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Examining the utility judgments of public and business administration instructors and understanding their professional identity

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Abstract

Purpose – The purpose of this paper is to determine if business and public administration have distinct identities based on perception of curriculum areas.

Design/methodology/approach – PROSCAL, and algorithm for multidimensional scaling was used.

Findings – Business and public administration faculties have different identities based on their perceptions of curriculum areas.

Research limitations/implications – Relied on a maximum likelihood probability approach. The study should be replicated using other psychometric techniques, or be extended to other disciplines.

Practical implications – Public administration is empirically validated as distinct from business administration and political science. Care must be taken when borrowing ideas from either field, though results indicate that communicating with business administration would be easier due to the shared space.

Originality/value – It is one of the few (if not the only) papers using PROSCAL. It is one of the first to mathematically determine if groups were understanding and processing stimuli similarly enough to be compared.

Keywords Public administration, Business administration, Work identity, Psychometric tests

Paper type Research paper

Introduction

Training and education has consistently been at the forefront of discussions of governance in both the public and private sectors. Specifically, questions of who can “best” train individuals to function in public and private organizations, as well as what disciplines they originate from create a great deal of debate and controversy, especially in the USA where public and private sectors are at least perceived as being different from each other, requiring different training, education, and socialization. Deciphering the validity of such arguments without some systematic empirical examination becomes rather difficult, as the debates tend to focus on rhetoric instead of evidence. This study breaks from rhetorical discussions by examining the utility judgments of instructors in business and public administration, the mathematical space they occupy, and associated consequences of their positions. In turn, this analysis can provide an empirical “snapshot” of the groups, determine their similarities and differences, if any,



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and provide a tool that is useful to both scholars and practitioners as a means to reflect on their professional identity.

Accomplishing such a complex study of professional identity using psychological judgments requires an analytical technique capable of first, compensating for potential language differences. Second, it must also account for experiential differences, as well as accounting for potential differences in perception. Third, it should relate subjective measurements to objective properties, such as perceptions to national standards. Fourth, any technique used to answer this type of descriptive question should provide stable results regardless of sample size, be able to differentiate among potentially related measures, and extract an optimal psychometric structure. To accomplish these tasks, the study questions our current conception and understanding of a professional identity using an advanced technique for probabilistic multidimensional scaling and national standards for professional education.

The research context

Research on the professional identity of public administration has been pervasive. Some early scholars attempted to justify the practice with scientific management (Wilson, 1887; Goodnow, 1900; Metcalf and Urwick, 1941), arguably as a reaction to progressive era beliefs and widespread corruption in the late 1800s. However, scientific management was unable to legitimate the study and practice of public administration, causing some to consider other ways to establish an identity. Consequently, later scholars began to discern that political theory might also inform the study of public administration (Waldo, 1955, 1984; Marini, 1971; Rohr, 1986; Wamsley *et al.*, 1990; Storing, 1980). This coincided with people discovering the limits of scientific management particularly its reliance on specialization, rules, and lack of flexibility when faced with change. Consequently, modern public administration maintains literature streams grounded both in the social sciences and in political theory. Still more research has focused on how public administration relates to other fields including Business Administration (Abbasi, 1982; Bozeman, 1989, 1993; Savas, 1982; Murray, 1975; Rainey *et al.*, 1976; Russo, 1990; Rainey, 1997) and political science (Whicker *et al.*, 1993; Keller and Spicer, 1997).

More generally, continuing research argues for a link between professional identity and the programs in which scholars teach. Accreditation standards have been consistently linked to the development of this identity (Banovetz, 1967; Honey, 1967; Medeiros, 1974; Fritschler and Mackelprang, 1977; Schott, 1976; Daniels and Johansen, 1985; Uveges, 1987), though mostly for practitioners. This professional identity also has been linked more generally to prestige, goal formation (Perrow, 1961), and success (Drew, 1984).

Given current performance based concerns, where agencies increasingly become subject to federal mandates such as the Government Performance and Results Act (Long and Franklin, 2004), broader conceptions of service quality (Folz, 2004), and the political consequences of the National Performance Review (Thompson, 2001), it becomes necessary for scholars and practitioners to consider avenues that might influence future success, as well as understanding. To accomplish such a task one must understand “what we think” as professions. Though one cannot directly examine what is thought, perceptions and artifacts of thought can help us to understand professional identity.

