Combined SHIRPA and Dysmorphology UC DIP_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 26
- **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

Mouth morphology UCDIP_CSD_074_001 | v1.0

simpleParameter

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

Options: Not as expected, As expected,

Hindlimb digit - number UCDIP_CSD_045_002 | v2.0

simpleParameter

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

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

Tremor UCDIP_CSD_030_001 | v1.0

simpleParameter

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

Options: Present, Absent,

Skin color - ear UCDIP_CSD_058_001 | v1.0

simpleParameter

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

Options: Not as expected, As expected,

Coat - color pattern - back UCDIP_CSD_008_001 | v1.0

simpleParameter

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

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

Coat - color - abdomen UCDIP_CSD_007_001 | v1.0

simpleParameter

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

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

Upper lip morphology UCDIP_CSD_075_001 | v1.0

simpleParameter

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

Options: As expected, Not as expected,

Forelimb nail - length UCDIP_CSD_052_002 | v2.0

simpleParameter

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

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

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Vibrissae - appearance UCDIP_CSD_024_001 | v1.0

simpleParameter

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

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

Hindpaw - shape UCDIP_CSD_043_002 | v2.0

simpleParameter

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

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

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Contact righting UCDIP_CSD_077_001 | v1.0

simpleParameter

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

Options: No data, Absent, Present,

Forelimb digit - size UCDIP_CSD_046_001 | v1.1

simpleParameter

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

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

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Forepaw - size UCDIP_CSD_040_002 | v2.0

simpleParameter

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

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

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Forepaw - shape UCDIP_CSD_042_002 | v2.0

simpleParameter

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

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

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Limb grasp UCDIP_CSD_039_001 | v1.0

simpleParameter

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

Options: Absent, No data, Present,

Coat - hair distribution - abdomen UCDIP_CSD_013_001 | v1.0

simpleParameter

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

Options: Not as expected, As expected,

Skin color - front paws UCDIP_CSD_059_001 | v1.0

simpleParameter

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

Options: As expected, Not as expected,

Skin color - tail UCDIP_CSD_061_001 | v1.0

simpleParameter

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

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

Skin texture - tail UCDIP_CSD_067_001 | v1.0

simpleParameter

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

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

Coat - hair texture / appearance - abdomen UCDIP_CSD_016_001 | v1.0

simpleParameter

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

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

Forelimbs - size UCDIP_CSD_019_001 | v1.0

simpleParameter

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

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

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Gait UCDIP_CSD_033_001 | v1.0

simpleParameter

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

Options: Fluid movement, Lack of fluidity in movement,

Vibrissae - presence UCDIP_CSD_023_001 | v1.0

simpleParameter

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

Options: As expected, Not as expected,

Location of test UCDIP_CSD_082_001 | v1.1

procedureMetadata

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

Options: LAF cabinet, Open bench,

Number of animals in cage UCDIP_CSD_083_001 | v1.2

procedureMetadata

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

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Hindlimbs - size UCDIP_CSD_022_001 | v1.1

simpleParameter

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

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

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Skin texture - front paws UCDIP_CSD_065_001 | v1.0

simpleParameter

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

Options: As expected, Not as expected,

Head size UCDIP_CSD_025_001 | v1.0

simpleParameter

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

Options: Decreased, Increased, As expected,

Hindlimbs - position UCDIP_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,

Coat - hair texture / appearance - back UCDIP_CSD_014_001 | v1.0

simpleParameter

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

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

Skin texture - back paws UCDIP_CSD_066_001 | v1.0

simpleParameter

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

Options: As expected, Not as expected,

Tail elevation UCDIP_CSD_034_001 | v1.2

simpleParameter

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

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

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Hindlimb nail - shape UCDIP_CSD_055_002 | v2.0

simpleParameter

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

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

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Hindlimbs - shape UCDIP_CSD_021_001 | v1.1

simpleParameter

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

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

Coat - color pattern - head UCDIP_CSD_009_001 | v1.0

simpleParameter

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

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

Forelimbs - position UCDIP_CSD_017_001 | v1.0

simpleParameter

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

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

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Coat - color - back UCDIP_CSD_005_001 | v1.0

simpleParameter

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

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

Size of squares in arena UCDIP_CSD_086_001 | v1.0

procedureMetadata

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

Unit Measured: cm^2

Transfer arousal UCDIP_CSD_031_001 | v1.2

simpleParameter

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

Options: Immediate movement, As expected, Extended freeze,

Genitalia - presence UCDIP_CSD_071_001 | v1.1

simpleParameter

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

Options: Absent, As expected,

Hindlimb digit - size UCDIP_CSD_047_001 | v1.2

simpleParameter

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

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

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Skin texture - snout UCDIP_CSD_063_001 | v1.0

