

Guide to Outcome Measures

The following is a brief description of each of the instruments used in the Wabash National Study of Liberal Arts Education, listed as they appear in the outcomes measures data tables from ACT. Each description provides background information on the instrument and explains how it is scored. For further information, see the reference list at the end of this document.

CAAP Critical Thinking Test

The Collegiate Assessment of Academic Proficiency (CAAP) is a national, standardized assessment program developed by ACT with six independent modules that test reading, writing, math, science, and critical thinking. "The CAAP Critical Thinking Test is a 32-item instrument that measures students' skills in clarifying, analyzing, evaluating, and extending arguments."

(<http://www.act.org/caap/tests/thinking.html>) The test is comprised of four passages based on topics or issues typically included in college curricula (for example, political issues that might be found in a political science class), each accompanied by a set of multiple-choice test items. The format for the four passages includes case studies, debates, dialogues, and statistical arguments, among others. Scores range from 40 (lowest) to 80 (highest).

Need for Cognition Scale

The Need for Cognition Scale is an 18-item instrument that measures how much people enjoy engaging in effortful cognitive activities. Individuals who rank high in "need for cognition" enjoy thinking, and they do it more often than individuals who rank low in this area and who only engage in careful thought when they have to. Scores range from 1 (low) to 5 (high).

Miville-Guzman Universality-Diversity Scale – Short Form (M-GUDS-S)

The M-GUDS measures an individual's universal-diverse orientation (UDO), which is defined as "an attitude of awareness and acceptance of both similarities and differences that exist among people" (Miville et al., 1999, p. 294). The short form (M-GUDS-S) is being used in the Wabash National Study. It has 15 items and contains three subscales: Diversity of Contact (interest in and commitment to participating in diverse, intentionally focused social and cultural activities), Relativistic Appreciation (appreciation of both similarities and differences in people and the impact of these in one's self-understanding and personal growth), and Comfort with Differences (the degree of comfort with diverse individuals). Scores for the full M-GUDS-S and each of the subscales range from 1 (low) to 6 (high).

Defining Issues Test, Version 2 (DIT-2)

The DIT-2 is a test of moral reasoning based on Kohlberg's stages of moral development. In the DIT-2, several stories about social problems are described, such as should a starving man steal food for his family from someone who is hoarding resources. After each story, a series of 12 items representing different issues that might be raised by the problem are presented. For example, in the scenario described above, the items include the following: "Would stealing bring about more total good for everybody concerned or wouldn't it? Shouldn't the community's laws be upheld?" In response to the scenario and items, respondents are asked to do three things:

1. make an action choice (for example, yes he should steal or no he should not steal)
2. rate the series of 12 items in terms of their importance in making a decision about the social problem on a 5-point scale from “great importance” to “no importance”
3. rank the top four most important items

The test uses the following scales:

- **P-score** – This score represents the degree to which an individual uses higher order moral reasoning. The P-score is the proportion of items selected that appeal to moral ideals and/or theoretical frameworks for resolving complex moral issues, specifically, items that appeal to
 - consensus-building procedures,
 - insisting on due process,
 - safeguarding minimal basic rights,
 - and organizing social arrangements in terms of appealing to ideals.

The P score is calculated on the basis of only the ranking data and can range from 0 to 95. An average score for senior high school students is in the 30's. For a college student, an average score is in the 40's. The same averages apply to the N2 score below (Bebeau and Thoma, 2003; Rest, Thoma, Narvaez, and Bebeau, 1997).

- **N2 score** – Like the P-score, the N2 score is based on acquiring more sophisticated moral thinking, but the N2 score also reflects the extent to which individuals reject ideas because they are simplistic or biased. The score is adjusted so that it is on the same scale as the P-score (Bebeau and Thoma, 2003).
- **Personal Interest Score** – This score represents the degree to which an individual uses the least sophisticated levels of moral reasoning. It is the proportion of an individual's selected items that appeal to
 - the direct advantages for the actor,
 - the fairness of simple exchanges,
 - the good or evil intentions of the parties,
 - the party's concern for maintaining friendships and good relationships,
 - and maintaining approval (Bebeau and Thoma, 2003; Rest et al., 1997).
- **Maintain Norms Score** – The Maintain Norms Score measures mid-level moral reasoning. It is the proportion of selected items in which the focus is on maintaining
 - the existing legal system,
 - existing roles,
 - and formal organizational structures (Bebeau and Thoma, 2003).
- **Utilizer Score** – The Utilizer Score or U-score represents the consistency between items endorsed as important and the action choice in a dilemma. The U-score is scaled on a range of -1 (low utilization) to +1 (high utilization), though the typical range from large sample estimates is -.41 to .77 (Bebeau and Thoma, 2003; Thoma, Rest, and Davison, 1991).

