Combined SHIRPA and Dysmorphology KM PCIP_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

Vibrissae - presence KMPCIP_CSD_023_001 | v1.0

simpleParameter

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

Options: As expected, Not as expected,

Locomotor activity KMPCIP_CSD_032_001 | v1.2

simpleParameter

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

Unit Measured: Squares crossed

Unexpected behaviors KMPCIP_CSD_037_001 | v1.0

simpleParameter

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

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

Coat - color - back KMPCIP_CSD_005_001 | v1.0

simpleParameter

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

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

Forelimb nail - length KMPCIP_CSD_052_002 | v2.0

simpleParameter

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

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

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Tail - length KMPCIP_CSD_002_001 | v1.1

simpleParameter

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

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

Skin texture - ear KMPCIP_CSD_064_001 | v1.0

simpleParameter

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

Options: Not as expected, As expected,

Genitalia - morphology KMPCIP_CSD_073_001 | v1.1

simpleParameter

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

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

Aggression KMPCIP_CSD_079_001 | v1.0

simpleParameter

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

Options: Excessive aggression, As expected,

Tail - morphology KMPCIP_CSD_004_001 | v1.1

simpleParameter

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

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

Coat - color pattern - abdomen KMPCIP_CSD_010_001 | v1.0

simpleParameter

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

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

Skin texture - back paws KMPCIP_CSD_066_001 | v1.0

simpleParameter

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

Options: Not as expected, As expected,

Coat - color - head KMPCIP_CSD_006_001 | v1.0

simpleParameter

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

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

Head size KMPCIP_CSD_025_001 | v1.0

simpleParameter

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

Options: Increased, Decreased, As expected,

Transfer arousal KMPCIP_CSD_031_001 | v1.2

simpleParameter

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

Options: Immediate movement, As expected, Extended freeze,

Hindlimb digit - number KMPCIP_CSD_045_002 | v2.0

simpleParameter

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

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

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Limb grasp KMPCIP_CSD_039_001 | v1.0

simpleParameter

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

Options: Absent, No data, Present,

Coat - color - abdomen KMPCIP_CSD_007_001 | v1.0

simpleParameter

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

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

Skin color - tail KMPCIP_CSD_061_001 | v1.0

simpleParameter

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

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

Lower lip morphology KMPCIP_CSD_076_001 | v1.0

simpleParameter

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

Options: As expected, Not as expected,

Gait KMPCIP_CSD_033_001 | v1.0

simpleParameter

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

Options: Lack of fluidity in movement, Fluid movement,

Forelimb digit - size KMPCIP_CSD_046_001 | v1.1

simpleParameter

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

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

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Hindlimb nail - length KMPCIP_CSD_053_002 | v2.0

simpleParameter

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

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

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Genitalia - size KMPCIP_CSD_072_001 | v1.1

simpleParameter

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

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

Forelimb digit - shape KMPCIP_CSD_048_002 | v2.0

simpleParameter

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

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

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Skin texture - snout KMPCIP_CSD_063_001 | v1.0

simpleParameter

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

Options: Not as expected, As expected,

Experimenter ID KMPCIP_CSD_081_001 | v1.0

procedureMetadata

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

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Skin color - ear KMPCIP_CSD_058_001 | v1.0

simpleParameter

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

Options: Not as expected, As expected,

Hindlimbs - size KMPCIP_CSD_022_001 | v1.1

simpleParameter

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

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

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Hindlimbs - position KMPCIP_CSD_020_001 | v1.1

simpleParameter

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

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

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Activity (body position) KMPCIP_CSD_029_001 | v1.0

simpleParameter

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

Options: Increased activity, Inactive, As expected,

Lower teeth appearance KMPCIP_CSD_070_001 | v1.0

simpleParameter

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

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

Upper lip morphology KMPCIP_CSD_075_001 | v1.0

simpleParameter

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

Options: As expected, Not as expected,

Skin texture - tail KMPCIP_CSD_067_001 | v1.0

simpleParameter

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

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

Contact righting KMPCIP_CSD_077_001 | v1.0

simpleParameter

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

Options: Present, Absent, No data,

Snout size KMPCIP_CSD_028_001 | v1.0

simpleParameter

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

Options: Decreased, Increased, As expected,

Forelimb digit - number KMPCIP_CSD_044_002 | v2.0

simpleParameter

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

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

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Coat - color pattern - back KMPCIP_CSD_008_001 | v1.0

simpleParameter

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

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

Skin color - front paws KMPCIP_CSD_059_001 | v1.0

simpleParameter

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

Options: As expected, Not as expected,

Location of test KMPCIP_CSD_082_001 | v1.1

procedureMetadata

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

Options: Open bench, LAF cabinet,

Ears KMPCIP_CSD_027_001 | v1.0

simpleParameter

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

Options: As expected, Not as expected,

Forelimb nail - shape KMPCIP_CSD_054_002 | v2.0

simpleParameter

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

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

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Startle response KMPCIP_CSD_036_001 | v1.1

