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PSYCH > Vol.2 No.9, December 2011

OPEN ACCESS

## Development of the Higher Education Value Inventory: Factor Structure and Score Reliability

PDF (Size: 140KB) PP. 909-916 DOI: 10.4236/psych.2011.29137

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### ABSTRACT

Students bring to college a value system that affects their levels of academic achievement and persistence. The goal of this project was to develop a self-report inventory that measures the value students place on higher education. The Higher Education Value Inventory (HEVI) surveys students' attitudes and behaviors in five domains: family expectations, scholastic focus, achievement value, general education value, and achievement obstacles. We describe the development of the HEVI and report the results of reliability studies and factor analyses. HEVI scores accounted for 35.9% of the variance in freshman grades. Implications for educational researchers and admissions officers are provided

### KEYWORDS

Expectancy-Value Theory, Task Value, Motivation, College Students

### Cite this paper

Luttrell, V. & Richard, D. (2011). Development of the Higher Education Value Inventory: Factor Structure and Score Reliability. *Psychology*, 2, 909-916. doi: 10.4236/psych.2011.29137.

### References

- [1] American Educational Research Association, American Psychological Association, & National Council on Measurement in Education (1999). Standards for educational and psychological testing. Washington DC: American Educational Research Association, American Psychological Association, & National Council on Measurement in Education.
- [2] Atkinson, J. W. (1957). Motivational determinants of risk-taking behavior. *Psychological Review*, 64, 359-372. doi:10.1037/h0043445
- [3] Ausubel, D. P. (1968). *Educational psychology: A cognitive view*. New York, NY: Holt, Rinehart and Winston.
- [4] Battle A., & Wigfield, A. (2003). College women's value orientations toward family, career, and graduate school. *Journal of Vocational Behavior*, 62, 56-75. doi:10.1016/S0001-8791(02)00037-4
- [5] Berndt, T. J., & Miller, K. E. (1990). Expectancies, values, and achievement in junior high school. *Journal of Educational Psychology*, 82, 319-326. doi:10.1037/0022-0663.82.2.319
- [6] Bong, M. (2001). Role of self-efficacy and task-value in predicting college students' course performance and future enrollment intentions. *Contemporary Educational Psychology*, 26, 553-570.
- [7] Cattell, R. B. (1966). The scree test for the number of factors. *Multivariate Behavioral Research*, 1, 245-276.
- [8] Chiu, C.-M., Sun, S.-Y., Sun, P.-C., & Ju, T. L. (2007). An empirical analysis of the antecedents of web-based learning continuance. *Computers and Education*, 49, 1224-1245.
- [9] Comrey, A. L. (1973). *A first course in factor analysis*. New York, NY: Academic Press.
- [10] Cone, A. L., & Owens, S. K. (1991). Academic and locus of control enhancement in a freshman study

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- [11] Eccles, J. S. (1985). Why doesn't Jane run? Sex differences in educational and occupational patterns. In F. D. Horowitz, & M. O'Brien (Eds.), *The gifted and talented: Developmental perspectives* (pp. 251-295). Washington DC: USICAL Association.
- [12] Eccles, J. S., Adler, T. F., Futterman, R., Goff, S. B., Kaczala, C. M., Meece, J. L., & Midgley, C. (1983). Expectancies, values, and academic behaviors. In J. T. Spence (Ed.), *Achievement and achievement motivation* (pp. 75-146). San Francisco: W. H. Freeman.
- [13] Eccles, J. S., Adler, T., & Meece, J. L. (1984). Sex differences in achievement: A test of alternate theories. *Journal of Personality and Social Psychology*, 46, 26-43.
- [14] Eccles, E. S., Barber, B., & Jozefowicz, D. (1999). Linking gender to educational, occupational, and recreational choices: Applying the Eccles et al. model of achievement-related choices. In W. B. Swann, J. H. Langlois, & L. A. Gilbert (Eds.), *Sexism and stereotypes in modern society: The gender science of Janet Taylor Spence* (pp. 153-192). Washington DC: American Psychological Association.
- [15] Eccles, J. S., Vida, M. N., & Barber, B. (2004). The relation of early adolescents' college plans and both academic ability and task-value beliefs to subsequent college enrollment. *Journal of Early Adolescence*, 24, 63-77.
- [16] Eccles, J. S., & Wigfield, A. (1995). In the mind of the actor: The structure of adolescents' academic achievement task values and expectancy-related beliefs. *Personality and Social Psychology Bulletin*, 21, 215-225. doi: 10.1177/0146167295213003
- [17] Eccles, J. S., & Wigfield, A. (2002). Motivational beliefs, values, and goals. *Annual Review of Psychology*, 53, 109-132.
- [18] Farver, A. S., Sedlacek, W. E., & Brooks, G. C., Jr. (1975). Longitudinal predictions of university grades for blacks and whites. *Measurement and Evaluation in Guidance*, 7, 243-250.
- [19] Faust, D. F., & Courtenay, B. C. (2002). Interaction in the intergenerational freshman class: What matters. *Educational Gerontology*, 28, 401-422. doi:10.1080/03601270290081362
- [20] Feather, N. T. (1982). Expectancy-value approaches: Present status and future directions. In N. T. Feather (Ed.), *Expectations and actions: Expectancy-value models in psychology*. Hillsdale, NJ: Erlbaum.
- [21] Feather, J. T. (1988). Values, valences, and course enrollment: Testing the role of personal values within an expectancy-value framework. *Journal of Educational Psychology*, 80, 381-391. doi:10.1037/0022-0663.80.3.381
- [22] Ferry, T. R., Fouad, N. A., & Smith, P. L. (2000). The role of family context in a social cognitive model for career-related choice behavior: A math and science perspective. *Journal of Vocational Behavior*, 57, 348-364.
- [23] Findley, M. J., & Cooper, H. M. (1983). Locus of control and academic achievement: A literature review. *Journal of Personality and Social Psychology*, 44, 419-427. doi:10.1037/1022-3514.44.2.419
- [24] Floyd, F. J., & Widaman, K. F. (1995). Factor analysis in the development and refinement of clinical assessment instruments. *Psychological Assessment*, 7, 286-299. doi:10.1037/1040-3590.7.3.286
- [25] Frome, P. M., Alfeld, C. J., Eccles, J. S., & Barber, B. L. (2006). Why don't they want a male-dominated job? An investigation of young women who changed their occupational aspirations. *Educational Research and Evaluation*, 12, 359-372. doi:10.1080/13803610600765786
- [26] Frome, P. M., & Eccles, J. S. (1998). Parents' influence on children's achievement-related perceptions. *Journal of Personality and Social Psychology*, 74, 435-452. doi:10.1037/0022-3514.74.2.435
- [27] Gerardi, S. (1990). Academic self-concept as a predictor of academic success among minority and low-socioeconomic status students. *Journal of College Student Development*, 31, 402-407.
- [28] Gorsuch, R. (1997). Exploratory factor analysis: Its role in item analysis. *Journal of Personality Assessment*, 68, 532-560.
- [29] Green, R. J., & Hill, J. H. (2003). Sex and higher education: Do men and women attend college for different reasons? *College Student Journal*, 37, 557-563.