Experimental Indices (Bebeau and Thoma, 2003):

- **Humanitarian Liberalism Score** – This variable is a proxy for a humanitarian liberal perspective on moral dilemmas. The score is equal to the number of times a respondent's action choice matches that of the highest scoring reference group (e.g., professionals in political science and philosophy). Scores range from 0 (no matches) to 5 (all matches).
- **Number of Cannot Decide Choices** – This variable reflects the decisiveness of a respondent's action choices. A high number indicates that participants have difficulty deciding. The score can be high during developmental shifts. This variable simply counts the number of "can't decide" choices (0 to 5).
- **Religious Orthodoxy Score** – This variable represents the sum of the rates and ranks for item 10 in the cancer dilemma: "Should only God decide when a person's life should end?" which correlates very strongly with scores on religious orthodoxy measures like the Brown and Lowe Inventory of Religious Beliefs. The score is the addition of the rating given to this item and the ranking value. It ranges from 1 (rated not important and unranked) to 9 (rated most important and ranked first)

The Ryff Scales of Psychological Well-Being

The Ryff Scales of Psychological Well-Being measure six theoretical constructs of positive psychological functioning:

- **Self-acceptance** – The extent to which an individual "possesses a positive attitude toward the self; acknowledges and accepts multiple aspects of self including good and bad qualities; feels positive about past life."
- **Positive relations with others** – The extent to which an individual "has warm, satisfying, trusting relationships with others; is concerned about the welfare of others; capable of strong empathy, affection, and intimacy; understands give and take of human relationships."
- **Autonomy** – The extent to which an individual "is self-determining and independent; able to resist social pressures to think and act in certain ways; regulates behavior from within; evaluates self by personal standards."
- **Environmental mastery** – The extent to which an individual "has a sense of mastery and competence in managing the environment; controls complex array of external activities; makes effective use of surrounding opportunities; able to choose or create contexts suitable to personal needs and values."
- **Purpose in life** – The extent to which an individual "has goals in life and a sense of directedness; feels there is meaning to present and past life; holds beliefs that give life purpose; has aims and objectives for living."
- **Personal growth** – The extent to which an individual "has a feeling of continued development; sees self as growing and expanding; is open to new experiences; has sense of realizing his or her potential; sees improvement in self and behavior over time; is changing in ways that reflect more self-knowledge and effectiveness." (Ryff, 1989, p. 1072)

The 54-item version of the instrument (9 items per scale) is being used in the Wabash National Study. Scores for each of the six scales range from 1 (low) to 6 (high). The same score range applies to the total Ryff scale score, which averages the scores for each of the six areas.

Socially Responsible Leadership Scale – Revised Version II (SRLS-R2)

The SRLS-R2 is a 68-item survey that measures the eight dimensions of Astin et al.'s (1996) Social Change Model of leadership development. According to this model, leadership is a collaborative group process directed toward promoting positive social change in an organization or community (Tyree, 1998). A person who demonstrates strong socially responsible leadership capabilities is self-aware, acts in accordance with personal values and beliefs, invests time and energy in activities that he or she believes are important, works with diverse others to accomplish common goals, has a sense of civic and social responsibility, and desires to make the world a better place. The SRLS was developed specifically to measure leadership in college students.

The SRLS has eight scales corresponding to the eight dimensions of leadership (Astin et al., 1996; Dugan, 2006):

- **Consciousness of Self** – Being aware of the values, emotions, attitudes, and beliefs that motivate one to take action.
- **Congruence** – Thinking, feeling, and behaving with consistency, genuineness, authenticity, and honesty toward others.
- **Commitment** – Intensity and duration in relation to a person, idea, or activity. The energy and passion that propels one to act.
- **Collaboration** – Working with others in a common effort.
- **Common Purpose** – Working with others within a shared set of aims and values.
- **Controversy with Civility** – Recognizing two fundamental realities of any group effort, that (a) differences in viewpoint are inevitable and valuable, and (b) such differences must be aired openly and with respect and courtesy.
- **Citizenship** – Believing in a process whereby a person or group is responsibly connected to the environment and the community. Citizenship signifies more than membership; it implies active engagement in an effort to serve the community.
- **Change** – Adapting to continuously evolving environments and situations, while maintaining the primary functions of the group.

