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Supplementary Material

Article Title: Marine Omega-3 Fatty Acid Supplementation for Borderline Personality Disorder: A Meta-Analysis

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List of Supplementary Material for the article

1. [Figure 1](#) Forest Plot Showing Meta-Analysis Effects of Omega-3 Fatty Acid Supplementation on Affective Dysregulation Symptoms vs. Control for Borderline Personality Disorder (N=137)
2. [Figure 2](#) Forest Plot Showing Meta-Analysis Effects of Omega-3 Fatty Acid Supplementation on Impulsive Behavioral Dyscontrol Symptoms vs. Control for Borderline Personality Disorder (N=122)
3. [Figure 3](#) Forest Plot Showing Meta-Analysis Effects of Omega-3 Fatty Acid Supplementation on Cognitive-Perceptual Symptoms vs. Control for Borderline Personality Disorder (N=58)
4. [Figure 4](#) Forest Plot Showing Effects of Omega-3 Fatty Acid Supplementation on Global Functioning vs. Control for Borderline Personality Disorder (N=58)
5. [Figure 5](#) Risk of Bias Summary of Included Studies
6. [Appendix 1](#) Search (MEDLINE, Embase, PsycINFO)

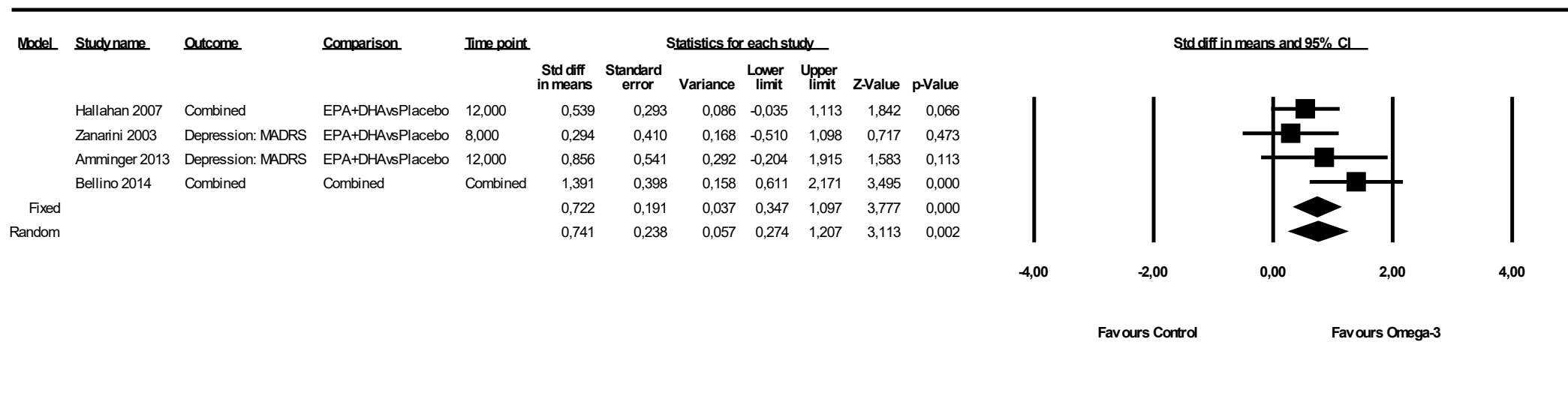
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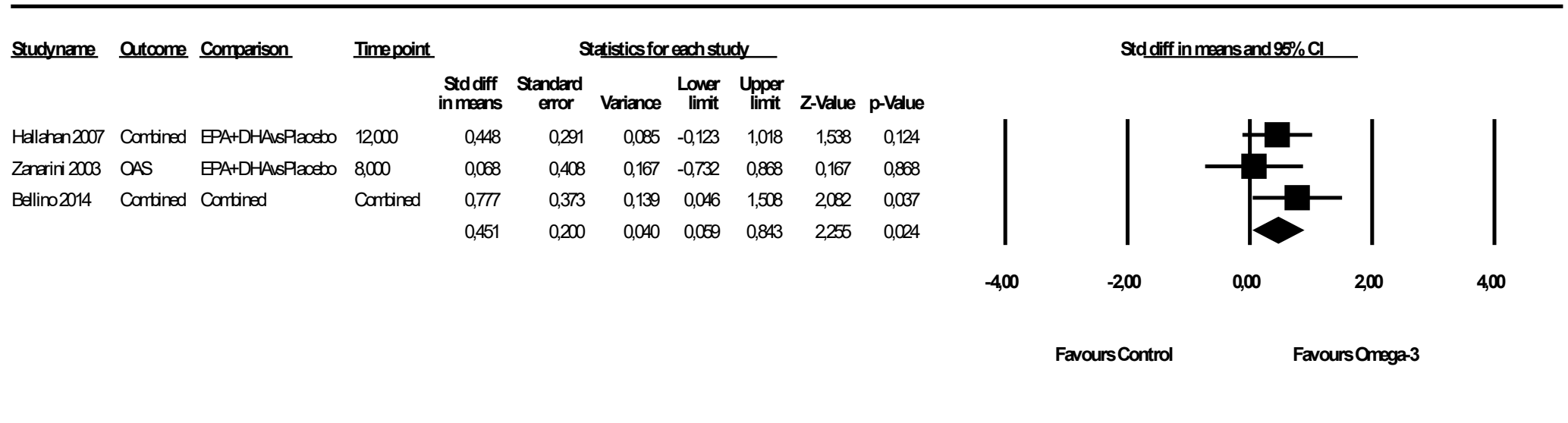
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Supplementary Figure 1. Forest plot showing meta-analysis effects of omega-3 fatty acid supplementation on affective dysregulation symptoms^a vs. control for borderline personality disorder (N=137)⁴⁴⁻⁴⁸.



