

1 **Disordered eating behaviours and correlates in yoga practitioners:**
2 **a systematic review**

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21 **Abstract**

22 Purpose: Yoga has been increasingly used as a complementary therapy for eating disorders.
23 However, it is still not clear whether yoga is effective in the prevention and treatment of eating
24 disorders, as some studies suggest that yoga practitioners show elevated levels of disordered
25 eating behaviours. The goal of this systematic review is, thus, to analyse the occurrence of
26 disordered eating behaviours and correlates in yoga practitioners.

27 Method: PRISMA guidelines for systematic reviews were used. Search was conducted in
28 several databases and specific journals.

29 Results: Twelve articles, all cross-sectional, were identified, following PRISMA guidelines.
30 Results across studies were inconsistent. Yoga practice was usually associated with healthier
31 eating behaviours, lower disordered eating symptoms, and higher positive body image and body
32 satisfaction, suggesting that yoga practitioners may be at a lower risk of developing eating
33 disorders. However, other studies suggested that a high dosage of yoga practice may be
34 associated with a higher prevalence of disordered eating behaviours.

35 Conclusions: As yoga is increasingly used as therapy for eating disorders, understanding the
36 relationship between yoga dosage and disordered eating behaviours is critical to guide treatment
37 recommendations and establish yoga as a valuable complementary therapy.

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39 **Keywords:** eating disorders; yoga; therapy; risk factors; orthorexia.

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44 1. Introduction

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46 Yoga is an ancient Indian spiritual practice concerned with the exploration of one's inner
47 world with the goal of achieving samadhi, a state of higher consciousness [1]. Over the last 150
48 years, yoga has been transported into the western world and has progressively become
49 acculturated, emerging today as a transnational, predominantly Anglophone phenomenon [2,
50 3]. Despite being at its core a spiritual practice encompassing several elements, the yoga
51 currently practiced in the West is mainly an asana-based practice (physical postures) with
52 varying amounts of breath control techniques and meditation [4], which can be more accurately
53 identified as modern postural yoga [5]. A myriad of modern postural yoga styles can be found
54 across yoga studios, gyms and other venues; the most popular forms include ashtanga vinyasa¹,
55 vinyasa flow, power, Iyengar, integral, Bikram, among others.

56 Yoga has been shown to have many physical and psychological benefits, not only in non-
57 clinical populations, but also as a complementary therapy in the treatment of physical and
58 mental disorders [6, 7]. Correlational and experimental studies, including randomized
59 controlled trials, have bloomed in the last 15-20 years, focusing on the relationship between
60 yoga practice and mental health (for reviews see [8, 9]), particularly on negative mental health
61 indicators and psychopathology. Bibliometric analyses show that most yoga studies deal with
62 depression, stress, anxiety, pain management and cancer conditions [8, 10]. Recently, more
63 attention has been given to the optimal functioning of individuals, with the emergence of
64 positive psychology [11]. A growing body of research emphasizing positive mental health

¹ Hereafter, we refer to ashtanga vinyasa as ashtanga; not to be confused with Ashtanga Yoga or Raja Yoga, the path of eight limbs described by Patanjali.

65 indicators has been accumulating (for reviews see [4, 12]), demonstrating the potential of yoga
66 practice as a tool for human improvement.

