Combined SHIRPA and Dysmorphology BC MLA_CSD_003

Purpose

SHIRPA and dysmorphology were originally always separate assessments. However they have recently been combined as assessments, so that they take place at the same time.

The purpose of the assessments is to examine mice for obvious physical characteristics, behaviors and morphological abnormalities.

Descriptions include abnormal locomotion/appearance/behavior/reflex reactions.

Experimental Design

- **Minimum number of animals :** 7M + 7F
- **Age at test:** Week 52
- **Sex:** We would expect the results of this test to show sexual dimorphism

Equipment

- Viewing Jar
- SHIRPA arena
- Grid above arena
- Click Box
- Geotaxis grid
- Tube for contact righting
- Photo and/or video camera

Procedure

1. Allow the mice to acclimatise to the phenotyping room for a period of 30 minutes prior to testing.
2. Throughout the test note any vocalisation, aggression, salivation or unexpected behaviours.
3. During this test, note any unexpected dysmorphological characteristics (morphological irregularities are recorded by video sequences or photos).
4. Place the mouse in a clear cylinder over a wire grid and observe for activity and tremors.
5. Transfer the mouse out of the cylinder by removing the metal plate/grid whilst positioning 30cm over an arena and record the transfer arousal.

6. Record the number of 10cm^2 squares the mouse moves into in the first 30 seconds in the arena (locomotor activity).
7. Allow the mouse to move freely around the arena whilst being observed for gait and tail elevation.
8. Hold the click box approximately 30cm above the arena and press the button, record the response of the mouse.
9. Pick up the mouse by the tail and observe for limp grasping and trunk curl. Trunk curl must only be recorded if the mouse curls forward without twisting its body, bending to one side is not scored as a trunk curl.
10. Place the mouse in a small transparent tube. Turn the tube quickly so the mouse is fully upside down and record if the mouse rights itself.
11. Record any vocalisation and/or aggression which were observed throughout the entire test

Notes

1. If wiping down with ethanol prior to the use of equipment, make sure no ethanol residue remains as the ethanol may affect the behaviour of the animals.
2. The validity of results obtained from behavioural phenotyping is largely dependent on methods of animal husbandry. It is important that individuals following this procedure are experienced and aware of the animal's welfare, and is familiar with the animal being tested, in order to reduce the anxiety levels of the animal prior to testing.
3. The majority of mouse behavioural studies are age/sex/strain dependent. It is important to keep these parameters comparable throughout a single experiment.
4. Environmental factors may contribute to the levels of anxiety within the mouse. The temperature, humidity, ventilation, noise intensity and light intensity must be maintained at levels appropriate for mice. It is essential that the mice be kept in a uniform environment before and after testing to avoid anomalous results being obtained.
5. It is recommended that all phenotyping experimentation is conducted at approximately the same time of day because physiological and biochemical parameters change throughout the day.
6. When a number of mice are tested continuously, residual odours from the equipment used in the preceding test may affect the test results. The floor and walls of the arena, ruler, and metal net should be wiped clean before introducing the next mouse. To prevent infection, the equipment should be washed with water at the completion of the day's tests. Some specific pathogen-free facilities use ultraviolet irradiation when tests are not being performed. Care needs to be taken, however, to ensure that ultraviolet irradiation does not crack any acrylate equipment covered with residual alcohol.

Parameters and Metadata

Aggression BCMLA_CSD_079_001 | v1.0

simpleParameter

Req. Analysis: false **Req. Upload:** true **Is Annotated:** true

Options: As expected, Excessive aggression,

Vibrissae - presence BCMLA_CSD_023_001 | v1.0

simpleParameter

Req. Analysis: false **Req. Upload:** true **Is Annotated:** true

Options: As expected, Not as expected,

Skin color - tail BCMLA_CSD_061_001 | v1.0

simpleParameter

Req. Analysis: false **Req. Upload:** true **Is Annotated:** true

Options: Not as expected, As expected, No data,

Lower teeth appearance BCMLA_CSD_070_001 | v1.0

simpleParameter

Req. Analysis: false **Req. Upload:** true **Is Annotated:** true

Options: As expected, Not as expected, No data,

Experimenter ID BCMLA_CSD_081_001 | v1.0

procedureMetadata

Req. Analysis: false **Req. Upload:** true **Is Annotated:** false

---

Tremor BCMLA_CSD_030_001 | v1.0

simpleParameter

Req. Analysis: false **Req. Upload:** true **Is Annotated:** true

Options: Absent, Present,

Hindlimbs - shape BCMLA_CSD_021_001 | v1.1

simpleParameter

Req. Analysis: false **Req. Upload:** true **Is Annotated:** true

Options: Both hindlimbs - not as expected, As expected,
One hindlimb only - not as expected,