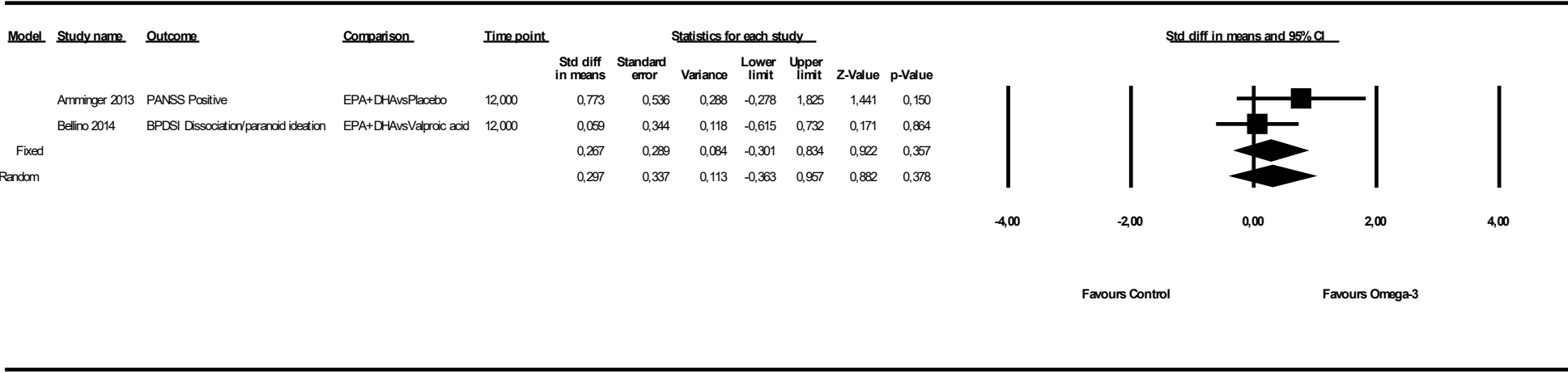
^aOutcome measures of the included studies were assigned to one of these domains as applicable. Hamilton-anxiety, BPDSI Affective instability, BPDSI-Anger, Beck-Depression, Hamilton-Depression, MADRS and OAS-Irritability were assigned to affective dysregulation domain.

Supplementary Figure 2. Forest plot showing meta-analysis effects of omega-3 fatty acid supplementation on impulsive behavioral dyscontrol symptoms^a vs. control for borderline personality disorder (N=122)⁴⁴⁻⁴⁷.



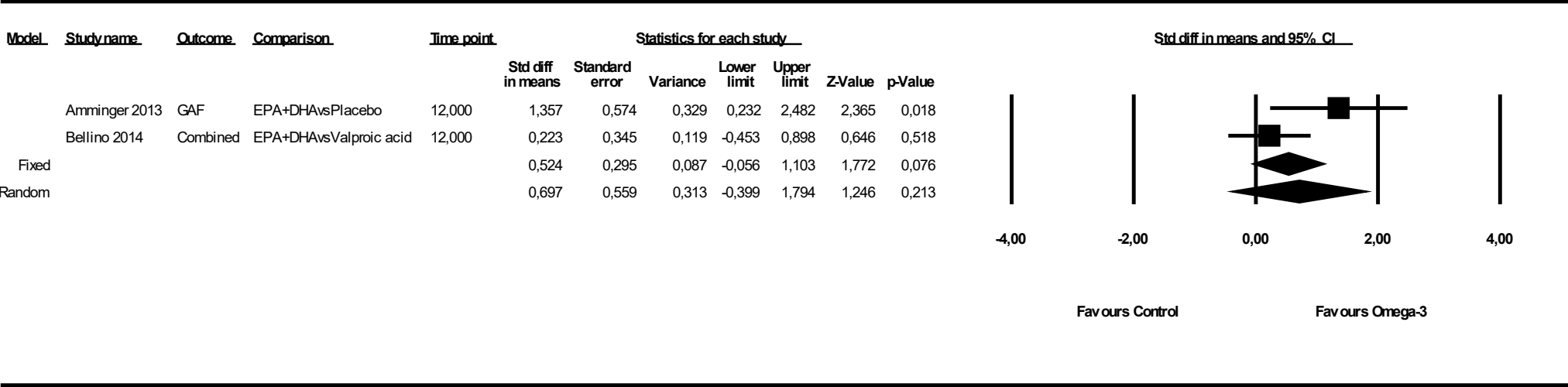
^aOutcome measures of the included studies were assigned to one of these domains as applicable. BPDSI Parasuicidal behaviors subscale, BIS-11, BPDSI Impulsivity subscale, OAS-total, OAS-Aggression, OAS-Suicidality and Self-Harm Inventory were assigned to impulsive behavior domain.