Some basic questions emerge from this discussion including: Does public administration have a unique identity that can be identified using psychometric information? Is this identity "shared" with either business administration or political science?, and if so is there an empirical argument that can be made for either as a "mother" discipline for public administration.

This task is daunting given that many analytical techniques cannot adequately measure or process the information gained from these psychometric artifacts of thought. However, if a study employed a set of non-standard techniques, while understanding their associated mathematical rules, it might discover means and methods that allow us to examine these artifacts of thought, these utility judgments, and eventually make determinations about the validity of assertions made those advocating public administration, business administration, and political science.

Methods

Multidimensional scaling was selected as the analytical tool since it can systematically represent how psychological stimuli[1] are perceived in some geometric space[2]. This research relies on the multidimensional scaling algorithm PROSCAL[3] written in Fortran 77. It applies Thurstone's (1927) law of comparative judgment, the work of Coombs (1952, 1964) and of Hefner (1958) using maximum likelihood probability to fit the optimal representation of stimuli for each group. These representations include the optimized measures for attribute space, dimensionality, and distance. Similar to other multidimensional scaling techniques, PROSCAL is very robust, and provides stable representations of distance judgments between pairs of stimuli for complete, incomplete, or replicated data (Mackay and Zinnes, 1982). These distance judgments, and the dispersion parameters they generate, enable us to construct and test hypotheses about the structure, agreement, and comparability of the distance judgments. In this research, these distance judgments represent the relative utility of each stimulus.

The sample frame for this research comes from public and business administration instructors teaching in the USA. A total of 1,000 public administration instructors (representing over 33 percent of the population) and 1,000 business administration instructors (representing over 8 percent of the population) were randomly selected using the College Marketing Group (CMG) database. Each potential respondent was given a survey with a postage paid return envelope and accompanying instructions. The use of these large samples was essential to ensure that at least 200 complete and usable responses would be available for analysis. Historically, PROSCAL and AHP driven studies have lower than average response rates given the complexity of the instrument, the presentation of choices, and need for logical consistency.

This study selected instructors of public and business administration since they arguably should provide the clearest representation of utility judgments and have the greatest interest in its outcomes. Earlier research indicates that master's programs are at least partly a socialization process where students are indoctrinated with the beliefs central to the field they are studying (Leavitt, 1991). This finding is consistent with other arguments generally about group socialization (Selznick, 1957, 1994). Arguably, doctoral programs should also help socialize graduates with a more consistent understanding of each field's set of values.

During the research design phase of the study, literature on administration combined with NASPAA (National Association of Public Affairs and Administration) and AACSB (American Association of Collegiate Schools of Business) standards were used to develop the stimuli (perceived objects) being ranked in this study. Table I

Value	NASPAA	AACSB	Literature
1. General competencies	Capable of intelligent, creative analysis and communication, and action in public service Information, including computer literacy and applications	Basic skills in written and oral communication Computer usage	Barnard (1938), Taylor (1992)
2. Quantitative research methods	Quantitative . . . techniques of analysis	Quantitative analysis	Schumpeter (1950), Merton (1952), Gulick and Urwick (1937)
3. Finance and budgeting	Budgeting and financial processes	Financial reporting, analysis	Merton (1952), Gulick and Urwick (1937), Bortorff (1989)
4. Economics	Economic and . . . institutions and processes	Economic environments of organizations Markets	Barnard (1938), Taylor (1992), Bortorff (1989), Weber (1978)
5. Management concepts	Management concepts	Focus groups	Merton (1952), Downs (1967), Gulick and Urwick (1937), Bortorff (1989), Taylor (1967)
6. Organization studies	Organizational environment Organization and . . . concepts and behavior	Environments of organizations Human behavior in organizations	Barnard (1938), Taylor (1992), Merton (1952), Downs (1967), Weber (1978)
7. Decision making and problem solving	Decision making and problem solving	Focus groups	Barnard (1938), Taylor (1992), Bortorff (1989), Simon (1947), March and Simon (1993)
8. Political and legal processes	Political and legal institutions and processes	The influence of political, social, legal and regulatory	Barnard (1938), Taylor (1992), Merton (1952), Downs (1967)
9. Provision and distribution of goods and services	Focus groups	Creation and distribution of goods and services	Barnard (1938), Bortorff (1989)
10. Strategy making and evaluation	Policy and program formulation, implementation and evaluation	Focus groups	Barnard (1938), Taylor (1992), Bortorff (1989)
11. Ethics	The common curriculum components shall enhance the student's values, knowledge, and skills to act ethically	Ethical and global issues	Barnard (1938), Taylor (1992)