- [30] Guadagnoli, E., & Velicer, W. F. (1988). Relation of sample size to the stability of component patterns. *Psychological Bulletin*, 103, 265- 275. doi: 10.1037/0033-2909.103.2.265
- [31] Haynes, S. N., Richard, D. C. S., & Kubany, E. S. (1995). Content validity in psychological assessment: A functional approach to concepts and methods. *Psychological Assessment*, 7, 238-247. doi:10.1037/1040-3590.7.3.238
- [32] Hermon, D. A., & Davis, G. A. (2004). College student wellness: A comparison between traditional- and nontraditional-age students. *Journal of College Counseling*, 24, 32-39.
- [33] Husman, J., & Lens, W. (1999). The role of the future in student motivation. *Educational Psychologist*, 34, 113-125.
- [34] Jacobs, N., & Harvey, D. (2005). Do parents make a difference to children' s academic achievement? Differences between parents of higher and lower achieving students. *Educational Studies*, 31, 431-448. doi: 10.1080/03055690500415746
- [35] Jacobs, J. E., Lanza, S., Osgood, D. W., Eccles, J. S., & Wigfield, A. (2002). Changes in children' s self-competence and values: Gender and domain differences across grades one through twelve. *Child Development*, 73, 509-527.
- [36] Jinkens, R. C. (2009). Nontraditional students: Who are they? *College Student Journal*, 43, 979-987.
- [37] Jozefowicz, D. M., Barber, B. L., & Eccles, J. S. (1993, March). Adolescent work-related values and beliefs: Gender differences and relation to occupational aspirations. *Biennial Meeting of the Society for Research on Child Development*, New Orleans.
- [38] Kaiser, H. F. (1958). The varimax criterion for analytic rotation in factor analysis. *Psychometrika*, 23, 187-200. doi: 10.1007/BF02289233
- [39] Kalechstein, A. D., & Nowicki, S. Jr. (1997). A meta-analytic examination of the relationship between control expectancies and academic achievement: An 11-year follow-up to Findley and Cooper. *Genetic, Social, and General Psychology Monographs*, 123, 27-56.
- [40] Kanoy, K. W., Wester, J., & Latta, M. (1989). Predicting college success of freshmen using traditional, cognitive, and psychological measures. *Journal of Research and Development in Education*, 22, 65-70.
- [41] Kauffman, D. F., & Husman, J. (2004). Effects of time perspective on student motivation: Introduction to a special issue. *Educational Psychology Review*, 16, 1-7.
- [42] Lupart, J. L., Cannon, E., & Telfer, J. A. (2004). Gender differences in adolescent academic achievement, interests, values and life-role expectations. *High Ability Studies*, 15, 25-42.
- [43] Meece, J. L., Wigfield, A., & Eccles, J. S. (1990). Predictors of math anxiety and its consequences for young adolescents-course enrollment intentions and performance in mathematics. *Journal of Educational Psychology*, 82, 60-70.
- [44] Nagy, G., Trautwein, U., Baumert, J., K?ller, O., & Garrett, J. (2006). Gender and course selection in upper secondary education: Effects of academic self-concept and intrinsic value. *Educational Research and Evaluation*, 12, 323-345.
- [45] Neuville, S., Frenay, M., Schmitz, J., Boudrenghien, G., No?l, B., & Wertz, V. (2007). Tinto' s theoretical perspective and expectancy- value paradigm: A confrontation to explain freshmen' s academic achievement. *Psychologica Belgica*, 47, 31-50.
- [46] Novak, J. D. (1977). *A theory of education*. New York, NY: Cornell University Press.
- [47] Nunnally, J. C., & Bernstein, I. H. (1994). *Psychometric theory* (3rd ed.). New York, NY: McGraw-Hill.
- [48] Piaget, J. (1928/2009). Children' s under-standing of causality. *British Journal of Psychology*, 100, 207-224. doi: 10.1348/000712608X336059
- [49] Platt, C. W. (1988). Effects of causal attributions for success of first-term college performance: A covariance structure model. *Journal of Educational Psychology*, 80, 569-578. doi:10.1037/0022-0663.80.4.569
- [50] Pollio, H. R., Eison, J. A., & Milton, O. (1988). College grades as an adaptation level phenomenon. *Contemporary Educational Psychology*, 13, 146-156. doi:10.1016/0361-476X(88)90015-X

