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© 2008 College Football Performance Awards
CFPA METHODOLOGY OVERVIEW
1. CFPA recipients are selected exclusively based upon objective scientific rankings.
2. Objective scientific rankings are based upon meta-algorithms derived from Differential Equations, Statistics, and Probability.
3. Meta-algorithms include $3 \times 10^9$ data collected from the past 10 seasons of FBS & FCS college football.
4. Meta-algorithms are internally valid, externally valid, significantly predictive, and non-exclusionary.

POSITIVE IMPACT OF CFPA METHODOLOGY
The CFPA methodology:

1. Eliminates politics and bias.
2. Promotes scientific literacy.
3. Encourages rational discourse.
4. Advances a sophisticated understanding of the game.
5. Fosters equity and fairness.
SUMMARY

OVERALL AWARDS
The Overall Awards system annually recognizes the FBS & FCS performers responsible for the most overall team success. A performer $x$ is an Overall Awards recipient if and only if $x$ is responsible for the most overall success in Division I FBS college football given team success, strength of schedule, and the contributions of teammates.

OFFENSIVE & DEFENSIVE AWARDS:
The Offensive & Defensive Awards systems annually recognize FBS & FCS performers based upon the extent to which individual players increase the overall effectiveness of their teams. A performer $x$ is an Offensive or Defensive Awards recipient if and only if $x$ contributes the most to team success of any performer in Division I FBS college football, when controlling for strength of schedule.
SUMMARY

**SPECIAL TEAMS AWARDS**
The Special Teams Awards system annually recognizes the FBS & FCS specialists responsible for demonstrating the greatest performances beyond the expected mean of efficiency for performance, given the difficulty of the performer’s attempts or returns and the strength of opposition. A performer $x$ is a Special Teams Awards recipient if and only if $x$ is the most efficient specialist, when controlling for the difficulty of $x$’s opposition and $x$’s attempts or returns.

**ELITE PERFORMANCE AWARDS**
Finishing a season with the top performance for an annual award is a sufficient but not necessary condition for recognition. Accordingly, the Elite Performance Series addresses the limitations of the Overall, Offensive, Defensive, and Special Teams Awards.
ELITE PERFORMANCE AWARDS – TAXONOMY
(1) Top cumulative performance over multiple seasons (career).
(2) Multiple performance(s) 2 or more standard deviations above a normally distributed (relevant) historical mean (roughly in the top 2.3%).
(3) The top (a) passing, (b) rushing, (c) rushing & receiving, (d) receiving, (e) overall kicking, or (f) overall return performance in a given season.
(4) A performance among the top ten within the (relevant) decade.
(5) A performance contributing to the most overall team success.
(6) An all-time national achievement or record pertinent to team success.
EPISTEMIC POSITIONS (From strongest to weakest)
(1) Empirical awards are the only accurate sort.
(2) Empirical awards are more accurate than political awards.
(3) Empirical awards have at least some accuracy not present in political awards.

NORMATIVE POSITIONS (From strongest to weakest)
(1) Objective awards are the only fair sort.
(2) Objective awards are more fair than subjective awards.
(3) Objective awards have at least some fairness not present in subjective awards.

"Who are the top performers in college football?" is an inherently empirical question. In other words, any attempt to answer this question trespasses overtly on the domain of science. –Brad Smith, CFPA Executive Director (June 5, 2009)
“The process by which college football awards its outstanding players has up until now been tainted with bias. Reporters and coaches vote for players within their own regions; the media promotes certain favorite candidates at the expense of others; and most importantly, there are no objective criteria on the basis of which players are judged. All that, however, is about to change. The College Football Performance Awards system is based on a set of objective criteria that reflect the extent to which players at various positions increase the overall effectiveness of their team. The system is devoid of the inherent biases and flaws that infect the current vote-for-your-favorite-player method. And the result is an award system that finally answers the question everyone is really asking: Who are the best performers in college football?”
ANDREW ZIMBALIST, ROBERT A. WOODS
PROFESSOR OF ECONOMICS, SMITH COLLEGE

B.A. University of Wisconsin, Madison
Ph.D. Harvard University

“By employing a careful, vetted empirical methodology, CFPA promises to set straight many of the wrongheaded, arbitrary and exclusionary methods currently employed to assess player awards in Division I FBS football.”