Hindlimb nail - shape BCMLA_CSD_055_002 | v2.0

simpleParameter

Req. Analysis: false **Req. Upload:** true **Is Annotated:** true

Options: One hindlimb - not as expected, No data, Both hindlimbs - not as expected, As expected,

---

Tail - thickness BCMLA_CSD_003_001 | v1.1

simpleParameter

Req. Analysis: false **Req. Upload:** true **Is Annotated:** true

Options: No data, As expected, Decreased, Increased,

Skin color - snout BCMLA_CSD_057_001 | v1.0

simpleParameter

Req. Analysis: false **Req. Upload:** true **Is Annotated:** true

Options: Not as expected, As expected,

Coat - color - back BCMLA_CSD_005_001 | v1.0

simpleParameter

Req. Analysis: false **Req. Upload:** true **Is Annotated:** true

Options: As expected, No data, Not as expected,

Tail - presence BCMLA_CSD_001_001 | v1.1

simpleParameter

Req. Analysis: false **Req. Upload:** true **Is Annotated:** true

Options: Present, Absent,

Coat - color pattern - back BCMLA_CSD_008_001 | v1.0

simpleParameter

Req. Analysis: false **Req. Upload:** true **Is Annotated:** true

Options: As expected, Not as expected, No data,

Skin color - whole body BCMLA_CSD_056_001 | v1.0

simpleParameter

Req. Analysis: false **Req. Upload:** true **Is Annotated:** true

Options: Not as expected, As expected,

Skin texture - tail BCMLA_CSD_067_001 | v1.0

simpleParameter

Req. Analysis: false **Req. Upload:** true **Is Annotated:** true

Options: No data, As expected, Not as expected,

Upper teeth appearance BCMLA_CSD_069_001 | v1.0

simpleParameter

Req. Analysis: false **Req. Upload:** true **Is Annotated:** true

Options: No data, As expected, Not as expected,

Head bobbing BCMLA_CSD_080_001 | v1.0

simpleParameter

Req. Analysis: false **Req. Upload:** true **Is Annotated:** true

Options: Absent, Present,

Snout size BCMLA_CSD_028_001 | v1.0

simpleParameter

Req. Analysis: false **Req. Upload:** true **Is Annotated:** true

Options: As expected, Decreased, Increased,

Forepaw - size BCMLA_CSD_040_002 | v2.0

simpleParameter

Req. Analysis: false **Req. Upload:** true **Is Annotated:** true

Options: Both forepaws - increased, As expected, Both forepaws - decreased, One forepaw - increased, One forepaw - decreased,

---

Genitalia - presence BCMLA_CSD_071_001 | v1.1

simpleParameter

Req. Analysis: false **Req. Upload:** true **Is Annotated:** true

Options: As expected, Absent,

Coat - hair distribution - abdomen BCMLA_CSD_013_001 | v1.0

simpleParameter

Req. Analysis: false **Req. Upload:** true **Is Annotated:** true

Options: As expected, Not as expected,

Contact righting BCMLA_CSD_077_001 | v1.0

simpleParameter

Req. Analysis: false **Req. Upload:** true **Is Annotated:** true

Options: Present, No data, Absent,

Startle response BCMLA_CSD_036_001 | v1.1

simpleParameter

Req. Analysis: false **Req. Upload:** false **Is Annotated:** true

Options: None, No data, Present,

Number of days since cage changed BCMLA_CSD_084_001 | v1.1

procedureMetadata

Req. Analysis: false **Req. Upload:** false **Is Annotated:** false

---

Forelimbs - position BCMLA_CSD_017_001 | v1.0

simpleParameter

Req. Analysis: false **Req. Upload:** true **Is Annotated:** true

Options: One forelimb only - not as expected, Both forelimbs - not as expected, As expected,

---

Number of animals in cage BCMLA_CSD_083_001 | v1.2

procedureMetadata

Req. Analysis: false **Req. Upload:** true **Is Annotated:** false

---

Forelimb nail - number BCMLA_CSD_050_002 | v2.0

simpleParameter

Req. Analysis: false **Req. Upload:** true **Is Annotated:** true

Options: As expected, Both forelimbs - decreased number,
Both forelimbs - increased number, No data, One forelimb - decreased number,
One forelimb - increased number,

