

Decision Influence Probability

Canonical definition and formula specification | Associated redirection indicator

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Canonical definition

Decision Influence Probability (DIP) is the posterior probability that one specified, experimentally defined factor has a larger signed effect on a prespecified measure of decision difficulty than another, by more than a declared threshold, within a defined context, conditional on the observations and the stated statistical model.

$$\text{DIP}_{A>B}(\tau; D, M, \Omega) = P(\Delta_A - \Delta_B > \tau \mid D, M, \Omega)$$

The original calculation uses $\tau = 0$; a positive τ tests a declared meaningful difference on the selected scale. This record gives the Founder-approved name and purpose a consistent research definition within Nervous System Intelligence (NSI). Empirical validity requires suitable observations and further validation.

Variables and scope

Symbol	Defined meaning
A, B	Generic labels for the two compared factors, with exact levels recorded. The benchmark cue B is separately specified in the experimental protocol.
Δ_A, Δ_B	Signed effects on the same prespecified outcome scale, averaged over a declared distribution of other task conditions.
τ	The nonnegative difference threshold, in the same units as the effects. Default $\tau = 0$ reproduces the existing calculation.
D	The recorded observations, including trials, outcomes, condition assignment, and dependence or clustering structure.
M	The statistical model, including likelihood, priors, posterior method, and dependence assumptions.
Ω	The defined context: task, outcome rule, factor levels, effect scale, and averaging weights.

DIP ranges from 0 to 1 and may be displayed as a percentage by multiplying by 100. For binary task deferral, a positive factor effect means more deferral and a negative effect means less. Neither factor must increase difficulty for one signed effect to exceed the other. Deferral remains an operational measure; intentional delay may be appropriate. Contrasts compare defined task conditions. Causal interpretation requires an identifying design and assumptions; a posterior probability alone does not establish causation.

The formula instantiated in the current calculator

For external evaluation S and material stakes C, the first subscript of p denotes evaluation and the second denotes stakes. At a fixed comparison-cue level, use the equal-weight contrasts specified in the papers:

$$\Delta_S = \frac{(p_{10} - p_{00}) + (p_{11} - p_{01})}{2} \quad \Delta_C = \frac{(p_{01} - p_{00}) + (p_{11} - p_{10})}{2}$$

$$\text{DIP}_{S>C}(0) = P(\Delta_S > \Delta_C \mid D, M, \Omega) = P(p_{10} > p_{01} \mid D, M, \Omega)$$

The equality follows from $\Delta_S - \Delta_C = p_{10} - p_{01}$. It depends on these contrast definitions and weights. The eight-condition comparison-cue experiment requires its declared marginal contrasts and a joint posterior calculation. The four-cell result does not become an eight-cell result by changing its name.

With independent binomial observations and independent Beta priors, p_{10} has posterior $\text{Beta}(a,b)$ and p_{01} has posterior $\text{Beta}(c,d)$, where posterior alpha equals prior alpha plus deferrals and posterior beta equals prior beta plus non-deferrals. For positive integer parameters and $\tau = 0$, the existing calculator uses:

$$P = \sum_{i=0}^{a-1} \frac{B(c+i, b+d)}{(b+i)B(1+i, b)B(c, d)}$$

Here $B(x,y)$ denotes the mathematical Beta function. With invented evaluation-only counts 12/20, material-only counts 6/20, and $\text{Beta}(1,1)$ priors, the posterior parameters are (13,9) and (7,15). DIP is 0.969198203331, or 96.9 percent. This is a worked mathematical example, not a result about the Founder or a study participant. It estimates a specified effect ordering, not the probability that rejection caused a particular decision.

Current workbook capacity is $\tau = 0$, whole-number trials up to 200 per condition, and common positive integer prior parameters from 1 to 20. Other thresholds, weights, factors, or dependence structures require a suitable estimator. A prior-only probability can exist mathematically; with absent observations, the workbook reports not assessable rather than presenting priors as empirical evidence.

Associated definition: Observed Redirection Proportion

Observed Redirection Proportion (ORP) is the fraction of assessable, eligible opportunities in which intentional redirection was documented under declared coding rules.

$$\text{ORP} = \frac{r}{m} \quad (m > 0), \quad \text{Evidence coverage} = \frac{m}{n} \quad (n > 0)$$

An eligible opportunity requires that intentional redirection was wanted and a safe, practical opportunity was available. Let n count eligible opportunities, m count those with adequate evidence to assess redirection, and r count documented intentional redirects among those m . Counts satisfy $0 \leq r \leq m \leq n$. Coding must establish intentional redirection, not merely outward task completion. A chosen delay or refusal may qualify when it represents the intended redirect.

$$\text{Missingness bounds} = \left[\frac{r}{n}, \frac{r+n-m}{n} \right]$$

When $m = 0$, ORP is not assessable. When $n = 0$, coverage and the bounds are not assessable. For $n > 0$ and $m = 0$, coverage is zero and the bounds are $[0,1]$. Missing observations do not become failed redirects. ORP is observed frequency of documented use, which does not establish the general ability to redirect.

Relationship to the existing constructs

Quantity or construct	What it represents
Decision Influence Probability	Posterior uncertainty about a defined comparison of factor effects.
Factor-effect share	A decomposition of one specified contrast; the fictional 75 percent allocation is not DIP or a share of all causes.
Observed Redirection Proportion	Documented intentional-redirection frequency among assessable eligible opportunities.
Navigation Quotient	The separate developmental construct of ability to intentionally redirect.
NSIQ	Individualized proximity to person-authored Desired State along the Origin-to-Desired-State trajectory.

DIP can help investigate which defined conditions make choices more difficult and whether those effects change with intentional navigation. ORP can supply observations for a future study of redirection ability. Neither calculation supplies an official Navigation Quotient or NSIQ score. An automatic response may already align with Desired State, and a conscious redirect may move away from it. [C1]

Reporting and version control

Report factors and levels, outcome rule, context, scale, weights, threshold, observations, model, priors, dependence assumptions, and uncertainty around the effect difference for DIP. For ORP, report n , m , r , eligibility, coding rules, and coverage; retain Desired State version when alignment is studied. Document changes in meaning or estimator.

Version 1.0 records the research-use definitions. Bayesian posterior comparisons and expected-utility calculations are established methods; the NSI application requires empirical testing. The author develops NSI concepts, creating an intellectual and potential commercial interest. Drafting and calculations used AI assistance. No human study or external peer review occurred.

Definition source

[C1] Nirva Life. (2026). NSI canonical definitions principles and current governance working master record. Internal Founder governance document, updated August 22, 2026, especially pages 2-3 and 7-9. Used for construct definitions only; this document is not empirical validation.