Table I.
Sources for the stimuli used

provides an overview of the 11 stimuli used in this research. After the initial selection, five small focus groups of five to eight public administration instructors and five to eight business administration instructors across the USA were used to obtain the most generic wording and descriptions possible for these stimuli. Afterwards, participating members from the focus groups were used to cross check the wording of the stimuli. They include: general competencies, quantitative research methods, finance and budgeting, economics, management concepts, organization studies, decision making and problem solving, political and legal processes, provision and distribution of goods and services, strategy making and evaluation, and ethics.

The combination of literature, standards, and focus groups identified the values used and clarified the wording for each value definition. In addition, general competencies, quantitative research methods, economics, and ethics are similarly worded in both sets of standards. In contrast, AACSB has no formal standards for understanding management concepts, decision making and problem solving, and program formulation, implementation, and evaluation. A business administration focus group indicated that decision making existed as part of the operations management training, and that program formulation, implementation and evaluation existed as strategic management. This led to the selection of strategy making and evaluation as a single stimulus, while keeping decision making separated. NASPAA did not have any written standards for the creation and distribution of goods and services, however, a public administration focus group pointed to service delivery as a source for this value.

Since the PROSCAL algorithm is developed from Thurstone's (1927) law of comparative judgment, the stimuli must be presented as pairs on a continuum. In addition, each pair of stimuli must be presented in a specific order and at regular intervals until all combinations are presented. In any analysis using paired comparisons, most scholars rely on Ross' (1934) rules for optimal order to determine the sequence of presentation for the pairs of stimuli. In addition, the technique used requires the presentation of each pair on a ratio level scale. This ratio level scale provides us with distance judgments that according to Mackay and Zinnes (1982, p. 1) are interpreted as "subjective statements about the degree of dissimilarity between pairs of stimuli." These distances, expressed as a log-likelihood by PROSCAL, allow us to determine which stimuli are most preferred relative to all others, the magnitude of preference, and the relative disagreement among respondents for each. The demographic section of the questionnaire did not require any special order or scaling strategy, and the focus groups and literature review provided useful suggestions for content.

The initial questionnaire was pre tested on a purposive sample of public and business administration instructors. After the pretest was completed, wording changes were made to the survey to enhance overall clarity. Before inclusion in the final questionnaire (see the Appendices 1-3), these changes were presented to each focus group for validation. All suggestions made by those participating in the pretest, and focus groups further clarified the questionnaire and cover letter, improving both.

Two issues could not be addressed by the pretest. First, the presentation and scaling based on Thurstone's (1927) law of comparative judgment was considered by participants to be "mentally taxing" and "confusing." This response from participants is consistent with the work of Bowen (1995) and others; however, the literature on

PROSCAL indicates this does not systematically bias the outcomes. Second, there were concerns that the sample of business administration instructors might produce fewer responses. Further review of the literature indicated that using the method of paired comparisons was consistently more taxing than a standard questionnaire, and often resulted in lower usable response rates[4]. In addition, a study by Jobber and Saunders (1988) indicated that not being a member of the study group could influence responses by as much as 10 percent. However, Schiffman *et al.* (1981), state that smaller usable samples are not a problem as long as the data are representative, since multidimensional scaling analysis “generally yield stable spaces with only a few judgments” (p. 4).

The final questionnaire was mailed, and respondents were asked to read the 11 stimuli and their descriptions carefully and then complete the questionnaire. They responded to the presentation of pairs of values using the ratio level scale. Therefore, if ethics and economics were compared and a respondent marked a 40 on the ethics side, ethics would be considered 40 points more important than economics. This final questionnaire was mailed to all 2,000 public and business administration instructors using the randomized sample from CMG. A phone reminder was used with a facsimile follow up to reduce non-responses. The final gross response rate was 15.8 percent or 315 responses; making this possibly the largest dataset ever attempted using the PROSCAL algorithm.

