

Meat Avoidance & Mental Health

Systematic, Meta-Analytic, & Scoping Reviews

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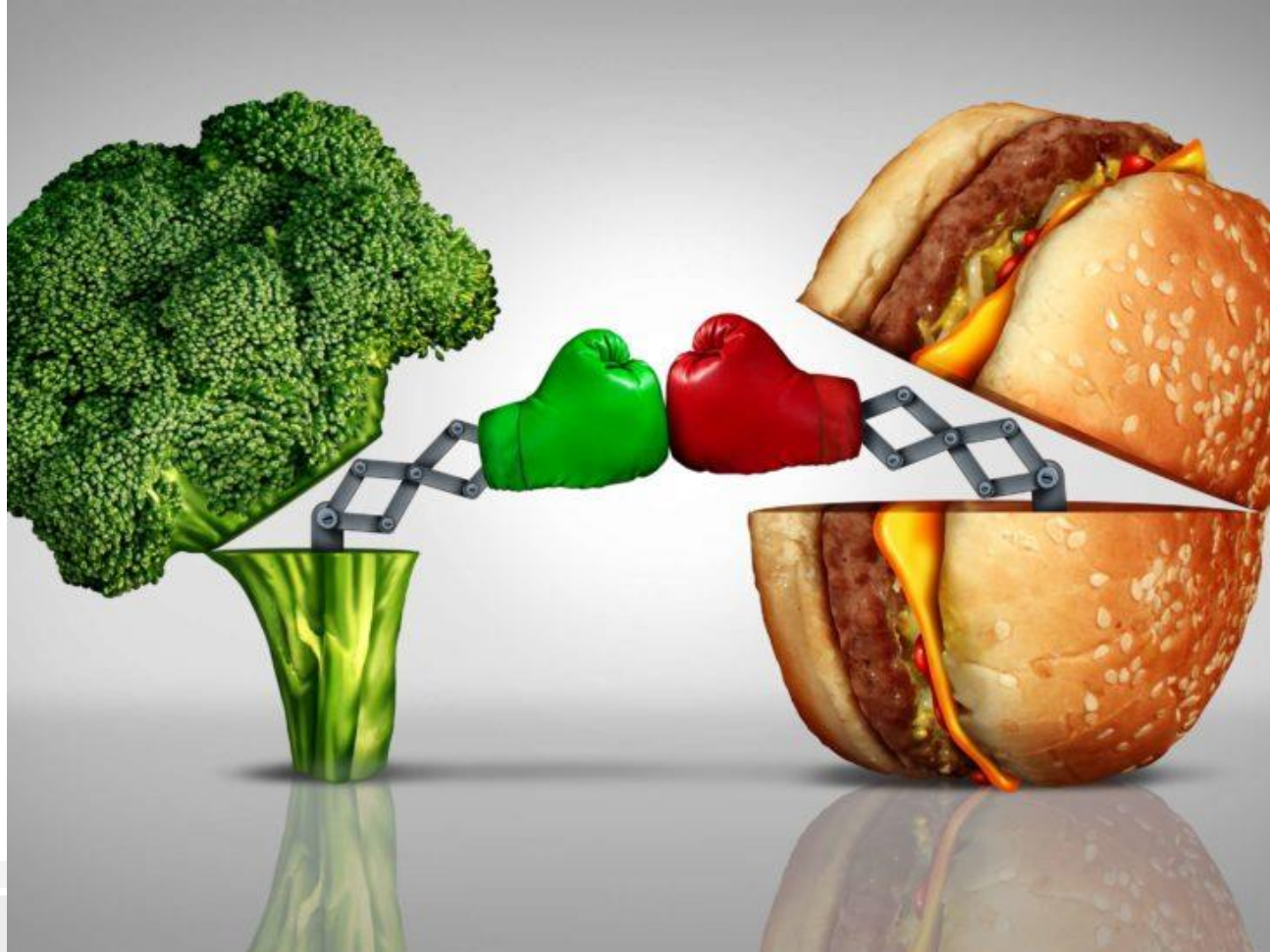
Meat Abstention & Mental Health

Approximately 1 in 5 U.S. adults has a mental health disorder.



