

Citation Counts, Prestige Measurement, and Graduate Training in Social Psychology

By Nia L. Phillips

Potential graduate students can use quite a lot of information in selecting a graduate program, and most often undergraduate faculty advisors provide that information. All too often, faculty advice to students comes in the shape of prestige of programs, and sometimes the prestige of the overall department determines this advice. While general impressions of programs and departments are useful, there is no substitute for specific information.

How can students (or potential faculty) learn about the relative merit of a given program? One source is the rankings from popular media such as *U.S. News and World Report's America's Best Graduate Schools*, or *Gourman Report of Graduate Programs*, available at the newsstand or on *socialpsychology.org*. Students may also make decisions based on the placement history of a program—programs that place their students in the jobs a potential graduate student is seeking will seem more attractive than a program without such a track record. Of course, students can select to attend only those programs that admit her or him.

To a student interested in top-quality research training, the citation counts of faculty at various programs might provide an additional indicator of the potential for research training (e.g., Endler, Roediger & Rushton, 1978). If the number of citations a given work has is one indicator of the quality of that work, then programs with greater overall citation counts may be generating work that is evaluated positively. Such data must always be treated with caution (e.g., fads, salesmanship, self-citation, difficulty of the work), but they may also be informative.

To that end, I calculated citation counts of faculty in many of the top social psychology training programs in the USA, and compared them to other measures of prestige, eminence or productivity already available. There are 105 social psychology Ph.D. programs in the USA, with about 500 regular faculty members. To keep the project manageable, I focused on the 32 graduate training programs selected by Ferguson & Crandall (2007), who had placed at least five of their Ph.D. graduates into current US Ph.D. granting training program faculties.

I created a list of the core social psychology faculty from their web pages, along with their Ph.D. year, training school, faculty rank, and gender. To count citations, I used Google Scholar on the 262 total faculty in these programs and recorded the number of citations from their *top three cited papers*, as well as the year the paper was published. Only those papers where the faculty member was the *first or second author* were counted.

To get a sample of the most influential work for each professor, I totaled the top 3 citations for faculty members ($M = 705.9$, $Med. = 357.0$). The difference between the mean and median is due to a small portion of faculty with total citation counts so large that they had to be treated as outliers. In some analyses, I substituted a total citation value of 3,000 for these particularly highly cited individuals. Table 1 shows the mean and median citations by faculty rank for the 262 faculty in the 32 target programs. An ANOVA using rank and gender found a significant effect of rank, $F(2, 130) = 15.3$, $p < .0001$ (see Table 1). There was no significant effect of gender and no interaction (F 's < 1).

Rank matters a great deal in citation counts, with older faculty receiving more citations than younger ones. Because some programs have many junior faculty, and other programs have no junior faculty, we calculated the citation rates of programs adjusted for average faculty rank. The school with the most cited faculty is Stanford, and the top ten most cited social programs are listed in alphabetical order in Table 2.

How many citations should a top-performing social psychologist receive? I created a multiple regression, using years since Ph.D. to predict one's expected citations, and the resulting equation was:

$$\text{Expected Citations} = -12.5 + 32.5 * \text{Years Since Ph.D.}$$

Thus, if one is using faculty members from these top institutions as a standard for judgment, they should expect to receive approximately 33 citations per year upon finishing their degree, counting only their top three papers.

To see how citation counts related to other measures of educational prestige, I created an "average citation count" for each program, controlling for the overall rank of faculty members at the program. I then correlated this average citation count with other measures of program quality: *U.S. News and World Report's* psychology and social psychology programs (2002 and 2008), Princeton Review's 1996 Gourman rankings of graduate programs (Gourman, 1997), the average GRE V+Q (verbal and quantitative) score for the programs (from the APA's *Graduate Study in Psychology*, 2004), and the rate students are placed in Ph.D.-granting social psychology programs in the USA (see Ferguson & Crandall, 2007).

Publication rates, adjusted for rank was significantly correlated with all measures of academic prestige except for the number of students admitted (from APA, 2004) and the number of faculty members placed into faculty positions between 1991 and 2005 (see Table 3).

While generating these data, I created a list of the most cited individuals at each faculty level. In Table 4, I have listed the five most cited faculty within each rank, but extended the citation counts for assistant professors to a "top ten."

Some caveats. Certain biases are introduced by the way this study was conducted. First, Google Scholar is more effective at finding recent citations than older citations. To the extent that an important paper was heavily cited a few years back, it may be undervalued here. Second, programs do not have the bright lines separating out social psychologists from other kinds of psychologists, and programs can be substantially improved by interdisciplinary contact and cross-over training. Third, by sampling only the top three citations, we underestimate the impact of scientists whose work is moderately cited across many different papers, and overestimate the impact of some scientists whose citations are concentrated in just one or two. However, the "top three" is likely to correlate very highly with total citations, especially since it samples the papers that contribute the most to overall citations.

