Table S2 Overview of research conducted on body condition scoring in elephants and reported correlation with further parameters (Table modified and extended from Schiffmann et al. (2017))

African elephant (*Loxodonta africana*)								
Living conditions	**Applied Index (scoring range)**	**N**	**Average score**	**Standardized average score (average score/scoring range)**	**Correlating parameters**	**Kind of correlation**	**Remarks**	**Reference**
Free-ranging								
free-ranging	kidney-fat index, depth of lumbar depression, (good, fair, poor)	240	-	-	season	lower condition during dry season	especially well developed fat reserves in pregnant cows	Albl (1971)
free-ranging	new developed (1-6)	22	-	-	stage of musth	body condition decreases during musth phase	exclusively males in musth considered	Poole (1989)
free-ranging	concavity around lumbar depression and scapula (1-5)	not indicated	mean: 2.8-4.01	0.56-0.80 (mean)	season	lower body condition during dry season	sample size and composition not indicated	Foley et al. (2001)
free-ranging	extended the index from Poole (1989) (1-8)	4-107 (depending on season and category)	mean: 3.2-5.6 (depending on season and category)	0.40-0.70 (mean)	season	lower scores during seasons with decreased primary productivity	-	De Klerk (2009)
					limitation of nutritional resources	lower scores in population with limited resources	-	
					lactation	lower scores in lactating females	-	
free-ranging	modified from Wemmer et al. (2006) (0-2)	544	-	-	season	lower scores during the dry season	only adults considered	Pinter-Wollman et al. (2009)
					sex	lower scores in females	only adults considered	
					history of translocation	lower scores in translocated elephants	only adults considered	
free-ranging	new developed (1-5)	57	3 (1-5)	0.60 (median)	captive vs. free-ranging	significantly higher in captive elephants	investigation on female elephants only	Morfeld et al. (2014)

Semicaptive and captive								
Living conditions	**Applied Index (scoring range)**	**N**	**Average score**	**Standardized average score (average score/scoring range)**	**Correlating parameters**	**Kind of correlation**	**Remarks**	**Reference**
semicaptive[a]	Wemmer et al. (2006) (0-11) and a digital index (not published)	7	mean and median: 10	0.83 (mean and median)	-	-	suboptimal study design lead to no reliable results	Velthuizen (2008)
captive[b]	own index (5-1)	not indicated	mean: 2.0	0.60 (mean)	handling method	significantly thinner when managed in free contact compared to no contact	-	Harris et al. (2008)
captive[c]	new developed (1-5)	50	median: 4 (2-5)	0.80 (median)	captive vs. free-ranging	significantly higher in captive elephants	investigation on female elephants only	Morfeld et al. (2014)
captive[c]	Morfeld et al. (2014) (1-5)	132	median: 4; mean: 4.00	0.80 (mean and median)	sex	higher scores in females	-	Morfeld et al. (2016)
					staff-directed walking exercise	decreased risk for higher scores	only significant if exercise exceeds 14 hours per week	
					unpredictable feeding schedule	decreased risk for higher scores	-	Morfeld et al. (2016)Morfeld et al. (2016)
					diversity in feeding methods	increased risk for higher scores	-	
captive[c]	Morfeld et al. (2014) (1-5)	20	median: 4; mean: 3.85	0.77 (mean), 0.80 (median)	age	positive	females only	Chusyd et al. (2018)
					body mass	positive		
					fat mass	positive		

Asian elephant (*Elephas maximus*)								
Living conditions	**Applied Index (scoring range)**	**N**	**Average score**	**Standardized average score (average score/scoring range)**	**Correlating parameters**	**Kind of correlation**	**Remarks**	**Reference**
Free-ranging								
free-ranging	new developed (0-10)	-	-	-	-	-	-	Fernando et al. (2009)
free-ranging	combined indices from Wemmer et al. (2006) and Riney (1960) (14-1)	1622	-	-	season	decrease in body condition during dry season	significant differences between age-classes	Ramesh et al. (2011)
					sex	higher body condition in males	demonstrated for adult elephants only	
free-ranging	new developed (1-10)	27	6 (median and mean)	0.60 (median and mean)	captive vs. free-ranging	higher in captive elephants	application of index recommended independently of age and sex	Wijeyamohan et al. (2015)
free-ranging	Morfeld et al. (2014) (1-5)	653	-	-	season	lower scores more frequent during dry season	-	Pokharel et al. (2017)
					faecal glucocorticoid metabolites (fGCM)	fGCM levels highest in individuals with lowest BCS		
free-ranging	modified from Wemmer et al. (2006) (0-14)	3175 (containing 526 individual elephants at different points of time)	mean: 7.68	0.51 (mean)	reservoir water level	higher condition during season with lower water level	only adult and sub-adult elephants considered	Ranjeewa et al. (2018)
					sex	higher scores in males	only adult and sub-adult elephants considered	