Andrew Zimbalist is arguably the world’s pre-eminent sports economist. Zimbalist has been in the Economics Department at Smith College since 1974. He has written over a dozen books on sports and has served as a consultant to players’ associations, cities, companies, and leagues in the sports industry.
“I have long been struck by the fact that many of the top performers in the NFL hale from non-BCS teams. As a result these individuals did not, as college players, receive a lot of media attention or national awards. For prime example, think of the likes of Joe Flacco (Delaware) and Ben Roethlisberger (Miami of Ohio). The biases in the college football awards process are behemoth. The CFPA system endeavors to level the playing field for evaluating gridiron performance and as such may transform the individual trophy quest from a PR battle to the legitimate question of which athletes did the most for their teams—BCS or not.”

LAWRENCE KRAUSS, FORMER SCIENCE ADVISOR TO PRESIDENT BARACK OBAMA, DIRECTOR – ORIGINS INITIATIVE, PROFESSOR OF PARTICLE ASTROPHYSICS & THEORETICAL PHYSICS

FOUNDATION PROFESSOR, ARIZONA STATE UNIVERSITY
PHYSICS PROFESSOR, YALE UNIVERSITY

B.S. Carleton University
Ph.D. Massachusetts Institute of Technology
Harvard University Society of Fellows
LAWRENCE KRAUSS, THEORETICAL PHYSICIST

“The College Football Performance Awards seems to provide an interesting new way to provide both new, objective measures of excellence in college football, and also an opportunity for fans to think in new ways about precisely what excellent performance in football means. The College Football Performance Awards may help improve the scientific literacy of generations of fans while adding to a deeper understanding and appreciation of the game. The CFPA awards will surely prove illuminating.”

According to Scientific American, Lawrence Krauss is one of the few ‘public intellectuals’ in the sciences. Krauss is Director of the Origins Initiative, which annually hosts Nobel Prize Laureates, top scholars, and prominent thinkers. In addition to authoring several hundred science articles, Krauss is former Science Advisor to President Barack Obama – specifically the 2008 Presidential Campaign for Barack Obama. He is also a former CERN associate, and the only physicist to have received the highest honor from each of the major American Physics societies.
C. Richard King is Past-President of the North American Society for the Sociology of Sport. He is currently Chair of the Department for Comparative Ethnic Studies at Washington State University, and he has written dozens of articles in the sociology of sport.
“Who receives attention and accolades in society and why they do tells one a great deal about its values. Awards for student athletes are an ideal window onto what matters today, particularly in the world of sport. Recipients of the prestigious awards currently presented each year come from well funded athletic programs with polished media relations departments, appear on television regularly, and attend large schools with evenly large fan bases. While purporting to recognize the best athletes, these awards have become little more than media spectacles and popularity contests. The College Football Performance Awards promises a hopeful alternative, one which would truly identify the best players through a careful study of their contributions on the playing field. In contrast with current awards, CFPA has a clear methodology that works against bias, avoids the dangers of regional popularity and national celebrity, and demonstrates in a reliable fashion the most talented performers.”
AMY LANGVILLE, MATHEMATICS PROFESSOR, COLLEGE OF CHARLESTON

N.S.A. SCIENCE CONSULTANT
NATIONAL SCIENCE FOUNDATION — CAREER AWARD
NCAA POSTBACCALEURATE FELLOW

B.S. Mt. St. Mary’s College (valedictorian)
Ph.D. North Carolina State University

“Most current sports ranking systems are very unscientific. Some even resemble popularity contests whereby the most popular or well-known individuals or teams repeatedly win awards and receive the invitations to prestigious tournaments. This is not only unfair but unfortunate. With the amount of data being collected today for all sports on all levels, sports rankings and award systems are perfectly suited to quantitative analysis. Consequently, a rigorous quantitative scientific method such as the CFPA system is a welcome addition for fans and players demanding equity in sports awards.”

