
Making APA Into a Data-Driven Organization

2011 Report of the Policy and Planning Board

The 2011 Policy and Planning Board of the American Psychological Association (APA) was chaired by Michael J. Murphy, PhD. Other members of the board included Gwyneth M. Boodoo, PhD; Linda F. Campbell, PhD; Beverly Greene, PhD; Christopher W. Loftis, PhD; Maureen A. O'Connor, PhD; Kurt Salzinger, PhD; Michael Wertheimer, PhD; and Erica H. Wise, PhD. Suzanne B. Johnson, PhD was the liaison for the Board of Directors. APA Bylaws Article XI.7 (<http://www.apa.org/about/governance/bylaws/article-11.aspx>) requires that the Policy and Planning Board report annually by publication to the membership and review the structure and function of the Association as a whole every fifth year.

APA is positioning itself to meet the pressing needs of the Association, its members, and the field of psychology by engaging in two recent groundbreaking projects—a long-term strategic planning process and the Good Governance Project. The strategic planning process produced APA's first-ever mission statement, a set of long-term goals and near-term objectives, and activities to achieve those goals. It set out a vision for the Association to “excel as a valuable, effective and influential organization advancing psychology as a science” (APA, 2009, Vision Statement). The purpose of the Good Governance Project is “to maximize organizational effectiveness by assuring APA's governance practices, processes and structures are optimized and aligned with what is needed to thrive in a rapidly changing and increasingly complex environment” (APA, 2011a, Project Goal section). These important activities will lead to permanent change and success, however, only if APA also addresses the manner in which it collects, organizes, manages, and uses data.

APA's Strategic Planning Goal #1 is “to maximize organizational effectiveness,” and one of its associated objectives is to ensure that “APA's structures and systems support the organization's strategic direction, growth, and success” (APA, 2009, Goals and Objectives). Valid and reliable data are critical to meeting this objective and to ensuring that APA makes decisions based on the best information available. If APA is to benefit maximally from its strategic plan and from any organizational changes made in support of recommendations from its Good Governance Project, it must have confidence in a coordinated Association-wide data management system that positions APA to succeed in a highly competitive and fast-changing environment. Such a system will also allow for the ongoing assessment of progress toward identified goals and objectives.

The need for better-coordinated and more sophisticated data management is not a newly identified issue for APA or for its Policy and Planning Board (P&P). Improved data management has been a recurrent theme in a number of P&P's reports. In its 2000 report (APA, 2001), for example, P&P described the need for a regular survey of member and governance needs and concerns that would keep APA informed of its internal activities, and in its 2001 report (APA, 2002), it raised concerns about APA's ability to identify and track external trends in an effective and useful way. In its 2009 report (APA, 2010), P&P encouraged the organization to use an analytical approach as a strong foundation for the development of comprehensive and effective data-based applications to help solve significant real-world problems. And, in its 2010 five-year report, P&P emphasized that “remarkable associations,” as identified by the American Society of Association Executives' Center for Association Leadership (2006), “consistently exhibit data-driven strategies” (APA, 2011b, p. 385).

In 2012, there can be little dispute that APA needs to be a data-driven organization, both strategically and operationally. If APA is effectively to lead the discipline and its members into the future, it must have a vision of what that future holds that is based on sound predictions derived from a data-driven perspective on the world in which it functions. Operationally, APA must have confidence in its in-house data and support data exchange between internal offices and with external organizations if it is to fulfill its traditional mission of serving the needs of its members and of the discipline in the areas of education, practice, public interest, and science. Thus, it is important to address APA's data systems in a manner that meets these internal and external requirements. The current P&P report examines barriers to and future steps toward an Association-wide commitment to becoming a truly data-driven organization.

Background of the Problem

In approaching the Association's data requirements, P&P focused on data needs regarding membership and governance decision making rather than on data needs related to the Association's publications and business activities. The data needs were divided into two categories: external needs and internal needs. The discussion of external needs focuses on workforce analysis studies, and the discussion of internal needs focuses on better understanding the needs of the Association's members and governance groups.