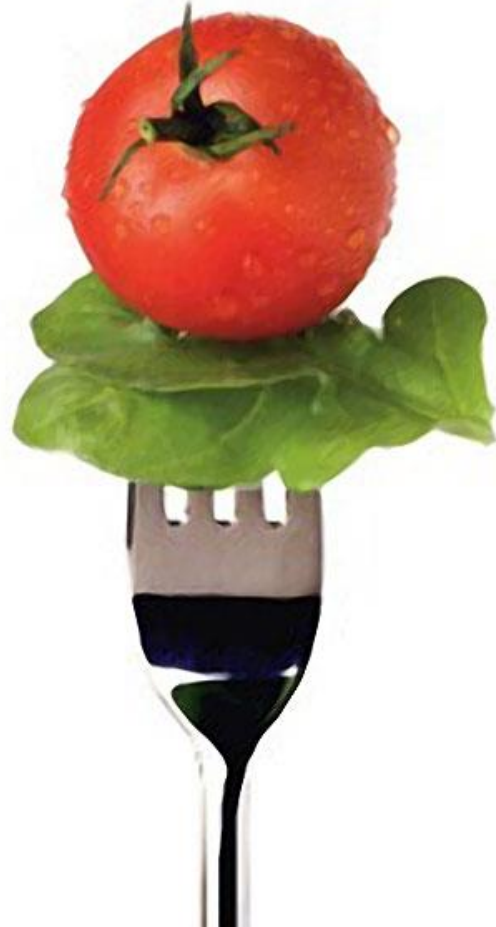


Contradictory Evidence



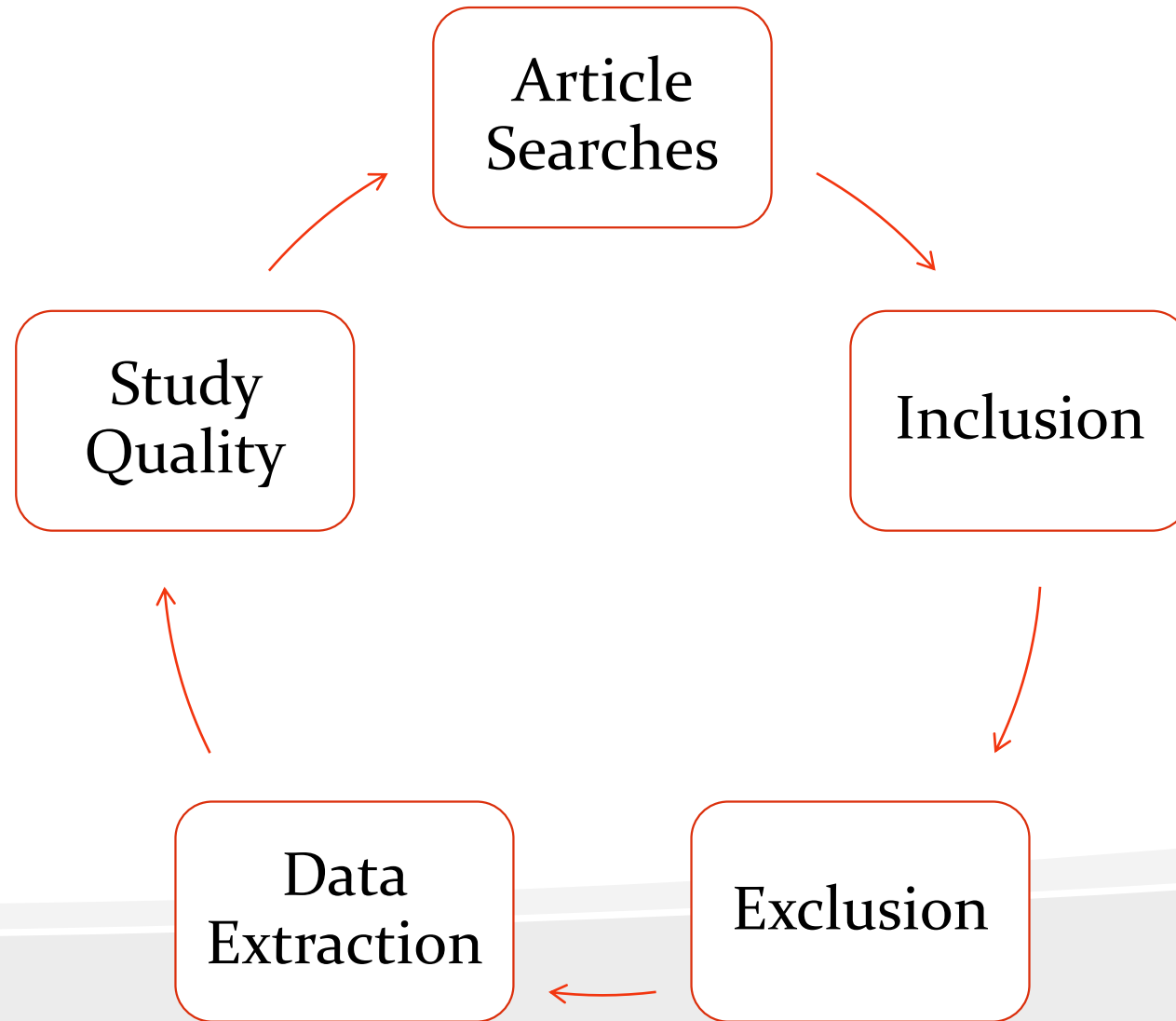


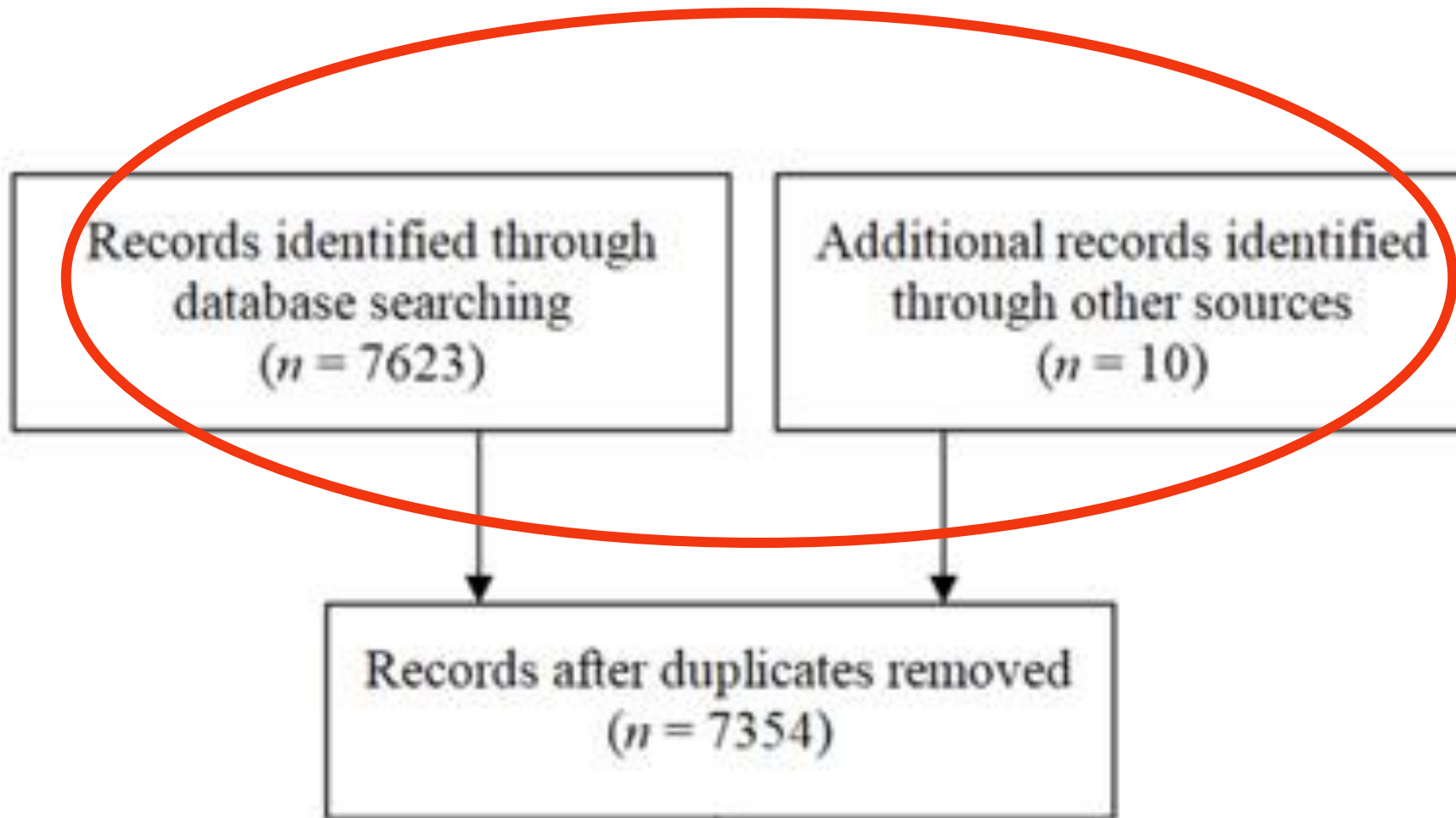
The Need for Clarity

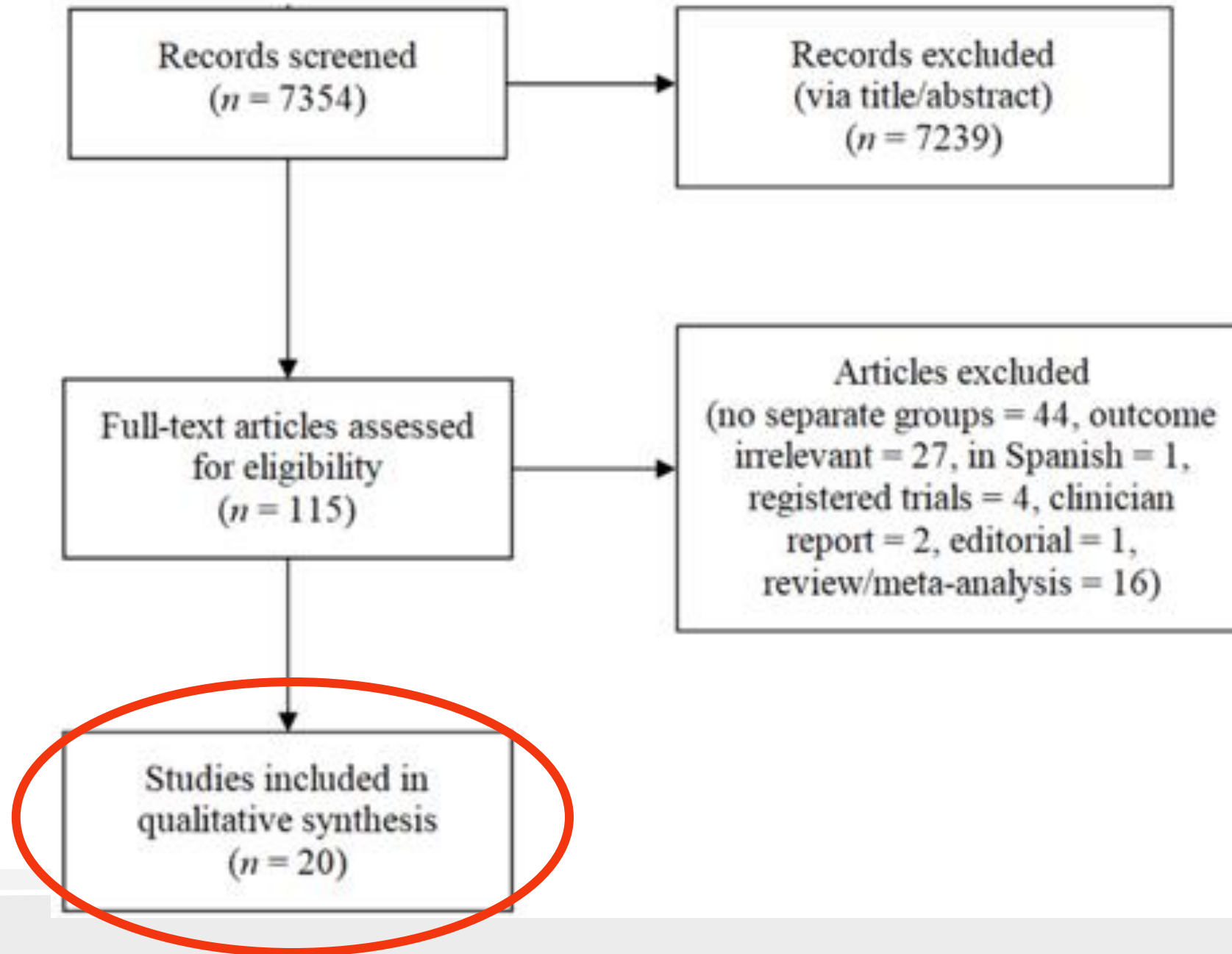




Methods







Favored Meat
Eaters

Favored Vegans/
Vegetarians

$n = 143,760$

$n = 758$

Primary
Outcomes

9 studies



2 studies



Favored Meat
Eaters

