

2015

Policymakers' Perceptions on the Application of Research Evidence in the Policymaking Process within West Virginia's Higher Education System

Christopher Treadway
christreadway76@gmail.com

Follow this and additional works at: <http://mds.marshall.edu/etd>



Part of the [Higher Education Administration Commons](#)

Recommended Citation

Treadway, Christopher, "Policymakers' Perceptions on the Application of Research Evidence in the Policymaking Process within West Virginia's Higher Education System" (2015). *Theses, Dissertations and Capstones*. Paper 945.

This Dissertation is brought to you for free and open access by Marshall Digital Scholar. It has been accepted for inclusion in Theses, Dissertations and Capstones by an authorized administrator of Marshall Digital Scholar. For more information, please contact zhangj@marshall.edu.

POLICYMAKERS' PERCEPTIONS
ON THE APPLICATION OF RESEARCH EVIDENCE
IN THE POLICYMAKING PROCESS
WITHIN WEST VIRGINIA'S HIGHER EDUCATION SYSTEM

A dissertation submitted to the
Graduate College of
Marshall University

In partial fulfillment of
the requirements for the degree of

Doctor of Education
in
Educational Leadership

by
Christopher Treadway

Approved by
Dr. Barbara L. Nicholson, Committee Chairperson
Dr. Michael L. Cunningham
Dr. Edna Meisel
Dr. Louis Watts

Marshall University
August 2015

Dedication

To my grandparents, James and Bernice Treadway, who gave a kid a chance.

Acknowledgments

It is with a profound sense of gratitude and appreciation that I recognize those individuals who played the most significant roles in my academic success, and the subsequent completion of this dissertation. I must begin by expressing my heartfelt appreciation to my grandparents, James and Bernice Treadway, and my mother, June Falcon, whose love, guidance, and tireless work ethic provided me with the opportunity to be the first member of my family to earn a college degree. I am eternally grateful to Dr. Jamil Chaudri, a professor with the Marshall University College of Information Technology and Engineering, who encouraged me to enroll in the Doctoral program upon completion of my master's degree.

To Dr. Bobbi Nicholson, my committee chair, mentor, and life coach, I owe perhaps the biggest expression of gratitude. Dr. Nicholson changed the way I see the world. She taught me to view everything with a critical eye. To question. To debate. To have an opinion (provided that said opinion is grounded in, and supported by research-based evidence). I consider myself very fortunate to be among the alumni of her brigade of "flying monkeys."

Early in my doctoral studies, I met three classmates who would each swiftly earn the title of lifelong friend – Rachael Alley, Jeff Greene, and David Lawson. Our motley crew spent many long hours together – conducting research, writing papers, completing coursework, and providing much-needed moral support. We shared in each other's successes, and occasionally talked one another off of the proverbial window ledge. It has been an honor to learn and grow alongside them.

To the members of my doctoral committee – Dr. Michael Cunningham, Dr. Edna Meisel, and Dr. Louis Watts, I thank you for sharing your wisdom and experience, and for guiding me through this process with a whole lot of patience. And to Dr. Cunningham, I also thank you for your creative and frequent use of colorful rubber stamps.

I also owe my thanks to Phyllis Myers, who served as my unofficial coach throughout this process, and offered words of encouragement and the occasional gentle prod whenever I fell behind schedule or became discouraged.

Finally, to Teresa Hammond, I thank you for being my rock, for encouraging me when I needed it the most, and for supporting me when I thought I would never quite finish.

Table of Contents

Dedication	iii
Acknowledgments	iv
Table of Contents	vi
List of Tables	ix
Abstract	xii
Chapter One: Introduction	1
Background	1
Statement of the Problem	3
Research Questions	4
Functional Definitions	5
Operational Definitions	7
Methods	9
Limitations of the Study	10
Significance of the Study	11
Chapter Two: Review of the Literature	13
Introduction	13
Evidence-Based Policymaking – An Overview	16
Consumers of Research Evidence	23
The Middle Man	23
Facilitators of the Use of Research Evidence	29
Barriers to the Use of Research Evidence	36
Summary	39

Chapter Three: Research Methods	41
Research Questions	41
Population and Sample	42
Instrumentation.....	44
Data Analysis.....	45
Chapter Four: Presentation and Analysis of Data	47
Sample and Population	48
Findings.....	54
Summary	89
Chapter Five: Summary, Findings and Recommendations	90
Purpose	90
Population	91
Methods.....	91
Summary of Findings.....	92
Implications and Conclusion.....	98
Recommendations.....	103
References.....	107
Appendices	116
Appendix A: Institutional Review Board Approval.....	117
Appendix B: Consent Forms.....	118
Appendix C: Survey Instrument.....	120
Appendix D: Survey Invitation Emails.....	128
Appendix E: Institutions Included in the Study Population.....	130

Appendix F: Verbatim Responses to Question 13..... 131

Appendix G: Verbatim Responses to Question 14 135

Appendix H: Verbatim Responses to Question 15..... 139

Appendix I: Vita 144

List of Tables

Table 1	Composition of Survey Population	50
Table 2	Demographics: Primary Role within Organization	51
Table 3	Demographics: Type of Organization Represented.....	52
Table 4	Demographics: Highest Degree Earned.....	53
Table 5	Demographics: Years of Administrative Experience.....	53
Table 6	Information Sources Used by Policymakers (in general).....	56
Table 7	Information Sources Used by Policymakers (most recent policy decision).....	57
Table 8	Information Source that Plays the Most Significant Role in Policy Decisions ..	58
Table 9	Reliance on Peer-Reviewed Academic or Professional Journals.....	59
Table 10	Bivariate Correlation of the Use of Peer-Reviewed Academic or Professional Journals Between Board Members and Administrators.....	60
Table 11	Bivariate Correlation Between Policymakers' Use of Peer-Reviewed Academic or Professional Journals in General and in their Most Recent Policy Decision	60
Table 12	Bivariate Correlation Between Policymakers' Educational Level and their use of Peer-Reviewed Academic or Professional SJournals in their Most Recent Policy Decision	61
Table 13	Most Substantial Information Source.....	62
Table 14	Use of Research Evidence in Policymaking	64
Table 15	Information Sources Identified as Reliable or Very Reliable.....	65
Table 16	Perceptions of Trust in Research Evidence Developed by Personal Acquaintances.....	66

Table 17 Information Sources Identified as Useful or Very Useful	67
Table 18 Bivariate Correlation Between the Extent to which Policymakers rely on Peer-Reviewed Academic or Professional Journals and their Perceptions of the Usefulness of these Information Sources	68
Table 19 Bivariate Correlation Between the Policymakers' Level of Education and their Perceptions of the Usefulness of Information Obtained from Institutional Employees ..	69
Table 20 Bivariate Correlation Between the Policymakers' Level of Education and their Perceptions of the Reliability of Information Obtained from Institutional Employees	70
Table 21 Perceptions of Bias in Research Evidence.....	71
Table 22 Perceptions of Reliability of Peer-Reviewed Academic Journals.....	72
Table 23 Bivariate Correlation Between Policymakers' Perceptions of the Reliability of Information Obtained from Peer-Reviewed Academic or Professional Journals and the Extent to which they Relied Upon Information from Peer-Reviewed Publications when Making Major Policy Decisions in General	73
Table 24 Bivariate Correlation Between Policymakers' Perceptions of the Reliability of Information Obtained from Peer-Reviewed Academic or Professional Journals and the Extent to which they Relied Upon Information from Peer-Reviewed Publications when in their Most Recent Policy Decision.....	74
Table 25 Reliance on Intuition and Experience vs. Academic Research.....	75
Table 26 Perceptions of Usefulness of Information from Peer-Reviewed Academic Journals.....	76
Table 27 Perceptions Related to Facilitators to the Use of Research Evidence.....	77
Table 28 Facilitators to the Use of Research Evidence.....	79