External Needs

In November 2004, an APA Task Force on Workforce Analysis (Donchin et al., 2004) recommended that the Association maintain an ongoing capacity for workforce analysis studies and that the APA Research Office, which had collected workforce-related data, be refocused and restructured as an APA Center for Workforce Analysis. The thoughtful and in-depth report of this task force concluded that APA needs a systematic approach to conducting workforce analyses that takes into account the complexity of the discipline. The task force's report underscored that these needs had been pointed out many times before by previous committees, task forces, and publications, and yet the questions raised by the task force remain as pertinent today as they were in 2004.

The task force's report (Donchin et al., 2004) delineated the areas that should be addressed in a workforce analysis related to the demand, supply, and need for psychologists and gave 10 examples of the kinds of questions that should be addressed by an APA Center for Workforce Analysis. Examples of data needs, projections, and trends identified by the task force included the supply and demand of psychologists across subfields of psychology, employment sectors, and geographic areas; the match between competencies of new doctorates and the demands of the job market; the diversity (age, gender, racial/ethnic composition) of psychology's workforce; the adequacy of the supply of funded internships and postdoctoral residencies; the differences in roles and employment opportunities of those with PhD and PsyD degrees; the employment demand for individuals with master's degrees and how it compares with and affects demand for those with doctoral degrees; the market share for psychologists compared with that for other professions such as physicians; unemployment and underemployment rates for psychologists; and the education debt load accrued by new doctorates.

While the 2004 task force suggested that workforce analyses be conducted across all areas, it paid particular attention to the health and human services sector as the major domain of employment for psychologists. The decision to focus on this area was made because at least two thirds of new doctorates entering the workforce are trained in areas of psychology that are categorized broadly as the health services sector, with the largest subgroup identified as clinical psychologists. Two pertinent examples in this sector in which there is a need for better data are the imbalance between internship positions and doctoral applicants and efforts to prepare a new generation of behavioral scientists and health-care professionals to engage directly in interprofessional research and practice (see Linn et al., 2011).

If APA is to support the breadth of psychology, however, it is important that its workforce analyses address all areas, including but not limited to health services. A number of recent APA task force reports provide a rich resource of questions for these analyses. One critical area, identified by the excellent report produced by the APA Task Force on the Future of Psychology as a STEM Discipline (Dovidio et

al., 2010), is the need to categorize and provide information on psychology that supports its inclusion as a STEM (science, technology, engineering, and mathematics) discipline. Such an initiative would assess the numbers and scientific expertise of APA members and others in the discipline and their research products across all scientific areas of psychology and related areas of study. Another example, drawn from the important report of the APA Task Force on Increasing the Number of Quantitative Psychologists, concerns the shortage of quantitative psychologists and ways of addressing this important need in psychology (Aiken et al., 2006). APA also needs to examine the development of undergraduate majors in areas such as neuroscience, criminal justice, gender studies, computer science, and cognitive science that are being proposed and that will compete for future psychology majors. The discipline needs data in order to better understand the factors underlying these trends, their causes, and the extent to which, if any, APA will be affected by them. These are just a few examples of areas that will need to be addressed by APA's newly established (in 2011) Center for Workforce Studies.

Internal Needs

In order to provide meaningful and useful services and products to its members, it is vital that APA understand the characteristics and interests of those members and address their needs accurately within the APA governance systems. Much more work needs to be done to identify the range of data needs involved in providing support to members. Three general areas that were identified as important in a survey of governance groups conducted by P&P for its 2010 five-year report (APA, 2011b) are discussed below.

Governance. Governance members need data that are readily accessible, accurate, and responsive to their needs for information in order to facilitate governance activities at all levels. Data regarding members and activities across different areas of APA are needed to assist governance members in prioritizing and evaluating governance activities, making governance decisions, and planning and selecting the best activities, services, and products for APA members. Examples of data needs identified by governance members include the following:

- APA, APA divisions, and the state, provincial, and territorial psychological associations (SPTAs) need current snapshots of their memberships in order to plan strategies for recruitment and retention.
- Boards and committees sometimes receive special reports on membership trends relevant to specific populations. These reports, rather than being provided to one or two boards or committees, should be available to all governance members so that the data can be used to maximize integration of needs and activities across constituencies.
- Divisions have expressed frustration over inadequate accessibility and detail in information available for division membership profiles. Division membership chairs should be able to go online and

obtain information about the division's membership, and the information should be integrated across APA's internal data sources, such as the Division Services Office and the Office of Publications and Databases, with respect to, for example, the numbers subscribing to a division's journal.