After the surveys were returned, the responses were screened to ensure they were complete, consistent, and representative. First, to ensure valid psychological comparisons, all questionnaires which had over 5 percent incomplete comparisons were removed leaving $n = 287$. Second, responses were tested for transitivity[5]. Transitive judgments are essential for this research; questionnaires with intransitive judgments over 15 percent are considered too inconsistent for use. Therefore, surveys containing more than 15 percent intransitive responses were removed, consistent with other literature using PROSCAL and AHP. This left an aggregate of 251 responses that were both complete and usable. Finally, the demographic variables were systematically compared to the national statistics on business and public administration instructors. Neither sample was statistically different from their respective populations on any of the demographic variables (including age, gender, academic rank, and ethnicity) using data from the US Department of Education, NASPAA, and the AACSB, validating their representativeness[6]. Since the stimuli were not ideologically charged, and the useable responses did not show any patterns of bias when compared to their populations, the data were considered representative and unbiased.

The next set of analyses determined if the two groups were statistically comparable. To get a statistically comparable representation, the two groups (instructors of public and business administration) must share the same attribute space. Psychologically, attributes are perceived characteristics of a stimulus, and space is the set of all potential points defined by a set of dimensions (Schiffman *et al.*, 1981, pp. 14-15). Sharing the same attribute space then would indicate that members of these two groups understand and psychologically process the 11 stimuli in both a similar and meaningful way. PROSCAL determines if the two groups share the same attribute space by generating an optimal log likelihood for each group. The next step involved testing these measures using a non-central chi-square test, to determine if the measures

shared the same attribute space. Initially, the two groups were statistically incommensurable with a non-central chi-square of 23,897.12 and 112 degrees of freedom. The data was then systematically sorted and retested using each of the demographic variables to determine if there was a pattern for this incommensurability. The variable terminal degree identified a pattern of difference leading to the identification of a subgroup within the data. The research uncovered that instructors with terminal degrees in political science were the reason for this statistical incommensurability. Next, this subgroup was systematically identified and compared to the remaining public and business administration instructors using the non-central chi-square test, validating that these political scientists were the confounding element when compared to both remaining groups.

The discovery of two distinct groups within one of the targeted groups arguably is a major, if unexpected finding in this research particularly when considering that members of the confounding group (political scientists) typically see themselves as the “mother discipline” of public administration. The test of incommensurability raises a serious question about group identity. Specifically, despite sharing a set of national standards for accreditation, which in many instances make up the traditional “core competencies” of a field, training in political science appears to create a set of preferences alien to both public and private administration. It became imperative to exclude the statistically incommensurable sub group of roughly 70 political scientists. Once excluded, the remaining public administration instructors were tested again against the business administration instructors resulting in a small non-central chi-square statistic that was not significant. Such an outcome demonstrated that the two groups then were able to understand and process the 11 stimuli used in this study similarly, which enabled a systematic comparison their judgments.

Prior to the final ranking and comparison, a final set of analyses optimized the dimensionality of the responses. PROSCAL works from the assumption that the simplest solutions are considered “best” if ones that are more complex do not increase the value of the log-likelihood for the solution. This research found that the optimal solution was uni-dimensional since there was no improvement in the log likelihoods when compared to the two and three-dimensional solutions. The uni-dimensional solution was used for the remaining analysis based on its parsimony and ease of explanation while remaining the “best” mathematical solution.

Findings

The following discussion addresses the two major findings of the research. The first set of findings addresses how the two groups (public and business administration instructors) rank the 11 stimuli based on their simple or Euclidean distance from an ideal point (Coombs, 1952, 1964). The second set of findings considers the standard deviations for each value’s ranking, which is an accurate measure of uncertainty (Mackay and Zinnes, 1982). Higher deviations indicated a greater disagreement over the rankings and lower deviations indicated less disagreement. Initially, the PROSCAL Case V solution (Thurstone, 1927) and nonparametric statistics were used to describe the data and supplement the results.

Based on discussions in a variety of forums, it was determined that examining the utility judgments using some simple statistics would help a broader audience to appreciate and use the findings. In effect, this additional step should help enhance

clarity, and provide a bridge to more familiar analytical ground. This choice represents a compromise between the need to communicate findings and the need for mathematical rigor since PROSCAL works from the assumption of maximum likelihood probability and most hypothesis testing happens within the rubric of relative frequency probability. To do the least amount of violence to mathematical rules, a simple nonparametric test was administered using a nominal measure to indicate group membership. The Wilk's lambda statistic was significant at 0.001, indicating that although the two groups understood and cognitively processed the utility judgments similarly (based on the space analysis), their rankings of these stimuli were statistically different. This result, though interesting, is of limited mathematical use given the differing sets of assumptions between maximum likelihood and relative frequency probability, and should only be taken as an illustration, and not as a truism.