Favored Vegans/
Vegetarians

$n = 36,597$

$n = 797$

**Secondary
Outcomes**

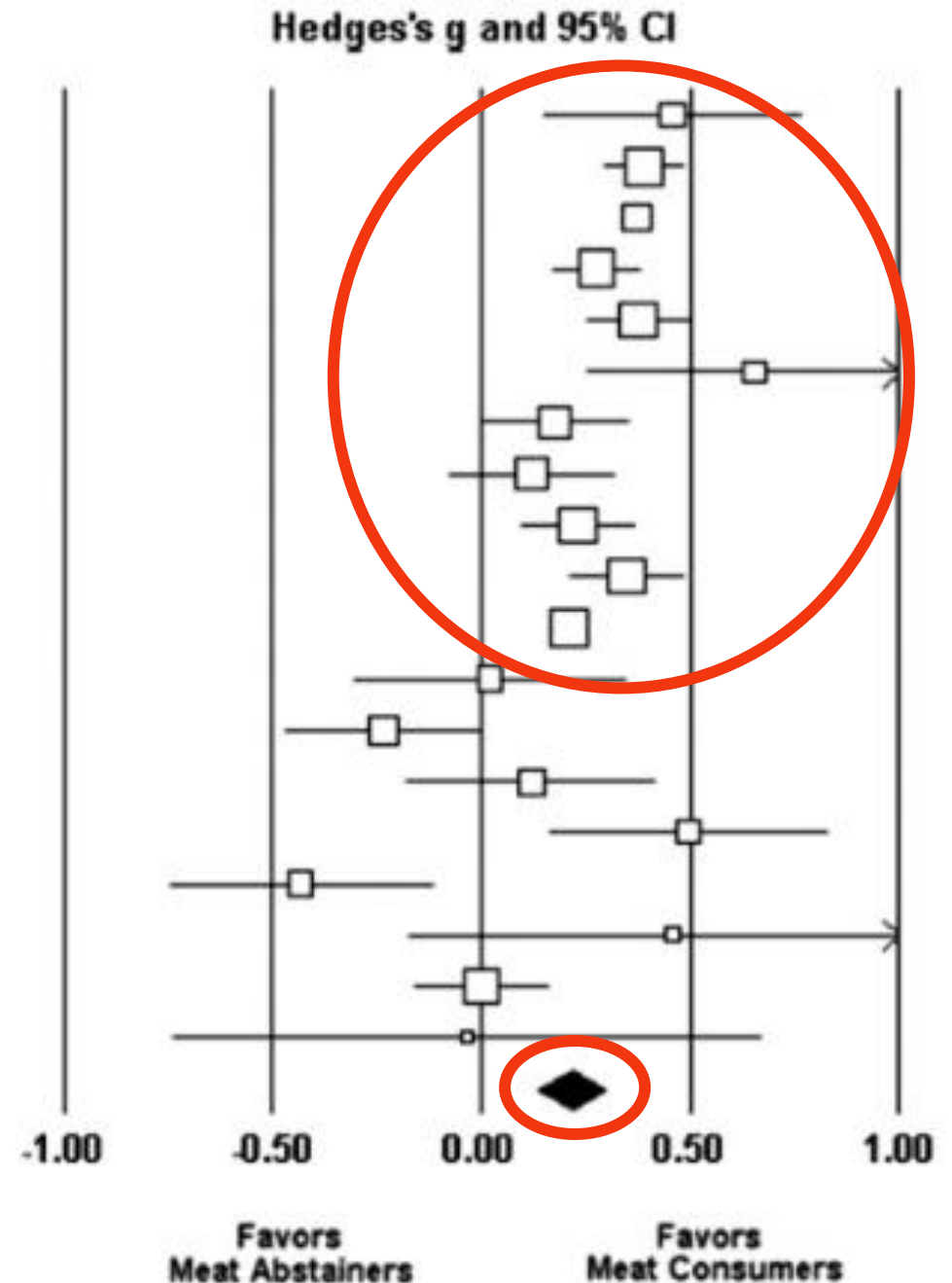
4 studies



3 studies

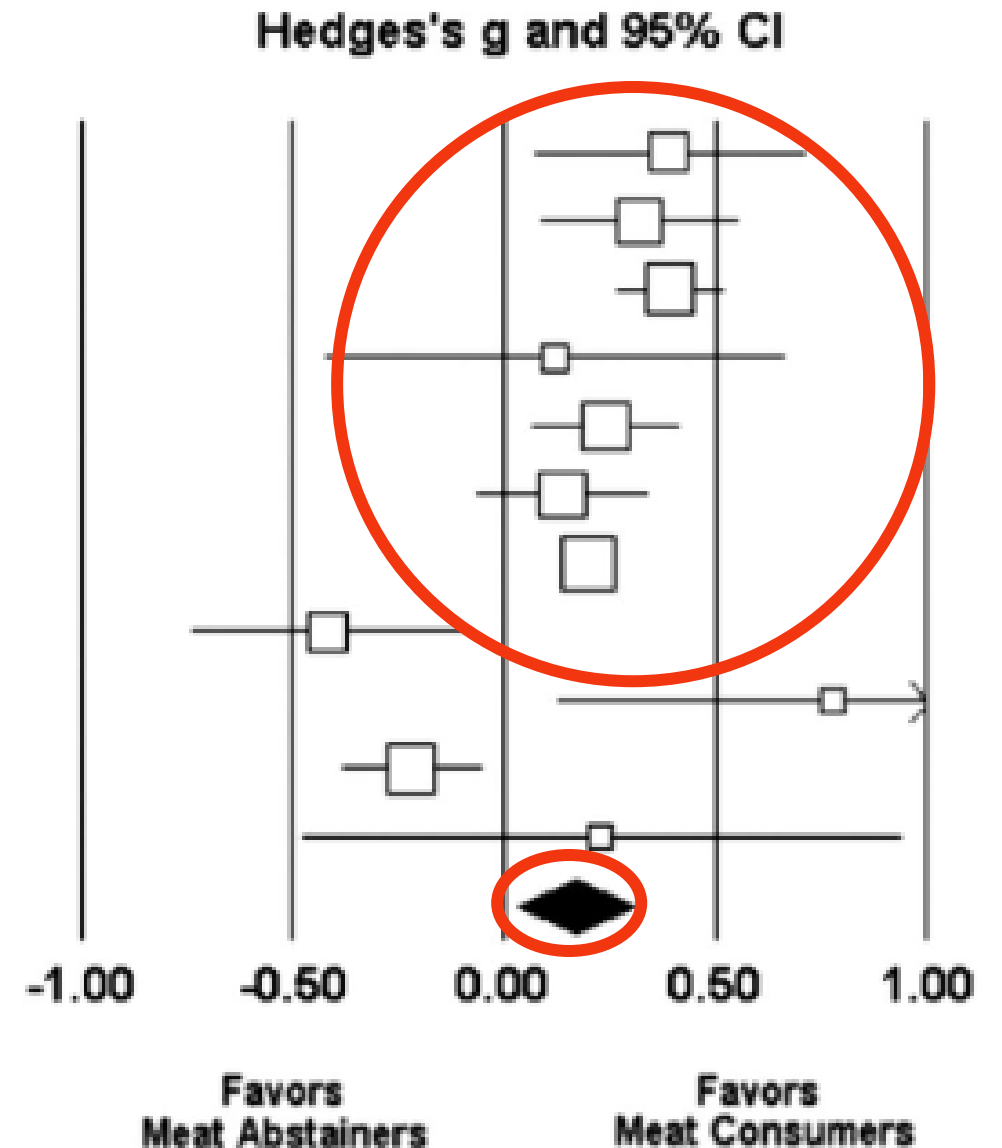


Study	Hedges's g	Lower limit	Upper limit	p-Value
Michalak et al. (2012)	0.459	0.148	0.770	0.004
Matta et al. (2018)	0.390	0.295	0.485	0.000
Bains et al. (2007)	0.373	0.115	0.632	0.005
Hibbeln et al. (2018)	0.276	0.169	0.383	0.000
Velten et al. (2018)	0.377	0.252	0.502	0.000
Kapoor et al. (2017)	0.655	0.250	1.060	0.002
Paslakis et al. (2020)	0.177	0.000	0.355	0.050
Timko et al. (2012)	0.121	-0.081	0.323	0.240
Perry et al. (2001)	0.231	0.092	0.371	0.001
Forestell et al. (2018)	0.349	0.214	0.484	0.000
Lavalee et al. (2019)	0.212	0.167	0.257	0.000
Goh et al. (2019)	0.022	-0.304	0.347	0.897
Jin et al. (2019)	-0.236	-0.473	0.001	0.051
Hessler-Kaufmann et al. (2020)	0.119	-0.179	0.417	0.434
Lindeman (2002)	0.498	0.163	0.833	0.004
Beezhold et al. (2010)	-0.432	-0.749	-0.114	0.008
Stokes et al. (2011)	0.458	-0.176	1.093	0.157
Beezhold et al. (2015)	0.000	-0.163	0.163	1.000
Beezhold et al. (2012)	-0.035	-0.741	0.672	0.924
	0.216	0.135	0.297	0.000