- Recently, the Board of Scientific Affairs wanted to nominate more psychologists for national awards. They found it difficult, however, to create a pool of credible nominees because there was no existing APA database with information on what awards have been given at the division level.

Pipeline and workforce analysis. As noted above, there is general recognition of the need for pipeline and workforce information and analysis. The absence of such data prevents APA from being able to anticipate trends and plan effectively, for example, in managing for the proper balance between the number of eligible candidates and the number of internship positions rather than dealing with the internship imbalance after the fact. Better data management could lead to a focus on developing alternative directions and plans to address such issues. The Association also lacks workforce information about changes in scientific specialties involving those who previously identified as psychologists who are now identified with emerging areas such as cognitive science, brain science, and neuroscience and those who identify with smaller professional organizations. At the undergraduate level, there is a lack of comprehensive information regarding the range and frequency of employment positions that undergraduate psychology majors and minors take. APA also lacks information to assess the implications of these changes for its continuing ability to serve as a "large tent" umbrella organization.

Coordination of data collection efforts. In an organization as large and active as APA, one would expect that numerous units would need to collect information over time for multiple purposes. Currently there is no systematic coordination of such surveys, nor are there mechanisms for sharing the findings with other governance groups or members. Instead, APA tends to conduct surveys on an issue-by-issue basis as needs arise and to analyze data from surveys or independent sources in an isolated manner. This approach means APA misses opportunities to identify issues, needs, and solutions systematically. At the same time, responsiveness to APA survey requests has declined over the past decade. The situation is further complicated by SPTAs and divisions, which also survey their members on a variety of issues. The absence of a system for coordinating and ensuring the quality of the data gathered consumes resources and potentially diminishes the usefulness of the information gathered.

There is a need in APA for an internal capacity to refine measures, pilot test where necessary, solicit feedback and input from relevant governance members, develop and employ sophisticated approaches to sampling, and integrate individual needs into system-wide approaches. Also, in line with the strategic planning process, the questions and the

issues surveyed in any given year should link to APA's strategic priorities for that year.

Addressing the Challenge to Integrate and Share Data

Many APA offices rely on antiquated database structures that are maintained separately and not linked to web interfaces that are accessible to governance. An aspect of the problem is that APA has multiple offices and functions that collect data about members but, under the current system, do not coordinate with one another. How can interaction between databases be supported, and can cross-linkages be created to produce rich member profiles? For example, separate databases deal with financial data, membership, publications, continuing education, governance, and accreditation. What activities and resources are needed to develop data dictionaries (code sheets) that are consistent and reflective of current realities and functional needs in order to link datasets and thus provide a rich source of integrated information?

Because of the lack of coordination, it is currently unclear what data are collected throughout the Association, who has access to those data, and where those data are located. At the same time, there are a number of areas for which data are needed that do not seem to exist anywhere in the current data collection system at all. Nor is it clear whether and how a coordinated process could be developed through which data could be requested and possibilities for acquiring data could be discussed and coordinated. These coordination issues raise a number of questions: Is it desirable to identify and coordinate separate databases and their contents? Which databases should be accessible, and what data are proprietary or contain sensitive information that needs to be protected? Are there ways of linking the databases? How should one request data? And where should one go to get different types of data (e.g., division, general membership, publications)? Can there be easy online access with a coordinated application process for special requests? Can there be mechanisms for cataloging, distributing, and sharing data that are collected by subgroups of the Association?