Conclusions. Since the average citation counts for a given program were positively correlated with other established measures of merit, there is evidence that the citation counts of the faculty members at a given institution is an additional measure that can be used to judge the relative quality of that institution. When researching institutions both with the goal of being a student or a faculty member, this measure can provide additional information on which individuals can base their decisions.

References

- American Psychological Association (2004). *Graduate study in psychology*. Washington, DC: Author.
- Ferguson, M. & Crandall, C.S. (2007). Trends in graduate training in social psychology: Training social psychology's trainers. *Basic and Applied Social Psychology* 29, 313-324.
- Gourman, J. (1997). *The Gourman report: A rating of graduate and professional programs in American and international universities* (8th Ed.). New York: Princeton Review.
- U.S. News and World Report's America's Best Graduate Schools*. (2008). Washington, DC: Author.

Table 1. *Mean total citations by rank*

Rank	Median Citations	Mean Citations	<i>n</i>
Assistant	81.0	118.6	53
Associate	179.5	240.3	38
Full	645.0	1232.5	171
Full, Adjusted*	645.0	991.3	171
Total	357.0	705.9	262

*Adjusted values set an individual's maximum citation count at 3000 (n=xx).

Table 2. Top Ten Social Psychology Programs with Most Cited Faculty, Adjusted for Faculty Rank

Carnegie Mellon	Northwestern
Columbia	NYU
Cornell	Stanford
Harvard	Texas-Austin
Michigan	UCLA

Table 3. *Partial Correlations between Program Citation Rate and other measures of program quality, controlling for Average Rank of Faculty*

Quality measures	Partial <i>r</i>
Number of faculty placed in US Ph.D. programs, 1950-2004	.44*
Number of faculty placed in US Ph.D. programs, 1991-2004	.27
Percentage placed, 1991-2004	.47*
Number of students admitted to the Program, 1991-2004	-.02
GRE V+Q	.63*
US News Departmental Ratings, 2002	.49*
US News Departmental Ratings, 2008	.51*

Note: * $p < .05$, $N=33$. Partial correlations control for the "average rank" of faculty.

Table 4. *Top cited faculty members by rank.*

Rank	Name	Degree Institution and Yale	Current Employer
Assistant	Kevin Ochsner	Harvard University, 1988	Columbia
	Brian Nosek	Yale University, 2002	Virginia
	Matthew Lieberman	Harvard University, 1999	UCLA
	Melissa Ferguson	New York University, 2002	Cornell
	Jason Mitchell	Harvard University, 2003	Harvard University
	William Cunningham	Yale University, 2003	Ohio State University
	Jennifer Beer	University of California-Berkeley, 2002	University of Texas-Austin
	Keith Payne	Washington University, 2001	UNC-Chapel Hill
	Matthias Mehl	University of Texas-Austin, 2004	University of Arizona
	Heejung Kim	Stanford University, 2001	UC-Santa Barbara
Associate	Kaiping Peng	University of Michigan, 1997	UC-Berkeley
	Robert Josephs	University of Michigan, 1990	University of Texas-Austin
	Wendi Gardner	Ohio State University, 1996	Northwestern University
	Brett Pelham	University of Texas-Austin, 1989	University of Buffalo
	John Jost	Yale University, 1995	New York University
Full	Albert Bandura	University of Iowa, 1952	Stanford University
	Icek Ajzen	University of Illinois-UC, 1969	University of Massachusetts
	David Kenny	Northwestern University, 1972	University of Connecticut
	Leona Aiken	Purdue University, 1970	Arizona State University
	Stephen West	University of Texas-Austin, 1972	Arizona State University

Highly cited papers and books in social-personality psychology

By Nia Phillips

While searching for citations of the faculty members at various institutions, I came across a number of works that had been cited a remarkable number of times. Below are the papers (books, articles, chapters) in social-personality psychology that have been cited more than 1000 times, in order of total number of citations.