Table 29 Bivariate Correlation Between Policymakers' Research Database Proficiency and Level of Comfort with Reading and Interpreting Statistical Data	79
Table 30 Bivariate Correlation Between Policymakers' Research Database Proficiency and Use of Research Evidence to Guide Policymaking	80
Table 31 Bivariate Correlation Between Policymakers' Research Database Proficiency and Use of Research Evidence to Evaluate Policies After Implementation.....	81
Table 32 Bivariate Correlation Between the Amount of Time Policymakers Have to Conduct Research and their Reliance on Information Provided by Institutional Employees	82
Table 33 Bivariate Correlation Between the Policymakers' Perceptions of Difficulty in Finding Information and their Reliance on Institutional Employees	83
Table 34 Perceptions Related to Barriers to the Use of Research Evidence	85
Table 35 Bivariate Correlation Between the Length of Research Reports and Policymakers' Reliance on Information from Previous Professional Experience.....	86
Table 36 Bivariate Correlation Between the Length of Research Reports and Policymakers' Reliance on Information from Institutional Employees	86
Table 37 Bivariate Correlation Between the Policymakers' Perceptions of the Succinctness and Readability of Research Evidence and the Use of Information from Peer-Reviewed Journals	87
Table 38 Bivariate Correlation Between the Policymakers' Perceptions of the Length of Research Reports and Willingness to Use Information if Presented in Brief or Summary Format.....	88
Table 39 Barriers to the Use of Research Evidence.....	89

Abstract

POLICYMAKERS' PERCEPTIONS ON THE APPLICATION OF RESEARCH EVIDENCE IN THE POLICYMAKING PROCESS WITHIN WEST VIRGINIA'S HIGHER EDUCATION SYSTEM

The purpose of this descriptive, mixed-method study was to explore the role that research evidence plays in policy-related decision-making within West Virginia's higher education system, policymakers' perceptions on the reliability and usefulness of various sources of information, and their insights related to factors that facilitate and/or impede the use of research evidence. Using data obtained through an internet-based questionnaire administered to more than 100 higher education policymakers, the study resulted in several notable findings, many of which reinforced similar findings uncovered in the review of the literature.

Most researchers agree that the results of high-quality research can be a tremendous asset to policymakers, as they empower policymakers to make informed decisions. Those researchers who want the fruits of their labor to make a difference in the realm of policymaking must learn to adopt strategies to facilitate the transfer of research evidence to policymakers while working to avoid potential barriers to that transfer. More than anything, policymakers want information that is accurate, timely, easily understood, concise, and free of bias.

Keywords: higher education, policy, policymaking, decision-making, research, evidence, barriers, facilitators, information, governing board, administration, administrator

Chapter One: Introduction

Background

In 2010, the Middle States Commission on Higher Education (MSCHE) published a handbook entitled “Governing Boards: Understanding the Expectations of MSCHE.” The handbook, which defines a “governing body” as the “highest governing authority within the organizational and governance structures of the institution,” is “intended to clarify the Commission’s expectations regarding institutional governing boards and the role they play in the institution and its governance system” (MSCHE, 2010, p. 5). Among these expectations is a list of typical board responsibilities that includes appointing and delegating responsibilities to the chief executive, oversight of accreditation, communication with faculty and various institutional stakeholders, fundraising, and fiscal oversight. The MSCHE contends that, to fulfill these responsibilities effectively, governing board members “need accurate and timely information in order to engage in proper analysis and decision making,” and that they must “insure that complete, accurate, meaningful, and relevant information concerning the institution always reaches them on a timely basis” (p. 6).

One must therefore inquire as to what specific information the MSCHE considers complete, accurate, meaningful, and relevant? As one might expect, data related to an institution’s “mission, organization, and academic programs and services” (MSCHE, 2010, p. 7) are included in the MSCHE’s list of examples. In recent years, the culture at many institutions has evolved into one that relies heavily on the use of such data, and particularly those data that may be measured against “performance indicators”

established by institutional administrators, governing boards, or state lawmakers. And, for many academic leaders, data are considered relevant only if they correspond to a particular indicator.

Performance indicators have been around for several decades, and there have been attempts, beginning as early as the 1970s, to tie them directly to state funding. In fact between 1979 and 2007, 26 states enacted laws that did just that. During the same period, 14 of those states discontinued their performance-based funding programs (Miao, 2012). Many of the programs failed because of “seemingly arbitrary requirements that focused too heavily on degree completion and failed to reward intermediate progress” (p. 2). One might argue that decision makers chose the wrong information to define as “relevant,” and that great care should be taken to avoid repeating the mistakes of the past. But in spite of the many problems associated with early performance-based funding models, the practice is once again gaining popularity, a resurgence that might be attributed to a law passed by Congress more than a decade ago.

The Education Sciences Reform Act of 2002, which provided “for improvement of Federal education research, statistics, evaluation, information, and dissemination” (H.R. 3801, 2002) and underscored the value of the use of statistical data in educational policymaking in public K-12 schools, caused educational leaders to reopen the performance-based funding discussion within the higher education community. While the law did not address the application of such data to higher education decision making, it caused many lawmakers and academic leaders to begin taking a hard look at data and the important role they play in effective decision making. According to the

Association of Governing Boards (AGB) “elected officials at both state and national levels have intensified their scrutiny of higher education” (AGB, 2010, para. 7), with particular emphasis being placed on the use of performance indicators as a means of assessing an institution’s achievement. Unfortunately, this dependence on performance data has the potential to distract academic leaders and decision makers from what some researchers might consider to be the most valuable and relevant information of all – that which was obtained through sound academic research.

This descriptive, mixed-method study focused on policymaking within the context of West Virginia’s higher education system and the role that research evidence plays in that process. It employed standard qualitative and quantitative research methods to collect and analyze data from a diverse group of higher-education policymakers – including institutional administrators, governing board members, state-level higher education administrators, and lawmakers – regarding their use of academic research findings in the policymaking process.

Statement of the Problem

There is a wealth of information related to the role that research evidence plays in educational policymaking, but very little related directly to policymaking in higher education within the State of West Virginia. Most of the findings that exist relate specifically to K-12 education and emerged from studies that were catalyzed by the increased demand for evidence-based decision making following the implementation of the *No Child Left Behind* (2002) legislation. While the K-12 findings support conclusions that are similar to one another, it may be reasonable to deduce that since most of the

research that should inform policymaking is conducted in institutions of higher education, examining the extent to which decision makers for postsecondary institutions rely on academic studies in the policymaking process can contribute to a more holistic understanding of the role of research in policymaking in general.