Coat - color - head BCMLA_CSD_006_001 | v1.0

simpleParameter

Req. Analysis: false **Req. Upload:** true **Is Annotated:** true

Options: Not as expected, No data, As expected,

Genitalia - size BCMLA_CSD_072_001 | v1.1

simpleParameter

Req. Analysis: false **Req. Upload:** true **Is Annotated:** true

Options: Not as expected, As expected, No data,

Hindlimb digit - shape BCMLA_CSD_049_002 | v2.0

simpleParameter

Req. Analysis: false **Req. Upload:** true **Is Annotated:** true

Options: Both hindlimbs - not as expected, As expected, One hindlimb - not as expected,

---

Coat - color pattern - head BCMLA_CSD_009_001 | v1.0

simpleParameter

Req. Analysis: false **Req. Upload:** true **Is Annotated:** true

Options: As expected, No data, Not as expected,

Skin texture - ear BCMLA_CSD_064_001 | v1.0

simpleParameter

Req. Analysis: false **Req. Upload:** true **Is Annotated:** true

Options: As expected, Not as expected,

Unexpected behaviors BCMLA_CSD_037_001 | v1.0

simpleParameter

Req. Analysis: false **Req. Upload:** true **Is Annotated:** true

Options: Other, Circling, Retropulsion, Jumping, None,

Skin texture - back paws BCMLA_CSD_066_001 | v1.0

simpleParameter

Req. Analysis: false **Req. Upload:** true **Is Annotated:** true

Options: Not as expected, As expected,

Skin color - ear BCMLA_CSD_058_001 | v1.0

simpleParameter

Req. Analysis: false **Req. Upload:** true **Is Annotated:** true

Options: As expected, Not as expected,

Coat - color pattern - abdomen BCMLA_CSD_010_001 | v1.0

simpleParameter

Req. Analysis: false **Req. Upload:** true **Is Annotated:** true

Options: No data, Not as expected, As expected,

Mouth morphology BCMLA_CSD_074_001 | v1.0

simpleParameter

Req. Analysis: false **Req. Upload:** true **Is Annotated:** true

Options: Not as expected, As expected,

Forelimb digit - shape BCMLA_CSD_048_002 | v2.0

simpleParameter

Req. Analysis: false **Req. Upload:** true **Is Annotated:** true

Options: As expected, Both forelimbs - not as expected, One forelimb - not as expected,

---

Coat - hair distribution - back BCMLA_CSD_011_001 | v1.0

simpleParameter

Req. Analysis: false **Req. Upload:** true **Is Annotated:** true

Options: Not as expected, As expected,

Forelimb nail - shape BCMLA_CSD_054_002 | v2.0

simpleParameter

Req. Analysis: false **Req. Upload:** true **Is Annotated:** true

Options: One forelimb - not as expected, As expected, Both forelimbs - not as expected, No data,

---

Comments (in English) BCMLA_CSD_087_001 | v1.2

simpleParameter

Req. Analysis: false **Req. Upload:** false **Is Annotated:** false

---

Hindpaw - shape BCMLA_CSD_043_002 | v2.0

simpleParameter

Req. Analysis: false **Req. Upload:** true **Is Annotated:** true

Options: Both hindpaws - not as expected, One hindpaw - not as expected, As expected,

---

Size of squares in arena BCMLA_CSD_086_001 | v1.0

procedureMetadata

Req. Analysis: true **Req. Upload:** true **Is Annotated:** false

Unit Measured: cm^2

Forelimb digit - size BCMLA_CSD_046_001 | v1.1

simpleParameter

Req. Analysis: false **Req. Upload:** true **Is Annotated:** true

Options: Both forelimbs - fused, Both forelimbs - decreased size, One forelimb - fused, One forelimb - increased size, Both forelimbs - increased size, As expected, One forelimb - decreased size,

---

Hindlimb nail - length BCMLA_CSD_053_002 | v2.0

simpleParameter

Req. Analysis: false **Req. Upload:** true **Is Annotated:** true

Options: One hindlimb - increased length, Both hindlimbs - decreased length, One hindlimb - decreased length, No data, As expected, Both hindlimbs - increased length,

---

Ears BCMLA_CSD_027_001 | v1.0

simpleParameter

Req. Analysis: false **Req. Upload:** true **Is Annotated:** true

Options: Not as expected, As expected,

Forelimbs - shape BCMLA_CSD_018_001 | v1.0

simpleParameter

Req. Analysis: false **Req. Upload:** true **Is Annotated:** true

Options: As expected, Both forelimbs - not as expected, One forelimb only - not as expected,