- [51] Reynolds, J. R., & Burge, S. W. (2008). Educational expectations and the rise in women's postsecondary attainments. *Social Science Research*, 37, 485-499. doi: 10.1016/j.ssresearch.2007.09.002
- [52] Rheinberg, F., Vollmeyer, R., & Rollett, W. (2000). Motivation and action in self-regulated learning. In M. Boekaerts, P. R. Pintrich, & M. H. Zeidner (Eds.), *Handbook of self-regulation* (pp. 503-529). San Diego, CA: Academic Press.
- [53] Rohan, M. J. (2000). A rose by any name? The values construct. *Personality and Social Psychology Review*, 4, 255-277.
- [54] Rokeach, M. (1973). *The nature of human values*. New York, NY: Free Press.
- [55] Rokeach, M. (1979). From the individual to institutional values with special reference to the values of science. In M. Rokeach (Ed.), *Understanding human values* (pp. 47-70). New York, NY: Free Press.
- [56] Rotter, J. B. (1954). *Social learning and clinical psychology*. New York, NY: Prentice-Hall.
- [57] Schab, F. (1974). Reasons for attending college as reported by female students in a southern university. *Florida Journal of Educational Research*, 16, 55-58.
- [58] Schwartz, S. H. (1992). Universals in the content and structure of values: Theoretical advances and empirical tests in 20 countries. In M. P. Zanna (Ed.), *Advances in experimental social psychology* (Vol. 25, pp. 1-65). San Diego, CA: Academic Press.
- [59] Schwartz, S. H. (2010). Basic values: How they motivate and inhibit prosocial behavior. In M. Mikulincer, & P. R. Shaver (Eds.), *Prosocial motives, emotions, and behavior: The better angels of our nature* (pp. 221-241). Washington, DC: American Psychological Association.
- [60] Sedlacek, W. E. (2005). The case for noncognitive measures. In W. J. Camara & E. W. Kimmel (Eds.), *Choosing students: Higher education admissions tools for the 21st century* (pp. 177-193). Mahwah, NJ: Lawrence Erlbaum.
- [61] Simpkins, S. D., Davis-Kean, P. E., & Eccles, J. S. (2006). Math and science motivation: A longitudinal examination of the links between choices and beliefs. *Developmental Psychology*, 42, 70-83. doi: 10.1037/0012-1649.42.1.70
- [62] Stevens, J. (2002). *Applied multivariate statistics for the social sciences* (4th ed.), Mahwah, NJ: Lawrence Erlbaum.
- [63] Updegraff, K. A., Eccles, J. S., Barber, B. L., & O'Brien, K. M. (1996). Course enrollment as self-regulatory behavior: Who takes optional high school math courses? *Learning and Individual Differences*, 8, 239-259.
- [64] Valencia, A. A. (1997). Anglo-American and Mexican American students' estimation of value placed on higher educational attainments by significant persons in their lives. *Journal of Multicultural Counseling and Development*, 25, 269-280.
- [65] VanZile-Tamsen, C. (2001). The predictive power of expectancy of success and task value for college students' self-regulated strategy use. *Journal of College Student Development*, 42, 233-241.
- [66] Watt, H. M. G. (2006). The role of motivation in gendered educational and occupational trajectories related to maths. *Educational Research and Evaluation*, 12, 305-322. doi: 10.1080/13803610600765562
- [67] Watt, H. M. G., Eccles, J. S., & Durik, A. M. (2006). The leaky mathematics pipeline for girls: A motivational analysis of high school enrolments in Australia and the USA. *Equal Opportunities International*, 25, 642-659.