simpleParameter

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

Options: None, No data, Present,

Tail elevation KMPCIP_CSD_034_001 | v1.2

simpleParameter

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

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

Genitalia - presence KMPCIP_CSD_071_001 | v1.1

simpleParameter

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

Options: As expected, Absent,

Hindlimb nail - number KMPCIP_CSD_051_002 | v2.0

simpleParameter

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

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

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Coat - hair texture / appearance - abdomen KMPCIP_CSD_016_001 | v1.0

simpleParameter

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

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

Mouth morphology KMPCIP_CSD_074_001 | v1.0

simpleParameter

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

Options: As expected, Not as expected,

Hindpaw - shape KMPCIP_CSD_043_002 | v2.0

simpleParameter

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

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

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Size of squares in arena KMPCIP_CSD_086_001 | v1.0

procedureMetadata

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

Unit Measured: cm^2

Coat - hair texture / appearance - head KMPCIP_CSD_015_001 | v1.0

simpleParameter

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

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

Skin color - snout KMPCIP_CSD_057_001 | v1.0

simpleParameter

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

Options: Not as expected, As expected,

Number of animals in cage KMPCIP_CSD_083_001 | v1.2

procedureMetadata

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

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Hindlimb nail - shape KMPCIP_CSD_055_002 | v2.0

simpleParameter

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

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

Forepaw - shape KMPCIP_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,

Hindpaw - size KMPCIP_CSD_041_002 | v2.0

simpleParameter

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

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

Forelimbs - shape KMPCIP_CSD_018_001 | v1.0

simpleParameter

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

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

Hindlimb digit - size KMPCIP_CSD_047_001 | v1.2

simpleParameter

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

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

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Skin color - back paws KMPCIP_CSD_060_001 | v1.0

simpleParameter

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

Options: Not as expected, As expected,

Forepaw - size KMPCIP_CSD_040_002 | v2.0

simpleParameter

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

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

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Skin texture - whole body KMPCIP_CSD_062_001 | v1.0

simpleParameter

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

Options: Not as expected, As expected,

Images KMPCIP_CSD_085_001 | v1.1

seriesMediaParameter

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

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Forelimbs - position KMPCIP_CSD_017_001 | v1.0

simpleParameter

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

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

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Trunk curl KMPCIP_CSD_038_001 | v1.0

simpleParameter

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

Options: Absent, Present, No data,

Coat - hair distribution - abdomen KMPCIP_CSD_013_001 | v1.0

simpleParameter

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

Options: Not as expected, As expected,

Upper teeth appearance KMPCIP_CSD_069_001 | v1.0

simpleParameter

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

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

Comments (in English) KMPCIP_CSD_087_001 | v1.2

simpleParameter

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

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Tremor KMPCIP_CSD_030_001 | v1.0

simpleParameter

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

Options: Absent, Present,

Forelimbs - size KMPCIP_CSD_019_001 | v1.0

simpleParameter

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

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

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Vocalization KMPCIP_CSD_078_001 | v1.0

simpleParameter

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

Options: Not as expected, As expected,

Teeth presence KMPCIP_CSD_068_001 | v1.0

simpleParameter

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

Options: Not as expected, As expected,

Coat - hair distribution - head KMPCIP_CSD_012_001 | v1.0

simpleParameter

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

Options: As expected, Not as expected,

Forelimb nail - number KMPCIP_CSD_050_002 | v2.0

simpleParameter

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

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

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Head morphology KMPCIP_CSD_026_001 | v1.0

simpleParameter

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

Options: Not as expected, As expected,

Coat - hair texture / appearance - back KMPCIP_CSD_014_001 | v1.0

simpleParameter

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

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

Skin texture - front paws KMPCIP_CSD_065_001 | v1.0

simpleParameter

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

Options: Not as expected, As expected,

Hindlimbs - shape KMPCIP_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,

Tail - thickness KMPCIP_CSD_003_001 | v1.1

simpleParameter

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

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

Tail - presence KMPCIP_CSD_001_001 | v1.1

simpleParameter

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

Options: Present, Absent,

Coat - color pattern - head KMPCIP_CSD_009_001 | v1.0

simpleParameter

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

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

Coat - hair distribution - back KMPCIP_CSD_011_001 | v1.0

simpleParameter

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

Options: As expected, Not as expected,

Hindlimb digit - shape KMPCIP_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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Number of days since cage changed KMPCIP_CSD_084_001 | v1.1

procedureMetadata

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

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Head bobbing KMPCIP_CSD_080_001 | v1.0

simpleParameter

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

Options: Present, Absent,

Vibrissae - appearance KMPCIP_CSD_024_001 | v1.0

simpleParameter

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

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

Skin color - whole body KMPCIP_CSD_056_001 | v1.0

simpleParameter

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

Options: Not as expected, As expected,