- Baron, R. M., & Kenny, D. A. (1986). The moderator-mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology*, *51*, 1173-1182.
- Bandura, A. (1989). Social cognitive theory. In R. Vasta (Ed.), *Annals of child development. Vol. 6. Six theories of child development*. Greenwich, CT: JAI Press.
- Fishbein, M., & Ajzen, I. (1975). *Belief, attitude, intention and behavior: An introduction to theory and research*. Reading, MA: Addison-Wesley.
- Bandura, A. (1977). Self-efficacy: Toward a unifying theory of behavioral change. *Psychological Review*, *84*, 191-215.
- Bandura, A. (1997). *Self-efficacy: The exercise of control*. New York: Freeman
- Bandura, A. (1977). *Social learning theory*. Englewood Cliffs, N J: Prentice-Hall.
- Aiken, L. S., & West, S. G. (1991). *Multiple regression: Testing and interpreting interactions*. Newbury Park, CA: Sage.
- Ajzen, I. (1980). *Understanding attitudes and predicting social behavior*. Englewood Cliffs, NJ: Prentice-Hall.
- Watson, D. Clark, L. A. & Tellegen, A. (1988). Development and validation of brief measures of positive and negative affect: The PANAS scales. *Journal of Personality and Social Psychology*, *54*, 1063-1070.
- Fiske, S. T, & Taylor, S. E. (1984). *Social cognition*. Reading, MA: Addison-Wesley.
- Shrout, P. E., & Fliess, J. L. (1979). Intraclass correlations: Uses in assessing rater reliability. *Psychological Bulletin*, *86*, 420-428.
- Deci, E. L., & Ryan, R. M. (1985). *Intrinsic motivation and self-determination in human behavior*. New York: Plenum.
- Markus, H. R., & Kitayama, S. (1991). Culture and the self: Implications for cognition, emotion, and motivation. *Psychological Review*, *98*, 224-253.
- Bandura, A. (1986). *Social foundations of thoughts and action*. Englewood Cliffs, NJ: Prentice-Hall.
- Csikszentmihalyi, M. (1990). *Flow: The psychology of optimal experience*. New York: Harper & Row.
- Bandura, A. (1982). Self-efficacy mechanism in human agency. *American Psychologist*, *37*, 122-147.
- Eagly A. H., Chaiken S. (1993). *The psychology of attitudes*. Fort Worth, TX: Harcourt Brace.
- Nisbett, R. E., & Wilson, T. P. (1977). Telling more than we know: Verbal reports on mental processes. *Psychological Review*, *84*, 231-279.
- Nisbett, R., Ross, L. (1980). *Human Inference: Strategies and Shortcomings of Social Judgment*. Englewood Cliffs, NJ: Prentice-Hall.
- Taylor, S. E., & Brown, J. D. (1988). Illusion and well-being: A social psychological perspective on mental health. *Psychological Bulletin*, *103*, 193-210.
- Bem, S. L. (1974). The measurement of psychological androgyny. *Journal Consulting and Clinical Psychology*, *42*,155-62.
- Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes*, *50*, 179-211.
- Zajonc R. B. (1980). Feeling and thinking: Preferences need no inferences. *American Psychologist*, *35*, 151-75.
- Carver, C. S., Scheier, M. F., & Weintraub, J. K. (1989). Assessing coping strategies: A theoretically based approach. *Journal of Personality and Social Psychology*, *56*, 267-283.

- Hackman, R. & Oldham, G. (1980). *Work redesign*. Reading, MA: Addison Wesley.
- Ajzen, I. (1988). *Attitudes, personality, and behavior*. Chicago: Dorsey Press.
- Cohen, S., Kamarck, T., & Mermelstein, R. (1983). A global measure of perceived stress. *Journal of Health and Social Behavior*, 24, 385-396.
- Lind, E. A., & Tyler, T. R. (1988). *The social psychology of procedural justice*. New York: Plenum.
- Diener, E., Sapyta, J. J., & Suh, E. (1998). Subjective well-being is essential to well-being. *Psychological Inquiry*, 9, 33-37.
- Rosenthal, R. (1991). *Meta-Analytic Procedures for Social Research*. Newbury Park, CA: Sage.
- Dweck, C. S., & Leggett, E. L. (1988). A social cognitive approach to motivation and personality. *Psychological Review*, 95, 256-273.
- Petty, R. E., & Cacioppo, J. T. (1986). *Communication and persuasion: Central and peripheral routes of attitude change*. New York, NY: Springer-Verlag.
- Diener, E., Emmons, R. A., Larsen, R. J., & Griffin, S. (1985). The Satisfaction With Life Scale. *Journal of Personality Assessment*, 49, 71-75.
- Maslach C., Jackson S. E., & Leiter, M. P. (1996). *Maslach Burnout Inventory Manual*. Palo Alto, CA: Consulting Psychology Press.
- Rosenthal, R. (1991). *Essentials of Behavioral Research: Methods and Data Analysis*. New York: McGraw-Hill.
- Hazan C., & Shaver P. (1987). Romantic love conceptualized as an attachment process. *Journal of Personality and Social Psychology*, 52, 511-524.
- Devine, P. G. (1989). Stereotypes and prejudice: Their automatic and controlled components. *Journal of Personality and Social Psychology*, 56, 5-18.
- Scheier, M. F., & Carver, C. S. (1985). Optimism, coping, and health: Assessment and implications of generalized outcome expectancies. *Health Psychology*, 4, 219-247.
- Deci, E. L. (1975) *Intrinsic motivation*. New York: Plenum.
- Weiner, B. (1986). *An Attributional Theory of Motivation and Emotion*, New York: Springer.
- Mischel, W. (1968). *Personality and assessment*. New York: Wiley.
- Baumeister, R., & Leary, M. R. (1995). The need to belong: Desire for interpersonal attachments as a fundamental human motivation. *Psychological Bulletin*, 117, 497-529.
- Weiner, B. (1985). An attributional theory of achievement motivation and emotion. *Psychological Review*, 92, 548-573.