Table 1. A summary of 26 studies documenting anticipatory behaviours. Articles were found by searching ScienceDirect and Web of Science using search terms “animal”, “anticipation”, “anticipatory behaviours”, “behavioural transistions”, conditioning”, “motivation” and “reward”. No date limits were sert. Publications were initially scanned by titles and abstract to assess relevance. Additional publications were also identified through references of the relevant publications. Reported below for each study is the species of animal tested, the type of conditioned stimulus (CS) used (acoustic (A) or visual (V)), positive unconditioned stimulus (US), the duration of the interval between CS and US, behaviours recorded and summarized key results.

Reference	**Species**	**CS** **CS-US interval** **Positive US**	**Variables**	**Findings compared to a control group, unless stated otherwise**
Reimert *et al* 2013	Pig	A+V[1] 20 s Straw, chocolate, peat raisins	Four behavioural categories + location	More orientation toward a start box door, less ear backwards and less ear posture changes (compared to a treatment group anticipating a negative US)
Imfeld-Mueller *et al* 2011	Pig	A 10 s Popcorn	Locomotion (F of squares crossed), vocalisation	Increased locomotion during CS, followed by a decrease after CS. Less high-frequency vocalisation (compared to a treatment group anticipating a negative US)
Imfeld-Mueller & Hillman 2012	Pig	A 30 s Ball containing corn	Nine behaviours	More attentive behaviour. Higher proportion of trials with active (sitting, standing and walking) pigs
Peters *et al* 2012	Horse	A+V 10 min	Four behavioural categories, location, HR+HRV	

		Carrots		More activity (measured by frequency of behavioural transitions), More standing (D+F), arousal (D+F), investigation (D+F) and locomotion (F). Less maintenance (F+D). More time near US bucket
Vinke *et al* 2004	Mink	A 4 min Cat food	14 behaviours	More behavioural transitions and nose pokes around the feeding area (D+F)
Vinke *et al* 2006	Mink	A 4 min Cat food	Three behavioural categories	More behavioural transitions and nose pokes around the feeding area (F)
Hansen & Jeppesen 2006	Mink	A 1 min Cat food	Eight behaviours	More "general activity" near to where US would be presented (standing at the cage-door, scratching the door, and running in and out of the nest box)
Anderson *et al* 2015	Sheep	Moved to a holding pen 3 min Concentrate, toys	13 behaviours	More walking and less exploring (D) compared to a control group (3 min in holding pen, but no US), particularly for US= food. Increase in behavioural transitions (F) overall and more walking, exploring and standing still (F)
Chapagain *et al* 2014	Sheep	Moved to a holding pen 5 min	19 behaviours	More walking, sniffing, head butting and facing US following conditioning (F) compared to early in the conditioning process

		Toys		
Moe *et al* 2014	Laying hen & Red Jungle Fowl	V 25 s Meal worms	Head movements (F), steps (F)	More head movements (F) by laying hens than Red Jungle Fowl. Haloperidol, compared to saline, resulted in less head movements and steps. Study does not compare to control group or to behaviour prior to CS
Moe *et al* 2009	Laying hen	V 22 & 32 s Meal worms	Still or slow movements with body stretched (%)	22 s: Increase in anticipatory behaviour during CS and in CS-US interval compared to before CS. 32 s: Increase in anticipatory behaviour during CS and in CS-US interval compared to before CS, for both control and treatment group
Moe *et al* 2011	Laying hen	V 22 s Meal worms	Three behaviours and body posture	Dopamine antagonist resulted in less head movements (F). Strongest dose of dopamine antagonist resulted in less anticipatory behaviour (D)
Moe *et al* 2013	Laying hen	V 25 s Meal worms/whole wheat grains	Head movements, steps	Dopamine antagonist resulted in less head movements (F). Strongest dose of dopamine antagonist resulted in less anticipatory behaviour (D)
Zimmerman *et al* 2011	Laying hen	A 15 s Meal worms	15 behaviours and vocalisation	More (F) of comfort behaviours, preening and less stepping

Wichman *et al* 2012	Laying hen	V 25 s Corn	Head movements (F), being near US bowl (D), head up and down in bowl (F), steps (F)	More time spent by the bowl, head up and head down in the bowl
McGrath *et al* 2016	Laying hen	A 15 s Mealworm, dusty substrate, normal food	29 behaviours (D)	More behavioural transitions, more pushing and pecking push door (with US behind it) compared to control situations. More alert head movements in control situations compared to the US-treatments
Makowska & Weary 2016	Rat	A 5 min Banana	28 behaviours	Higher frequency of behaviours in rats housed in standard compared to semi-naturalistic conditions. Rats from standard conditions showed more active behaviours (D) while rats house in semi-naturalistic conditions showed more passive behaviours (D)
van der Harst *et al* 2003b	Rat	A+V 10 min Sucrose	23 behaviours (F)	Increase in behavioural transitions (F)
van der Harst *et al* 2003a	Rat	A 10 min Enriched cage, sexual contact	32/22 behaviours (D+F)	More activity (measured by frequency of behavioural transitions). More arousal (F), locomotion (F) and exploring (F)
van der Harst *et al* 2005	Rat	not specified 10 min	Not specified	Increase in behavioural transitions (F)

		Sucrose, enriched cage		
van den Berg *et al* 1999	Rat	A+V 20/5min Social play, sucrose, social behaviour	Hyperactivity (behavioural changes/5 s)	More hyperactivity for social play and sucrose. More hyperactivity for social behaviour but only in isolated rats
von Frijtag *et al* 2002	Rat	A+V 10 min Sucrose	14 behaviours (F)	Increase in behavioural transitions (F)
van den Bos *et al* 2003	Rat	A 3 min Sweet pellets + salmon/dry cat food	18 (rat) and 33 (cat) behaviours (F)	Rats: Increase in behavioural transitions (F)., Cats: Decrease in behavioural transitions (F)
Spangenberg & Wichman 2018	Mouse	Moved to a start box 60 s Enriched arena	16 behaviours	More behavioural transitions (F) and more sniffing on the door to the arena
Clegg *et al* 2018	Dolphin	A 5 min Toys, HAI	Surface-looking and spy-hopping	More (D) anticipatory behaviour (surface-looking and spy-hopping combined) prior to both US compared to a control situation (CS but no US). More anticipatory behaviour for Human-animal interaction than for toys
	Dolphin	A+V		

Jensen *et al* 2013		30 min Performing in a show	Spy-hopping, logging, looking, porpoising, time at surface	More time spent at surface before show vs. after show. More logging (D), looking (F+D) and spy-hopping (D) before show vs. after show
Krebs *et al* 2017	Gorilla & Red panda	A 4 min HAI	20/14 behaviours respectively (D+F)	Gorilla: Increase in holding mesh (F+D), increase in looking at human and camera(both bout duration) and human (D) in the later sessions compared to early. Red Panda: Increase in trotting (F) and walking (F), reduced behaviour look around (D) in the later sessions compared to early
Moe *et al* 2006	Silver fox	A 10 min Salmon + varied US (unpredictable US)	Four behavioural categories	Increase in activity, whereof which some were stereotypic behaviours. Orienting toward where US would be presented

Abbreviations: A = Acoustic CS, V = Visual CS, F = Frequency, D = Duration, % = Percentage of the observation period, HR = Heart rate, HRV = Heart rate variability, HAI = Human-animal interaction, [1] = Delay conditioning, i.e. anticipatory behaviours observed during CS presentation. For full descriptions of behaviours, see original references.