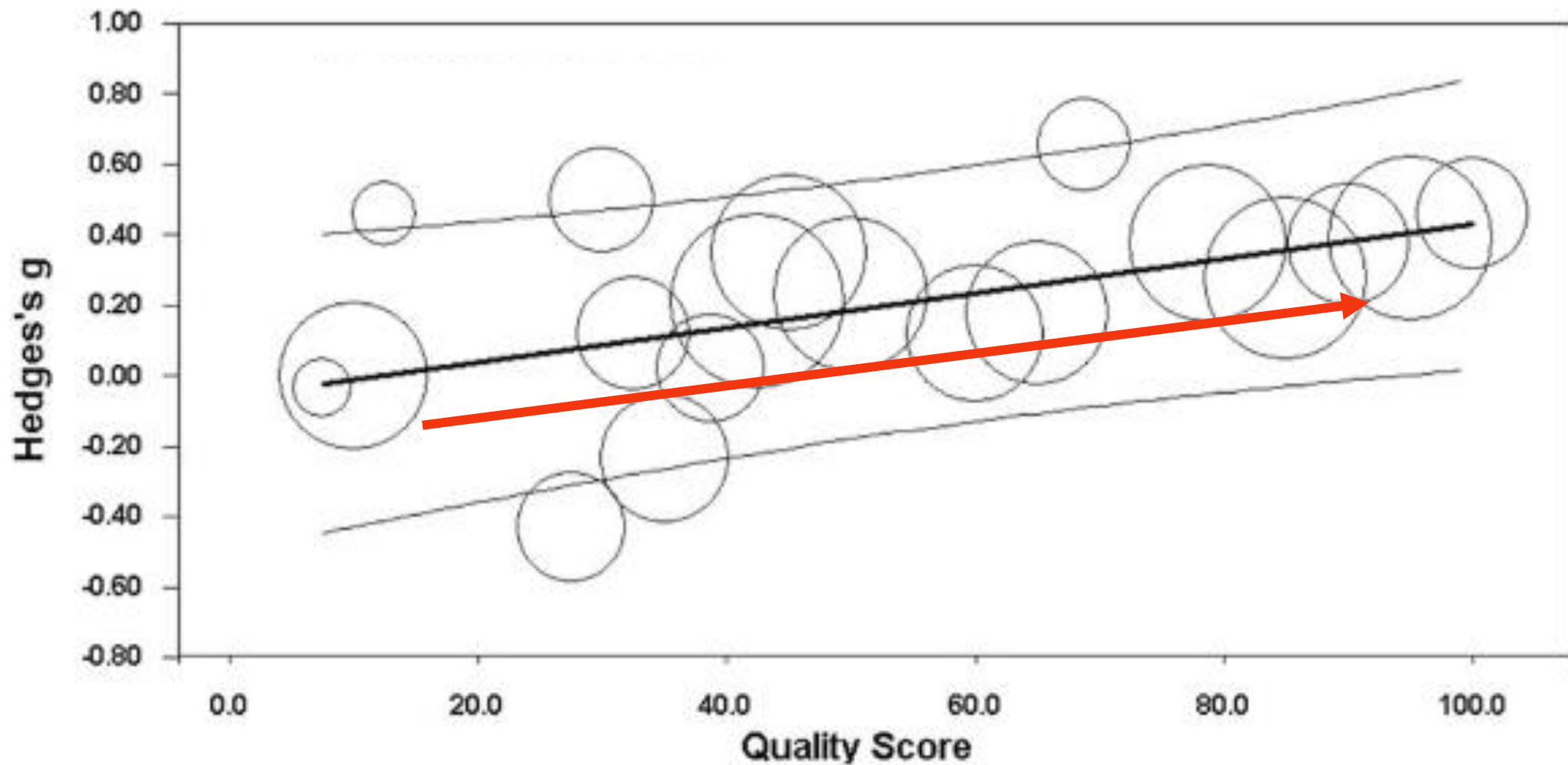


Depression

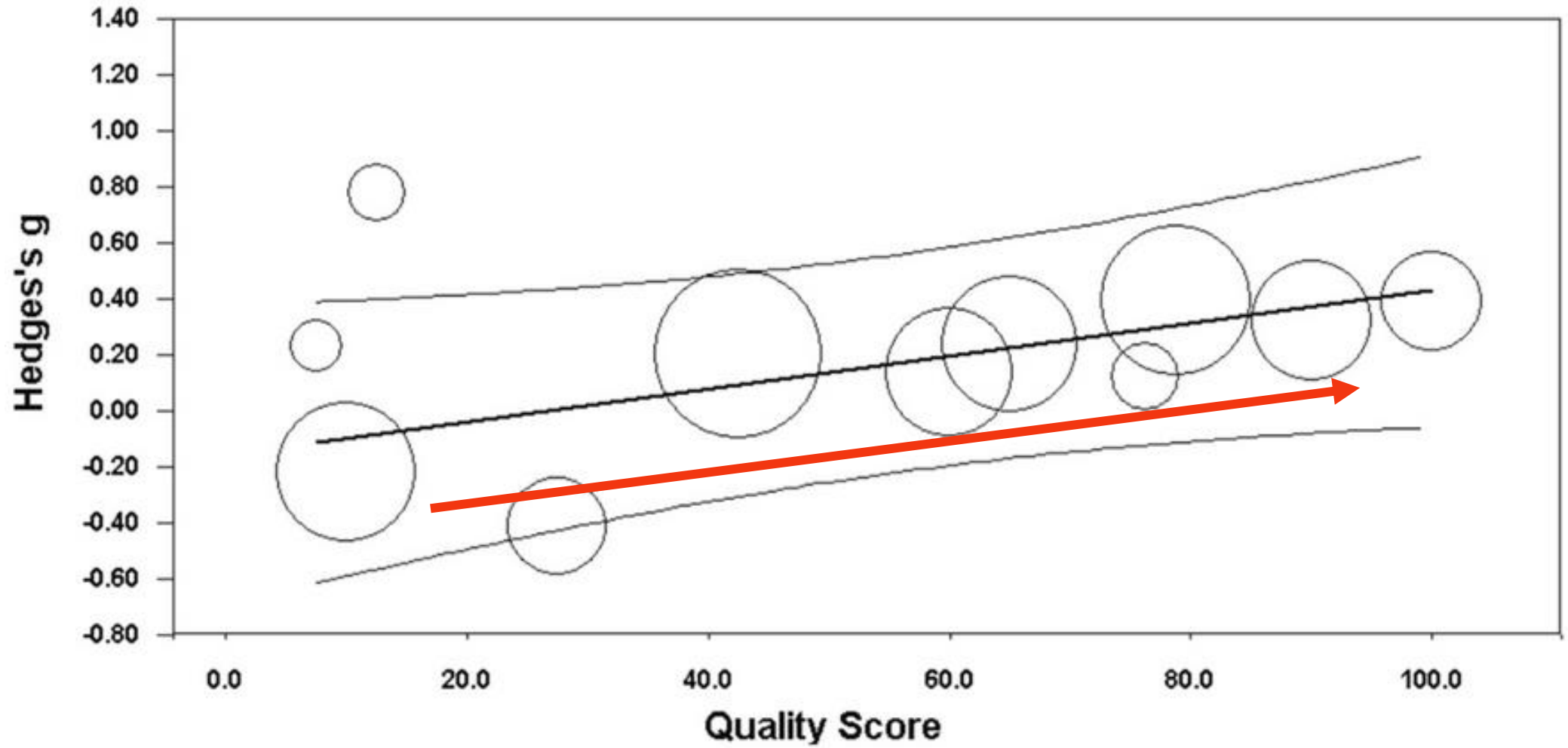
Study	Hedges's g	Lower limit	Upper limit	p-Value
Michalak et al. (2012)	0.391	0.071	0.711	0.017
Bains et al. (2007)	0.321	0.087	0.554	0.007
Velten et al. (2018)	0.394	0.269	0.519	0.000
Bas et al. (2005)	0.122	-0.420	0.665	0.659
Paslakis et al. (2020)	0.239	0.063	0.416	0.008
Timko et al. (2012)	0.139	-0.063	0.341	0.178
Lavalee et al. (2019)	0.203	0.158	0.248	0.000
Beezhold et al. (2010)	-0.414	-0.738	-0.089	0.012
Stokes et al. (2011)	0.778	0.128	1.428	0.019
Beezhold et al. (2015)	-0.217	-0.381	-0.054	0.009
Beezhold & Johnston (2012)	0.230	-0.479	0.939	0.524
	0.169	0.031	0.307	0.017