67 In the area of eating disorders, yoga has been increasingly used as a complementary therapy,
68 due to its potential ability to enhance the connection and, hence, the acceptance of one's body
69 [13, 14]. Eating disorders and disordered eating behaviours are currently major public health
70 concerns due to their high prevalence and potentially serious physical, social and psychological
71 consequences. Disordered eating behaviours can be subtle and apparently innocuous at the
72 beginning, such as fasting, eating little food, using food substitutes, skipping meals, and may
73 evolve to more extreme behaviours such as taking diet pills, inducing vomit, using laxatives
74 and diuretics [15]. Over time, these behaviours may lead to the development of clinically
75 relevant eating disorders. These include a variety of persistent disturbances of eating behaviour
76 that results in the altered consumption or absorption of food, leading to a significantly impairing
77 of physical health and psychological functioning [16]. Three main eating disorders (ED) are
78 usually considered, namely anorexia nervosa, bulimia nervosa and binge eating disorder. In
79 addition, there is a wide range of disordered eating behaviours that do not fulfil all diagnosis
80 criteria and may not be clinically severe, but may still affect individuals' physical and mental
81 well-being, and may develop over time into full-blown eating disorders. In this context, several
82 "new" eating disorders have been described, of which the most remarkable example is
83 orthorexia nervosa, an unhealthy obsession with healthy eating characterized by obsessive
84 thinking about food, compulsive behaviours, self-punishment and escalating dietary restriction
85 [17].

86 The individual's relationship with his or her body is a key aspect in disordered eating, and
87 to prevent or recover it is crucial that individuals learn to be in and with their bodies in a healthy
88 manner [18]. Yoga may play a role in the prevention and treatment of ED due to its focus on
89 the enhancement of the mind-body connection and body image [19], but research on the effects

90 of yoga on ED symptoms and behaviours is still in its infancy. A major limitation is the absence
91 of randomized controlled trials to test yoga interventions for the prevention and treatment of
92 ED, as most studies are cross-sectional and use small samples that hamper statistical analysis
93 [20]. In addition, there is little systematic information on the amount of yoga needed to create
94 an effect, and current dosage recommendations are variable and lack empirical support [21].
95 Finally, yoga interventions use distinct styles of yoga that differ in the relative amounts of yoga
96 components offered (*i.e.*, physical postures, breathing techniques, and meditation), yielding
97 different outcomes to practitioners (e.g.,[22]).

98 Although yoga research is a field undergoing substantial growth and interest, it is still not
99 clear whether yoga practice is effective in the prevention and treatment of disordered eating.
100 Yoga is usually regarded by clinicians and clients as a potentially positive intervention for ED
101 [14], but some studies indicate that yoga practitioners present higher levels of disordered eating
102 behaviours [23, 24]. Therefore, it is relevant to address the occurrence of these dysfunctional
103 behaviours in individuals that already have a consistent yoga practice; for this reason, we
104 exclude from our analysis yoga interventions on patients with ED that do not have a previous
105 yoga practice. Indeed, the dosage of yoga is a critical variable in evaluating the effects of yoga,
106 as evidence suggests that the length of time someone practices yoga is associated with the
107 benefits of the practice [25]. In addition, the motivations for starting a yoga practice differ
108 between seasoned yoga practitioners and participants in ED interventions; whereas the former
109 group may adopt yoga due to its physical and spiritual aspects [8], the latter participate due to
110 a specific health condition. Understanding how a consistent yoga practice affects eating
111 behaviours is thus critical to establish therapeutic dosages of yoga for ED patients and to guide
112 treatment recommendations; we aim to contribute to this discussion by systematically
113 reviewing the occurrence of disordered eating behaviours in experienced yoga practitioners.

115 **2. Methods**

116 The Preferred Reporting Items for Systematic Reviews and Meta-Analysis (PRISMA)
117 guidelines [26] were followed in this review.

118

119 **2.1 Inclusion criteria**

120 *Types of studies.* All studies that evaluated associations between yoga practice and
121 disordered eating variables, published until October 2018, were considered. Studies that
122 reported effects of yoga interventions in patients with eating disorders were excluded. Only
123 studies in English were eligible. Books, book chapters, dissertations, conference abstracts, book
124 reviews and editorials were excluded.

125 *Types of participants.* Studies with adult yoga practitioners, with or without disordered
126 eating behaviours, were eligible.

127 *Types of outcomes.* Quantitative and qualitative studies that evaluated ED-related variables,
128 such as ED symptomatology, body satisfaction, body image, self-objectification, etc., in yoga
129 practitioners were eligible.