simpleParameter

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

Options: Not as expected, As expected,

Coat - hair distribution - head UCDIP_CSD_012_001 | v1.0

simpleParameter

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

Options: As expected, Not as expected,

Forelimb nail - shape UCDIP_CSD_054_002 | v2.0

simpleParameter

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

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

Both forelimbs - not as expected,

Trunk curl UCDIP_CSD_038_001 | v1.0

simpleParameter

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

Options: Present, No data, Absent,

Hindpaw - size UCDIP_CSD_041_002 | v2.0

simpleParameter

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

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

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Skin color - whole body UCDIP_CSD_056_001 | v1.0

simpleParameter

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

Options: As expected, Not as expected,

Tail - length UCDIP_CSD_002_001 | v1.1

simpleParameter

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

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

Forelimb digit - shape UCDIP_CSD_048_002 | v2.0

simpleParameter

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

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

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Head bobbing UCDIP_CSD_080_001 | v1.0

simpleParameter

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

Options: Present, Absent,

Locomotor activity UCDIP_CSD_032_001 | v1.2

simpleParameter

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

Unit Measured: Squares crossed

Teeth presence UCDIP_CSD_068_001 | v1.0

simpleParameter

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

Options: Not as expected, As expected,

Forelimb digit - number UCDIP_CSD_044_002 | v2.0

simpleParameter

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

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

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Lower lip morphology UCDIP_CSD_076_001 | v1.0

simpleParameter

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

Options: Not as expected, As expected,

Lower teeth appearance UCDIP_CSD_070_001 | v1.0

simpleParameter

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

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

Number of days since cage changed UCDIP_CSD_084_001 | v1.1

procedureMetadata

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

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Tail - presence UCDIP_CSD_001_001 | v1.1

simpleParameter

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

Options: Present, Absent,

Unexpected behaviors UCDIP_CSD_037_001 | v1.0

simpleParameter

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

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

Experimenter ID UCDIP_CSD_081_001 | v1.0

procedureMetadata

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

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Images UCDIP_CSD_085_001 | v1.1

seriesMediaParameter

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

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Coat - hair texture / appearance - head UCDIP_CSD_015_001 | v1.0

simpleParameter

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

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

Head morphology UCDIP_CSD_026_001 | v1.0

simpleParameter

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

Options: Not as expected, As expected,

Vocalization UCDIP_CSD_078_001 | v1.0

simpleParameter

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

Options: Not as expected, As expected,

Coat - hair distribution - back UCDIP_CSD_011_001 | v1.0

simpleParameter

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

Options: As expected, Not as expected,

Skin texture - ear UCDIP_CSD_064_001 | v1.0

simpleParameter

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

Options: Not as expected, As expected,

Upper teeth appearance UCDIP_CSD_069_001 | v1.0

simpleParameter

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

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

Tail - morphology UCDIP_CSD_004_001 | v1.1

simpleParameter

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

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

Hindlimb digit - shape UCDIP_CSD_049_002 | v2.0

simpleParameter

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

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

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Hindlimb nail - number UCDIP_CSD_051_002 | v2.0

simpleParameter

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

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

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Genitalia - size UCDIP_CSD_072_001 | v1.1

simpleParameter

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

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

Ears UCDIP_CSD_027_001 | v1.0

simpleParameter

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

Options: Not as expected, As expected,

Skin texture - whole body UCDIP_CSD_062_001 | v1.0

simpleParameter

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

Options: As expected, Not as expected,

Skin color - back paws UCDIP_CSD_060_001 | v1.0

simpleParameter

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

Options: Not as expected, As expected,

Genitalia - morphology UCDIP_CSD_073_001 | v1.1

simpleParameter

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

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

Forelimb nail - number UCDIP_CSD_050_002 | v2.0

simpleParameter

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

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

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Skin color - snout UCDIP_CSD_057_001 | v1.0

simpleParameter

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

Options: Not as expected, As expected,

Tail - thickness UCDIP_CSD_003_001 | v1.1

simpleParameter

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

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

Comments (in English) UCDIP_CSD_087_001 | v1.2

simpleParameter

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

Coat - color pattern - abdomen UCDIP_CSD_010_001 | v1.0

simpleParameter

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

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

Activity (body position) UCDIP_CSD_029_001 | v1.0

simpleParameter

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

Options: Inactive, As expected, Increased activity,

Coat - color - head UCDIP_CSD_006_001 | v1.0

simpleParameter

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

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

Hindlimb nail - length UCDIP_CSD_053_002 | v2.0

simpleParameter

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

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

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Startle response UCDIP_CSD_036_001 | v1.1

simpleParameter

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

Options: No data, None, Present,

Snout size UCDIP_CSD_028_001 | v1.0

simpleParameter

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

Options: As expected, Decreased, Increased,

Aggression UCDIP_CSD_079_001 | v1.0

simpleParameter

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

Options: As expected, Excessive aggression,

Forelimbs - shape UCDIP_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,

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