Those who invest their time in research intend that work to be utilized in educational policymaking and practice, but our understanding of how research evidence is actually used is limited. Learning the role of research evidence, including where and how it is acquired, may assist researchers in improving the likelihood that their work will be used to inform policy and practice. This study sought to contribute to that end by examining the sources of information on which decision makers at postsecondary institutions rely and the perceived barriers or obstacles that may exist to their use of research evidence.

Research Questions

1. What sources of information are used by academic leaders in the policymaking process?
2. To what extent, if any, do academic leaders rely upon research evidence in the policymaking process?
3. What perceptions do academic leaders have related to the overall credibility of research evidence?
4. What perceptions do academic leaders have related to the overall usefulness of research evidence?

5. What perceptions do academic leaders have related to the overall credibility of research published in peer-reviewed academic journals in particular?
6. What perceptions do academic leaders have related to the overall usefulness of research published in peer-reviewed academic journals in particular?
7. What factors facilitate the use of research evidence in the policymaking process?
8. What factors serve as barriers to the use of research evidence in the policymaking process?

Functional Definitions ¹

Academic leader: an individual who is employed to manage the affairs of an institution of higher education, to include institutional presidents, governing board members, senior and high-level administrators (e.g., officer for academic affairs, development, enrollment management, finance, institutional research, student services, and legal counsel).

Policymaker: an individual with the responsibility and authority to make decisions and to develop, modify and implement policies that affect an institution or institutions of higher education, especially those decisions related to future direction and strategy, to include chancellors, academic administrators, governing board members, and state legislators.

¹ Because of the various levels at which postsecondary policies are determined, some of these definitions will overlap (e.g., campus-level administrators are also policymakers).

Governing board: a group of individuals, either elected or appointed, responsible for directing the policies of an academic institution.

Governing board member: an individual who is either elected or appointed to serve a term on an institutional governing board.

Private institution: a school or institution that is controlled by an individual or agency other than a state, a subdivision of a state, or the federal government (i.e., usually supported primarily by other than public funds) and the operation of whose program rests with other than publicly elected or appointed officials.

Professional association: a body of persons engaged in the same occupational field, formed usually to control entry into the field, maintain standards, and represent the field in discussions with other bodies. Examples include the National Association of State Legislatures, the Association of Governing Boards, or the American Association of Presidents of Independent Colleges and Universities.

Public institution: a school or institution controlled and operated by publicly elected or appointed officials, and generally deriving its primary support from public funds.

Educational media: non-peer-reviewed print and Internet-based magazines or newspapers marketed to educators and academic administrators, such as the *Chronicle of Higher Education* and InsideHigherEd.com.

Local popular media: media vehicles, such as newspapers, radio stations, television stations, and cable stations, that function primarily to serve the communications needs of the communities or metropolitan areas in which they are located.

National popular media: media vehicles, such as newspapers, radio stations, television stations, and cable stations, that function primarily to serve the communications

needs of a national audience. Examples include *The New York Times*, *The Washington Post*, *Time*, or *Newsweek*.

Research evidence: For purposes of this study, research evidence is defined, consistent with the definition in the Education Sciences Reform Act of 2002, as research that 1) uses rigorous, systematic, and explicitly stated methods to obtain reliable and valid knowledge relevant to education activities, programs or practices; 2) presents findings and/or makes claims that are supported by the methods that have been utilized; and 3) is accepted by and published in a peer-reviewed journal or approved by a panel of independent experts through a comparably rigorous, objective, and scientific review.

Peer-reviewed academic journal: a professional journal that publishes only articles that have been subjected to a systematic and rigorous review by members of the author's/authors' academic discipline.

Credible: the extent to which research consumers find particular sources of research to be consistently reputable or trustworthy.

Operational Definitions

The following operational definitions provided a framework for the analysis of quantitative and qualitative data collected through the primary survey instrument, and served as a guide in the application of the results of those analyses to the process of addressing corresponding research questions.

1. An information source is defined as any resource that would inform a person about something or provide knowledge about it. The sources of information most

commonly used by academic leaders in the policymaking process will be measured by responses to survey questions 6, 7 and 10.

2. An academic leader's reliance on research evidence is defined as the extent to which she or he depends on a specific information source with trust or confidence when making major policy decisions. The extent to which academic leaders rely upon research evidence in the policymaking process will be measured by responses to survey questions 6, 7 and 10.
3. The credibility of research evidence is defined as the extent to which such evidence is accepted as being believed or accepted as true, real or honest. Policymakers' perceptions on the credibility of research evidence will be measured by survey questions 8 and 9.
4. The usefulness of research evidence is defined as the quality of having utility and especially practical worth or applicability. Policymakers' perceptions on the usefulness of research evidence will be measured by survey questions 8 and 9.
5. The credibility of research published in peer-reviewed academic journals is defined as the extent to which such research is accepted as being believed or accepted as true, real or honest. Policymakers' perceptions on the credibility of research published in peer-reviewed academic journals will be measured by survey questions 8 and 9.
6. The usefulness of research published in peer-reviewed academic journals is defined as the quality of having utility and especially practical worth or applicability. Policymakers' perceptions on the usefulness of research published

in peer-reviewed academic journals will be measured by survey questions 8 and 9.

7. Facilitators of the use of research evidence are defined as those circumstances, facts, or influences that contribute to the application of such evidence in the policymaking process. Factors that facilitate the use of research evidence in the policymaking process will be measured by survey questions 11, 12, 14 and 15.
8. Barriers to the use of research evidence are defined as those circumstances, facts, or influences that interfere with or inhibit the use of such evidence in the policymaking process. Barriers to the use of research evidence in the policymaking process will be measured by survey questions 11, 12, 13 and 15.

Methods

This mixed-method study focused on institutions of higher education, both public and private, within the state of West Virginia. An electronic survey was administered to representatives from several key participant groups who played a significant role in the policymaking process within West Virginia's higher education system. These key participant groups included Commissioners and Chancellors at both the West Virginia Higher Education Policy Commission (HEPC) and the West Virginia Community and Technical College System (WVCTCS); institutional presidents, senior administrators, and governing board members at each of West Virginia's public and private institutions of higher education; and state legislators who serve on committees whose policies have a direct impact on institutions of higher education.

The primary survey instrument was administered online via the Survey Monkey survey tool. A series of Likert-type, multiple choice, and open-ended questions were designed to explore the extent to which higher education policymakers rely upon research evidence when making major policy decisions, as well as their perceptions regarding the credibility and usefulness of such evidence. A field test of the survey instrument, using a small sample of local higher education administrators, was conducted to ensure that the survey sent to the larger population allowed the research questions to be answered and that the questions were properly phrased (i.e., free of bias and not confusing).

Survey data from multiple choice and Likert-type questions were entered into and analyzed using SPSS version 20, to produce both descriptive and comparative statistics from survey responses. Analysis of responses from the survey's open-ended questions followed the steps outlined by Cresswell (2003): organizing and preparing the data, which includes scanning material and typing field notes; reading through all the data to obtain a general sense of the information and to reflect on its overall meaning; and assigning a coding process that was used to identify and discuss categories or themes that emerged from the data.