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131 **2.2 Literature search**

132 Five electronic databases, Scopus, Web of Science, Pubmed, PsycINFO, and Psychology
133 and Behavioral Sciences Collection (PBSC), were searched between 7th-11th October 2018.
134 Search terms used were “yoga” AND “eating disorder” OR “disordered eating” OR “eating
135 behaviour”. On Scopus, these terms were searched in the article title, abstract and keywords;
136 on Web of Science the topic field was used. On PubMed, the same terms were searched on the
137 title and abstract, and on PsycINFO and PBSC, the terms were searched on the abstract. We

138 also searched specific international, peer-reviewed journals, namely: Eating Behaviors,
139 Advances in Eating Disorders, Eating Disorders, International Journal of Eating Disorders,
140 Eating and Weight Disorders, Journal of Eating Disorders, European Eating Disorders Review,
141 Appetite, Body Image, International Journal of Yoga, and International Journal of Yoga
142 Therapy. On the ED-related journals, the term “yoga” was searched in the abstract, title and
143 keywords, whereas the term “eating” was searched on the yoga journals.

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145 **3. Results**

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147 **3.1 Study selection**

148 A total of 384 records were identified, 271 after the removal of duplicates. The title and
149 abstract of the 271 records were screened for adequacy, and 246 were excluded; excluded
150 studies included reports of yoga interventions for ED patients, and documents other than journal
151 articles. Finally, 20 full-text articles were assessed for eligibility. Of these, 8 articles were
152 excluded because they did not distinguish between yoga practitioners and other exercisers, or
153 were yoga interventions with non-practitioners, or did not evaluate ED-related variables in yoga
154 practitioners. Twelve studies were thus included in the review. Figure 1 presents the flowchart
155 of the study selection process.

156

157 **3.2 Study characteristics**

158 The 12 studies identified were cross-sectional studies conducted with a) yoga practitioners
159 only (5 studies), b) yoga practitioners and other exercisers (2 studies), and c) yoga practitioners
160 and non-practitioners (5 studies) (Table 1). Most studies involved yoga practitioners in the

161 USA; 3 studies were conducted in Australia, 1 in Spain and 1 in Norway. Most studies included
162 evaluations of eating-related behaviours or disordered eating symptoms; other studies analysed
163 ED-related variables such as body image, body satisfaction, self-objectification, exercise
164 dependence, among others.

165

166 **3.3 Eating behaviours in yoga practitioners**

167 The occurrence and intensity of disordered eating behaviours and ED symptomatology in
168 yoga practitioners in relation to non-practitioners were not consistent across studies. One study
169 found that yoga practitioners reported fewer disordered eating attitudes in relation to aerobics
170 practitioners, but did not differ from the baseline comparison group, composed by women not
171 currently enrolled in physical activities [27]. Two other studies found no significant relationship
172 between yoga practice and disordered eating in women [15, 28], but men participating in yoga
173 and/or Pilates classes reported the use of more extreme weight control behaviours and binge
174 eating than nonparticipants [15]. In contrast, two other studies reported higher levels of
175 disordered eating in yoga practitioners [23, 24]. Specifically, the prevalence of orthorexia
176 nervosa (ON) in a sample of ashtanga practitioners was 86%, with vegetarian practitioners
177 scoring lower on the ON test (*i.e.*, more symptoms of ON) than other participants [23]. An other
178 study found an association between self-reported eating disorders, particularly in the drive for
179 thinness, and a higher weekly volume of instructing yoga/Pilates classes in female group fitness
180 instructors [24].

181 Several studies addressed specific eating behaviours of yoga practitioners, such as the
182 consumption of healthy foods, vegetarianism and veganism. Overall, yoga practice was
183 associated with a higher consumption of fruits and vegetables, and a lower consumption of
184 unhealthy food [29]. Compared with non-practitioners, yoga practitioners consumed

185 significantly more vegetables and fruits, and less fast-food and sugar-sweetened beverages than
186 non-practitioners [30]. However, the healthy eating habits of yoga practitioners were also
187 associated with a high prevalence of orthorexia nervosa, particularly in vegetarians [23].

