Supplemental Online Materials
for
The action-dynamics of dark creativity

Pilot study

As a starting point for our item pool, we used the validated stimuli of a previous study with a similar setup (Reis et al; Under Revision). This pool consisted of 20 objects with two uses each (creative and traditional). As the creative uses within this pool were mainly neutral creative, we further generated a dedicatedly positive and negative creative use for each object. To keep all conditions (traditional, positive creative, negative creative) as similar as possible, we focused on uses with a similar number of letters. Subsequently, we conducted a preliminary study for which we recruited ten individuals via Prolific. They were asked to rate the creativity and the valence of the possible uses for each item. In each trial, we presented one item use combination and participants indicated their response by moving two visual sliders going from "Very traditional" to "Very creative" (creativity ratings) and from "Very negative" to "Very positive" (valence ratings), respectively. These responses were scaled from 0 to 100. In line with the main study, objects appeared as images and uses were shown as text. Each object was presented three times, once in each item use condition (traditional, negative creative, positive creative), resulting in 60 trials overall. We removed all items for which the traditional use in average was rated as more creative than one of both creative uses. Furthermore, we excluded items who received lower valence ratings for the positive creative than for the negative creative use. After these exclusions, our item pool consisted of 12 objects (creativity ratings: positive creative: $M = 63.36$, $SD = 10.82$; negative creative: $M = 56.32$, $SD = 11.57$; traditional: $M = 12.57$, $SD = 5.24$; valence ratings: positive creative: $M = 56.98$, $SD = 13.17$; negative creative: $M = 36.82$, $SD = 12.96$). These uses were also highly similar regarding character number (positive creative: $M = 14.75$, $SD = 8.35$; negative

Item	Traditional use	Positive creative use	Negative creative use
books	Read	Press leaves	Squish mosquitos
bottle	Drink water	Put flowers inside	Molotow cocktail
box	Store stuff inside	Playhouse for kids	Cage puppy inside
candle	Create light	Chocolate fondue	Set someone on fire
chair	Sit down	Play muscial chairs	Tether someone up
corkscrew	Uncork a bottle	Seal a bottle	Stab someone
hat	Wear on your head	Store popcorn	Sew in a blade
pot	Heat food	Play Hit the pot	Start oil fire
shield	Take cover behind	Slide down a hill	Hit someone
spoon	Eat soup	Do an egg run	Pick a lock
table	Put stuff on top	Beer pong	Block a door
vase	Put flowers inside	Store pencils	Hide drugs inside

creative: $M = 14.67$, $SD = 6.72$; traditional: $M = 14.42$, $SD = 8.24$). Table S1 shows all objects
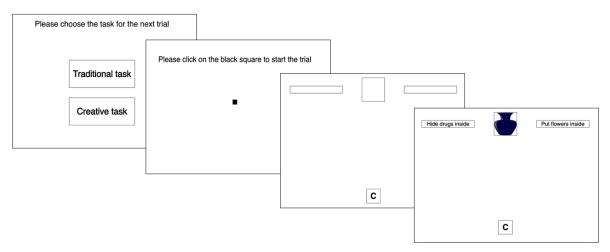
and corresponding uses for each condition.

Table S1.

Table S1. Items and uses for each condition. The pictures we used for each item are available on the OSF (https://osf.io/3pj9v/?view_only=e14a3a60c41f425e9af52b8fa1d029f1).

Table S2.

Item use	IT (ms)	MT (ms)	AUC (xu^2)
Traditional	300.14 (183.15)	774.76 (213.81)	10,324.87 (3,031.15)
Positive Creative	321.68 (203.00)	876.93 (287.27)	11,082.72 (3,505.63)
Negative Creative	322.39 (210.76)	840.12 (252.09)	11,023.42 (3,096.92)

Table S2. Means (standard deviations in brackets) of Initiation Time (IT), Movement Time (MT), and area under the curve (AUC) for each item use condition.

Fig. S1. Trial procedure. Participants decided on the task for the upcoming trial and we centered the position of the mouse cursor. Next, they should click on the home area to make the target object and both item uses appear. Finally, participants were asked to select the chosen use as fast as possible by mouse-click.
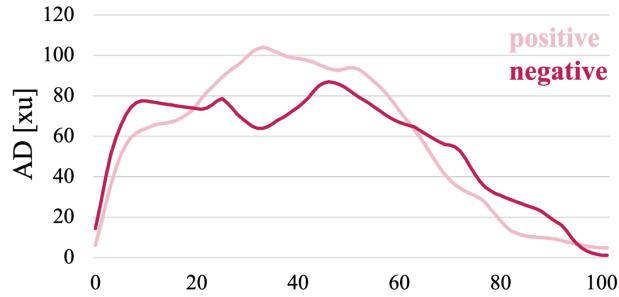

Fig. S2. The time course of negative and positive creative responses. At the beginning and at the end of the movement, the absolute deviation from the actual trajectory and a straight line from start- to endpoint of the movement (AD) is larger for negative (red [dark grey] line) than for positive (pink [light grey] line) creative selections. For

the middle section of the response, however, positive creative selections deviated more from the direct path than negative ones.