The following illustration provides a visual representation of the simple or Euclidean distances for instructors of public administration (Table II).

Notice that the stimulus, management concepts, is ranked most highly, while economics, ethics, and the provision and distribution of goods and services are ranked as least important. In addition, there was a cluster of stimuli seen as equally important. These included finance and budgeting, quantitative research methods, and general competencies. When taking only the simple, Euclidean distances into account, this appears to indicate a managerial emphasis among instructors of public administration.

A visual representation of the simple distances for instructors of business administration is also included in this research (Table III).

Provision and distribution of goods and services and strategy making and evaluation are ranked most highly, while political and legal processes, economics, and ethics are ranked as least important. In addition, there was a cluster of stimuli seen as equally important. These included management concepts, quantitative research methods, finance and budgeting, general competencies and organization studies. When considering only the simple, distances, this appears indicate an emphasis on production and strategies for production, consistent with our perceptions of what people in business administration do.

Euclidean distances by themselves cannot provide a complete picture of what these two groups value. To get a more accurate representation, a more complete picture, the study must consider disagreement and use the statistical distances to clarify our

Rank	Simple distance	Disagreement indicator	Stimulus
1	8.60E - 03	721.68	Management concepts
2	1.03E - 02	121.65	Quantitative research methods
2	1.03E - 02	514.90	General competencies
2	1.03E - 02	524.69	Finance and budgeting
3	1.46E - 02	519.74	Organization studies
4	1.89E - 02	702.73	Decision making and problem solving
5	1.05E - 01	502.09	Political and legal processes
6	2.12E - 01	341.69	Strategy making and evaluation
7	4.02E - 01	24.13	Economics
8	6.48E - 01	243.02	Ethics
9	1.35E + 00	13.84	Provision and distribution of goods and services

Table II.
Public administration
utility rankings

Table III.
Business administration
utility rankings

Rank	Simple distance	Disagreement indicator	Stimulus
1	1.24E - 01	30.80	Provision and distribution of goods and services
2	1.02E + 00	182.08	Strategy making and evaluation
3	1.24E + 00	520.97	Management concepts
3	1.24E + 00	10.04	Quantitative research methods
3	1.24E + 00	97.55	Finance and budgeting
3	1.24E + 00	979.30	General competencies
3	1.24E + 00	138.50	Organization studies
4	1.25E + 00	836.42	Decision making and problem solving
5	1.33E + 00	10.04	Political and legal processes
6	1.63E + 00	24.51	Economics
7	1.88E + 00	19.89	Ethics

understanding. These statistical distances, if similar to the simple ones, would indicate consistent, agreed upon rankings in each field of study. Large differences indicate the presence of multiple sets of priorities or possibly a fragmented identity generally.

The following is a representation of the statistical distances for stimuli that public administration instructors have (Table IV).

The provision and distribution of goods and services item is ranked most highly, while finance and budgeting, decision making and problem solving, and general competencies are ranked as least important. For the statistical differences, there was no clustering of judgments on the public administration side, but the second through fourth rankings included economics, quantitative research methods, and ethics.

Business administration instructor's statistical distances are represented with the following illustration (Table V).

The stimuli political and legal processes and quantitative research methods were ranked most highly, while management concepts, decision making and problem solving, and general competencies are ranked as least important. For the statistical differences among the instructors of business administration, clustering happened at the top, and the second through fourth rankings included ethics, economics, and the provision and distribution of goods and services.

After examination of this information, one thing becomes clear. Business administration and public administration instructors parallel each other in the sense

Table IV.
Public administration
utility rankings

Rank	Simple distance	Disagreement indicator	Stimulus
1	1.19E + 01	13.84	Provision and distribution of goods and services
2	1.69E + 01	24.13	Economics
3	7.45E + 01	121.65	Quantitative research methods
4	1.48E + 02	243.02	Ethics
5	2.08E + 02	341.69	Strategy making and evaluation
6	3.06E + 02	502.09	Political and legal processes
7	3.13E + 02	514.90	General competencies
8	3.16E + 02	519.74	Organization studies
9	3.19E + 02	524.69	Finance and budgeting
10	4.28E + 02	702.73	Decision making and problem solving
11	4.39E + 02	721.68	Management concepts