188 Other ED-related variables, such as body satisfaction and self-objectification, were
189 evaluated in several studies. In general, body satisfaction, body awareness, and body
190 responsiveness were positively associated in yoga practitioners [29, 31], whereas body
191 objectification and self-objectification were negatively associated with yoga practice [28].
192 Comparisons of yoga practitioners and non-practitioners showed that yoga practitioners
193 reported significantly lower levels of self-objectification than practitioners of other forms of
194 physical activities and non-practitioners [27, 28, 32], and body objectification was negatively
195 correlated with disordered eating attitudes in yoga practitioners [33]. Likewise, body
196 satisfaction was significantly higher in women practicing yoga/Pilates than in other exercisers
197 or non-exercisers [15, 27, 34]. Body responsiveness and body awareness were also significantly
198 higher in yoga practitioners in relation to aerobics practitioners and non-practitioners [27]. A
199 qualitative study indicated that practitioners believe that yoga practice has a positive impact on
200 body image due to ‘perceived physical changes, gratitude for one’s body, a sense of
201 accomplishment within one’s, self-confidence, and witnessing different types of bodies
202 practicing yoga’, but it can also have a negative impact on body image due to comparisons with
203 others and inner critique [35].

204 Reasons to exercise, or to practice yoga, were evaluated in some studies. A comparison of
205 different types of exercisers showed that participation in yoga classes was related to health and
206 fitness reasons, rather than appearance-related reasons [28]. However, practitioners of different
207 yoga styles may have different reasons to practice; for instance, Bikram yoga practitioners
208 reported more appearance-related reasons than Iyengar yoga practitioners [32]. It was also

209 shown that individuals that practice for psychospiritual reasons reported higher body
210 satisfaction than practitioners driven by physical appearance reasons [31].

211

212 **4. Discussion**

213

214 **4.1 Eating behaviours and correlates in yoga practitioners**

215 Overall, yoga practitioners reported fewer disordered eating behaviours, higher
216 consumption of healthy foods, and higher body satisfaction. However, comparisons between
217 yoga practitioners and non-practitioners yielded diverse results, from no differences, fewer
218 disordered eating behaviours, and higher disordered eating behaviours in yoga practitioners in
219 relation to non-practitioners.

220 Female yoga practitioners enrolled in ashtanga and/or Iyengar yoga classes reported fewer
221 disordered eating behaviours than women practicing aerobics classes, but no differences were
222 found between practitioners and non-practitioners [27]. Other studies also reported no
223 significant differences in disordered eating behaviours between yoga practitioners and non-
224 practitioners [15, 28]. In contrast, some studies found a higher prevalence of disordered eating
225 behaviours in yoga practitioners, namely in instructors of body/mind classes and male
226 yoga/Pilates practitioners [15, 24]. The prevalence of orthorexia nervosa was also high (86%)
227 in a sample of ashtanga yoga practitioners [23].

228 These differences across studies may be due to several factors; the most prominent is
229 probably the dosage of yoga. Yoga practitioners with fewer self-reported disordered eating
230 behaviours were also those who reported spending more time practicing yoga (almost 5 hours
231 per week: Daubenmier, 2005). In contrast, women spending more time at aerobics classes
232 presented more ED-attitudes than those practicing less [27]. Indeed, it has been shown that

233 excessive physical activity is a common point among individuals suffering from an eating
234 disorder [36]. Yoga practitioners, however, showed an inverse relationship between time spent
235 practicing and disordered eating, suggesting that not all physical activities have the same
236 relationship with eating disorders, and that more yoga practice may be related with better eating
237 habits [27].

238 However, results reported in a sample of ashtanga yoga practitioners indicate the contrary;
239 in this sample, orthorexia nervosa was found in 86% of the practitioners [23]. The average time
240 spent practicing is not referred in the study, but, traditionally, ashtanga yoga is a 90 min/day,
241 6-day a week practice [37], which can sum up to 9 hours of practice per week. Another study
242 found that female yoga instructors with self-reported ED were those with a higher teaching load
243 of yoga classes per week [24]. Therefore, can a higher dedication to the practice of yoga be
244 associated with higher levels of disordered eating behaviours?