Respondents receive a separate score, ranging from 1 (Strongly Disagree) to 5 (Strongly Agree), for each of the eight scales in the SRLS. The same score range (1 to 5) applies to the total SRLS scale score, which averages the scores for each of the eight areas.

Life Goals Scales from Wabash National Study Student Surveys:

These scales are derived from items in the Student Survey and the Student Experiences Survey.

Contribution to the Arts Scale – consists of three items in which respondents identify how important (ranging from not important to essential) it is for them to contribute to the arts. Contributing to the arts includes "becoming accomplished in the performing arts," "writing original works," or "creating artistic work." Scores range from 1 (low) to 4 (high).

Contribution to the Sciences Scale – consists of two items in which respondents identify how important (ranging from not important to essential) it is for them to contribute to advances in science. Contributing to science includes "making a theoretical contribution to science" and "working to find a cure for a disease or illness." Scores range from 1 (low) to 4 (high).

Political and Social Involvement Scale – consists of 11 items in which respondents identify how important (ranging from not important to essential) it is for them to be involved politically and socially in their communities. Political and social involvement ranges from "influencing the political structure" and "influencing social values" to "becoming a community leader." Scores range from 1 (low) to 4 (high).

Professional Success Scale – consists of five items in which respondents identify how important (ranging from not important to essential) it is for them to be successful in a profession. Professional success includes "having administrative responsibility for the work of others" and "becoming successful in a business of my own" as well as "working in a prestigious occupation." Scores range from 1 (low) to 4 (high).

Orientation Toward Learning Scales from Wabash National Study Student Surveys:

These scales are derived from items in the Student Survey and Student Experiences Survey.

Openness to Diversity and Challenge Scale – consists of seven items in which respondents indicate the extent to which they agree or disagree (ranging from strongly agree to strongly disagree) with statements about their openness to diversity. Openness to diversity includes their openness to cultural and racial diversity as well as the extent to which they enjoy being challenged by different perspectives, values, and ideas. Scores range from 1 (low) to 5 (high).

Academic Motivation Scale – consists of eight items in which respondents indicate the extent to which they agree or disagree (ranging from strongly agree to strongly disagree) with statements about their academic motivation. Academic motivation includes their willingness to work hard to learn material even if it does not lead to a higher grade, the importance of getting good grades, reading more for a class than required because the material was interesting, their enjoyment of academic challenge, and the importance of academic experiences in college. Scores range from 1 (low) to 5 (high).

Positive Attitude toward Literacy Scale – consists of six items in which respondents indicate the extent to which they agree or disagree (ranging from strongly agree to strongly disagree) with statements about their attitude toward reading and writing. A positive attitude toward literacy means enjoying activities such as reading poetry and literature, reading scientific and historical material, and expressing ideas in writing. Scores range from 1 (low) to 5 (high).

References:

CAAP Critical Thinking Test

Information available at ACT website: <http://www.act.org/caap/tests/thinking.html>. Sample questions are available for download at: http://www.liberalarts.wabash.edu/storage/assessment-instruments/CAAP_Critical_Thinking_sample_questions.pdf.

Need for Cognition Scale

Cacioppo, J. T. & Petty, R. E. (1982). The need for cognition. *Journal of Personality and Social Psychology*, 42, 116–131.

Cacioppo, J. T., Petty, R. E., & Kao, C. F. (1984). The efficient assessment of need for cognition. *Journal of Personality Assessment*, 48, 306–307.

An overview of the scale can be found at: <http://www.liberalarts.wabash.edu/ncs/>. A copy of the scale is available for download at: <http://www.liberalarts.wabash.edu/storage/assessment-instruments/NCS.doc>.