Rank	Simple distance	Disagreement indicator	Stimulus
1	1.07E + 01	10.04	Quantitative research methods
1	1.07E + 01	10.04	Political and legal processes
2	1.68E + 01	19.89	Ethics
3	2.00E + 01	24.51	Economics
4	2.44E + 01	30.80	Provision and distribution of goods and services
5	7.39E + 01	97.55	Finance and budgeting
6	1.05E + 02	138.50	Organization studies
7	1.37E + 02	182.08	Strategy making and evaluation
8	3.93E + 02	520.97	Management concepts
9	6.30E + 02	836.42	Decision making and problem solving
10	7.38E + 02	979.30	General competencies

Table V.
Business administration
utility rankings

there is great disagreement in each of the two fields. This is based the comparison of the simple or Euclidean distances to the statistical distances. Anecdotaly, one can also state that business administration instructors have marginally more consistent utility judgments than instructors of public administration. Additionally, there is great disagreement over rankings in both groups about what stimuli is essential, inferring that the relative importance of these stimuli remains somewhat ambiguous.

Therefore, based on this research the following assertions can be made. First, there is a substantive difference between the fields of business and public administration based on the utility judgments of instructors. Second, this difference is apparently not great enough to hinder communication about ideas common to both fields. Third, this study uncovered a significant rift of understanding within the group of public administration instructors. This rift in understanding was manifested as two perspectives, one based in Political Science and the other in public administration. This means that instructors classically trained in Political Science do not automatically understand the nationally agreed upon ideas central to the study of public administration. This finding severely undermines Whicker *et al.*'s (1993) argument for a wholesale return of public administration to the discipline of Political Science. Additionally, the similarities in understanding, combined with the differences in priorities demonstrate that public administration is arguably distinct from business administration. Overall, the results validate the distinctiveness of the two field's professional identities.

This research supports the distinctiveness of public and business administration, lending support to the notion that they each have a unique but comparable professional identity. In addition, it helps to validate the work of Abbasi (1982), Bozeman (1989, 1993), Chandler (1991), and others when discussing the similarities and differences in business and public administration. In addition, it validates Keller and Spicer's (1997) argument about the relationship between public administration and Political Science.

Conclusions

Based on the results of this research, do business administration and public administration instructors have a distinct identity? The answer to this question would be a qualified yes. The study identified an empirical distinctiveness in each that is statistically significant based on the cognitive maps generated from a representative, national sample of instructors of business and public administration. This research

also tends to support the assertion that public administration can “borrow” ideas from business administration and vice versa, if one takes the care to understand how utility judgments differ.

In addition, the study found two interesting outcomes that could not otherwise be measured using more conventional analytical techniques. The disagreement and some statistically incommensurable outcomes found while using PROSCAL could not have been revealed with other analytical techniques. The disagreement over utility judgments demonstrates that public administration might benefit from a clearer understanding and internalization of its professional identity. This might be accomplished through the adoption of a conservator (Terry, 1995) role, where instructors are socialized to act consistently in an institutionally oriented manner.

A more developed professional identity might not be seen by some instructors as a good thing, since wide disagreement might also illustrate how interdisciplinary and multidisciplinary both business and public administration are as professional fields of study. From such an approach, this wide disagreement would demonstrate the breadth of understanding each has, and might ultimately describe the nature of their common understanding.

In closing, more research needs to be conducted to determine more precisely where the common understanding exists. It could be fruitful to replicate this analysis using a repertory grid or similar technique. The study demonstrates that there is a distinct professional identity for both fields, but remains limited regarding questions about the nature of where similarities in our understanding exist. Is it the conception of management or administration that is the key? Alternatively, might it be how both fields relate to a third discipline such as economics, mathematics, or psychology? How we understand and address these questions eventually should help us understand and elucidate our professional identity.

Notes

1. Stimuli are perceived objects, such as the taste of an apple (Schiffman *et al.*, 1981, p. 14). In this research there are 11 stimuli based on the accreditation standards from the primary accrediting bodies in business and public administration.
2. Space is the set of all potential points defined by a set of dimensions. In order to be statistically comparable groups of utility judgments must share a common geometric space.
3. Mackay (1995) and Mackay and Zinnes (1982, 1995, 1996) provide essential information about the PROSCAL algorithm.
4. Bowen (1995), Mackay (1995) and Mackay and Zinnes (1982, 1995, 1996) indicate that response rates can be affected by the complexity of the survey instrument
5. Transitivity tests the consistency of logic in the responses. If a respondent prefers A to B and B to C then they should prefer A to C. Refer to Mackay (1995) and Mackay and Zinnes (1982, 1995, 1996) for more details of the transitivity.
6. The variables age, gender, rank, and ethnicity were compared to their respective parent populations using chi square goodness of fit tests, verifying the proposition that the data were representative.