Limitations of the Study

The limitations of the study were primarily those common to survey research. The findings were limited to the perceptions of specific academic leaders, decision-makers and governing board members who responded to the survey rather than being generalizable to their larger populations. Academic leaders, policymakers and

governing board members who responded may have done so out of a particular bias, either positive/negative about, or receptive/non-receptive toward the use of research evidence in academic decision making. While the researcher's academic experience and employment in the education field can constitute a source of empathy and provide an experiential background to be effective in eliciting and understanding respondents' perceptions, it can also be viewed as a limitation in that it is a potential source of bias.

Assumptions are made that participants responded to the survey items truthfully, although it is acknowledged that individual biases of respondents may have affected the objectivity of their responses to the questionnaire. While the items included on the survey instrument were based on congruence with the reviewed literature, there may be other issues of importance to policymakers which were not included. Findings from this study are based on data collected from current West Virginia policymakers and may not be generalizable to the broader population of higher education policymakers nationwide.

Significance of the Study

The literature review suggests that there exists among researchers a general consensus that many of the best decisions are those built upon a solid foundation of research evidence. One may argue that this is especially important in the field of higher education where faculty are, in most cases, expected to conduct academic research and publish findings as a requirement for promotion and tenure. Unfortunately, based on the initial research conducted by Nelson et al. (2009), many academic leaders fail to seek out, analyze, and apply research evidence, while others may lack the time or resources to make the best use of the information that is available.

This study was designed to address these problems as they relate to academic leaders in West Virginia's higher education system. Findings from this study may be used by researchers looking for ways to make their research more understandable, and/or more useable to potential consumers (i.e., policymakers). Findings may also be used by academic leaders seeking guidance on the most reliable sources of information to help drive the policymaking process. It is believed that this study will promote awareness of the availability of research evidence and the positive role that it may play in the policymaking process.

Chapter Two: Review of the Literature

Introduction

Studies in numerous disciplines have examined the subject of cognitive processing in decision making. Psychologist Ellen Langer's theory on how most people make decisions was summarized by Coughlin (1993) as follows:

When you face a decision, you're confronted with some number of options that, although different on the surface, are psychologically the same, because at this point the differences among them literally make no difference to you. That's why it's hard to choose between one house and another. (as cited in Coughlin, 1993, para. 17).

Langer suggests that people work to make "mindful decisions," based upon enough information to reduce uncertainty as much as possible (as cited in Coughlin, 1993, para. 25).

Bellinger, Castro, and Mills (2004), who reflected on the work of systems theorist Russell Ackoff (1989) stated "the content of the human mind can be classified into five categories: data, information, knowledge, understanding, and wisdom" (as cited in Bellinger, et al, 2004, para. 2). Data, according to the Ackoff model, are merely symbols with no inherent meaning. Once those symbols are processed into a useful form, they become information which, when applied, gives rise to knowledge. Understanding is the process by which knowledge is used to synthesize new knowledge. Wisdom combines all of the previous levels with the application of such

factors as moral and ethical codes, and affords the human mind the ability to make decisions on very complex issues (Bellinger, et al, 2004).

Ideally, the modern policymaker would draw from both the Langer and Ackoff models, converting data into useful information or evidence that reduces the amount of uncertainty so “mindful decisions” can be made. “Evidence is everywhere these days,” suggests Oakley (2004, p. 12), who conducted a simple Google search in 2004 for the word “evidence.” The search engine returned over 38 million hits. A Google search for the same word today results in a staggering 174 million hits, and while the comparison of these two numbers is of little scientific value, it raises an interesting question about what role evidence plays in the decision-making process for 21st-century policymakers.

Today’s internet-based research databases are overflowing with publications on the use of research evidence in the policymaking process, particularly as it relates to healthcare, public policymaking and K-12 education. Database and internet searches conducted by Honig and Coburn (2008) unearthed nearly 4,000 documents related to the production and use of research evidence (p.8). The researchers found that most of these documents could be categorized as either advocacy pieces (i.e., articles that explained why policymakers should be using research evidence) or how-to pieces that provided guidelines on the use of research evidence in policymaking. Interestingly, they found very little information on how policymakers were using research evidence or what forms of evidence they were using. Hess (2008) supported this finding by arguing that “little effort has gone into understanding how, when, or why research affects education policy,” adding that “most discussion has focused on how to identify ‘best practices’ or

'scientifically based' methods and how to encourage" the use of research findings (p. 534).

In their 2009 study entitled "Toward a Research Agenda for Understanding and Improving the Use of Research Evidence," Nelson, Leffler, and Hansen (2009) investigated several important questions related to the use of research evidence by academic leaders in the field of K-12 public education. By engaging focus groups and conducting interviews with congressional staffers, state legislators, school board members, district superintendents, central office personnel, teachers, and principals, the researchers sought

to identify when, how, and under what conditions research evidence is used by policymakers and practitioners; what other sources of information these individuals rely on; and what factors serve as barriers or facilitators to using research evidence in making policy and practice decisions. (Nelson et al., 2009, p. iii).

The work of Nelson et al., along with their recommendations for future research, served as the catalyst for this research study. It should be noted that the Nelson et al. (2009) study has several key limitations. Most notable is the fact that the study focused on a very small sample (fewer than 60 academic leaders). Also, Nelson et al. focused their study on K-12 administrators, whereas this study focused solely on academic leaders within the realm of West Virginia's higher education system.

This review provides an overview of the existing literature related to the use of research evidence in the policymaking process. It will define "evidence-based policymaking," examine the nature of research evidence, identify the consumers of

research evidence, examine the role of intermediaries in the transfer of research evidence from producers to consumers, and explore factors that both facilitate and impede the use of research evidence by policymakers.

Evidence-Based Policymaking – An Overview

Cooper, Levin, and Campbell (2009) coined the term “knowledge mobilization” to describe the growing interest in studying the role that evidence plays in the policymaking process, a movement that has been gaining ground for decades not only in the field of education, but also in areas such as health care and criminal justice where “pressure for ‘evidence-based decision making’ (EBDM) and evidence-based or evidence-informed policy and practice have become primary concerns” (p. 160). The authors contended further that there is a general consensus among researchers and policymakers that as “practices based on customs or ideology are replaced with practices based on evidence, better results follow” (Cooper et al., 2009, p. 160). To underscore the inherent value of the application of research evidence, Whitehurst (2003) argued that without the use of evidence, it is difficult to “resolve competing approaches, generate cumulative knowledge, and avoid fad, fancy, and personal bias” (p. 7).

As Nelson et al. (2009) delved into the question of what evidence is used to inform policymakers, they found that the participants’ definitions of “evidence” were broad and included such things as “local research, local data, personal experience, information from personal communications, gut instinct or intuition, and the experience of others, in addition to research evidence” (p. ii). The researchers also found that few

participants drew distinctions “between research evidence and general evidence derived from these other sources” (p. ii). Of course, this is not always the case. As the world of policymaking continues to evolve into one that is increasingly dependent on evidence-based strategies, some leaders and policymakers draw very distinct lines between hard research evidence and what some might consider anecdotal or soft evidence.