These questions are a sample of the issues that need to be addressed to meet the goals of enhancing services for the membership; developing, coordinating, and implementing appropriate data collection; and developing policy to support decision making regarding disseminating and protecting information. There are broad areas of sensitive issues in dealing with data, but at this point, it is not clear where there is a systems problem versus a policy problem. That is, what can the APA databases now allow—and even if access is possible, should it be allowed from a policy perspective? And given that what can be accessed is defined, can there be coordination across an information technology structure that allows for realization of the goals in a system that is more user friendly than the current system? To what degree, if any, does trying to be both an effective and profitable business and a professional association that supports members, education, practice, public

interest, and science impede the development of coordinated databases? Can there be a balance built into a system so it serves the Association's marketing and business needs as well as its membership needs?

Next Steps

P&P's findings from the governance survey and from extensive discussions with APA staff leadership and governance members converge on the need to support and expand data activities in three key areas: (1) support, protect, and expand existing activities to implement activities of the Center for Workforce Studies; (2) utilize more advanced, sophisticated methods and technologies for data collection and access that draw on the best of psychological science and quantitative methods and analysis; and (3) increase governance engagement in and oversight of data collection activities.

1. Support Existing Activities to Implement Activities of the Center for Workforce Studies

In response to the 2004 report of the APA Task Force on Workforce Analysis (Donchin et al., 2004), the APA Council of Representatives in 2006 approved a policy on workforce analysis and implemented the policy by establishing a "Center for Psychology Workforce Analysis and Research to ensure an institutionally viable and ongoing capability to assess and monitor psychology workforce needs, demands, supply, distribution, and professional functions across all domains of work in which psychologists engage" (APA, 2006, p. 2). Although the economic downturn delayed its development until 2011, the office is now moving forward as the Center for Workforce Studies (CWS) and is in the process of being reconfigured in the APA Science Directorate with new staff who possess the required technical and academic expertise and resources to develop and employ needed data systems and to distribute information. The proposed Center is a critical initiative. Key elements must be included if the APA is to provide information across all areas of psychology and provide the basis for understanding and directing the discipline in ways that maximize its relevance and impact.

The new CWS will have important new capabilities, given structural changes that have been initiated to include staff that will work with groups and various stakeholders to conduct analyses and provide information in an accessible and suitable manner. Additional funding was added to this project by Council in August of 2011 in recognition of the critical role that CWS can play in supporting the APA strategic plan. P&P strongly recommends that additional funding be considered to the extent needed to ensure that CWS can fully accomplish the range of analysis activities assigned to it.

Following a collaborative discussion between P&P and the Science Directorate on CWS goals and on how P&P's concerns about the need for APA to be in the vanguard of internal and external data management fit with the new CWS initiative, it was determined that the P&P initiative to encourage better data collection, management,

analysis, use, and coordination would support and advance the efforts of the new workforce office in several ways: (a) The P&P governance engagement process (described below) would provide a mechanism to begin accessing important data from boards and committees regarding their data needs. (b) The procedure recommended by P&P would establish an ongoing data collection and management system rather than data collection for discrete purposes, which would then allow multiyear comparisons and projections. And (c) P&P's strong recommendation that data requested by boards and committees not be treated as individual requests for single data point acquisition but rather as contributing toward an ongoing data bank fits well with an ongoing Association-wide perspective on data management. As a result, requests for new data or revisions of existing data could be included in the process without major changes to the system.

P&P also recommends establishing a committee with membership representing the broad spectrum of psychology that would assist CWS in identifying directions and issues for investigation and in dissemination of the findings. Reinstatement of the now-defunct Committee on Employment and Human Resources (Howard et al., 1986), or its equivalent for present-day needs, could provide a sounding board for input for the activities of CWS and help guide its work in much the same way as other committees and boards help guide the work of the directorates. While P&P is sensitive to the current ongoing efforts to evaluate and streamline governance decision making, it is clear that reliable and stable mechanisms for governance input and oversight of data collection, management, and coordination are critical to ensuring long-term success for CWS.