Anxiety



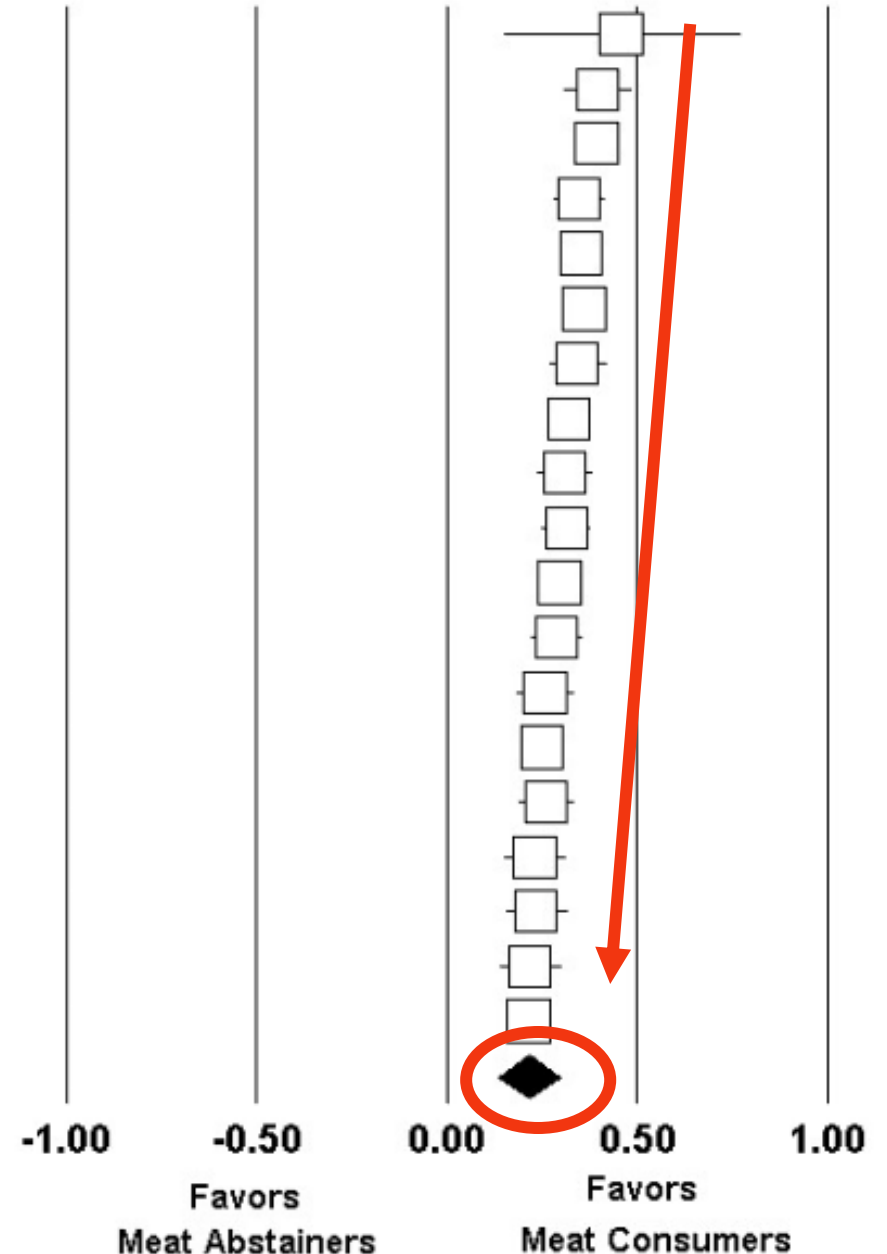
Depression



Anxiety

Study	Study Quality	Lower		Upper	p-Value
		Point	limit	limit	
Michalak et al. (2012)	High	0.459	0.148	0.770	0.004
Matta et al. (2018)	High	0.396	0.305	0.487	0.000
Bains et al. (2007)	High	0.393	0.307	0.479	0.000
Hibbeln et al. (2018)	Moderate	0.347	0.280	0.415	0.000
Velten et al. (2018)	Moderate	0.354	0.295	0.413	0.000
Kapoor et al. (2017)	Moderate	0.361	0.300	0.422	0.000
Paslakis et al. (2020)	Moderate	0.343	0.268	0.418	0.000
Timko et al. (2012)	Moderate	0.321	0.238	0.404	0.000
Perry et al. (2001)	Moderate-Low	0.309	0.234	0.383	0.000
Forestell et al. (2018)	Moderate-Low	0.314	0.248	0.379	0.000
Lavalee et al. (2019)	Moderate-Low	0.296	0.230	0.362	0.000
Goh et al. (2019)	Low	0.288	0.222	0.353	0.000
Jin et al. (2019)	Low	0.258	0.180	0.336	0.000
Hessler-Kaufmann et al. (2020)	Low	0.252	0.177	0.328	0.000
Lindeman (2002)	Low	0.261	0.186	0.335	0.000
Beezhold et al. (2010)	Low	0.231	0.148	0.315	0.000
Stokes et al. (2011)	Very Low	0.235	0.153	0.317	0.000
Beezhold et al. (2015)	Very Low	0.219	0.137	0.300	0.000
Beezhold et al. (2012)	Very Low	0.216	0.135	0.297	0.000
		0.216	0.135	0.297	0.000

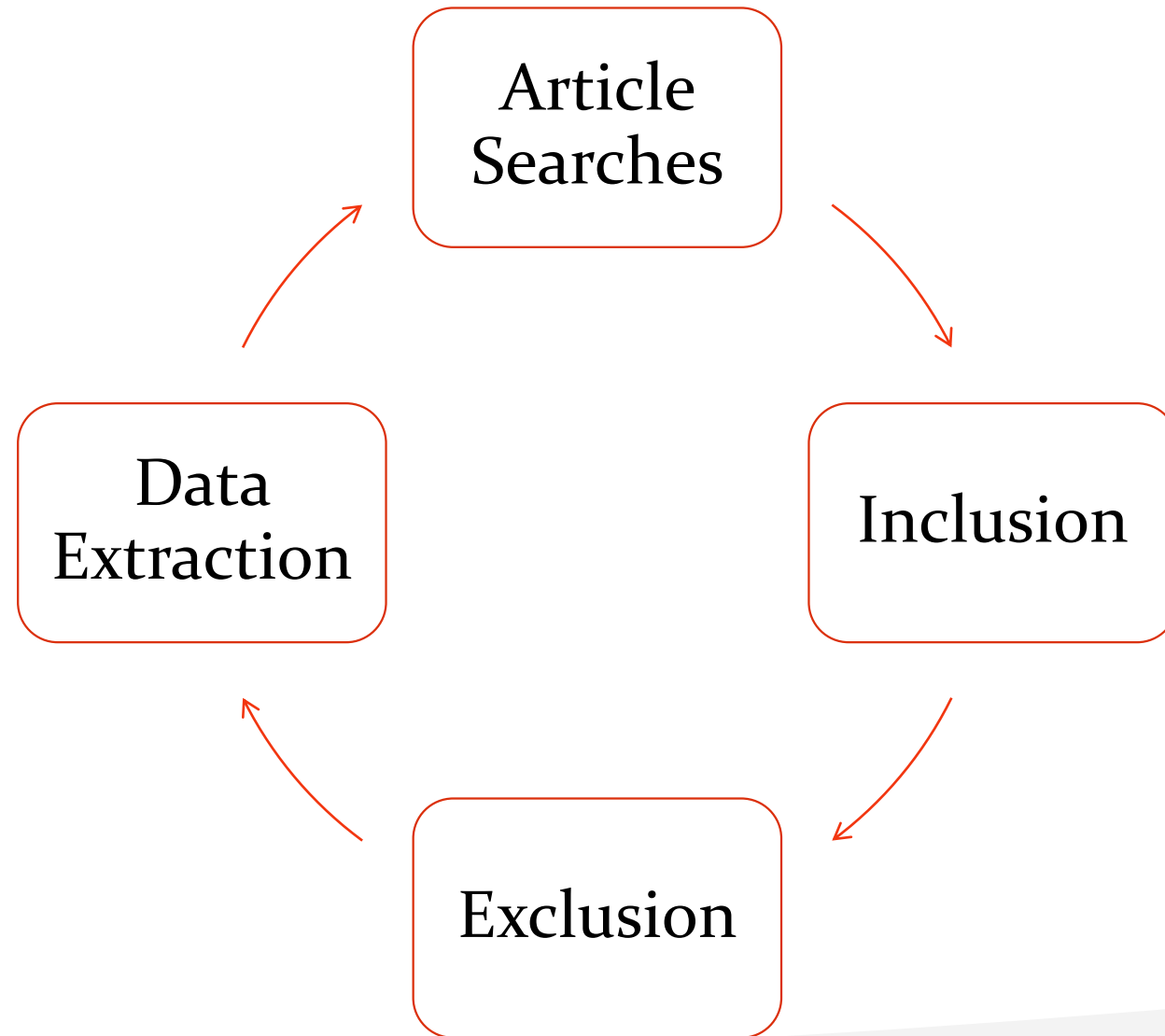
Cumulative Hedges's g (95% CI)



Depression



A word cloud centered on the page, featuring the words "Positive Psychology", "Strengths", and "Flourishing" in various sizes and orientations. The words are arranged in a roughly heart-like shape. The largest word is "Positive Psychology" in the center. Other prominent words include "Strengths" and "Flourishing". The colors of the text range from dark green to brown. The background is white with a light gray gradient at the bottom.