245 Yoga dosage is a key factor for experiencing the benefits of yoga practice; to obtain gains
246 from the practice, a sustained practice is necessary [38]. For instance, ashtanga yoga is a 6-day
247 per week practice [37], and daily practices are also advised for Iyengar yoga practitioners [39].
248 However, the frequency of yoga classes and duration of yoga interventions in experimental
249 studies is low, comparing to the dosages followed by the seasoned practitioners that exhibit
250 inverse relationships between yoga practice and disordered eating behaviours. For instance, a
251 study where yoga was practiced at a small dosage (45 minutes per week for 6 weeks) had no
252 significant effects on eating disorder symptomatology [40]. Interventions that offered higher
253 yoga dosages (60 minutes per week for 12 weeks: [41]; 2 hours per week for 8 weeks: [42]; 60-
254 90 minutes per week for 12 weeks: [43]) yielded positive results in decreasing disordered eating
255 symptomatology or increasing positive body image.

256 Maintaining a healthy diet is a common concern in yoga practitioners, and this is why the
257 consumption of fruit and vegetables tends to be correlated with yoga practice [29]. In addition,
258 yoga practitioners consume significantly more healthy foods and less fast-food and sugar-
259 sweetened beverages than non-practitioners [30], further suggesting that the concern with
260 healthy eating is associated with the practice of yoga. This concern has its roots on the ancient
261 yoga texts and spiritual practices of the Indian subcontinent. For instance, the first self-restraint
262 referred by Sage Patanjali in the Yoga Sutras is Ahimsa, translated as non-violence, non-killing,
263 or harmlessness [1]. Practitioners are advised to behave in a way that does not harm themselves
264 or other living creatures; therefore, many follow and recommend a vegetarian or vegan diet as
265 a way to comply with Ahimsa, supporting a more ethical and healthier yoga practice. A survey
266 of yoga practitioners in Australia showed that 8.7% and 1.6% of female yoga practitioners
267 between 19 and 25 years old are vegetarian or vegan, respectively [44]. In the USA, 10% of
268 yoga practitioners are vegetarian, which is almost 4 times the prevalence of vegetarianism in
269 the general population [45].

270 The high prevalence of vegetarianism or healthy eating behaviours in yoga practitioners is
271 probably triggered by yoga teachers that demonstrate such behaviours, thus potentially acting
272 as role models for their students [44]. Indeed, many yoga lineages, schools and teachers advise
273 their students to change their eating habits towards vegetarianism [46, 47]. However, this
274 psychological pressure on yoga students to change their eating habits should be refrained [23],
275 to prevent disordered eating behaviours and attitudes that may develop into serious
276 psychopathological problems. Differences in eating behaviours across yoga styles have been
277 found in a sample of German yoga practitioners, with ashtanga, Iyengar and Sivananda yoga
278 practitioners more likely to be vegetarians or vegans than practitioners of other yoga styles [48].
279 In addition, an association between orthorexia and vegetarianism was found in a sample of
280 ashtanga yoga practitioners [23].

281 Other variables that were significantly associated with yoga practice were body
282 dissatisfaction and self-objectification. Body dissatisfaction, considered a strong predictor of
283 disordered eating behaviours, reflects the degree of dissatisfaction with body shape and weight
284 [49–51]. Body dissatisfaction was significantly lower in yoga practitioners in relation to non-
285 practitioners [15, 27], and it was associated with lower body awareness and body
286 responsiveness, and higher levels of self-objectification and disordered eating attitudes [27].
287 Self-objectification is another construct that has been related to disordered eating and other
288 psychopathological problems, particularly in women. According to the Objectification Theory
289 [52], in social environments where women are viewed as aesthetic objects to be evaluated by
290 others, they tend to view themselves as objects of evaluation; over time, self-objectification
291 may lead to negative psychological outcomes and may contribute to disordered eating attitudes
292 and behaviours in girls and women [27, 53]. Self-objectification was lower in yoga practitioners
293 in the studies analysed [27, 28]. Other studies found significant relationships between continued
294 yoga practice and positive body image [34, 54, 55]. These results support the potential of yoga
295 practice in increasing individuals' self-image and its use for the prevention of disordered eating
296 attitudes.