2. Utilize More Advanced, Sophisticated Methods and Technologies for Data Collection and Access

P&P's study of data needs by governance members (discussed above) underscored the need for improved data sharing and more sophisticated methods to ensure that APA is a data-driven society with access to valid and meaningful data. P&P recommends that the Association engage in the following activities simultaneously to improve data collection and access: (a) establish an Association-wide data dictionary, (b) establish mechanisms to review and coordinate data collection efforts across APA, and (c) improve web-based access to data.

(a) Data dictionary. Defined as "a centralized repository of information about data such as meaning, relationships to other data, origin, usage, and format" (IBM Corporation, 1994), a *data dictionary* would facilitate tracking, integration, and cross-validation of disparate data collection occurring across the Association. A data dictionary would define specific parameters and definitions for data fields, identify acceptable variations of common terms, and include an inventory of current and past tools for collecting data on fields in the data dictionary. It would be available to all staff involved in designing data collection tools in order to ensure consistent use of terminology, to

explore and consider utilizing or modifying existing data sources, and to identify opportunities for collaborating and for integrating data collection. APA governance, as a representative sample of APA members, could have access to the dictionary and could establish an ongoing mechanism for providing feedback on terminology definitions and data collection needs.

(b) Coordinate data collection efforts.

P&P recommends establishing a coordinating group at the executive staff level to develop oversight policies for staff involved in designing data collection tools; to develop and periodically review definitions of data fields; and to execute ongoing review, coordination, and approval of all data collection surveys and tools. P&P also recommends the piloting of surveys and other data collection tools with a small sample of members before deploying them on a large scale. In addition, a structured mechanism should be developed for governance members to review and provide feedback on past, current, and proposed data collection tools. Although coordination will likely require additional staff resources and assigned functions, P&P believes centralized coordination, review, critical feedback, and small-scale piloting are essential to improving the effectiveness and efficiency of data collected from APA members—and the public.

(c) Improve web-based access to data.

P&P believes the above efforts will produce richer datasets and enhanced capabilities for APA staff, governance, and members to serve and advocate for psychologists. Establishing these processes may also lead to improved ways to customize benefits and information dissemination strategies for members. A single web-based interface should be developed that would allow staff and members to access data collected by all APA offices and directorates, and to stratify data to examine or compare specific groups (e.g., state-level data on number of neuropsychologists practicing in correction settings or number of psychologists working in federal health facilities earning above and below a salary level of \$80,000).

P&P recognizes that APA will need to develop policies to decide which data should and should not be accessible by staff, governance, and members, but P&P encourages APA to establish policies that maximize appropriate access to information about the discipline and the organization. Uncomplicated, effortless, and ready access to data about APA members and the discipline of psychology should be of great benefit to all APA members, particularly APA divisions and SPTAs.

3. Increase Governance Engagement in and Oversight of Data Collection Activities

In order to accomplish the goals outlined in this report, P&P recommends implementing an iterative, continuous improvement process to expand appropriate access and utilization of data by governance, members, and others. The process outlined below provides an initial and ongoing framework for governance and staff to work collaboratively to increase access to relevant and useful data for more effective decision making by governance. This

framework (shown in Figure 1) provides a mechanism for governance to be continuously informed of existing data capabilities and of current and future plans by staff to address the data requirements and issues discussed above as well as an ongoing mechanism through which data requests can be made or refined.

P&P recommends that an ongoing data collection and feedback loop be launched at the Spring Consolidated Meeting of boards and committees. Via the Cross-Cutting Agenda, P&P will request that boards and committees discuss and document data collection requirements related to their general functioning or specific initiatives. For example, P&P might be looking for information on the growth in the number of committees and boards in the APA over the years and the number of members on each board and committee. The Board of Educational Affairs might want to answer the question: Is it taking longer to get a degree? The Committee for the Advancement of Professional Practice might be interested in learning about the income of psychologists in a particular employment setting. The Publications and Communications Board may wish to know how many articles are published in each of the APA journals per year in such categories as clinical, social, or experimental psychology.