Amy Langville, a former Division I basketball player, is Professor of Mathematics at the College of Charleston. Langville is the author of Runner-up Science Book of the Year, *Google’s PageRank and Beyond: The Science of Search Engine Rankings*. Langville’s distinguished career in science includes professional research and consulting for the NSA (National Security Agency), the Boeing Company, the Center for Research in Scientific Computation, and the SAS (Statistical Analysis System) Institute.
The balloting process is inconsistent with the principles and methods of science.

Balloting Disadvantages from a Scientific Perspective

(1) the inherent subjectivity of balloting systems
Balloting is opinion-based rather than fact or performance-based.

(2) the arbitrariness of scoring in balloting systems
On the one hand, an award might count second and third place votes in addition to first place votes. On the other hand, a separate award might only count first place votes. The decision on whether or not to include second and third place votes is arbitrary, and so is the decision on how to score them.

(3) the external invalidity of balloting systems
If there are discrepancies in voting behaviors of national selection committee panelists in different regions of the country, then an inability to reproduce results with different participants is likely. In other words, a system is externally invalid when disagreement results from geographic distribution rather than level of expertise or quality of observation.*
The balloting process is inconsistent with the principles and methods of science.

Balloting Disadvantages from a Scientific Perspective

(4) the internal invalidity of balloting systems
A system is internally invalid when nebulous terms like “most outstanding player” are not operationally defined. This leads to divergent conceptual interpretations amongst voters, who may interpret it to mean any of the following: the best player, the best player on the best team, the player with the most NFL potential, the player with the most media attention, the most valuable player, the highest performing player on a team, the highest performing player overall, etc..

(5) the form of balloting
Plurality voting arrangements, for instance, systematically increase:
(a) tactical voting,
(b) the importance of media attention,
(c) voting against candidates rather than voting for candidates of true preference,
(d) bias against new players,
(e) wasted votes, and
(f) the likelihood of a non-majority candidate winning (Duverger’s Law).

(6) a lack of transparency
If a selection process is kept fully confidential, the actual ballot results, national selection committee membership, number of votes placed, percentage of votes placed, and number of votes wasted never become public knowledge.
The balloting process is inconsistent with the principles and methods of science.

Balloting Disadvantages from a Scientific Perspective

(7) non-representative sampling of voting panelists
For instance, if the membership of a particular national selection committee does not reflect the geographic diversity of the U.S. proportionally, then geographic bias is likely.

(8) pre-emptive candidate eliminations
If voters are forced to make semifinalist and finalist cuts during the season, then players with impressive performances after these cuts are likely to be excluded. Furthermore, the players making the semifinalist and finalist cuts may have unimpressive performances after these cuts.

(9) sample size
The number of voters for various awards may represent an inadequate yield for a valid sample size. Pew Polls, for instance, typically sample 36,000 or more respondents. Most balloting-based awards sample 10-100 respondents, a size most credible social scientists deem invalid.
The balloting process is inconsistent with the principles and methods of science.

Balloting Disadvantages from a Scientific Perspective

(10) conflict of interest
Voting panel members may have a conflict of interest if they represent parties involved in the balloting or have other financial incentives. In some cases, these conflicts of interest may be indirect. However, a direct conflict of interest results when current award candidates are given voting rights as previous award winners.

*In a 2009 meta-analysis of conference individual postseason awards, coach balloting and media balloting agreed only 55.7% of the time (n=307). Note: national balloting-based awards necessarily increase both the size of candidate samples and the geographic distribution of voters, and are, therefore, likely to yield lower external validity factors.
COMMON FALLACIES
A fallacy is a logical (formal) error or (informal) misconception that may result from (a) scientific illiteracy, (b) illogical reasoning, or (c) conscious dialectical translocation. The following list highlights some fallacious objections to the normative and epistemic arguments for CFPA, as well as some fallacious balloting apologetics.

(1) NIRVANA FALLACY
Sample Criticism #1: The placekicking methodology does not account for the performance of holders. It is imperfect.
Sample Criticism #2: Punter x benefited from lucky bounces. Numbers never tell the whole story.
Sample Criticism #3: Football analysis is difficult. There are superior sciences such as biology.
Sample Criticism #4: A mistake will eventually be made. Therefore, performance-based awards are no better than balloting-based awards.
Explanation: The Nirvana Fallacy is the logical error of comparing realistic alternatives to utopian alternatives by way of a false dichotomy. The assumption that scientific models must be perfect is false.

