

# J Elizabeth Bolhuis

## List of Publications by Year in descending order

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Version: 2024-02-01

113  
papers

4,503  
citations

81743

39  
h-index

128067

60  
g-index

114  
all docs

114  
docs citations

114  
times ranked

2835  
citing authors

#	ARTICLE	IF	CITATIONS
1	Individual coping characteristics, rearing conditions and behavioural flexibility in pigs. Behavioural Brain Research, 2004, 152, 351-360.	1.2	220
2	Indicators of positive and negative emotions and emotional contagion in pigs. Physiology and Behavior, 2013, 109, 42-50.	1.0	211
3	Quantifying resilience of humans and other animals. Proceedings of the National Academy of Sciences of the United States of America, 2018, 115, 11883-11890.	3.3	204
4	Behavioural development of pigs with different coping characteristics in barren and substrate-enriched housing conditions. Applied Animal Behaviour Science, 2005, 93, 213-228.	0.8	156
5	Effects of genetic group selection against mortality on behavior and peripheral serotonin in domestic laying hens with trimmed and intact beaks. Physiology and Behavior, 2009, 97, 470-475.	1.0	110
6	Individual coping characteristics, aggressiveness and fighting strategies in pigs. Animal Behaviour, 2005, 69, 1085-1091.	0.8	104
7	Effects of dietary fibre on behaviour and satiety in pigs. Proceedings of the Nutrition Society, 2008, 67, 334-342.	0.4	98
8	The Observer XT: A tool for the integration and synchronization of multimodal signals. Behavior Research Methods, 2009, 41, 731-735.	2.3	91
9	Coping personality type and environmental enrichment affect aggression at weaning in pigs. Applied Animal Behaviour Science, 2011, 133, 144-153.	0.8	91
10	Fear, stress, and feather pecking in commercial white and brown laying hen parent-stock flocks and their relationships with production parameters. Poultry Science, 2013, 92, 2259-2269.	1.5	91
11	Effects of environmental enrichment and loose housing of lactating sows on piglet behaviour before and after weaning. Applied Animal Behaviour Science, 2011, 134, 31-41.	0.8	89
12	Effects of housing and individual coping characteristics on immune responses of pigs. Physiology and Behavior, 2003, 79, 289-296.	1.0	88
13	Parents and Early Life Environment Affect Behavioral Development of Laying Hen Chickens. PLoS ONE, 2014, 9, e90577.	1.1	85
14	The prospects of selection for social genetic effects to improve welfare and productivity in livestock. Frontiers in Genetics, 2014, 5, 377.	1.1	81
15	The nuts and bolts of animal emotion. Neuroscience and Biobehavioral Reviews, 2020, 113, 273-286.	2.9	77
16	Tail biting behaviour and tail damage in pigs and the relationship with general behaviour: Predicting the inevitable?. Applied Animal Behaviour Science, 2014, 156, 22-36.	0.8	74
17	Predicting feather damage in laying hens during the laying period. Is it the past or is it the present?. Applied Animal Behaviour Science, 2014, 160, 75-85.	0.8	72
18	Prenatal flavor exposure affects growth, health and behavior of newly weaned piglets. Physiology and Behavior, 2010, 99, 579-586.	1.0	68