The No Child Left Behind (NCLB) Act of 2001, for example, provides a strict definition of “scientifically based research” and a very narrow definition of evidence. NCLB defines scientifically based research as a process involving the “application of rigorous, systematic, and objective procedures to obtain reliable and valid knowledge relevant to education activities and programs” (H.R. 1, 2001). The legislation’s definition of evidence places a heavy emphasis on quantitative data like standardized test scores, with little value afforded to factors such as the professional judgment of educators and academic leaders.

Many critics object to a model that places such importance on testing data while ignoring other potentially valuable factors such as the professional knowledge and judgment of educators (Cooper et al., 2009). Criticizing what he calls “instrumental rationality,” Sanderson (2011, p. 70) contended that many decisions about the feasibility and effectiveness of policy may be steered in the right direction by evidence, but the role of individual judgment must not be ignored. Toner et al. (2014) argued for a broader approach to the definition of research evidence that includes “understanding based on theoretical insights and, importantly, on the tacit knowledge of practitioners and the lived experiences of service users” (p. 107).

Numerous scholars “have acknowledged that decisions are made in a political context and that research serves at best as one factor among many that policymakers consider” (Bogenschneider, Olson, Linney, & Mills, 2000, p. 328). Cameron et al. (2011) conducted a brief qualitative study using data from a British Health Department study to evaluate policymakers’ perceptions on the use of research evidence. As part of the Health Department’s study, advisors and policy leaders from within the British Department of Health were asked to share their thoughts on the characteristics of high-quality research. A few common themes emerged, enabling researchers to formulate a working definition of high-quality research. In general, policymakers were looking for studies that began with a clear purpose, were built upon solid research design principles by researchers with relevant expertise, provided results that were easy to understand and interpret, and were delivered in a timely manner (p. 433). To that end, one participant suggested that high-quality research must begin with a “really good question” (as cited in Cameron et al., 2011, p. 433). Clearly defined research questions are, after all, the driving force behind most high quality research studies.

Other participants suggested that researchers should, in the spirit of Covey (1989), begin a study with the end user in mind (Cameron et al., 2011). In other words, researchers should evaluate what kinds of data are needed to convince a target audience to consider a particular course of action, and then use the results of that evaluation to drive the design of the research study. Cameron et al. (2011) argued that the evidence needs of a group of government ministers might often be dramatically different than those of a group of civil servants, healthcare workers, or social workers, and that it is incumbent upon researchers, as the producers of research evidence who

want their research to be used, to consider the evidentiary needs of the intended information consumers.

Study participants also suggested that the expertise of individual members of the research team should be appropriate to the study being conducted (Cameron et al., 2011). One might argue that, in the mind of a policymaker and research consumer working in the field of K-12 education, research evidence produced by a government scientist with no practical work experience in K-12 education might seem less relevant than similar evidence produced by professional educators. This reflects, in essence, how effectively the producer is able to relate to the consumer. On the other hand, it could also be argued that a researcher with an unrelated professional or academic background might approach a research study with a more open mind and fewer preconceived notions about potential outcomes.

Once a research study has been completed, it is important for the researcher to communicate results in a manner that is appealing to the research consumer. Davies and Nutley (2008) submitted that “research findings do not speak for themselves – they must be collated, summarized, and synthesized, and then presented in ways that make them acceptable and informative” (p. 2). They argued that research findings are considered evidence only when they are “accorded greater significance by a stakeholder” and are “used in support of an argument or position” (p. 2). It should be understood that many policymakers may lack expertise in such areas as statistical analysis and research design. Consequently, they may expect researchers to summarize findings in easy-to-understand language that would be more palatable to the layperson (Cameron et al., 2011).

Finally, the issue of timeliness was raised by several study participants (Cameron et al., 2011). It is not uncommon for research studies to extend for months, years, or even decades, which can pose a big problem for a policymaker who is actively working on a project with a rapidly approaching deadline. Oakley (2012) addresses the importance of timeliness by asserting that “any gathering of data generally has to be rapid and amenable to synthesis” (p. 269). The results of a lengthy study might prove quite valuable to the policymaker, but if the results are not received in a timely manner, they can also prove to be quite useless.

The issue of timeliness also raises an interesting discussion on how research data are used by policymakers. Cameron et al. (2011) pointed out that many policymakers have a desire to employ research strategies in a formative fashion. In other words, they are looking for timely feedback that will help guide the policymaking process and will help them improve and refine policy as it is being developed and rolled out, as opposed to waiting until policy has been fully implemented and evaluating it after the fact in a summative fashion. Some decision makers characterized the “use of summative evidence as unrealistic given the pace of change in the world of policy” (Cameron et al., 2011, pp. 435-6).

How is evidence used?

In order to answer the question of how evidence is used, it is important to understand what “using” research actually means (Weiss, 1979). Weiss (1979) proposed six models for the utilization of research knowledge: 1) a knowledge-driven model; 2) a problem-solving model; 3) an interactive model; 4) a political model; 5) a tactical model; and 6) an enlightenment model.

The knowledge-driven model, according to Weiss (1979), is based upon the process of discovery typically used in the natural sciences which begins with basic research, followed by applied research, development, and finally application. The idea is that “basic research discloses some opportunity that may have relevance for public policy; applied research is conducted to define and test the findings of basic research from practical action; if all goes well, appropriate technologies are developed to implement the findings; whereupon application occurs” (Weiss, p. 427). In essence, the author contended that in many cases the mere existence of knowledge will result in its application and use.

It is quite common for a problem to arise for which there is either no solution or for which limited data exist to support a proposed solution. The problem-solving model is often applied in these cases. Under this model,

[when] a problem exists and a decision has to be made, [and] information or understanding is lacking either to generate a solution to the problem or to select among alternative solutions, then research provides the missing knowledge and a decision is made. (Weiss, 1979, p. 427).

The interactive model is employed when policymakers seek information not only from researchers, but also from other sources to include administrators, practitioners, politicians, planners, journalists, clients, interest groups, and friends (Weiss, 1979). This strategy, according to Weiss, results in a pooling of various talents, beliefs, and understandings. The process can involve such factors as experience, political insight, pressure, social technologies, and judgment (p. 429).

Some decisions are driven by what Weiss (1979) refers to as a “constellation of interests” surrounding a particular issue (p. 429). Under this political model, factors such as interest, ideology, and intellect are often the basis for a particular decision. Weiss contended that, while research might still be used in the political decision-making process, it is often employed as ammunition to support a predetermined view, “to neutralize opponents, to convince waverers, and to bolster supporters” (p. 429).

There are times when the actual substance of research is secondary to the fact that the research is simply being conducted. Under the tactical model, Weiss (1979) gave the example of a government agency that is receiving complaints from the public about inaction on a particular issue. The agency might ward off some of the complaints by simply stating “we are currently conducting research on that issue” (p. 429). In this example, the outcome of the research is inconsequential (p. 429).