297

298 **4.2 Methodological limitations**

299 Despite the associations between yoga practice and disordered eating behaviours, body
300 image and body satisfaction reported by the studies reviewed, several methodological
301 limitations can also be discussed. To start with, most studies did not refer the style of yoga
302 practiced by the participants; the studies that indicate which style is practiced include three
303 different styles, namely ashtanga [23, 27], Iyengar [27, 32] and Bikram [32]. Overall, specific
304 information on the style of yoga, frequency and duration of the practice, years practicing and

305 degree of immersion in the practice, and the relative proportion of yoga postures, breathing
306 exercises and meditation, would allow a more thorough comparison across studies and,
307 specifically, across yoga styles. This is highly relevant, given that specific yoga styles may
308 influence different health indicators, such as body mass index, vegetarianism/veganism,
309 mindfulness, and quality of life [48].

310 Other concern worthy of discussion is causal effects *versus* selection regarding the
311 relationship between yoga practice and disordered eating behaviours. We assumed in this
312 review that yoga may affect the occurrence of disordered eating behaviours, but it is possible
313 that individuals with such behaviours will feel attracted to yoga due to yoga's potential effects
314 on body shape and weight control. Studies show that yoga practitioners have lower body mass
315 indices (BMI) than non-practitioners [48, 56, 57], but it is not clear whether yoga promotes
316 weight loss or individuals with lower BMI are more attracted to yoga than people with higher
317 BMI [56]. In U.S. practitioners, only 4.4% refer weight loss as the primary reason for adopting
318 a yoga practice, but 27.2% and 33.9% mention weight loss as an additional reason to start the
319 practice and to continue practice, respectively [58].

320 Regarding the use of self-report questionnaires to evaluate ED-related variables, most
321 instruments used in the articles reviewed possess well established psychometric qualities,
322 except for ORTO-15, a 15-item questionnaire meant to diagnose orthorexia nervosa [59].
323 ORTO-15 has consistently shown poor reliability, internal consistency and construct validity,
324 and tends to overestimate the occurrence of ON [60–62]. Indeed, this instrument appears to be
325 measuring a more normative focus on health and wellness, rather than a pathological behaviour
326 [63]. Therefore, the high prevalence (86%) of orthorexia nervosa found in a sample of ashtanga
327 yoga practitioners [23] may have been overestimated by the use of ORTO-15 as diagnostic tool.

328

329 **5. Conclusions**

330 This systematic review showed that yoga practice is generally associated with healthier
331 eating behaviours, lower disordered eating behaviours, and higher positive body image and
332 body satisfaction, suggesting that yoga practitioners may be at a lower risk of developing eating
333 disorders. However, some studies suggest that a high volume of yoga practice may be related
334 with disordered eating behaviours. As yoga interventions are increasingly used as a
335 complementary treatment for eating disorders, understanding the relationship between style and
336 dosage of yoga, and ED behaviours is critical. Therefore, future research should focus on how
337 much is too much yoga – is there an optimal level of involvement in yoga practice, whereas
338 below or above that level practitioners are at higher risk for ED? In addition, are some styles of
339 yoga, like ashtanga, more closely related with disordered eating behaviours? If so, how much
340 yoga and which yoga should be offered as treatment for eating disorders? Answering these and
341 other questions is essential to establish yoga as valuable and effective complementary therapy
342 for eating disorders and to guide treatment recommendations.

