

UNITED WISDOM

Optimism, pessimism and base rates

Freedom and Action

Andrey Zarinsh & Maria Evilkut

A-06-N03 · EN

@andrey.zarinsh @ilkutki

Optimism, pessimism and base rates

Epigraph

> *“in part to our knowledge”*

Pierre Simon Laplace, A Philosophical Essay on Probabilities, chapter II, page 6: a brief fragment concerning what probability relates to. English translation by F. W. Truscott and F. L. Emory, 1902. The immediate context also includes ignorance; its historical determinism is not adopted as an established theory of all human conduct. Context.

What this article is about

Two people may equally want a good outcome while assessing its possibility differently. One recalls several successes, another a striking failure. “Optimist” and “pessimist” describe a conversation's tone without explaining whose expectation better fits available information. That requires an event, an appropriate set of cases and conditions of comparison. Even the frequency of past outcomes needs checking: where cases came from, what counted as the result and how closely they resemble the present task.

This article concerns ordinary voluntary decisions by adults, where hope can survive without becoming evidence. A base rate is the proportion of a defined outcome in a specified group of observations. It may offer an initial ground for expectation without passing judgment on an individual. We distinguish mood, an initial estimate, new information and later comparison with outcomes. The practical section measures no personality type and promises no exact probability for every life choice.

I. First define the event being expected

Imagine a fictional situation. Nikita is organising a small gathering to read stories. He hopes invited acquaintances will attend and wants to choose suitable premises. His friend warns that people often change plans. While both discuss whether the gathering will work, they may mean different events: replying to an invitation, confirming attendance, arriving on the day or enjoying the discussion. Those outcomes are related, but one does not automatically establish another.

Time and conditions also need specifying. Agreement to attend on Saturday is not availability on any day. Attending one gathering is not regular participation throughout a year. If the subject expands after every answer, a frequency ceases to refer to a defined event. Nikita can

limit his question to attendance at the first gathering under the current invitation. Other interests remain significant, but they require different observations and arrangements.

A clear event permits favourable and inconvenient cases to be counted alike. It might be agreed in advance that confirmation means the person's direct reply and attendance means actually joining on the specified day. Silence then remains an absent reply rather than hidden consent. This is no universal standard for gatherings. It is a conditional definition participants can understand and check before optimism or caution begins changing what the result means.

Some expectations cannot be measured in advance by one indicator. A good conversation involves different preferences and experiences. A limit should then be acknowledged: attendance frequency will not precisely describe everyone's enjoyment. Participation conditions can be clarified while impressions remain open. Defining an event should not impoverish life to obtain a convenient number; it shows which part of the question a number can describe and which part remains another task.

II. A base rate needs a visible denominator

“Many people come” does not yet give a frequency. We need to know how many were invited and in which set of cases attendance was counted. Several successful photographs show gatherings happened without revealing cancelled or sparsely attended occasions. Even an honest organiser may publish selected episodes. Images can introduce the format, but they do not themselves constitute the complete series needed to estimate a proportion of outcomes.

Take an illustrative exercise with invented numbers: twenty invitations and ten attendances. The ratio becomes intelligible only after its unit is defined. Are these twenty different people or twenty messages to five people? Were repeated invitations counted separately? Was every recipient free that day? We have measured nothing in the real world. The example shows how a simple fraction can answer different questions depending on how the list was made.

For Nikita's present choice, direct confirmations may be more useful than an average across all earlier events. History can still provide context: how often confirmations matched attendance under similar conditions. Those materials perform different jobs. A frequency in an old group does not override current replies; new replies do not turn an incomplete old list into complete research. Each ground should be named according to its actual origin.

If the denominator is unknown, it cannot be reconstructed from the strength of an impression. We can say there were particular successful cases while the proportion among all opportunities remains unestablished. That preserves actual evidence without an extra promise. It also leaves room to ask whether a complete list for the relevant period exists. No list does not prove a low probability of success; it limits the basis for the numerical estimate currently being sought.

