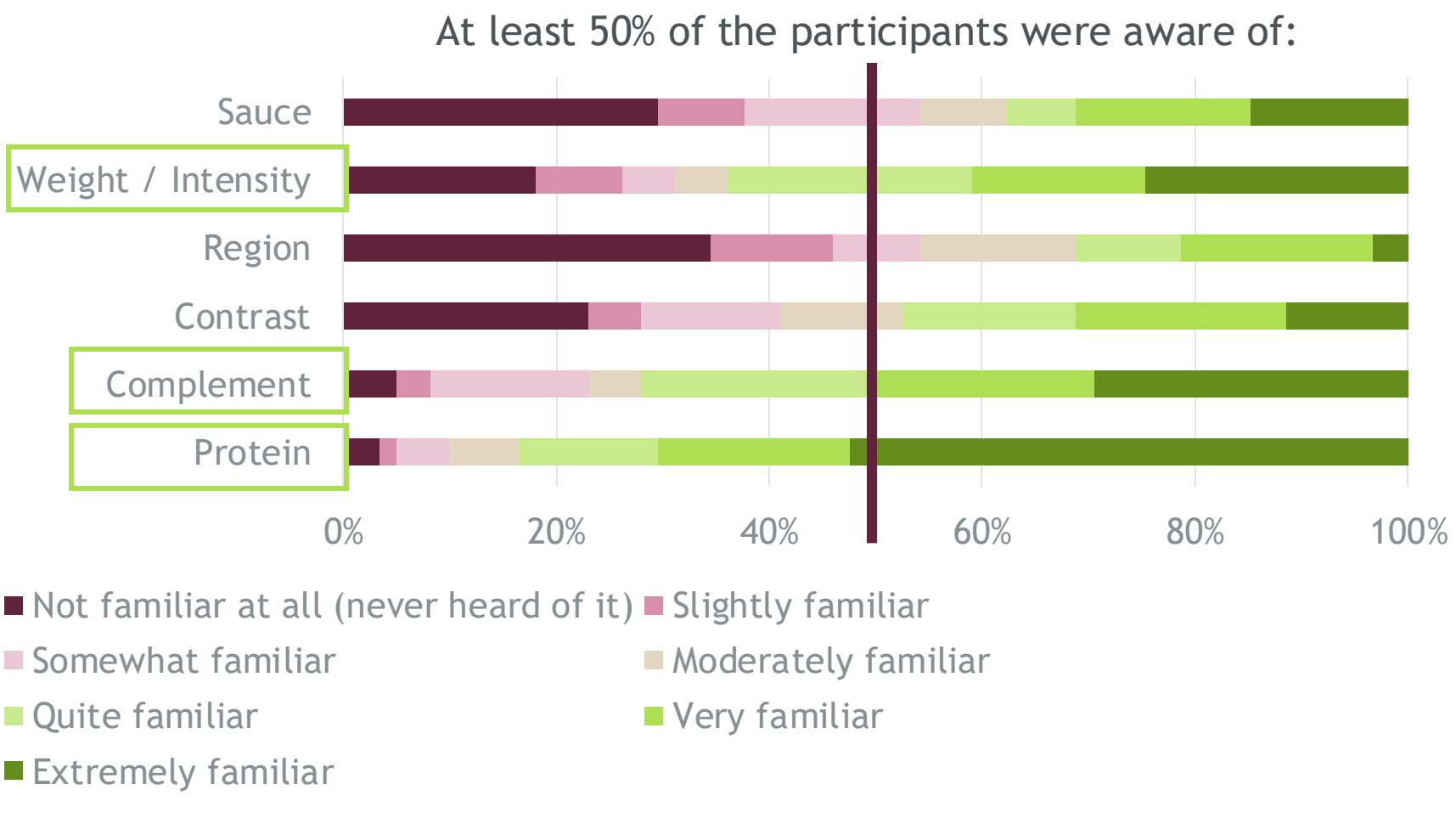
Parameter	Estimate	Std. error	z-value	p-value	Sig.
1|2 Dislinke Extremely | Very Much	-4.357	0.367	-11.879	0.0000	***
2|3 Dislike Very Much | Dislike	-2.684	0.276	-9.714	0.0000	***
3|4 Dislike | Neither dis nor like	-1.306	0.252	-5.177	0.0000	***
4|5 Neither | Like	-0.384	0.247	-1.557	0.1194	
5|6 Like | Very Much	1.004	0.249	4.026	0.0001	***
6|7 Like Very Much | Extremely	2.897	0.277	10.471	0.0000	***
Pinotage	-0.186	0.319	-0.583	0.5598	
Red Blend	0.619	0.321	1.929	0.0537	.
Sauvignon Blanc	-0.503	0.315	-1.595	0.1106	
Chicken Pie	1.003	0.322	3.116	0.0018	**
No food	0.398	0.319	1.248	0.2121	
Pinotage & Chicken Pie	-0.080	0.430	-0.186	0.8523	
Red Blend & Chicken Pie	-1.695	0.464	-3.653	0.0003	***
Sauvignon Blanc & Chicken Pie	0.077	0.458	0.169	0.8660	
Pinotage	-1.416	0.456	-3.108	0.0019	**
Red Blend	-1.302	0.462	-2.819	0.0048	**
Sauvignon Blanc	-0.305	0.450	-0.678	0.4977	