(2) IGNORATIO ELENCHI: ARGUMENTUM AD POPULUM
Sample Defense #1: The balloting-based award went to player x. He was clearly the best player because it was the widest voting margin in the award’s history.
Explanation: Argumentum Ad Populum, or the Bandwagon Fallacy, is the logical error of assuming that a proposition is true if there is substantial belief in the proposition. The defense is often used to protect social convention from valid criticism. Appeals to consensus are possibly the most common post hoc rationalization for balloting-based awards ex post facto.
COMMON FALLACIES

A fallacy is a logical (formal) error or (informal) misconception that may result from (a) scientific illiteracy, (b) illogical reasoning, or (c) conscious dialectical translocation. The following list highlights some fallacious objections to the normative and epistemic arguments for CFPA, as well as some fallacious balloting apologetics.

(3) FALLACY OF ANECDOTAL EVIDENCE
Sample Defense #1: I saw player x in person, and he is clearly the top performer in college football.
Sample Defense #2: Player y had a remarkable one-handed catch against the strongest defense in college football.
Explanation: The fallacy of anecdotal evidence is the error of drawing conclusions based upon unreliable evidence. In many cases, this involves cherry picking, a form of selection bias whereby confirmatory evidence is highlighted and contradictory evidence is ignored or overlooked.

(4) FALLACY OF DIVISION
Sample Defense #1: Player x is better than player y. After all, player x’s team beat player y’s team head-to-head.
Explanation: It is fallacious to assume that something true of a thing is also true for its parts. This could also be called the Argument from Broader Victory.

(5) LOKI’S WAGER
Sample Criticism #1: Leadership is an important part of quarterback performance, and it cannot be defined. Therefore, quarterback performance analysis is meaningless.
Explanation: Loki’s Wager is the insistence that some concepts cannot be defined, and, therefore, they cannot be discussed. It is an extreme form of equivocation, usually purposed towards distraction (shifting the goalposts) from legitimate criticism of balloting-based awards.
COMMON FALLACIES

A fallacy is a logical (formal) error or (informal) misconception that may result from (a) scientific illiteracy, (b) illogical reasoning, or (c) conscious dialectical translocation. The following list highlights some fallacious objections to the normative and epistemic arguments for CFPA, as well as some fallacious balloting apologetics.

(6) FALLACY OF NECESSARY FAIRNESS
Sample Defense #1: Player x won the award last year. Player y should win it this year. After all, it’s unlikely that a player could be the top performer in consecutive years, and it is player y’s turn.
Explanation: It is fallacious to assume that a proposition is true because it is fair.

(7) ARGUMENT FROM FUTURE SUCCESS
Sample Defense #1: Player x won the award. Player x then went on to have great future success. Therefore, the award selection was valid.
Explanation: It is fallacious to argue that recognition at time (t0) is validated by success at time (t1).

(8) FALLACY OF RANDOMIZED BIAS
Sample Defense #1: All voters are biased. However, if the voting panel size is sufficiently large, then the biases are nullified.
Explanation: It is fallacious to assume that bias is random. Additionally, this is an example of begging the question.

(9) IGNORATIO ELENCHI: GENETIC FALLACY
Sample Defense #1: Player x comes from a long bloodline of players who have won the award. Therefore, player x deserved to win the award.
Explanation: It is fallacious to argue that something is true of someone based upon the individual’s origin. This is an example of a fallacy of relevance (a red herring).
COMMON FALLACIES

A fallacy is a logical (formal) error or (informal) misconception that may result from (a) scientific illiteracy, (b) illogical reasoning, or (c) conscious dialectical translocation. The following list highlights some fallacious objections to the normative and epistemic arguments for CFPA, as well as some fallacious balloting apologetics.

(10) ARGUMENTUM AD ANTIQUITATEM
Sample Defense #1: Award x has been around for the longest time. Therefore, it has the most validity.
Explanation: It is logically fallacious to assume that tradition is correlated with truth or correctness.

(11) NON CAUSA PRO CAUSA: CUM HOC, ERGO PROPTER HOC
Sample Defense #1: Team x won every game in which player y played. Team x lost every game in which player y did not play. Therefore, player y is the causal variable in team x’s wins and losses.
Explanation: It is fallacious to assume that the happenstance of two events implies a causal relationship.

