

HEDS Weighted Baccalaureate Origins Study AY1971-AY1980 through AY1991-AY2000

Introduction

The HEDS Weighted Baccalaureate Origins Study utilizes data extracted from the Doctorate Records File (DRF) available through the National Science Foundation's (NSF) WebCASPAR database. Records from the DRF are created from responses to the Survey of Earned Doctorates (SED) which is currently collected by the National Opinion Research Center at the University of Chicago on behalf of NSF, the National Institutes of Health, the U.S. Department of Education, the National Endowment for the Humanities, the U.S. Department of Agriculture, and the National Aeronautics and Space Administration.

The SED is administered to all recipients of Ph.D. and equivalent degrees in the United States. Response rates have been historically high with 90.8% of doctorate recipients responding to the baccalaureate institutions item in academic year (AY) 2000, the most recent year released by NSF.

Because the SED is a census, there are no sampling or estimation errors inherent in the data. However, these data are susceptible to non-sampling errors and caution is urged in making interpretations of these results. First, because of changes in response rates over the years, analysts should use caution in interpretation of trends as what appears to be changes over time may in fact be caused by survey and/or item non-response. We have attempted to minimize the effects of this by summing data across overlapping ten-year periods, but be aware that bias of this type still exists in the records.

Related to item non-response, the key item "sex," which was used to identify females for the "Women Only" sections in this report, was imputed from first name prior to 1990. In addition to non-response errors, be cautioned that these data are self-reported. It is impossible to verify the accuracy of individual responses given for the items used in creating this report.

Method

Data

As noted above, the data for this study were drawn from the DRF through the WebCASPAR interface. It is a census of all Ph.D. and equivalent degree recipients and includes the degrees listed in Appendix A. Professional degrees, including Psy.D., D.Min., Pharm.D., M.D., etc. are not included in the DRF.

Consistent definition of the universe of institutions is important to interpretation of weighted and unweighted ranks across time periods. Changes in the definition of the universe can radically change the numeric ranks of institutions when comparing two time periods. Therefore, to better enable period-to-period comparisons, we have included five time spans in this report, all using the same universe of institutions. The time spans for doctorate origins are AY1971 – AY1980, AY1976 – AY1985, AY1981 – AY1990, AY1986 – AY1995, and AY1991 – AY2000. Be aware, however, that because of factors such as lack of origins, lack of responses, or institutional inception that some differences are known to exist between the time periods studied.

It was our intent to use the widest definition of the universe possible in order to make the rankings more meaningful. We selected all public and private, not-for-profit institutions that awarded baccalaureate degrees as at least 10% of all degree awards. Further, we selected schools that were included in the 2000 Carnegie Classifications (see Appendix B) and were identified as the institution of origin for at least 1 person in the years 1991 – 2000.

Because this report focuses primarily on weighted origins across time (see Analyses below), it was important to minimize the effect of institutions with very small and wildly fluctuating baccalaureate completion counts on the ranks. Such institutions' weights rank very highly in one time period due to the small denominator and then do not appear in other time periods due to lack of completions. In following this logic of maximization of institutional coverage while minimizing radical changes in rank due to tiny institutions, we limited the universe to institutions that awarded at least 100 baccalaureate degrees from 1986 to 1995 (an average of 10 awards per year).

Data for institutions that merged during the period of study were merged for the time periods prior to the merger in order to make their rankings more consistent across time periods. We have noted the merged institutions in Appendix C for interested users.

Please note that Academic Discipline codes used in this report differ from those used in prior HEDS Baccalaureate Origins Reports. The old NRC classifications were no longer available from NSF, so the default NSF classifications were used instead (Appendix D). Because of file size considerations, a subset of major disciplines are represented in this report: Total, All Disciplines, Subtotal, Sciences and Engineering, Engineering, Physical Sciences, Geosciences, Math and Computer Sciences, Life Sciences, Psychology, Social Sciences, Subtotal, Non-sciences, Humanities, Religion and Theology, Art and Music, and Business and Management. More detailed discipline-specific information is available in Excel format from on the HEDS website: <http://www.e-heds.org>.

The report summarizes indicators for the universe as defined above ($n = 1,302$), labeled in the report as "All Institutions," as well as two subsets of this universe – private not-for-profits ($n = 791$), labeled as "Private Institutions," and pre-selected peer institutions labeled as "Peer Institutions." The second subset, Peer Institutions, was defined for this report as institutions belonging to either the HEDS Consortium or COFHE ($n = 154$). However, analysts may use the interface on the Selection page of the peer tool to redefine this subset to one more appropriate to their needs (see accompanying documentation for using this feature).

Analyses

In this report, we ranked institutions' doctorate origins based on two quantities: the summed counts of origins across overlapping 10-year periods and the corresponding ratio of these sums to baccalaureate completions for an offset 10-year period. The first rank is referred to as an Unweighted rank in the report. The ratio of doctorate origins to baccalaureate completions was calculated by dividing the sum for a particular 10-year period by the sum of baccalaureate completions for the institution offset by five years. For example, the origins for AY1991 – AY2000 were divided by the sum of completions for the period AY1986 – AY1995. The rank of this ratio is referred to as a Weighted rank in the report.

Institutions' ranks were assigned in reverse order with the lowest ranks assigned to institutions with the highest sums and vice versa. Ranked positions of ties were skipped in order to reflect the total number of institutions with valid values for the given time period in the ranks.

Sources

Carnegie Foundation for the Advancement of Teaching (2002). The Carnegie Classification of Institutions of Higher Education, 2000 Edition. Electronic data file, second revision.

National Science Foundation, Division of Science Resources Statistics (2002). Survey of Earned Doctorates, 1999-2000 Methodology Report.