At its Spring Retreat Meeting, P&P will then evaluate and integrate the data needs that were identified by boards and committees. This meeting will include appropriate APA staff (primarily information technology and data management experts). An effort will be made to review the identified data needs and prioritize them and to identify opportunities to integrate data requirements. Staff will be asked to summarize common data questions from APA members to incorporate into this discussion. In addition, P&P will meet with Information Technology (IT) staff and the Executive Management Group in order to identify a plan for collecting their data needs. These

Figure 1
Overview of Proposed Process to Expand Appropriate Access to and Utilization of Data by Governance, Members, and Others

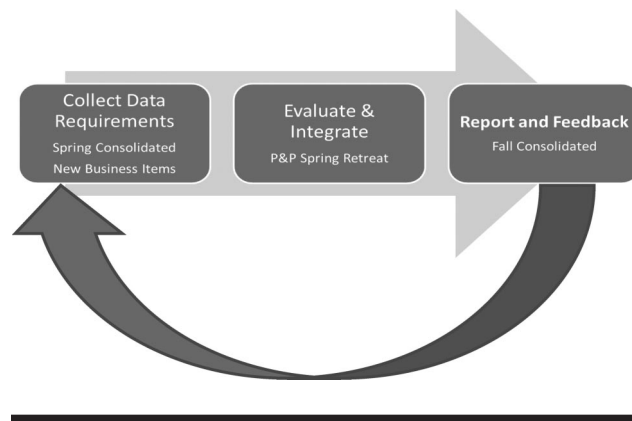


Table 1
Recommended Process to Engage Governance in APA Data Collection Activities

Phase	Where/when	How/what
1. Collect data requirements	Boards and committees (Spring Consolidated Meeting – March)	<ul style="list-style-type: none"> ● Include a Cross-Cutting Agenda item during every Spring Consolidated Meeting to request data requirements of boards and committees to address their governance functions. ● Modify new business item form to require movers of new items to identify data needed to assess implementation and effectiveness of the item.
	Council of Representatives (February and August meetings)	
2. Evaluate and integrate data needs	Policy and Planning Board Retreat Meeting (May/June)	<ul style="list-style-type: none"> ● Policy and Planning Board integrates board and committee data requests and works with Executive Management Group to identify immediate and long-term plans to address data needs of boards and committees.
3. Report and feedback	Fall Consolidated Meeting (Rounds I and II – October/November)	<ul style="list-style-type: none"> ● Present data currently available to address board and committee requests (with detail on how to access them). ● Describe Executive Management Group plans to improve current data, integrate current data, or obtain data not currently available. ● Receive feedback on data collected and plans.

P&P activities will be carefully integrated with CWS activities.

Next Steps: Fall Consolidated Meeting

At the Fall Consolidated Meeting, P&P will present an overview of available data at open meetings of Rounds I and II. In addition, there will be a discussion of areas in which current IT and data structures may be insufficient or not structured or organized in a way that is fully responsive to the needs of APA governance.

A specific recommendation that will be forwarded to the Committee on Structure and Function of Council is the addition of a section to the Council of Representatives new business form that asks for the identification of data needed to inform the item. This would incorporate a consideration of data needs into the deliberations about new business items.

P&P will be looking at options for implementing its recommendations. One possible scenario is shown in Table 1.

Conclusion

When policymakers have questions about access to psychological services in rural counties, they should expect APA to be able to answer those questions. When an SPTA needs to know trends in graduation rates from PhD or PsyD programs in its region, it should know where to look on APA's internal web-based data system. When a division wants to launch a new initiative and hopes to coordinate better with other divisions around a theme, it should be able to work with APA to conduct a survey to address its

short-term needs while at the same time contributing to the long-term benefit of the organization as a whole. Before a doctoral training program can be considered for an accreditation site visit, it must gather data about its program, its students, and its alumni systematically and with valid and reliable procedures, and it must make those data web-accessible to anyone. It is P&P's aspiration, grounded in APA's new strategic planning process and its re-focus on strong and streamlined governance, that APA's data might be similarly systematic, valid, reliable, and accessible within appropriate bounds for confidentiality, business operations, and ethical concerns. But short of running afoul of such issues, APA must increasingly endorse the imperative of becoming a data-driven organization with the infrastructure, staff, and policy to support its vision.

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