III. A comparison group cannot be selected for a convenient conclusion

Even a complete series may concern another situation. Attendance at free outdoor summer gatherings cannot be transferred without checking to winter readings indoors. Events with regular participants differ from first invitations to strangers. If Nikita chooses only the series supporting his desired attendance, the result depends on group selection. A pessimistic selection containing only cancellations has the same difficulty, although its tone sounds more cautious.

Several groups can be compared by relevant differences: invitation method, availability, prior confirmation or room size. But not every difference can automatically be called a cause. Groups may differ in many conditions at once, with insufficient material to separate their contributions. History can reveal a question without guaranteeing a causal explanation. This boundary matters especially when everyday records begin to resemble a complete study of behaviour.

The narrowest group is not necessarily best either. Restricting cases to exactly the same premises, month and menu may leave very few observations. A broader group provides more cases at the cost of less similarity; a narrower one provides more similarity with less material. The article offers no formula for resolving this difficulty. Both limits can be stated rather than treating a convenient ratio as the precise probability of one forthcoming gathering.

Sometimes no suitable history exists. A new format, changed conditions or records of unknown origin may prevent a convincing baseline from being chosen. It is more honest to acknowledge missing numerical grounds than assign a neutral-looking half. Two imaginable outcomes need not be equally probable. Nikita can act with a limited expectation and a fallback if the task is acceptable, preserving uncertainty rather than producing a number merely to fill an empty cell.

IV. Hope and caution do not set probability by themselves

Nikita may hope for a full room because the conversation matters to him. His friend may favour smaller premises to avoid unnecessary preparation. Both attitudes are understandable, but they describe different interests and costs of possible outcomes. Estimating attendance separately requires invited people's replies and an appropriate history. Desire should not become statistical evidence, nor caution a special ability to foresee failure without the needed information.

Someone may support a project whose outcome remains uncertain. Support can mean willingness to help with a manageable part rather than promising success. Someone may also

decline participation despite considering success quite possible: preparation costs or preferences make the option unsuitable. Such decisions do not establish that the probability estimate is wrong. They show why expecting an event and agreeing to act should remain separate subjects.

Personality labels can close the particular question. If his friend's reply is called pessimism, Nikita may stop hearing her point about an unavailable date. If his wish is called naivety, there may be no willingness to compare actual confirmations. We do not claim these consequences necessarily occur for everyone. The hypothetical scene simply shows what information a discussion loses when a person is assigned a lasting character in place of a ground and their future words are judged in advance.

It is more useful to identify the statement's function. Is it a wish, an attendance estimate, information about a condition or a choice of a manageable role? One sentence can contain several functions; they can be unpacked without assessing the whole person. Hope remains a human relation to the future while checking gains its own material. There is no need to remove pleasant expectation to admit an incomplete baseline or intensify worry to consider inconvenient information seriously.

V. An initial estimate must allow new information

A base rate may provide an initial ground when little is known about a particular case. New information can change expectation, however. Suppose earlier gatherings took place in the evening, while the current one falls during many invitees' working hours. That is more than an extra detail added to the old number. It questions the old group's applicability. Availability should be clarified before preserving its proportion simply because it has already been neatly written down.

In chapter II of A Philosophical Essay on Probabilities, Laplace uses urns to show how added knowledge changes the scope of what remains unknown. We use a limited mathematical distinction rather than extending his historical judgments about nations or determinism to participants. A group of people does not become an urn: consent, schedules and conditions can change. The example connects information and assessment while preserving the difference between model and everyday scene.

A new message also needs checking for its subject. One person says they like stories without confirming Saturday. Another confirms the date but asks to leave early. Neither reply promises a whole evening. They can retain their precision instead of combining different levels of participation into one sign of consent. Clearer material makes it easier to identify what changed in expectation and which conditions still need agreement with actual participants.

An initial estimate should not become a personal obligation to be right. If conditional, changing it with significant information accords with its original meaning. The new ground and amendment date can be noted. This neither proves general indecisiveness nor makes the old estimate a lie. But a passing mood change should not be presented as updating on data either. We need to name the available information that actually changed the picture of this case.