---

Hindlimb digit - number BCMLA_CSD_045_002 | v2.0

simpleParameter

Req. Analysis: false **Req. Upload:** true **Is Annotated:** true

Options: One hindlimb - increased number, As expected,
Both hindlimbs - decreased number, Both hindlimbs - increased number,
One hindlimb - decreased number,

Coat - color - abdomen BCMLA_CSD_007_001 | v1.0

simpleParameter

Req. Analysis: false **Req. Upload:** true **Is Annotated:** true

Options: No data, As expected, Not as expected,

Coat - hair distribution - head BCMLA_CSD_012_001 | v1.0

simpleParameter

Req. Analysis: false **Req. Upload:** true **Is Annotated:** true

Options: As expected, Not as expected,

Skin texture - front paws BCMLA_CSD_065_001 | v1.0

simpleParameter

Req. Analysis: false **Req. Upload:** true **Is Annotated:** true

Options: Not as expected, As expected,

Hindpaw - size BCMLA_CSD_041_002 | v2.0

simpleParameter

Req. Analysis: false **Req. Upload:** true **Is Annotated:** true

Options: One hindpaw - decreased, One hindpaw - increased, Both hindpaws - increased, Both hindpaws - decreased, As expected,

---

Hindlimbs - size BCMLA_CSD_022_001 | v1.1

simpleParameter

Req. Analysis: false **Req. Upload:** true **Is Annotated:** true

Options: Both hindlimbs - increased, As expected, One hindlimb only - decreased, One hindlimb only - increased, Both hindlimbs - decreased,

---

Genitalia - morphology BCMLA_CSD_073_001 | v1.1

simpleParameter

Req. Analysis: false **Req. Upload:** true **Is Annotated:** true

Options: As expected, No data, Not as expected,

Gait BCMLA_CSD_033_001 | v1.0

simpleParameter

Req. Analysis: false **Req. Upload:** true **Is Annotated:** true

Options: Lack of fluidity in movement, Fluid movement,

Hindlimb digit - size BCMLA_CSD_047_001 | v1.2

simpleParameter

Req. Analysis: false **Req. Upload:** true **Is Annotated:** true

Options: One hindlimb - decreased size, Both hindlimbs - increased size, One hindlimb - increased size, Both hindlimbs - decreased size, One hindlimb - fused, Both hindlimbs - fused, As expected,

---

Coat - hair texture / appearance - abdomen BCMLA_CSD_016_001 | v1.0

simpleParameter

Req. Analysis: false **Req. Upload:** true **Is Annotated:** true

Options: As expected, No data, Not as expected,

Tail - length BCMLA_CSD_002_001 | v1.1

simpleParameter

Req. Analysis: false **Req. Upload:** true **Is Annotated:** true

Options: No data, As expected, Short, Long,

Tail - morphology BCMLA_CSD_004_001 | v1.1

simpleParameter

Req. Analysis: false **Req. Upload:** true **Is Annotated:** true

Options: As expected, Not as expected, No data,

Teeth presence BCMLA_CSD_068_001 | v1.0

simpleParameter

Req. Analysis: false **Req. Upload:** true **Is Annotated:** true

Options: Not as expected, As expected,

Skin texture - snout BCMLA_CSD_063_001 | v1.0

simpleParameter

Req. Analysis: false **Req. Upload:** true **Is Annotated:** true

Options: As expected, Not as expected,

Skin texture - whole body BCMLA_CSD_062_001 | v1.0

simpleParameter

Req. Analysis: false **Req. Upload:** true **Is Annotated:** true

Options: Not as expected, As expected,

Locomotor activity BCMLA_CSD_032_001 | v1.2

simpleParameter

Req. Analysis: false **Req. Upload:** true **Is Annotated:** true

Unit Measured: Squares crossed

Head size BCMLA_CSD_025_001 | v1.0

simpleParameter

Req. Analysis: false **Req. Upload:** true **Is Annotated:** true

Options: Increased, Decreased, As expected,

Coat - hair texture / appearance - head BCMLA_CSD_015_001 | v1.0

simpleParameter

Req. Analysis: false **Req. Upload:** true **Is Annotated:** true

Options: Not as expected, As expected, No data,

Forelimbs - size BCMLA_CSD_019_001 | v1.0

simpleParameter

Req. Analysis: false **Req. Upload:** true **Is Annotated:** true

Options: As expected, Both forelimbs - increased, One forelimb only - increased, Both forelimbs - decreased, One forelimb only - decreased,