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Appendix 1. Final questionnaire

Listed below are brief descriptions of 11 curriculum areas condensed from NASPAA/AACSB standards. ***PLEASE READ THEM BEFORE YOU ANSWER THE SURVEY.***

- (1) *General competencies*. Basic skills in written and oral communication, computer usage, including word processing, spreadsheets, and statistical packages.
- (2) *Quantitative research methods*. Including coverage of statistics, mathematics, research design, data collection and sampling, bibliographic searches and operationalization of concepts.
- (3) *Finance and budgeting*. Basic financial processes including accounting, financial reporting, analysis, and budget formulation.
- (4) *Economics*. Including basic micro and macro economics, treatment of global economic environments and market failure.
- (5) *Management concepts*. Including human resource management, management technologies and management techniques.
- (6) *Organization studies*. Including leadership, organization development, organization theory, organization behavior, and institutionalism.
- (7) *Decision making and problem solving*. Including conflict resolution, fundamentals of decision making and negotiation.
- (8) *Political and legal processes*. Including administrative law, labor law, political theory and political environments.
- (9) *Provision and distribution of goods and services*. Including marketing, service delivery and quality, production management, operations management, and total quality management.
- (10) *Strategy making and evaluation*. Including strategic management, planning, getting starting capital, compliance, construction and delivery, and research skills necessary for evaluation of a program.
- (11) *Ethics*. Including coverage of internal controls, external ethical controls, and ethical conduct in the workplace.

Curriculum Judgments: A Pairwise Survey

Directions: Circle or check the position or number which most accurately reflects the strength of your preference judgments between each of the two curriculum areas. Preference indicates an item has greater importance in your opinion for professional education with "0" indicating equal preference, 30 is a weak preference, 50 is a strong preference, 70, is a very strong preference, and "100" indicating your maximum preference.

Remember: Your preferences should be based on the descriptions given on the previous page.