343

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345 **Ethical approval:** This article does not contain any studies with human participants or animals
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347

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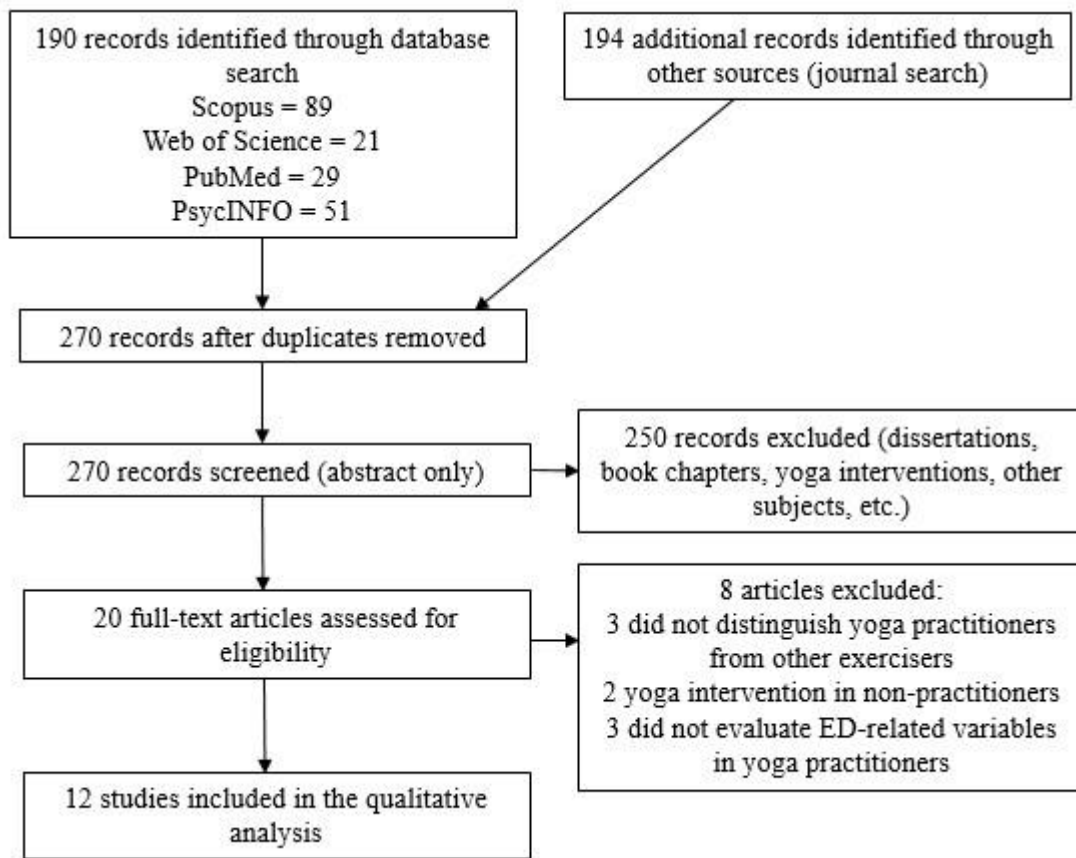
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528 Figure 1 – Flowchart of the study selection process.

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537 Table 1 – Main characteristics of the studies included in the review. Only statistically significant results ($p < .05$) are presented.