Supplementary Figure 3. Forest plot showing meta-analysis effects of omega-3 fatty acid supplementation on cognitive-perceptual symptoms^a vs. control for borderline personality disorder (N=58)^{45, 46, 48}.



^aOutcome measures of the included studies were assigned to one of these domains as applicable. PANSS Positive and BPDSI Dissociation/Paranoid ideation subscale were assigned to cognitive-perceptual symptoms domain.

Supplementary Figure 4. Forest plot showing effects of omega-3 fatty acid supplementation on global functioning^a vs. control for borderline personality disorder (N=58)^{45, 46, 48}.



^aOutcome measures of the included studies were assigned to one of these domains as applicable. CGI-S, Global Assessment of Functioning and SOFAS were assigned to global functioning domain, i.e. well-being.

Supplementary Figure 5. Risk of bias summary of included studies

	Random sequence generation (selection bias)	Allocation concealment (selection bias)	Blinding of participants and personnel (performance bias)	Blinding of outcome assessment (detection bias)	Incomplete outcome data (attrition bias)	Selective reporting (reporting bias)	Other bias
Amminger 2013	+	+	+	+	-	+	+
Bellino 2014	?	?	-	?	+	+	+
Bozzatello 2018	?	?	-	?	?	+	+
Hallahan 2007	+	+	+	+	+	?	+
Zanarini 2003	?	?	?	?	+	?	+

Appendix 1. Search (MEDLINE, Embase, PsycINFO)

- 1 Borderline Personality Disorder/
- 2 ((borderline or border-line) adj3 (state* or personalit*)).kf,tw.
- 3 ("Axis II" or "Cluster B" or flamboyant or "F60.3" or "F60.30" or "F60.31").kf,tw.
- 4 (idealization adj5 devaluation).kf,tw.
- 5 ((vulnerable or hyperbolic) adj3 temperament).kf,tw.
- 6 (((unstab* or instab* or poor or disturb* or fail* or weak or dysregulat*) adj3 (self* or impuls* or interperson* or identit* or relationship* or emotion* or affect*)) and (personality or character or PD)).kf,tw.
- 7 (impulsiv* adj5 (behavio?r or character or personalit*)).kf,tw.
- 8 (self adj3 (injur* or damag* or destruct* or harm* or hurt* or mutilat*)).kf,tw.
- 9 (suicidal adj3 behavio?r).kf,tw.
- 10 (feel* adj3 (empt* or bored*)).kf,tw.
- 11 (anger adj5 control*).kf,tw.
- 12 (risk-taking adj3 behavio?r).kf,tw.
- 13 1 or 2 or 3 or 4 or 5 or 6 or 7 or 8 or 9 or 10 or 11 or 12
- 14 randomized controlled trial.pt.
- 15 controlled clinical trial.pt.
- 16 randomi#ed.ab.
- 17 placebo.ab.
- 18 randomly.ab.
- 19 trial.ab.
- 20 groups.ab.

- 21 drug therapy.fs.
- 22 14 or 15 or 16 or 17 or 18 or 19 or 20 or 21
- 23 13 and 22
- 24 exp animals/
- 25 humans/
- 26 24 not 25
- 27 23 not 26
- 28 fish oils/
- 29 fatty acids, omega 3/ 30 omega-3.ab,tw.
- 31 polyunsaturated FA.ab,tw.
- 32 fish oil.tw,ab.
- 33 EPA.tw,ab.
- 34 DHA.tw,ab.
- 35 eicosapentaenoic acid.tw,ab.
- 36 docosahexaenoic acid.tw,ab.
- 37 alpha-linolenic acid.tw,ab.
- 38 cod liver oil.tw,ab.
- 39 n-3 fatty acids.tw,ab.
- 40 n3 polyunsaturated fatty acids.tw,ab.
- 41 28 or 29 or 30 or 31 or 32 or 33 or 34 or 35 or 36 or 37 or 38 or 39 or 40 42 27 and 41