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19	The effect of stocking density, flock size and modified management on laying hen behaviour and welfare in a non-cage system. <i>Applied Animal Behaviour Science</i> , 2006, 101, 111-124.	0.8	63
20	Effects of dietary fibers with different physicochemical properties on feeding motivation in adult female pigs. <i>Physiology and Behavior</i> , 2012, 107, 218-230.	1.0	60
21	Effects of environmental enrichment and loose housing of lactating sows on piglet performance before and after weaning <sup>1</sup> . <i>Journal of Animal Science</i> , 2010, 88, 3554-3562.	0.2	59
22	Relationship between growth rate and oral manipulation, social nosing, and aggression in finishing pigs. <i>Applied Animal Behaviour Science</i> , 2012, 142, 11-17.	0.8	56
23	Indirect Genetic Effects and Housing Conditions in Relation to Aggressive Behaviour in Pigs. <i>PLoS ONE</i> , 2013, 8, e65136.	1.1	56
24	Enriched Housing Reduces Disease Susceptibility to Co-Infection with Porcine Reproductive and Respiratory Virus (PRRSV) and <i>Actinobacillus pleuropneumoniae</i> (A. pleuropneumoniae) in Young Pigs. <i>PLoS ONE</i> , 2016, 11, e0161832.	1.1	56
25	Indirect Genetic Effects for Growth Rate in Domestic Pigs Alter Aggressive and Manipulative Biting Behaviour. <i>Behavior Genetics</i> , 2015, 45, 117-126.	1.4	52
26	Development of piglets raised in a new multi-litter housing system vs. conventional single-litter housing until 9 weeks of age <sup>1</sup> . <i>Journal of Animal Science</i> , 2015, 93, 5442-5454.	0.2	50
27	Spatial learning in pigs: effects of environmental enrichment and individual characteristics on behaviour and performance. <i>Animal Cognition</i> , 2009, 12, 303-315.	0.9	48
28	Learning how to eat like a pig: effectiveness of mechanisms for vertical social learning in piglets. <i>Animal Behaviour</i> , 2011, 82, 503-511.	0.8	48
29	Effects of genetic origin and social environment on behavioral response to manual restraint and monoamine functioning in laying hens. <i>Poultry Science</i> , 2011, 90, 1629-1636.	1.5	48
30	A review of sow and piglet behaviour and performance in group housing systems for lactating sows. <i>Animal</i> , 2014, 8, 448-460.	1.3	48
31	Emotions on the loose: emotional contagion and the role of oxytocin in pigs. <i>Animal Cognition</i> , 2015, 18, 517-532.	0.9	48
32	Effects of resistant starch on behaviour, satiety-related hormones and metabolites in growing pigs. <i>Animal</i> , 2014, 8, 1402-1411.	1.3	47
33	Prenatal Flavor Exposure Affects Flavor Recognition and Stress-Related Behavior of Piglets. <i>Chemical Senses</i> , 2009, 34, 775-787.	1.1	46
34	Selection Based on Indirect Genetic Effects for Growth, Environmental Enrichment and Coping Style Affect the Immune Status of Pigs. <i>PLoS ONE</i> , 2014, 9, e108700.	1.1	46
35	The relation between fearfulness in young and stress-response in adult laying hens, on individual and group level. <i>Physiology and Behavior</i> , 2012, 107, 433-439.	1.0	43
36	Responses to novel situations of female and castrated male pigs with divergent social breeding values and different backtest classifications in barren and straw-enriched housing. <i>Applied Animal Behaviour Science</i> , 2014, 151, 24-35.	0.8	43

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37	Maternal care and selection for low mortality affect post-stress corticosterone and peripheral serotonin in laying hens. <i>Physiology and Behavior</i> , 2009, 98, 519-523.	1.0	42
38	Effects of environmental enrichment on cognitive performance of pigs in a spatial holeboard discrimination task. <i>Animal Cognition</i> , 2016, 19, 271-283.	0.9	42
39	Working and reference memory of pigs ( <i>Sus scrofa domesticus</i> ) in a holeboard spatial discrimination task: the influence of environmental enrichment. <i>Animal Cognition</i> , 2013, 16, 845-850.	0.9	41
40	Tail Biting in Pigs: Blood Serotonin and Fearfulness as Pieces of the Puzzle?. <i>PLoS ONE</i> , 2014, 9, e107040.	1.1	41
41	Emotional states and emotional contagion in pigs after exposure to a positive and negative treatment. <i>Applied Animal Behaviour Science</i> , 2017, 193, 37-42.	0.8	41
42	Social support in pigs with different coping styles. <i>Physiology and Behavior</i> , 2014, 129, 221-229.	1.0	40
43	Maternal presence and environmental enrichment affect food neophobia of piglets. <i>Biology Letters</i> , 2011, 7, 19-22.	1.0	38
44	Perinatal Flavour Learning and Adaptation to Being Weaned: All the Pig Needs Is Smell. <i>PLoS ONE</i> , 2011, 6, e25318.	1.1	38
45	Early life feeding accelerates gut microbiome maturation and suppresses acute post-weaning stress in piglets. <i>Environmental Microbiology</i> , 2021, 23, 7201-7213.	1.8	36
46	Effects of mixed housing of birds from two genetic lines of laying hens on open field and manual restraint responses. <i>Behavioural Processes</i> , 2008, 79, 13-18.	0.5	35
47	Effects of feather pecking phenotype (severe feather peckers, victims and non-peckers) on serotonergic and dopaminergic activity in four brain areas of laying hens ( <i>Gallus gallus domesticus</i> ). <i>Physiology and Behavior</i> , 2013, 120, 77-82.	1.0	35
48	Effects of fermentable starch and straw-enriched housing on energy partitioning of growing pigs. <i>Animal</i> , 2008, 2, 1028-1036.	1.3	34
49	Effects of dietary fibers with different fermentation characteristics on feeding motivation in adult female pigs. <i>Physiology and Behavior</i> , 2013, 110-111, 148-157.	1.0	33
50	Brain monoamine levels and behaviour of young and adult chickens genetically selected on feather pecking. <i>Behavioural Brain Research</i> , 2017, 327, 11-20.	1.2	32
51	Olfaction: An Overlooked Sensory Modality in Applied Ethology and Animal Welfare. <i>Frontiers in Veterinary Science</i> , 2015, 2, 69.	0.9	31
52	Feed intake of the sow and playful creep feeding of piglets influence piglet behaviour and performance before and after weaning. <i>Scientific Reports</i> , 2019, 9, 16140.	1.6	31
53	Responses to apomorphine of pigs with different coping characteristics. <i>Psychopharmacology</i> , 2000, 152, 24-30.	1.5	30
54	Relations between peripheral and brain serotonin measures and behavioural responses in a novelty test in pigs. <i>Physiology and Behavior</i> , 2013, 118, 88-96.	1.0	30