Miville-Guzman Universality-Diversity Scale

Fuertes, J. N., Miville, M. L., Mohr, J. J., Sedlacek, W. E., & Gretchen, D. (2000). Factor structure and short form of the Miville-Guzman Universality-Diversity Scale. *Measurement and Evaluation in Counseling and Development*, 33, 157–169.

Miville, M. L., Gelso, C. J., Pannu, R., Liu, W., Touradji, P., Holloway, P., et al. (1999). Appreciating similarities and valuing differences: The Miville-Guzman Universality-Diversity Scale. *Journal of Counseling Psychology*, 46, 291–307.

A copy of the scale is available for download at: <http://liberalarts.wabash.edu/storage/assessment-instruments/MGUDS.doc>.

Defining Issues Test (Version 2)

Bebeau, M. J. & Thoma, S. J. (2003). Guide for DIT-2. Published by the Center for the Study of Ethical Development, University of Minnesota. Can be ordered from <http://www.centerforthestudyofethicaldevelopment.net/Order%20Form.htm>.

Rest, J. R., Thoma, S. J., Narvaez, D., & Bebeau, M. J. (1997). Alchemy and beyond: Indexing the Defining Issues Test. *Journal of Educational Psychology*, 89, 498–507.

Rest, J. R., Narvaez, D., Thoma, S. J., & Bebeau, M. J. (1999). DIT-2: Devising and testing a revised instrument of moral judgment. *Journal of Educational Psychology*, 91, 644–659.

Thoma, S. J., Rest, J. R., & Davison, M. L. (1991). Describing and testing a moderator of the moral judgment and action relationship. *Journal of Personality and Social Psychology*, 61, 659–669.

More information is available from the Center for the Study of Ethical Development website: <http://www.centerforthestudyofethicaldevelopment.net/>. A copy of the DIT-2 is available for download at: <http://www.liberalarts.wabash.edu/storage/assessment-instruments/DIT-2.pdf>.

Ryff Scales of Psychological Well-Being

Ryff, C. (1989). Happiness is everything, or is it? Explorations on the meaning of psychological well-being. *Journal of Personality and Social Psychology*, 57, 1069–1081.

Ryff, C. & Keyes, C. (1995). The structure of psychological well-being revisited. *Journal of Personality and Social Psychology*, 69, 719–727.

Seifert, T. (2005). Assessment of the Ryff Scales of Psychological Well-Being. Retrieved October 23, 2009 from the Center of Inquiry in the Liberal Arts at Wabash College website:

<http://www.liberalarts.wabash.edu/ryff-scales/>.

A copy of the scales is available for download at: http://liberalarts.wabash.edu/storage/assessment-instruments/Ryff_Scales.doc.

Socially Responsible Leadership Scale – Revised Version II (SRLS-R2)

Astin, A. W., Astin, H. S., Boatsman, K. C., Bonous-Hammarth, M., Chambers, T., Goldberg, L. S., et al. (1996). *A social change model of leadership development: Guidebook (Version III)*. Los Angeles: University of California, Los Angeles, Higher Education Research Institute.

Dugan, J. P. (2006). Explorations using the social change model: Leadership development among college men and women. *Journal of College Student Development*, 47, 217–225.

Tyree, T. M. (1998). Designing an instrument to measure socially responsible leadership using the social change model of leadership development. *Dissertation Abstracts International*, 59(06), 1945. (UMI No. 9836493)

More information about the SRLS can be found at the National Clearinghouse for Leadership Programs website at http://www.nclp.umd.edu/resources/socially_responsible_leadership_scale.asp.

Life Goals Scales from Wabash National Study Student Surveys

Pascarella, E. T., & colleagues (2007). Methodological report for the Wabash National Study of Liberal Arts Education, pp. 12–13. Retrieved October 27, 2009, from the University of Iowa, Center for Research on Undergraduate Education website:

http://www.education.uiowa.edu/crue/publications/documents/WNSLAE_Research_Methods_Draft_March2008.pdf.

Copies of these scales are available for download at: <http://www.liberalarts.wabash.edu/study-instruments/>.

Orientation Toward Learning Scales from Wabash National Study Student Surveys

Pascarella, E. T., & colleagues (2007). [Methodological report for the Wabash National Study of Liberal Arts Education](#), pp 7–9 & 13–14.

Copies of these scales are available for download at: <http://www.liberalarts.wabash.edu/study-instruments/>.