VI. Numbers must preserve relationships between groups

With several conditions, percentages can easily refer to different bases. The proportion attending among those who confirmed differs from the proportion confirming among invitees. They cannot be added as measures of one group or selected for their agreeable size without clarifying the question. For ordinary consideration, a sequence may be easier: invited, replied, confirmed and actually attended. Each transition describes a particular relationship and needs its own list if we want to count it.

Recording absolute numbers does not always solve the problem. Case origins may be wrong, incompatible periods combined or missing replies overlooked in that format too. But it permits asking which people are presently being discussed. A list containing only those who agreed does not reveal agreement among everyone invited. Transparent presentation cannot replace suitable observations; it makes their boundaries visible for checking.

In Gerd Gigerenzer and Ulrich Hoffrage's 1995 study, formats for Bayesian inference tasks were compared. Study 1 involved 60 students at the University of Salzburg, 15 problems and two sessions a week apart. Frequency formats more often supported answers meeting the authors' Bayesian-algorithm criterion. This concerns a particular procedure, not a test of optimism, attendance or our practice; it guarantees no accuracy for every everyday record of numbers.

Nikita need not reproduce the laboratory procedure to clarify his own list. Origins and nested groups can simply be preserved. Yet the convenience of that presentation cannot establish the article's effectiveness or promise to remove every error. This original form serves clarity about a particular question. A task requiring specialist statistics should be assessed accordingly rather than treating a few everyday lines as a sufficient substitute for analysing complex dependence.

VII. Calibration concerns a series of estimates and outcomes

One success does not establish the accuracy of all someone's expectations. One miss does not prove they invariably overestimate probability. Comparing estimates requires a series of sufficiently similar events defined beforehand and preserved predictions. In its statistical sense, calibration concerns how stated probabilities correspond to outcome frequencies in an appropriate set. We introduce that distinction to explain the subject, not to measure a lasting quality of thought from one gathering.

For example, in a hypothetical record, someone assigns the same probability several times to a similar event. Its frequency can later be compared with that estimate. But case numbers, dependence, changing conditions and selection method limit the conclusion. A small personal list cannot be declared a reliable measure of general calibration. One outcome may prompt revision of a particular ground without yielding a universal accuracy score for every part of life.

Original estimates need preserving alongside memorable results. If after attendance Nikita rewrites hope as certain knowledge, different statements are being compared. If after cancellation he claims always to have expected precisely that, the original uncertainty disappears. This is a logical boundary of comparing records. We attribute no established psychological mechanism to Nikita; we identify the material needed for correspondence between expectation and outcome to become a defined question at all.

Even a good series of estimates in one field grants no automatic authority in another. Familiarity with acquaintances' usual schedules does not establish an ability to assess mechanical failure or medical risk. Useful experience in one narrow subject can be acknowledged without becoming general authority. This limit preserves calibration's substance: it concerns data and a task rather than becoming another name for a good or bad person.

VIII. Outcome probability and the cost of error raise different questions

The same attendance estimate can accompany different choices. One room needs a little arrangement of chairs; another requires prolonged coordination. Someone is willing to read with three guests; someone else needs a specified group for a particular activity. Such differences need not mean disagreement about probability. People may assess preparation costs differently or have different obligations. Those grounds should be discussed directly rather than disguising preference as a supposedly more accurate prediction.

An expected good outcome does not make acting without another's consent acceptable. Nikita cannot invite on his friend's behalf merely because he thinks she will probably support the

gathering. A personal constraint cannot be called insignificant because an inconvenient case was rare in an old group. Frequency describes events in a specified record; it permits neither breaking an arrangement nor deciding acceptable participation for those who bear its consequences.

A small voluntary project may have an available fallback: a shorter gathering, postponement or declining the room. The question then concerns agreed actions under different outcomes. But that alternative must be checked rather than invented retrospectively. Unless participants agreed to postponement, an organiser's flexibility does not create their free time. Preparing for uncertainty helps within actual possibilities, which remain definite even with an incomplete assessment of the future.