Weiss suggested that one of the most common ways for social science research to enter into the political arena is through the enlightenment model. This model focuses not on the results of an individual research study, but rather on the “concepts and theoretical perspectives that social science research has engendered” (Weiss, 1979, p. 430) that, in turn, permeate the policymaking process. Weiss suggested that this is the most flawed of the six models; however, because it relies upon information being transferred through informal channels, sometimes by word-of-mouth, and as a result of this informal transfer, the information might be incomplete, oversimplified, or simply wrong.

Consumers of Research Evidence

Up to this point, it has been assumed that the consumers of research are primarily policymakers – legislators, governors, institutional administrators (e.g., presidents, vice presidents, deans, etc.), and governing board members, who, by the very nature of their positions, are responsible for developing and implementing new policy initiatives, modifying and improving existing policy, and evaluating the effectiveness of their efforts. These, however, are not the only consumers of research evidence who need to be considered. In the case of a college or university, there are a number of other stakeholders whose consumption and interpretation of research evidence may play a critical role in the success or failure of a new policy initiative.

One example of a stakeholder not always considered is the faculty. If the university president and governing board work together to roll out a new policy initiative that directly affects faculty, the leadership's ability to sell the new initiative to the faculty and to convince them of its worthiness might depend on the faculty's own interpretation of research evidence. In such cases, buy-in from the group most directly affected by a new policy is crucial to its success. The same can also be said for members of the general public when a new law is being proposed. Room (2013) supported this argument by adding "with evidence to back them up, [policymakers] can expect to command public support" (p. 225).

The Middle Man

Esler, Prozesky, Sharma, and McGeoch (2010) raised the issue of the disparity that exists between the generation of new information and the implementation of research

findings. They referred to this disparity as the “knowing-doing gap” (p. 4065). As Lindblom and Cohen (1979) pointed out, “In public policymaking, many suppliers and users of social science research are dissatisfied, the former because they are not listened to, the latter because they do not hear much they want to listen to” (p. 1).

Over the years, researchers have proposed a number of methods to facilitate the transfer of information and close the “gap.” Few methods have garnered more attention than the use of “intermediaries” to compile, summarize, interpret, and distribute research evidence. Lee and Cho (2005) defined the “information intermediary” as a “human or nonhuman party designed to assist consumers in information processing” (p. 96).

In cases where information consumers (i.e., policymakers) lack a thorough understanding of statistics or research methods, or simply do not have the time required to analyze and interpret the results of large research studies, or when the sheer volume of research evidence on a particular topic makes it difficult for one person to absorb, intermediaries might be called upon to facilitate the transfer of information. According to Lee and Cho (2005), “the key benefit of using information intermediaries is to increase the efficiency of processing information relevant to decision making” (p. 99). Tseng (2012) posited that while one might imagine a decision maker who “encounters a dilemma, goes out in search of information to address the question at hand, finds research that provides the missing information, and uses it to decide,” the reality is that this rarely occurs (p. 6).

When one considers the ever-increasing involvement of intermediaries in the policymaking process, three important questions should immediately come to mind:

1. Who are they?
2. What are their roles in the policymaking process?
3. What are the benefits and risks associated with their use?

The question “Who are they?” is not necessarily an easy question to answer, in large part due to the sheer number of intermediaries and the tremendous difference in the roles they play in the policymaking process. According to Lee and Cho (2005), examples of intermediaries could include the internet, librarians, financial advisors, interns, aides, staff members, consultants, and “many others whose role is to reduce the time and effort consumers spend on information acquisition and processing” (p. 96). In the fields of academic research and policymaking, intermediaries often included members of legislative staffs, nonprofit research organizations, advocacy groups, and research and development organizations (Nelson et al., 2009). According to Nelson et al. (2009), one of the most influential groups of intermediaries consists of professional or membership organizations, like the National Governor’s Association and the National Conference of State Legislators. These organizations, according to the authors, “exert a powerful influence on policymaking and practice by shaping the beliefs and assumptions of their members” and “dominate the education periodicals market” (p. 46).

According to Weissert and Weissert (2000), legislative staff members play an important role as intermediaries between researchers and legislators. The authors pointed out that many state legislators serve short terms on various committees and often experience some level of difficulty staying abreast of the most current research in a given field. The problem is compounded by the limited time legislators have to dedicate to forming relationships with researchers or reviewing lengthy research

reports. Legislative staffers, whether competent researchers or not, are often assigned the task of conducting research, writing brief summary reports, and sharing research findings and recommendations with legislators.

Sebba (2013) added “think tanks” to the list of intermediaries, categorizing them as either “independent research-based think tanks” or “advocacy-based think tanks with vested interests, who do conduct some research but whose first responsibility is to their members” (p. 393). Think tanks, according to Sebba, share certain fundamental characteristics, including these:

- 1) they are independent of the public and private sector, mainly by virtue of being incorporated as not-for-profit corporations;
- 2) they set their policy agendas internally;
- 3) they have a strong scholarly, analytical orientation in terms of both staff and publications;
- 4) they gear their outputs to engaging both politicians and senior officials/advisors in government as well as the private and non-governmental sectors that have a policy role; and
- 5) they make policy recommendations that contribute to the public interest rather than simply responding to vested interests. (p. 393).

While the role of the intermediary is sometimes discussed in generic terms as simply the transferring of information from producer to consumer, the true nature of their involvement is often more complex. Sin (2008) proposed categorizing the roles of intermediaries into five basic groups: cross-pollinators, matchmakers, translators and processors, multiple dissemination routes, and articulators of user perspectives. Let us consider each of these groups in turn.

Cross-pollinators, according to Sin (2008), are individuals or groups that facilitate the transfer of information across a number of sectors. To put it simply, a cross-pollinator may analyze and summarize a research study conducted in the field of business and then translate that information into a report that will be applicable to an academic leader at a college or university (p. 93). Sin pointed out that cross-pollinators are particularly useful because leaders in a particular sector may not be aware of relevant information that was published in another sector. Sin referred to a 2001 article in the *British Journal of Criminology* in which author Nigel Coles discusses social network theory and its apparent underuse in the field of criminology. Hevey (1984) referred to this phenomenon as “the stickiness of knowledge,” arguing that information and knowledge often stay within the field in which they were created (as cited in Sin, 2008). Hall et al. (2000) suggested that external affiliations, like those created by cross-pollinators, will minimize the “silo effect” that occurs within disciplines, thereby facilitating the transfer of information.

The second group of intermediaries discussed by Sin (2008) is the matchmaker group, which shares a very similar role with the cross-pollinators. While both groups work to facilitate the transfer of information from producers to consumers, matchmakers actively work to bring various stakeholders together to “bring about a convergence of understandings and views” (p. 93). Sin suggests that the relationship is analogous to polygamy in the sense that matchmakers work to “identify and establish meaningful relationships with multiple partners” (p. 94).

Many research consumers lack the expertise or knowledge to understand and interpret research evidence in its raw form. This is where the third group of

intermediaries comes into play -- the translators and processors. The translators and processors compile research evidence and present it in language that is appropriate to the ability level of the information consumer (Sin, 2008).