---

Vibrissae - appearance BCMLA_CSD_024_001 | v1.0

simpleParameter

Req. Analysis: false **Req. Upload:** true **Is Annotated:** true

Options: Not as expected, As expected, No data,

Hindlimbs - position BCMLA_CSD_020_001 | v1.1

simpleParameter

Req. Analysis: false **Req. Upload:** true **Is Annotated:** true

Options: As expected, Both hindlimbs - not as expected,
One hindlimb only - not as expected,

Lower lip morphology BCMLA_CSD_076_001 | v1.0

simpleParameter

Req. Analysis: false **Req. Upload:** true **Is Annotated:** true

Options: Not as expected, As expected,

Head morphology BCMLA_CSD_026_001 | v1.0

simpleParameter

Req. Analysis: false **Req. Upload:** true **Is Annotated:** true

Options: As expected, Not as expected,

Upper lip morphology BCMLA_CSD_075_001 | v1.0

simpleParameter

Req. Analysis: false **Req. Upload:** true **Is Annotated:** true

Options: As expected, Not as expected,

Forelimb nail - length BCMLA_CSD_052_002 | v2.0

simpleParameter

Req. Analysis: false **Req. Upload:** true **Is Annotated:** true

Options: One forelimb - increased length, Both forelimbs - increased length, No data, One forelimb - decreased length, Both forelimbs - decreased length, As expected,

---

Skin color - front paws BCMLA_CSD_059_001 | v1.0

simpleParameter

Req. Analysis: false **Req. Upload:** true **Is Annotated:** true

Options: As expected, Not as expected,

Forelimb digit - number BCMLA_CSD_044_002 | v2.0

simpleParameter

Req. Analysis: false **Req. Upload:** true **Is Annotated:** true

Options: Both forelimbs - decreased number, One forelimb - increased number, Both forelimbs - increased number, One forelimb - decreased number, As expected,

---

Transfer arousal BCMLA_CSD_031_001 | v1.2

simpleParameter

Req. Analysis: false **Req. Upload:** false **Is Annotated:** false

Options: As expected, Immediate movement, Extended freeze,

Hindlimb nail - number BCMLA_CSD_051_002 | v2.0

simpleParameter

Req. Analysis: false **Req. Upload:** true **Is Annotated:** true

Options: As expected, No data, Both hindlimbs - decreased number, One hindlimb - increased number, Both hindlimbs - increased number, One hindlimb - decreased number,

---

Coat - hair texture / appearance - back BCMLA_CSD_014_001 | v1.0

simpleParameter

Req. Analysis: false **Req. Upload:** true **Is Annotated:** true

Options: As expected, No data, Not as expected,

Skin color - back paws BCMLA_CSD_060_001 | v1.0

simpleParameter

Req. Analysis: false **Req. Upload:** true **Is Annotated:** true

Options: As expected, Not as expected,

Images BCMLA_CSD_085_001 | v1.1

seriesMediaParameter

Req. Analysis: false **Req. Upload:** false **Is Annotated:** false

---

Forepaw - shape BCMLA_CSD_042_002 | v2.0

simpleParameter

Req. Analysis: false **Req. Upload:** true **Is Annotated:** true

Options: One forepaw - not as expected, As expected, Both forepaws - not as expected,

---

Location of test BCMLA_CSD_082_001 | v1.1

procedureMetadata

Req. Analysis: false **Req. Upload:** true **Is Annotated:** false

Options: Open bench, LAF cabinet,

Activity (body position) BCMLA_CSD_029_001 | v1.0

simpleParameter

Req. Analysis: false **Req. Upload:** true **Is Annotated:** true

Options: Inactive, Increased activity, As expected,

Trunk curl BCMLA_CSD_038_001 | v1.0

simpleParameter

Req. Analysis: false **Req. Upload:** true **Is Annotated:** true

Options: Absent, No data, Present,

Tail elevation BCMLA_CSD_034_001 | v1.2

simpleParameter

Req. Analysis: false **Req. Upload:** false **Is Annotated:** false

Options: Dragging, As expected, No data, Straub / elevated tail,

---

Limb grasp BCMLA_CSD_039_001 | v1.0

simpleParameter

Req. Analysis: false **Req. Upload:** true **Is Annotated:** true

Options: Present, Absent, No data,

Vocalization BCMLA_CSD_078_001 | v1.0

simpleParameter

Req. Analysis: false **Req. Upload:** true **Is Annotated:** true

Options: Not as expected, As expected,