Medical, legal and financial choices require appropriate information and checking methods. The article sets no personal acceptable-risk threshold and recommends no investment based on an optimistic success frequency. A convenient group proportion can conceal significant differences in circumstances. The ordinary reading scene helps separate subjects of discussion without replacing specialised assessment of consequences, obligations and available actions elsewhere in life.

IX. An absent case cannot quietly be counted as failure

After the gathering, Nikita compares the list. One invitee never replied, another confirmed but did not attend, a third attended without an earlier reply. These cases can be described separately. Treating silence as refusal of every future event exceeds the record. Treating nonattendance as proof of no interest in stories adds an unknown motive too. Actual attendance and an explanation of personal attitudes require different grounds.

Missing information changes what can be counted. If delivery is unknown, the denominator for responding to a received invitation is unestablished. Replies among sent messages can be counted, but that is a different indicator. It may be useful for managing correspondence while keeping its proper name. Precision involves more than correct division: it also means not promising an answer to a question the original list does not describe.

Pleasant new cases should not be added selectively to history. A hypothetical journal can record held and cancelled gatherings in the same way, preserving dates and significant conditions. That is not yet a scientific dataset or a guarantee of impartiality. It does, however, allow the material's structure to be examined later instead of treating a striking account as the complete history. Incomplete records should retain visible limits even when their result looks convincing.

Correcting the list sometimes changes an old estimate and sometimes leaves it approximately intact. Neither result should be required in advance. The aim is a more precise account of the

ground rather than victory for an optimist or pessimist. It may emerge that this material cannot answer the question at all. A useful result then preserves a boundary: data concern sent messages and current replies, while impressions and unknown motives remain beyond it.

X. New conditions can limit an old frequency

The next gathering has a different format. It is shorter, the location is more accessible and some regular guests are away. History survives, but its role changes. We can consider which information remains suitable and which assumptions need checking anew. Neither restarting from nothing nor preserving an old number as an immutable property of acquaintances is necessary. Frequency concerns observations under particular conditions; people need not repeat their old schedules.

An expected change should be identified before the outcome. For instance, Nikita supposes earlier invitations will help people reply on time. That is a separate assumption, checkable through a defined question. It does not become a proven cause of attendance merely because the gathering succeeds. The date and guest list may have changed too. This conditional history permits comparing specific elements while preserving others' unknown contributions rather than completing an explanation of success.

Reconsideration should distinguish old material from new interpretation. The old confirmations remain even if they now seem less applicable. A new group is identified separately. There is no need to choose between respecting experience and allowing change. History can be used within a limited scope while the present case is acknowledged as different. The number keeps its meaning; it ceases to receive more authority than its origins and conditions support.

Hope has a similar boundary. Someone can welcome the new format while not knowing future attendance. They can be cautious about available constraints while supporting the project. Those attitudes need not be averaged into one correct tone. It is enough to distinguish the desired outcome, the ground for expectation and the chosen role. Changes can then be discussed specifically without repeatedly confirming a lasting identity as optimist or pessimist.

XI. Disagreement can be clarified without choosing a winner beforehand

Nikita and his friend can compare grounds for the same question. He uses the history of all open gatherings; she uses recent invitations to a small group. Before debating character, consider why each record seems appropriate and which difference in conditions remains. One may have a more recent list, the other significant information about this date. Their positions need not be equally supported simply because both speak confidently or politely.

With different data, origins, periods and event definitions can be shown. With identical data, the difference may concern applicability, the cost of error or personal consent to a role. Those are different subjects for clarification. One discussion may end with a shared attendance estimate but different participation choices. Another may leave the estimate open while agreeing to less preparation. A transparent form cannot be promised to remove every dispute or create a shared wish to continue.