Semicaptive and captive								
Living conditions	**Applied Index (scoring range)**	**N**	**Average score**	**Standardized average score (average score/scoring range)**	**Correlating parameters**	**Kind of correlation**	**Remarks**	**Reference**
semicaptive[d]	previous version of the index by Wemmer et al. (2006) (0-11)	140	Median: 7; mean: 6.95	0.58 (mean and median)	sex	higher body condition in females	-	Godagama et al. (1998)
semicaptive[e]	new developed (0-11)	119	mean: 7.3	0.61 (mean)	-	-	no correlation with further parameters detected	Wemmer et al. (2006)
captive[b] and semicaptive[f]	own index (5-1)	semicaptive: 42; captive: not indicated	semicaptive mean: 3.25; captive mean: 2.1	semicaptive: 0.35 (mean); captive: 0.58 (mean)	captive: handling method	captive: significantly thinner when managed in free contact compared to no contact	-	Harris et al. (2008)
semicaptive[g]	Wemmer et al. (2006) (0-11)	22	median: 8.75; mean: 8.70	0.73 (mean and median)	-	-	mature females only; the female with lowest score (6.5) was the only one not cycling	Thitaram et al. (2008)
captive[c]	new developed (1-9)	12	median: 6.25	0.69 (median)	rump fat thickness	positive linear	fat thickness measured by ultrasound	Treiber et al. (2012)
captive[h]	Wemmer et al. (2006) (0-11)	12	median: 8; mean: 7.25	0.60 (mean); 0.67 (median)	-	-	-	Kumar et al. (2014)
captive[i]	Fernando et al. (2009) (0-10)	10	median: 6; mean: 6.3	0.57 (mean); 0.55 (median)	-	-	-	Romain et al. (2014)
captive[c]	new developed (1-10)	31	8 (median and mean)	0.80 (mean and median)	captive vs. free-ranging	higher in captive elephants	application of index recommended independently of age and sex	Wijeyamohan et al. (2015)
captive[c]	new developed (1-5)	108	median: 4; mean: 4.05	0.81 (mean); 0.80 (median)	sex	higher scores in females	-	Morfeld et al. (2016)
					staff-directed walking exercise	decreased risk for higher scores	only significant if exercise exceeds 14 hours per week	
					unpredictable feeding schedule	decreased risk for higher scores	-	
					diversity in feeding methods	increased risk for higher scores	-	
semicaptive[g]	Wemmer et al. (2006) (0-11)	5	median: 8; mean: 7.6	0.63 (mean); 0.75 (median)	-	-	exclusively males considered , no effect of GnRH-vaccination on BCS detected	Somgird et al. (2016a)
semicaptive[j]	Wemmer et al. (2006) (0-11)	9	median: 8; mean: 8.33	0.69 (mean); 0.75 (median)	duration of musth phase	Positive	exclusively males considered	Somgird et al. (2016b)
					age	positive but not significant	exclusively males considered	

c: investigated animals live in captivity, sc: investigated animals live in semi-captive conditions in countries of origin, f: free-ranging individuals were investigated a: Elephant training facility in South Africa; b: UK zoos; c: North American zoos; d: Private owned and temple elephants in Sri Lanka, e: Forest camps in India, Nepal and Myanmar; f: Indian working camp and Wildlife rehabilitation centre; g: Elephant camps in Thailand; h: South Indian zoos; i: Zoos in Thailand; j: Elephant conservation center in Thailand