Sin (2008) argues that academic researchers have traditionally shared the results of their research findings through a very limited number of outlets (i.e., peer-reviewed journals, conference presentations, white papers, professional association publications, etc.) and in a very limited number of forms, often because they lack either the expertise, resources, or time to explore other potential dissemination routes. Sin refers to the intermediaries that address this problem as “multiple dissemination routes.” These professionals often operate on the principle that “one size often does not fit all” (p. 95).

The fifth and final group of intermediaries, called the articulators of user perspectives, often serves as the advocate for research consumers. Like many of the other intermediaries, the articulators work to transfer information from producers to consumers, but perhaps their most important role is to evaluate the needs of research consumers and to share that information with researchers (Sin, 2008). In doing so, they provide researchers with valuable information on consumer needs, enabling them to focus their research efforts and increase the probability that research findings will be used by policymakers.

It is clear from the sheer volume of research on the use of intermediaries in the transfer, interpretation, and dissemination of research evidence that these individuals and groups play a critical role in linking research producers to research consumers. With the increased reliance on the use of intermediaries, one must not ignore the

potential pitfalls and risks associated with passing information through a third-party before it is consumed. Issues of particular concern include the potential for bias, the possibility that critical information might be omitted or misinterpreted in summary reports, or, as Corcoran (2003) explained, that the potential exists for the lines among research evidence, opinion, and advocacy to become blurred.

In spite of the risks associated with the use of intermediaries, and as the volume of academic research continues to grow at an astonishing rate, most experts agree that the role of the intermediary in the transfer of information from producer to consumer will continue to expand. On the whole, much of the literature supports the notion that the benefits of the use of intermediaries outweigh the potential risks and pitfalls, primarily because they serve to facilitate the transfer of information. Of course, intermediaries are not the only means of facilitating this transfer.

According to Levin (2004), there has been an increased effort within the research community to create linkages between researchers and policymakers. Levin offers as an example the use of the internet to disseminate research findings, but he argues that most of those efforts to date have been small scale. Nelson et al. (2009) propose several factors that would create linkages between research producers and consumers to facilitate the transfer and use of information, as well as factors that would impede the transfer of information. They refer to these factors as “facilitators” and “barriers.”

Facilitators of the Use of Research Evidence

According to the Center for Organization, Leadership, and Management Research (COLMR) (2009), attitude toward research is an important factor in the use of

research evidence in the policymaking process (“Managerial Culture,” para. 3). COLMR (2009) has adopted the position that “attitudes that focus on making speedy decisions can interfere with managers’ acceptance of research (“Managerial Culture,” para. 3). In addition, a belief system reinforced by years of experience that management is an intuitive process will restrict support for management research” (“Managerial Culture,” para. 3). COLMR also supports the notion that

research evidence is more likely to be used in organizations that have a culture that values and encourages innovation, experimentation, data collection and analysis, and the development of critical appraisal skills among managers.

Organizations must cultivate what has been called a culture of learning through research. (“Managerial Culture,” para. 4).

Research conducted by Nelson et al. (2009) examined characteristics of research as well as the processes used by consumers to access it. The researchers contend that the use of research evidence could be improved dramatically “by using translators and intermediaries; presenting findings in succinct, non-technical terms; and detailing proven practices” (p. 31). Other facilitators proposed in the literature include improving the perceived credibility of the researchers (Boaz & Gough, 2014), forming relationships between researchers and users (Lightowler & Knight, 2013), working to increase the perceived value of research evidence (Ouimet, Landry, Ziam, & Bédard, 2009), increasing access to policymakers (Brown, 2012), and using a variety of methods (i.e., interactive meetings, websites, professional conferences, and seminars) to disseminate research findings (Nelson et al., 2009).

Brown (2012) underscores the importance of access to policymakers as a facilitator by arguing that “the process of researchers with strong ties to policymakers and disseminating favoured research to them, may be considered far less difficult than processes associated with a weakly connected researcher attempting to inject unfavoured ideas into the policymaking process” (p. 463). Koon, Nambiar, & Rao (2012) take this idea a step further by suggesting that some of the most successful researcher-policymaker connections exist in organizations with embedded researchers. They argue that embedded researchers tend to be more influential within an organization and are often perceived by policymakers as having greater trustworthiness and reputation than those researchers without strong ties to the organization (p. 4).

One of the primary research methods used in the Nelson et al. (2009) study involved a series of focus groups consisting of educational policymakers representing such organizations as the Council of Chief State School Officers, the National Conference of State Legislatures, and the American Association of School Administrators. Researchers asked participants to share their thoughts on factors that would facilitate the use of research evidence, and were able to categorize the most commonly discussed facilitators shared by focus group participants into two main groups or themes and several sub themes. Researchers dubbed the first theme “processes for accessing research evidence” (p. 34) and the second theme “characteristics of the research evidence” (p. 36).

Facilitators categorized as processes included: 1) accessing research through intermediaries and translators; 2) the use of trusted individuals; and 3) the use of technology and other delivery modes (Nelson et al., 2009). Under the second theme –

characteristics of the research – focus group participants discussed 1) the value of application-based research; 2) higher quality standards for research and researchers; 3) proven research practices with practical applications in schools and classrooms; 4) a desire to have results as syntheses, compilations, and summaries; and 5) a need to have information presented in a succinct and readable format (Nelson et al., 2009).

In September 2006, a joint workshop hosted by the United Nations Conference on Trade and Development (UNCTAD), the World Trade Organization, and the International Trade Centre included a session designed to address research-based policymaking. Researchers and policymakers from 16 countries, all of whom were involved in research and many of whom taught academic courses for government officials, provided insight into the importance of cooperation between the producers and consumers of research. The group developed a series of recommendations intended to improve communication between researchers and policymakers, to make research more policy-relevant, to facilitate the dissemination of research findings, and to “build a sustainable capacity for research” (UNCTAD, 2006, p. 6).

To foster communication between researchers and policymakers, the group recommended that researchers and research institutions work to disseminate information about ongoing research to the widest possible audience, and that policymakers should be provided with short notes or abstracts on research findings in lieu of lengthy articles or reports. Addressing the role that policymakers should play in maintaining open lines of communication, the group contended that policymakers “should think of channels to inform academia of major policy questions” and that, by

doing so, policymakers would contribute to the goal of making research more “policy relevant” (UNCTAD, 2006, pp. 3-4).

Abrami et al. (2010) also recommended the use of abstracts or short reports, tools they referred to as brief reviews, rapid reviews, or rapid evidence assessments which, if used correctly, can offer “high-quality, replicable evidence to policymakers and practitioners within the constraints of time and money” (Boaz & Gough, 2010, p. 290). Karlsson, Bergmark, and Lundström (2014) contended that the use of such reports has become so pervasive in the policymaking arena that the very definition of “evidence” has evolved to include briefs and reviews as a major component. Campbell, Donald, Moore, and Frew (2011) cautioned, however, that certain characteristics of traditional reviews limit their usefulness. Their concerns included the following: 1) the content may preclude their utility to policymakers; 2) they are often lengthy and are not necessarily written with the needs of policymakers in mind; and 3) they are often time-consuming to write, which poses a problem for policymakers who need information in a matter of days or weeks.