general competencies	100...80...60...40...20...0...20...40...60...80...100	quantitative research methods
ethics	100...80...60...40...20...0...20...40...60...80...100	finance and budgeting
strategy making and evaluation	100...80...60...40...20...0...20...40...60...80...100	economics
provision and distribution of goods and services	100...80...60...40...20...0...20...40...60...80...100	management concepts
political and legal processes	100...80...60...40...20...0...20...40...60...80...100	organization studies
decision making and problem solving	100...80...60...40...20...0...20...40...60...80...100	general competencies
finance and budgeting	100...80...60...40...20...0...20...40...60...80...100	quantitative research methods
economics	100...80...60...40...20...0...20...40...60...80...100	ethics
management concepts	100...80...60...40...20...0...20...40...60...80...100	strategy making and evaluation
organization studies	100...80...60...40...20...0...20...40...60...80...100	provision and distribution of goods and services
decision making and problem solving	100...80...60...40...20...0...20...40...60...80...100	political and legal processes
general competencies	100...80...60...40...20...0...20...40...60...80...100	finance and budgeting
quantitative research methods	100...80...60...40...20...0...20...40...60...80...100	economics
ethics	100...80...60...40...20...0...20...40...60...80...100	management concepts
strategy making and evaluation	100...80...60...40...20...0...20...40...60...80...100	organization studies
provision and distribution of goods and services	100...80...60...40...20...0...20...40...60...80...100	decision making and problem solving
political and legal processes	100...80...60...40...20...0...20...40...60...80...100	general competencies
economics	100...80...60...40...20...0...20...40...60...80...100	finance and budgeting
management concepts	100...80...60...40...20...0...20...40...60...80...100	quantitative research methods
organization studies	100...80...60...40...20...0...20...40...60...80...100	ethics
decision making and problem solving	100...80...60...40...20...0...20...40...60...80...100	strategy making and evaluation
political and legal processes	100...80...60...40...20...0...20...40...60...80...100	provision and distribution of goods and services
general competencies	100...80...60...40...20...0...20...40...60...80...100	economics
finance and budgeting	100...80...60...40...20...0...20...40...60...80...100	management concepts
quantitative research methods	100...80...60...40...20...0...20...40...60...80...100	organization studies
ethics	100...80...60...40...20...0...20...40...60...80...100	decision making and problem solving
strategy making and evaluation	100...80...60...40...20...0...20...40...60...80...100	political and legal processes
provision and distribution of goods and services	100...80...60...40...20...0...20...40...60...80...100	general competencies
political and legal processes	100...80...60...40...20...0...20...40...60...80...100	economics
economics	100...80...60...40...20...0...20...40...60...80...100	finance and budgeting
management concepts	100...80...60...40...20...0...20...40...60...80...100	quantitative research methods
organization studies	100...80...60...40...20...0...20...40...60...80...100	ethics
decision making and problem solving	100...80...60...40...20...0...20...40...60...80...100	strategy making and evaluation
political and legal processes	100...80...60...40...20...0...20...40...60...80...100	management concepts
general competencies	100...80...60...40...20...0...20...40...60...80...100	organization studies
finance and budgeting	100...80...60...40...20...0...20...40...60...80...100	decision making and problem solving
quantitative research methods	100...80...60...40...20...0...20...40...60...80...100	political and legal processes
ethics	100...80...60...40...20...0...20...40...60...80...100	provision and distribution of goods and services
strategy making and evaluation	100...80...60...40...20...0...20...40...60...80...100	general competencies
provision and distribution of goods and services	100...80...60...40...20...0...20...40...60...80...100	management concepts
political and legal processes	100...80...60...40...20...0...20...40...60...80...100	organization studies
general competencies	100...80...60...40...20...0...20...40...60...80...100	decision making and problem solving
economics	100...80...60...40...20...0...20...40...60...80...100	political and legal processes
finance and budgeting	100...80...60...40...20...0...20...40...60...80...100	provision and distribution of goods and services
quantitative research methods	100...80...60...40...20...0...20...40...60...80...100	general competencies
ethics	100...80...60...40...20...0...20...40...60...80...100	management concepts
organization studies	100...80...60...40...20...0...20...40...60...80...100	economics
management concepts	100...80...60...40...20...0...20...40...60...80...100	finance and budgeting
economics	100...80...60...40...20...0...20...40...60...80...100	quantitative research methods
finance and budgeting	100...80...60...40...20...0...20...40...60...80...100	ethics
quantitative research methods	100...80...60...40...20...0...20...40...60...80...100	strategy making and evaluation
		ethics

Figure A1.

Appendix 3

Administration instructors

Demographic Information

Please check all answers that apply and follow any directions given.

You are a Business Administration Professor
 Public Administration Professor (choose only one)

You are: female male

Age: _____

You primarily train students for (choose only one)
 Entry Level/Middle positions
 Executive level positions

The Nature of your position: Full Time Part Time

Your Current Rank is:

Instructor _____
 Assistant Professor _____
 Associate Professor _____
 Full Professor _____

What percentage of time in a work week is spent on these duties: _____ Administrative _____ Teaching _____ Research

Your ethnicity is: African - American Asian Caucasian Hispanic Other

Year terminal degree granted _____ Field _____

Which Administrative unit best describes where your program is Located
 (choose only one)

Public Administration

(Completed By Public Administration Faculty Only)

Autonomous Public Administration/ Public Affairs Unit _____
 Unit within Liberal Arts and Sciences College _____
 Separate Department/ Program _____
 Part of Political Science/Government _____
 Track/ List of Course Offerings _____
 Unit Offerings within a School/College of Business _____
 Administration/Management/Management Science _____
 Separate Department/ Program _____
 Part of Another Department/ Program _____
 Track/ List of Course Offerings _____

Joint Program

School of Public Administration/Affairs _____
 International Affairs and General Studies _____
 School of Business and Public Administration _____
 Unspecified _____

Business Administration

(Completed By Business Administration Faculty Only)

Autonomous Business Administration/Management School _____
 Unit within Liberal Arts and Sciences College _____
 Separate Department/ Program _____
 Unit within Continuing Education Unit _____
 Separate Department/ Program _____
 Joint Program _____
 Part of Business Administration/Economics _____
 International Affairs and General Studies _____
 School of Business and Public Administration _____
 Unspecified _____

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Figure A2.