

Supplementary Information for

Magnitude-sensitive reaction times reveal non-linear time costs in multi-alternative decision-making

<i>Predictors</i>	Reaction time		
	<i>Estimates</i>	<i>CI</i>	<i>p</i>
(Intercept)	0.87	0.73 – 1.02	< 0.001
Brightness	-1.95	-2.14 – -1.75	< 0.001
Random Effects			
σ^2	0.58		
τ_{00} ID Participant	0.38		
ICC	0.39		
N ID Participant	117		
Observations	4644		
Marginal R ² / Conditional R ²	0.047 / 0.422		

Table S1 Mixed-effect regression for reaction times as a function of the brightness of the equal alternatives in the human study. Participant ID was included as a random factor. The regression was performed using R (RStudio Version 1.2.1335; function *lmer*, package *lme4*). Given the typical skewness of reaction times, the dependant variable was transformed (i.e., normalized) using the *bestNormalize* function in R. As the brightness of equal alternatives increased, reaction times significantly decreased.

Latency to reach the food			
<i>Predictors</i>	<i>Estimates</i>	<i>CI</i>	<i>p</i>
(Intercept)	1.27	0.97 – 1.56	<0.001
Food Quality	-0.03	-0.03 – -0.02	<0.001
Random Effects			
σ^2	0.65		
τ_{00} ID Plasmodium	0.03		
ICC	0.05		
$N_{ID\ Plasmodium}$	10		
Observations	200		
Marginal R^2 / Conditional R^2	0.322 / 0.353		

Table S2 Mixed-effect regression for reaction times as a function of food quality in the slime moulds study. *Sclerotia* identity was included as a random factor. The regression was performed using R (RStudio Version 1.2.1335; function *lmer*, package *lme4*). Given the typical skewness of reaction times, the dependant variable was transformed (i.e., normalized) using the *bestNormalize* function in R. As the food quality of equal alternatives increased, reaction times significantly decreased.