(12) ARGUMENTUM AD NATURAM (NATURALISTIC FALLACY)
Sample Defense #1: Some balloting-based awards are considered prestigious. Therefore, they ought to be.
Explanation: One cannot derive a normative conclusion from empirical premises.

(13) IGNORATIO ELENCHI: FALLACY OF THE NUMINOUS ARCHETYPE
Sample Defense #1: The award winner resembles a previous award winner. Therefore, the selection is valid.
Sample Defense #2: The award winner surpasses all previous award winners in some respect. Therefore, the selection is valid.
Explanation: Comparisons to prior award winners are not relevant when discussing performers eligible for consideration.
A fallacy is a logical (formal) error or (informal) misconception that may result from (a) scientific illiteracy, (b) illogical reasoning, or (c) conscious dialectical translocation. The following list highlights some fallacious objections to the normative and epistemic arguments for CFPA, as well as some fallacious balloting apologetics.

(14) NOMOLOGICAL FALLACY
Sample Defense #1: The results were widely anticipated; it was the award winner’s destiny. Explanation: The assumption of causal determinism is false.

(15) FALLACY OF CONTEXOMY
Sample Criticism #1: The Academic Chair states that CFPA answers the question everyone is really asking, but doesn’t state what that question is. Therefore, CFPA is entirely discredited. Explanation: The Fallacy of Contexomy is the distortion of meaning via selective linguistics. In some cases, this distortion is merely the result of misquotation or false attribution. More commonly, however, the distortion is propagated as an outright fabrication of the source’s intention, a dishonest practice known as quote-mining. In the sample criticism, the sentence immediately following the quotation, which provides the relevant question, has been carefully lifted to contaminate the message.

(16) APOTROPAIC FALLACY
Sample Defense #1: The player received considerable fortune en route to the team’s significant victory. The award winner is the team’s talisman. Explanation: Appeals to the esoteric are highly unparsimonious.
COMMON FALLACIES

A fallacy is a logical (formal) error or (informal) misconception that may result from (a) scientific illiteracy, (b) illogical reasoning, or (c) conscious dialectical translocation. The following list highlights some fallacious objections to the normative and epistemic arguments for CFPA, as well as some fallacious balloting apologetics.

(17) SLIPPERY SLOPE ARGUMENT
Sample Defense #1: CFPA offers insight not only into the nature of the current landscape but also football’s history. If accepted, this new knowledge would force us to revisit decades of awards and recognize new winners. Such a state of affairs cannot be accommodated.
Explanation: The slippery slope argument is an informal fallacy, which assumes that a single change to the status quo would ultimately lead to a final significant outcome with negative consequences, usually latent or unintended.

(18) STRAW MAN FALLACY
Sample Defense #1: CFPA proponents argue that finalist lists are unnecessary. They just oppose 3 players getting all the attention.
Explanation: The straw man fallacy refers to the misrepresentation of an argument via substitution of a specious but similar-sounding argument that can be easily refuted. In the sample defense, the false premise of opposition to attention is substituted for the true premise that the season has not been completed.

(19) ARGUMENTUM AD IGNORATIAM: FALLACY OF PERSONAL INCREDULITY
Sample Criticism #1: Players from non-BCS schools are typically not recruited heavily and play against relatively weak opponents. It seems impossible that a player from a non-BCS school could be the top performer in D-I FBS college football. Therefore, the selection was not valid.
Explanation: A lack of imagination has no bearing on the validity of an opponent’s argument.
COMMON FALLACIES
A fallacy is a logical (formal) error or (informal) misconception that may result from (a) scientific illiteracy, (b) illogical reasoning, or (c) conscious dialectical translocation. The following list highlights some fallacious objections to the normative and epistemic arguments for CFPA, as well as some fallacious balloting apologetics.

(20) ARGUMENTUM AD MISERICORDIAM
Sample Defense #1: The player overcame significant obstacles and played very hard this season. Therefore, he deserved to win the award.
Explanation: Appeals to pity are unjustifiable.