Updating should not become a demand to disclose every private circumstance. His friend can confirm unavailability without explaining its personal cause. That suffices for arranging the event although Nikita does not learn her whole history. The absence of a detailed account does not invalidate the reply statistically or permit another motive to be assigned. Frequency comparison serves a limited question; personal boundaries survive even when a fuller list would suit the investigator.

Finally, the remaining difference can be named precisely. History fits only approximately; some invitees have not answered; a fallback has not been agreed. This record neither defeats hope nor proves refusal obligatory. Available choices remain: clarify what matters, limit action or preserve uncertainty where acceptable. Each participant is responsible for their voluntary involvement. A number helps discuss expectation's ground without gaining the right to speak for someone or predefine the conversation's correct outcome.

What this means in practice

For one ordinary voluntary decision, identify the expected event, deadline and significant conditions. Separately note what you want and which observations support expectation. When using a frequency, specify the group, numerator, denominator and case origins. Without that information, a particular account can be retained without a numerical probability. Two possible outcomes do not automatically demand equal chances; pleasant or worrying impressions do not supply a missing baseline either.

Check how closely the old group fits the current question and which new information could change the estimate. Consent, availability and personal roles need confirmation on their own subjects. Afterwards compare the outcome with the preserved expectation without expanding the event definition for a convenient conclusion. One case permits examining a particular ground but measures no general personality type or reliable calibration. Other people's unknown motives can remain unknown.

This author-proposed form supports limited consideration; its effectiveness has not been studied. It can be shortened or left unused. Dangerous or specialised tasks require appropriate protection and professional checking methods. Coercion cannot be justified by a high group frequency of consent. The practical result is modest: hope remains hope, data retain clear

boundaries, and choice is explained through available conditions and a freely accepted role, preserving the person's right to decline even a probable good outcome.

Key quotation

> *“let us examine critically our own opinions”*

Pierre Simon Laplace, A Philosophical Essay on Probabilities, chapter II, page 9, closing part of the paragraph before page 10. English translation of 1902. The fragment concerns examining one's own position; its historical polemical context establishes no diagnosis of participants in a present conversation. Context.

Connections between traditions

Comparison	Limited connection	Difference
Laplace ↔ a contemporary initial estimate	Available information matters for expectation.	An urn with a specified structure does not automatically model living people's consent and changing conditions.
Gigerenzer and Hoffrage ↔ transparent groups	Number formats matter for a particular inference task.	Their experiment does not investigate personal optimism or prove this article effective.
Laplace ↔ psychological experiment	Mathematical structure and actual task performance can be distinguished.	Historical probability philosophy and student-response research have different subjects and grounds.

Sources

• Pierre Simon Laplace. A Philosophical Essay on Probabilities. Translated from the sixth French edition by F. W. Truscott and F. L. Emory, John Wiley & Sons, 1902; PG58881. Metadata and selected chapter II contexts concerning information, urns and examination of opinions read; not the complete treatise. Used for a narrow philosophical and mathematical comparison.

• Gerd Gigerenzer, Ulrich Hoffrage. How to Improve Bayesian Reasoning Without Instruction: Frequency Formats. Psychological Review, 102(4), 684–704, 1995; DOI 10.1037/0033-295X.102.4.684. Author-formatted manuscript rather than the journal copy. Opening and selected Method/Results of Study 1 read; not the entire paper. Conclusion limited to defined task formats and the selected student sample.

Tags

optimism, pessimism, expectation, probability, base rate, data, comparison group, numerator, denominator, choice, hope, caution, outcome, prediction, calibration, Laplace, Gigerenzer, Hoffrage, observation, source, conditions, unknown, consent, participation, estimate updating, sample, format, verification, inference limit, responsibility

About the authors

Andrey Zarinsh is the author and founder of United Wisdom. He explores inner transformation, unity across traditions, intercultural dialogue and contemporary spiritual discipline. Instagram: @andrey.zarinsh.

Maria Evilkut is a co-author of United Wisdom. Alongside her research, she seeks to test these ideas in practice and observe how principles of unity and mutual understanding work in real life between people and cultures. Instagram: @ilkutki.