- Treats hedonic scale ratings (1-7) as ordinal (categorical / rank) rather than continuous (numerically, like with the previous model)

Key Findings:

- Confirms results of linear mixed-effects model
- Red wines significantly improved when paired with Bobotie.
- Chenin Blanc remained the top performer with Chicken Pie.
- Sauvignon Blanc remained relatively stable across contexts.
- This strengthens the validity of the conclusions.

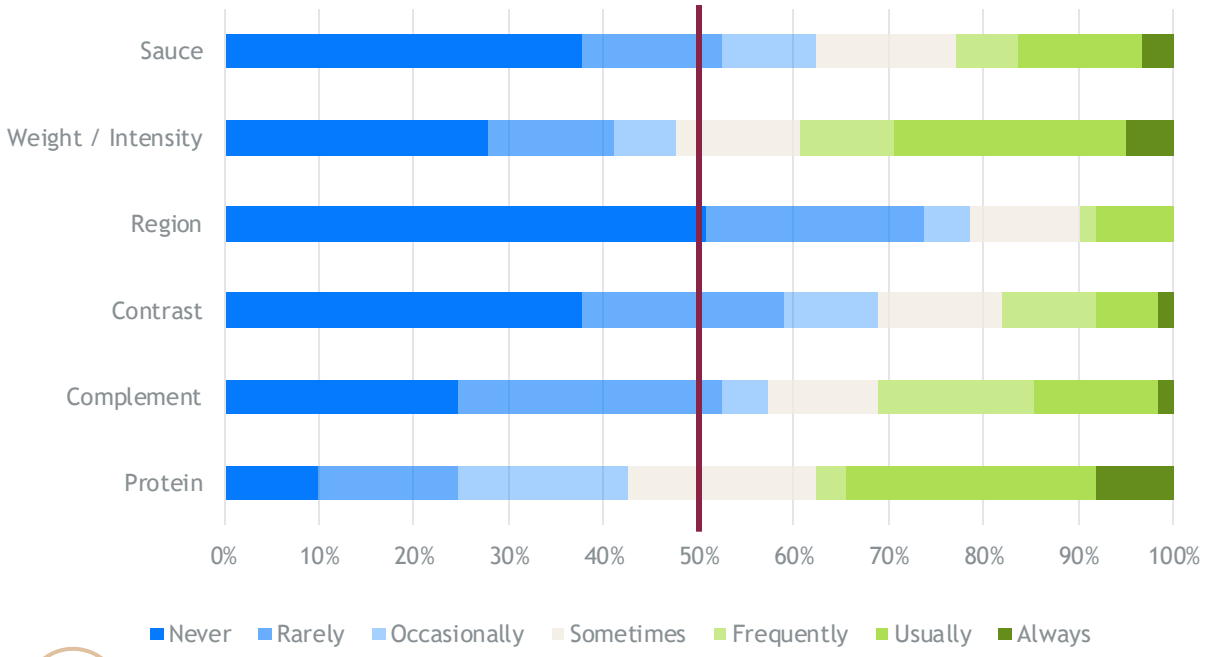
Awareness of WFP principles



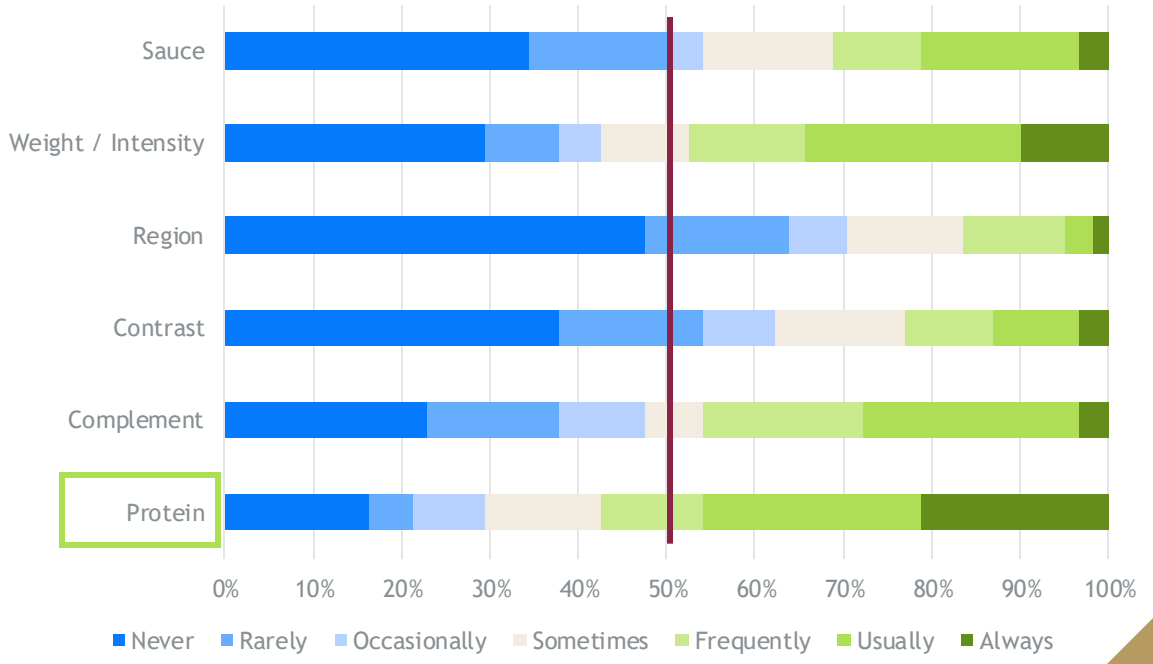
Adherence to WFP principles

Even though > 50% reported awareness of at least 3 principles, > 50% reported only adhering to the Protein pairing principle when dining out

When dining at home:



When dining at a restaurant:



Participant feedback

82%

Participate in more WFP experiences after this study

66%

Understanding of WFP changed after the experience

46%

Will change their WFP behaviour (does not include the ~30% of people who already adhere to principles)

Conclusions & Recommendations

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1) Sensory Test

WFP Principles

Consumer Preferences

HAPPY CUSTOMERS

2) LMM & CLMM

Confirmed Robust Results

Across both modelling approaches, results consistently supported traditional pairing principles—white wine with white meat and red wine with red meat—confirming that pairing combinations meaningfully shape consumer enjoyment.

3) Awareness of

Conclusions & Recommendations

4) Adherence to

More inclined to adhere in RESTAURANTS

QR Code

5) Participant Feedback

WFP experiences will encourage repeat participation, creating a demand for experiences like this.
Themed pairing events, seasonal tasting menus, interactive workshops

6) Future research

- Beyond Stellenbosch
- More dishes (vegetarian, other flavours)
- Sensory test the other principles
- Weather / seasonal influences

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Thank you! Any Questions?
Photo by Stefan Els