Study	Population	Characteristics	Outcome variables	Results
Daubenmier 2005	Female yoga practitioners and non-practitioners (n = 139)	Three groups: yoga (Iyengar and ashtanga), aerobic, non-practitioners. Yoga practitioners practiced 4.96 ± 3.19 hours/week for average of 6 years	Self-objectification Body satisfaction Disordered eating symptomatology Body awareness Body responsiveness	Yoga practitioners had lower body mass index and self-objectification, and higher body awareness, body responsiveness and body satisfaction than aerobics and non-practitioners. Yoga practitioners had lower disordered eating symptomatology than aerobics practitioners, but no different than non-practitioners.
Prichard & Tiggeman 2008	Female fitness class participants (n = 571)	Three groups: yoga, cardio, weights	Drive for thinness Body dissatisfaction Self-objectification Body esteem Reasons for exercise	Yoga practice is negatively correlated with self-objectification and appearance-related reasons for practice, and positively correlated with health/fitness reasons. No relationships between yoga practice and ED symptomatology.
Dittman & Freedman 2009	Female yoga practitioners (n = 157)	Group 1 – psychospiritual reasons (n = 99); Group 2 – physical appearance reasons (n = 30)	Body satisfaction Body awareness Body responsiveness Spiritual readiness Intuitive eating	Body awareness positively correlated with body responsiveness, body satisfaction, intuitive eating and spiritual readiness. Body mass index inversely correlated with body responsiveness, intuitive eating and body satisfaction. Group comparisons: body satisfaction and spiritual readiness is higher in group 1 (psychospiritual reasons for practice).
Delaney & Anthis 2010	Yoga practitioners (n = 92)	Different styles of yoga	Eating attitudes Body satisfaction Body objectification	Disordered eating attitudes are positively correlated with body dissatisfaction and body objectification.
Neumark-Sztainer et al. 2011	Yoga and Pilates practitioners (n = 274), non-practitioners (n = 2013)	Practitioners reported average of 30 min or more practicing yoga or Pilates per week	Body satisfaction Disordered eating	Women practitioners were less likely to report body dissatisfaction than non-practitioners. No differences in eating behaviours between women practitioners and non-practitioners. Men practitioners were more likely to have extreme weight control behaviours than non-practitioners.

Martin et al. 2013	Female exercisers (n = 159)	Participants practiced yoga and cardio-based exercise	Dietary intake Mindful eating Trait mindfulness Body responsiveness Proneness to disordered eating	Positive correlations between yoga practice and consumption of fruit and vegetables, mindful eating, trait mindfulness and body responsiveness. Negative correlation between yoga practice and proneness to disordered eating.
Valera et al. 2014	Yoga practitioners (n = 136)	Ashtanga yoga practitioners	Orthorexia Eating habits	86% of participants classified as orthorexic. Association between orthorexia and vegetarianism.
Bratland-Sanda et al. 2015	Group fitness instructors (n = 837)	Includes instructors of body/mind classes (yoga and Pilates)	Disordered eating symptomatology Exercise dependence	Correlation between ED symptomatology and exercise dependence. Instructors with self-reported ED were those with higher weekly volume of instructing body/mind classes (yoga/Pilates). Major difference between ED and non-ED instructors was the drive for thinness.
Mahlo & Tiggemann 2016	Yoga practitioners (n = 193) and non-practitioners (n = 127)	Practitioners of Iyengar and Bikram yoga	Body image Embodiment Self-objectification	Yoga practitioners showed higher positive body image and embodiment, and lower self-objectification than non-practitioners. Reasons for practicing yoga were different between practitioners: Bikram practitioners reported more appearance-related reasons than Iyengar practitioners.
Neumark-Sztainer MacLehose, et al. 2018	Yoga practitioners (n = 268) and non-practitioners (n = 1387)	Practitioners reported 30 min or more practicing yoga per week in the past year	Body satisfaction	Yoga practitioners reported higher levels of body satisfaction than non-practitioners.
Neumark-Sztainer, Watts, & Rydell, 2018	Yoga practitioners (n = 46)	Participants practiced at least 30 min of yoga/week over the past year	Body image (via semi-structured interviews)	Yoga is perceived as having a positive impact on body image via perceived physical changes, gratitude for one's body, and sense of accomplishment within one's yoga practice. Yoga is perceived as having a negative impact on body image via comparisons with other and inner critique.
Watts et al. 2018	Yoga practitioners (n = 297) and non-practitioners (n = 1523)	Practitioners reported 30 min or more practicing yoga per week in the past year	Healthy eating behaviours Moderate-to-vigorous physical activity (MVPA)	Yoga practitioners reported higher consumption of fruit and vegetables, and lower consumption of fast food and sugar-sweetened beverages than non-practitioners. Yoga practitioners also reported higher participation in and MVPA than non-practitioners.