(21) ASSOCIATION FALLACY
Sample Criticism #1: CFPA uses science to determine recipients. Scientists are dangerous and probably want to replace us all with robots. Therefore, CFPA probably wants to replace all football players with robots.
Explanation: The association fallacy refers to the hasty generalization that independent entities must be the same based upon unimportant shared characteristics.

(22) ARGUMENTUM AD HOMINEM
Sample Criticism #1: Our odious rivals support CFPA. Therefore, their position on CFPA is not valid.
Explanation: Character and integrity are independent of validity.
INTUITIVE BIAS TAXONOMY

It is false to assume that valid conclusions can be drawn from intuition; for an extensive taxonomy on intuitive biases, see the works of Scott Plous, Ph.D. (http://www.socialpsychology.org/plous.htm). The following list merely highlights issues affecting decision-makers relying upon intuitive judgment over science.

(1) **Capricious reasoning**
In some cases, individual preferences change without the introduction of new information or knowledge. In other words, votes may be subject to whim.

(2) **Overlooking alternatives**
There are roughly 25,000 student-athletes participating in D-I football – a dizzying array of voting options. In some cases, voters may over-estimate their awareness of alternatives.

(3) **Intransitive decision-making**
Voters sometimes have intransitive preferences. An ideally transitive voter, for example, prefers player A to B, player B to C, and player A to C.

(4) **The influence of regret**
Voters sometimes make decisions based upon patterns of least regret rather than true preference.

(5) **Prior expectation bias**
Voters sometimes make decisions based upon expectations of a player rather than the player’s demonstrated on-field performance.
It is false to assume that valid conclusions can be drawn from intuition; for an extensive taxonomy on intuitive biases, see the works of Scott Plous, Ph.D. (http://www.socialpsychology.org/plous.htm). The following list merely highlights issues affecting decision-makers relying upon intuitive judgment over science.

(6) Recency bias
Salience is heavily influential. As a result, voters may ignore events that occur early in the season.

(7) Primacy bias
Events covered immediately and widely in the media sometimes create strong first impressions amongst voters.

(8) The investment trap
Voters sometimes develop strong attitudes towards players, teams, and coaches when there is previous, existing, or future coverage or association.

(9) Conformity
Voters are sometimes subject to social pressure, including the perceived majority opinion.

(10) Sensory illusion
Voters are sometimes deluded about their ability to collect data, analyze data, discern relevant information, remember non-confirmatory data, or draw valid conclusions.
Glossary of Lay Terminology

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<tr>
<th>Term</th>
<th>Definition</th>
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<tr>
<td>Anecdotal Evidence</td>
<td>Data which is itself unreliable or used unscientifically.</td>
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<td>Deduction</td>
<td>Analytic reasoning in which the truth of an argument's premises proves conclusive.</td>
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<tr>
<td>Empirical</td>
<td>Experiential information obtained from observation and sensory application.</td>
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<tr>
<td>Epistemic</td>
<td>A descriptive term relating to scientific knowledge and justified evidentiary claims.</td>
</tr>
<tr>
<td>Fallacy</td>
<td>Defective reasoning resulting in an unsound conclusion or invalid argument.</td>
</tr>
<tr>
<td>Induction</td>
<td>Probabilistic reasoning which is based upon observation, generalization, and testing.</td>
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<tr>
<td>Normal Distribution</td>
<td>A common function which is bell-shaped and symmetrical.</td>
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<tr>
<td>Normative</td>
<td>A prescriptive term relating to moral and ethical enquiry.</td>
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<tr>
<td>Objective</td>
<td>An independent truth or factual representation of reality.</td>
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<tr>
<td>Paradigm</td>
<td>A theoretical framework for analyzing and interpreting data.</td>
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<tr>
<td>Plurality Voting Arrangement</td>
<td>A structured form of simple majority balloting.</td>
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<tr>
<td>Scientific Literacy</td>
<td>The extent to which a population can understand and evaluate empirical works.</td>
</tr>
<tr>
<td>Standard Deviation</td>
<td>A statistical measure representing a given population's dispersion.</td>
</tr>
<tr>
<td>Subjective</td>
<td>A perception of reality that is based upon individual preferences.</td>
</tr>
<tr>
<td>Validity</td>
<td>The logicality of an argument or method.</td>
</tr>
</tbody>
</table>