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55	Damaging biting behaviors in intensively kept rearing gilts: The effect of jute sacks and relations with production characteristics <sup>1</sup> . <i>Journal of Animal Science</i> , 2014, 92, 5193-5202.	0.2	30
56	Use of dynamic and rewarding environmental enrichment to alleviate feather pecking in non-cage laying hens. <i>Applied Animal Behaviour Science</i> , 2014, 161, 75-85.	0.8	30
57	Facilitating "learning from mom how to eat like a pig"™ to improve welfare of piglets around weaning. <i>Applied Animal Behaviour Science</i> , 2014, 160, 19-30.	0.8	29
58	Mixed housing of different genetic lines of laying hens negatively affects feather pecking and fear related behaviour. <i>Applied Animal Behaviour Science</i> , 2009, 116, 58-66.	0.8	28
59	Early feeding and early life housing conditions influence the response towards a noninfectious lung challenge in broilers. <i>Poultry Science</i> , 2015, 94, 2041-2048.	1.5	28
60	Aggression and Affiliation during Social Conflict in Pigs. <i>PLoS ONE</i> , 2014, 9, e113502.	1.1	27
61	A link between damaging behaviour in pigs, sanitary conditions, and dietary protein and amino acid supply. <i>PLoS ONE</i> , 2017, 12, e0174688.	1.1	27
62	Backtest and novelty behavior of female and castrated male piglets, with diverging social breeding values for growth <sup>1</sup> . <i>Journal of Animal Science</i> , 2013, 91, 4589-4597.	0.2	26
63	Effects of pellet diameter during and after lactation on feed intake of piglets pre- and postweaning <sup>1</sup> . <i>Journal of Animal Science</i> , 2014, 92, 4145-4153.	0.2	26
64	Individual Consistency of Feather Pecking Behavior in Laying Hens: Once a Feather Pecker Always a Feather Pecker?. <i>Frontiers in Veterinary Science</i> , 2015, 2, 6.	0.9	25
65	Effects of Early and Current Environmental Enrichment on Behavior and Growth in Pigs. <i>Frontiers in Veterinary Science</i> , 2020, 7, 268.	0.9	25
66	Dietary diversity affects feeding behaviour of suckling piglets. <i>Applied Animal Behaviour Science</i> , 2018, 205, 151-158.	0.8	24
67	Effects of early and later life environmental enrichment and personality on attention bias in pigs ( <i>Sus</i> ) Tj ETQq1 1 0,784314 rgBT /Over 0,9 24	0.9	24
68	Early and later life environmental enrichment affect specific antibody responses and blood leukocyte subpopulations in pigs. <i>Physiology and Behavior</i> , 2020, 217, 112799.	1.0	24
69	A Proposed Role for Pro-Inflammatory Cytokines in Damaging Behavior in Pigs. <i>Frontiers in Veterinary Science</i> , 2020, 7, 646.	0.9	24
70	Long-term access to live black soldier fly larvae ( <i>Hermetia illucens</i> ) stimulates activity and reduces fearfulness of broilers, without affecting health. <i>Scientific Reports</i> , 2020, 10, 17428.	1.6	24
71	Impact of early-life feeding on local intestinal microbiota and digestive system development in piglets. <i>Scientific Reports</i> , 2021, 11, 4213.	1.6	24
72	Effects of fermentable starch on behaviour of growing pigs in barren or enriched housing. <i>Applied Animal Behaviour Science</i> , 2010, 123, 77-86.	0.8	22