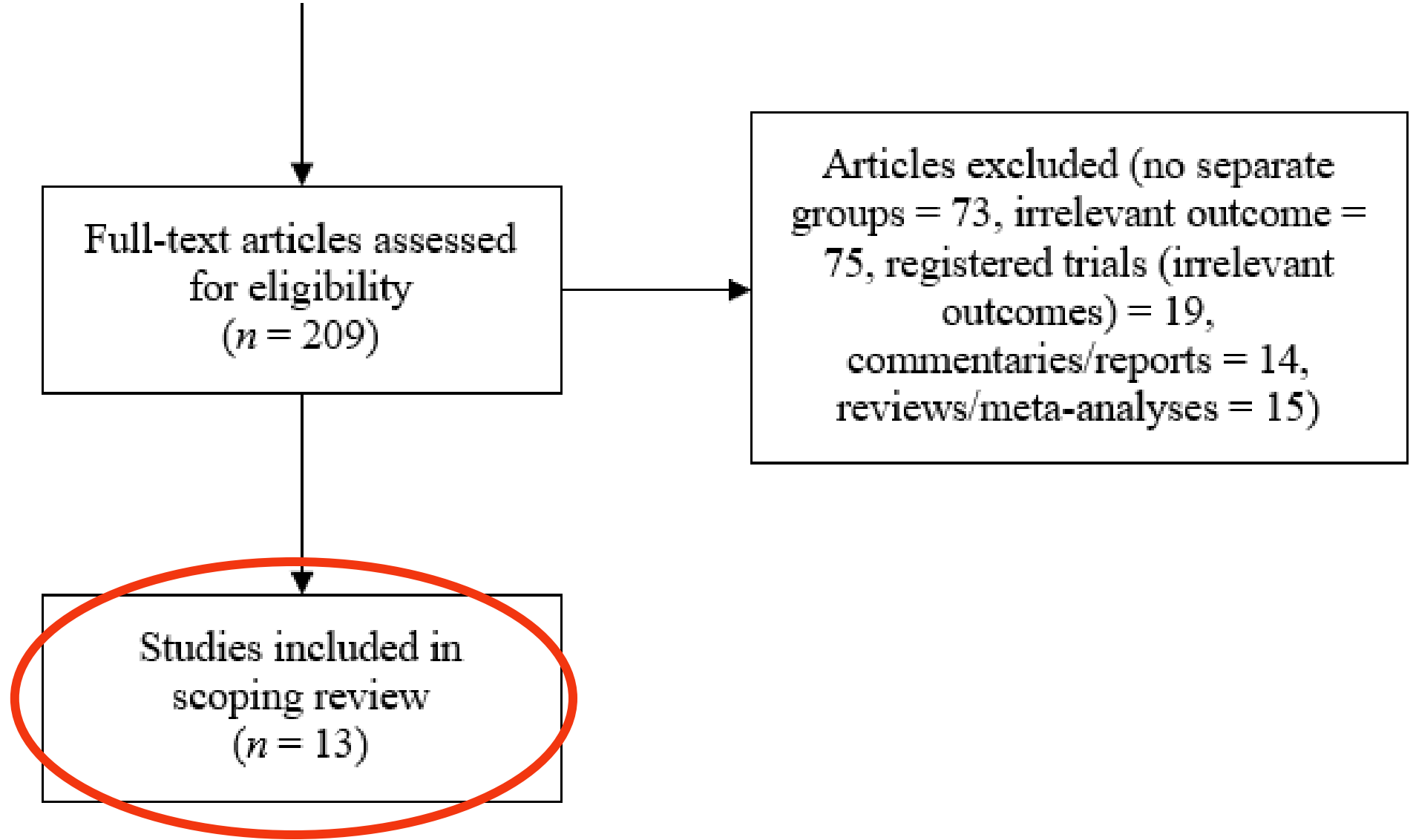





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graph TD; A[Records identified through database searching  
(n = 12,763)] --> C[Records after duplicates removed  
(n = 10,395)]; B[Additional records identified through other sources  
(n = 31)] --> C;
```



Records identified through database searching
($n = 12,763$)

Additional records identified through other sources
($n = 31$)

Records after duplicates removed
($n = 10,395$)



	Favored Meat Eaters	NS	Favored Vegans/ Vegetarians
Primary Outcomes	<i>n</i> = 47,863	<i>n</i> = 79,210	<i>n</i> = 0
	2 studies 	7 studies	0 studies 

	Favored Meat Eaters	NS	Favored Vegans/ Vegetarians
Secondary Outcomes	<i>n</i> = 403	<i>n</i> = 37,742	<i>n</i> = 0
	1 study 	3 studies	0 studies 

Discussion

- Meat abstention
 - Depression
 - Anxiety
 - Self-harm
- No sex differences
- Study quality



Strengths/Limitations of the Literature

- Assessment
 - Psychological outcomes
 - Dietary status
- Recruitment/Sampling
- Confounders
- No causal & temporal inferences





Our Reviews

Strengths

- Clear distinction
 - Meat abstainers/eaters
- Well-defined psychological constructs
- Large sample size

Limitations

- Non-English language studies
- Excluded many studies on the topic

Recommendations

- Objective assessments
- Probably sampling
- Complete reporting
- Rigorous designs



Critical Reviews in Food Science and Nutrition

Meat and mental health: a systematic review of meat abstinence and depression, anxiety, and related phenomena

Urska Dobersek [✉](#), Gabrielle Wy, Joshua Adkins, Sydney Altmeyer, Kaitlin Krout, Carl J. Lavie & [...show all](#)



Meat and mental health: A meta-analysis of meat consumption, depression, and anxiety

Urska Dobersek [✉](#), Kelsey Teel, Sydney Altmeyer, Joshua Adkins, Gabrielle Wy & Jackson Peak