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73	Prenatal, but not early postnatal, exposure to a Western diet improves spatial memory of pigs later in life and is paired with changes in maternal prepartum blood lipid levels. <i>FASEB Journal</i> , 2016, 30, 2466-2475.	0.2	22
74	The Evidence for a Causal Link Between Disease and Damaging Behavior in Pigs. <i>Frontiers in Veterinary Science</i> , 2021, 8, 771682.	0.9	22
75	Pigs Like It Varied; Feeding Behavior and Pre- and Post-weaning Performance of Piglets Exposed to Dietary Diversity and Feed Hidden in Substrate During Lactation. <i>Frontiers in Veterinary Science</i> , 2019, 6, 408.	0.9	21
76	Growth performance and carcass traits in pigs selected for indirect genetic effects on growth rate in two environments <sup>1</sup> . <i>Journal of Animal Science</i> , 2014, 92, 2612-2619.	0.2	20
77	Maternal Fish Oil Supplementation Affects the Social Behavior, Brain Fatty Acid Profile, and Sickness Response of Piglets. <i>Journal of Nutrition</i> , 2015, 145, 2176-2184.	1.3	20
78	Legitimate and Reliable Determination of the Age-Related Intestinal Microbiome in Young Piglets; Rectal Swabs and Fecal Samples Provide Comparable Insights. <i>Frontiers in Microbiology</i> , 2019, 10, 1886.	1.5	19
79	Intermittent suckling during an extended lactation period: Effects on piglet behavior <sup>1</sup> . <i>Journal of Animal Science</i> , 2007, 85, 3415-3424.	0.2	18
80	Selection for low mortality in laying hens affects catecholamine levels in the arcopallium, a brain area involved in fear and motor regulation. <i>Behavioural Brain Research</i> , 2013, 257, 54-61.	1.2	18
81	Effects of alginate and resistant starch on feeding patterns, behaviour and performance in ad libitum-fed growing pigs. <i>Animal</i> , 2014, 8, 1917-1927.	1.3	18
82	Providing live black soldier fly larvae ( <i>Hermetia illucens</i> ) improves welfare while maintaining performance of piglets post-weaning. <i>Scientific Reports</i> , 2021, 11, 7371.	1.6	18
83	Effects of early life and current housing on sensitivity to reward loss in a successive negative contrast test in pigs. <i>Animal Cognition</i> , 2020, 23, 121-130.	0.9	16
84	Identifying the limitations for growth in low performing piglets from birth until 10 weeks of age. <i>Animal</i> , 2014, 8, 923-930.	1.3	15
85	Dietary Linoleic and $\hat{\pm}$ -Linolenic Acids Affect Anxiety-Related Responses and Exploratory Activity in Growing Pigs. <i>Journal of Nutrition</i> , 2015, 145, 358-364.	1.3	14
86	Maternal Western diet during gestation and lactation modifies adult offspring's cognitive and hedonic brain processes, behavior, and metabolism in Yucatan minipigs. <i>FASEB Journal</i> , 2018, 32, 6478-6794.	0.2	14
87	Quantifying Individual Response to PRRSV Using Dynamic Indicators of Resilience Based on Activity. <i>Frontiers in Veterinary Science</i> , 2020, 7, 325.	0.9	14
88	Perinatal Exposure to a Diet High in Saturated Fat, Refined Sugar and Cholesterol Affects Behaviour, Growth, and Feed Intake in Weaned Piglets. <i>PLoS ONE</i> , 2016, 11, e0154698.	1.1	14
89	High levels of contact dermatitis and decreased mobility in broiler breeders, but neither have a relationship with floor eggs. <i>Poultry Science</i> , 2020, 99, 3355-3362.	1.5	13
90	Heritability of the backtest response in piglets and its genetic correlations with production traits. <i>Animal</i> , 2017, 11, 556-563.	1.3	12

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91	Effects of Creep Feed Provision on Behavior and Performance of Piglets Around Weaning. <i>Frontiers in Veterinary Science</i> , 2020, 7, 520035.	0.9	12
92	Reducing damaging behaviour in robust livestock farming. <i>Njas - Wageningen Journal of Life Sciences</i> , 2013, 66, 49-53.	7.9	11
93	Serotonin release in the caudal nidopallium of adult laying hens genetically selected for high and low feather pecking behavior: An in vivo microdialysis study. <i>Behavioural Brain Research</i> , 2014, 268, 81-87.	1.2	11
94	Intranasal oxytocin administration in relationship to social behaviour in domestic pigs. <i>Physiology and Behavior</i> , 2016, 163, 51-55.	1.0	11
95	Live black soldier fly larvae ( <i>Hermetia illucens</i> ) provisioning is a promising environmental enrichment for pigs as indicated by feed- and enrichment-preference tests. <i>Applied Animal Behaviour Science</i> , 2021, 244, 105481.	0.8	11
96	Indirect Genetic Effects for Growth in Pigs Affect Behaviour and Weight Around Weaning. <i>Behavior Genetics</i> , 2018, 48, 413-420.	1.4	9
97	Agent-based modelling in applied ethology: An exploratory case study of behavioural dynamics in tail biting in pigs. <i>Applied Animal Behaviour Science</i> , 2016, 183, 10-18.	0.8	8
98	Effects of environmental enrichment and regrouping on natural autoantibodies-binding danger and neural antigens in healthy pigs with different individual characteristics. <i>Animal</i> , 2017, 11, 2019-2026.	1.3	8
99	Short communication: insoluble fibres in supplemental pre-weaning diets affect behaviour of suckling piglets. <i>Animal</i> , 2018, 12, 329-333.	1.3	8
100	A milk formula containing maltodextrin, vs. lactose, as main carbohydrate source, improves cognitive performance of piglets in a spatial task. <i>Scientific Reports</i> , 2018, 8, 9433.	1.6	8
101	A multi-suckling system combined with an enriched housing environment during the growing period promotes resilience to various challenges in pigs. <i>Scientific Reports</i> , 2022, 12, 6804.	1.6	7
102	Struggling to survive: early life challenges in relation to the backtest in pigs <sup>1</sup> . <i>Journal of Animal Science</i> , 2014, 92, 3088-3095.	0.2	6
103	Gregarious nesting in relation to floor eggs in broiler breeders. <i>Animal</i> , 2021, 15, 100030.	1.3	6
104	Influence of a raised slatted area in front of the nest on leg health, mating behaviour and floor eggs in broiler breeders. <i>Animal</i> , 2021, 15, 100109.	1.3	6
105	Post-weaning social and cognitive performance of piglets raised pre-weaning either in a complex multi-suckling group housing system or in a conventional system with a crated sow. <i>Animal Cognition</i> , 2017, 20, 907-921.	0.9	5
106	Early feeding experiences of piglets and their impact on novel environment behaviour and food neophobia. <i>Applied Animal Behaviour Science</i> , 2020, 232, 105142.	0.8	5
107	Assessing the Effectiveness of Providing Live Black Soldier Fly Larvae ( <i>Hermetia illucens</i> ) to Ease the Weaning Transition of Piglets. <i>Frontiers in Veterinary Science</i> , 2022, 9, 838018.	0.9	5
108	Intermittent suckling affects feeder visiting behaviour in litters with low feed intake. <i>Livestock Science</i> , 2010, 127, 137-143.	0.6	4

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109	Effects of pre-weaning housing in a multi-suckling system on performance and carbohydrate absorption of relatively light and heavy piglets around weaning. <i>Animal</i> , 2018, 12, 802-809.	1.3	4
110	Impact of Enrichment and Repeated Mixing on Resilience in Pigs. <i>Frontiers in Veterinary Science</i> , 2022, 9, 829060.	0.9	4
111	Effects of a Multi-Suckling System Combined With Enriched Housing Post-Weaning on Response and Cognitive Resilience to Isolation. <i>Frontiers in Veterinary Science</i> , 2022, 9, 868149.	0.9	1
112	Long-term effects of maternal fish oil intake in young pigs challenged with lipopolysaccharide. <i>Proceedings of the Nutrition Society</i> , 2010, 69, .	0.4	0
113	024 Improving welfare, health, and productivity in pigs by optimizing adaptation. <i>Journal of Animal Science</i> , 2016, 94, 11-12.	0.2	0