On a similar note, Chalmers (2005) promoted the use of what he called “systematic reviews” as a means of coping with and utilizing the massive amounts of primary research available to policymakers. These systematic reviews, Chalmers added, enable researchers to make comparisons between studies that address the same or similar questions, while assessing the consistency of research findings. Chalmers contended that because they often involve data from multiple studies, systematic reviews can also help to reduce the potential impact of individual bias in research reports. Tranfield, Denyer, and Smart (2003), on the other hand, argued that

the risk of bias in a systematic review is still very high. An unethical researcher, for example, might include in a systematic review only those research findings that support a particular position or reinforce a preconceived notion about the best course of action.

With regard to communicating and disseminating research findings, UNCTAD workshop participants recommended that researchers provide findings in a manner that is both readable and understandable to laypeople. They also recommend developing marketing strategies to publicize and disseminate important research findings and to “provide targeted research, which offers suggestions that could be implemented by policymakers” (UNCTAD, 2006, p. 5). Similarly, Bogenschneider et al. (2000) suggested that “efforts to disseminate research may be more effective if strategically targeted either to the unique characteristics of policymakers, who enact policies, or policy implementers, who develop the procedures and practices that determine whether the intent of the policy is carried out” (p. 336).

MacColl and White (1998) offered several suggestions to help researchers effectively disseminate research evidence to the widest possible audience. These suggestions are particularly useful when reporting research findings to non-technical audiences, and include 1) using plain language to summarize findings at the beginning of a report; 2) being concise and presenting research evidence in a manner that allows it to be easily absorbed; and 3) communicating research findings through channels that reach the general public.

Lavis, Robertson, Woodside, McLeod, and Abelson (2003) proposed the idea that researchers should do more than simply disseminate and transfer information. They should instead transfer what the authors refer to as “actionable messages from a

body of research knowledge” (p. 223). An article by Freeman (2009) supported this proposal, adding that researchers must work to promote the “application and use of the knowledge and information” obtained through research studies (p. 430).

Freeman (2009) referred to this process as “translation” and offered this example: “[T]o conduct an interview is to ask for an account of experience and its meanings, but it is also to construct and translate that experience in terms defined at least in part by the researcher.” Freeman went on to say:

in representing what is said, transcripts then select data, usually excluding significant gesture and eye-contact, for example. In turn, the format of the transcript shapes the analytic use the researcher may make of it.

Translation can be a difficult skill for researchers to master, according to Ward, Smith, Foy, House, and Hamer (2010), who worked to promote an operationalized translation strategy that includes five key components: 1) problem, 2) context, 3) knowledge, 4) interventions, and 5) use.

It is evident from the research that significant progress has been made in the movement to bridge the gap between research producers and consumers, but much work still needs to be done. As Newman (2012) suggested, the burden of bridging the gap should not fall entirely with one group. Newman offered this advice to researchers: “[Y]ou have no right to complain that policymakers don’t understand the basics of research if you don’t understand the basics of policymaking” (para. 5).

Barriers to the Use of Research Evidence

Numerous studies related to the transfer of research evidence from researchers to policymakers have explored factors with the potential to interfere with or inhibit the flow of information. These factors are commonly referred to as “barriers.” Results of the Nelson et al. (2009) study, which included a comprehensive literature review of more than a dozen studies on the research process, suggested that the most common barriers are “created by the complexity of research reports and their lack of relevancy, timeliness, and accessibility” (p. 24). The authors argued that many of these barriers “are linked to an underlying belief that much research is not to be trusted or is, at least, severely limited in its potential applicability” (p. ii). They also pointed to potential interference related to advocacy, politics, and marketing bias.

Nelson et al. (2009) contended that, despite a rapidly increasing volume of research evidence with a significant potential to affect change, much of the available research evidence is utilized ineffectively. This contention is supported by numerous experts who linked the underutilization of research evidence to such factors as 1) the sheer volume and complexity of available research data; 2) the limited capacity of many policymaking entities to “house, analyze, and interpret multiple types of data”; and 3) the difficulty associated with accessing relevant research data when they are needed (p. 25). Balfanz (2012) underscored the importance of accessibility by arguing that maintaining easy access to research evidence for the people “on the ground” is essential for the practice of evidence-based policy to “take hold, become commonplace, and offer a more powerful alternative to an intuitive and experience-based approach” (p. 4). Newman (2012) offered an interesting perspective on the argument that some

research is simply too complex to be useful to policymakers, suggesting that some policymakers use the argument of complexity as a means to justify inaction.

One potential barrier that might often be overlooked relates to the problems associated with building and, most importantly, maintaining what Boaz, Grayson, Levitt, and Solesbury (2008) referred to as “evidence base.” While the authors strongly supported the notion of an ever-accumulating body of evidence, they cautioned that dated research evidence, even that which is only a few years old, might appear on the surface to be relevant to a particular policy decision, but may in fact be irrelevant because the context in which the data were collected might be different than the prevailing context of the day. The authors also cautioned that “evidence from other localities, with their particular cultures, organizations and politics, cannot be accepted unconditionally” (Boaz et al., 2008, p. 241).

In an era of unstable economies and shrinking budgets, one cannot ignore one of the most significant barriers to the use of research evidence by policymakers: cost. Because of the time, expertise, and other resources necessary to complete many research studies, the process of conducting research can sometimes be quite expensive, leading many policymakers to question whether the cost of conducting a research study is outweighed by the potential benefits. Hall, Sapsed and Williams (2000) agreed that cost and completion time are often significant barriers in the research process. Cooper, Levin, and Campbell (2009) added that one must also consider factors such as political pressure and the feasibility of conducting a thorough research study.

Another important issue to consider is the idea of applicability. In the Cameron et al. (2011) study, for example, some focus group participants suggested that it is sometimes difficult to apply information presented in a large nationwide study to policy decisions made at the local level. A similar study conducted by Burchett, Lavis, Mayhew, and Dobrow (2012) investigated the potential usefulness of research conducted in foreign countries, with results that suggested a preference for locally conducted studies despite the potential usefulness of research evidence with foreign origins. Chait, Holland, and Taylor (1991) added that an effective institutional governing board wants to “be informed about the effects of national trends upon their own institutions, recognizing that such information enhances their ability to make knowledgeable judgments about academic and financial direction, preparedness, and effectiveness of their institution” (as cited in Dobbins, 2008, p. 9).

A 1977 study by Pettus and Diener exploring individuals’ perceptions of the reliability of statistical data found that most people, even those with backgrounds in statistical research, tended “to view samples as being highly representative of the population from which the samples are drawn, regardless of the sample size” and that they “relied almost exclusively upon concrete, target case information in their decision making” (p. 234). In essence, people were less likely to use statistical research because the data were impersonal. They were much more likely to rely on information that came from individual cases, regardless of reliability, because they could make a personal connection with each “case.”

Summary

Most researchers agreed that the results of high-quality research can be a tremendous asset to policymakers, as they empower policymakers to make “mindful decisions” (Coughlin, 1993). Informed policymakers are able to use information to “resolve competing approaches, generate cumulative knowledge, and avoid fad, fancy, and personal bias” (Whitehurst, 2003, p. 7), thereby achieving better results.

Those researchers who want the fruits of their labor to make a difference in the realm of policymaking must learn to adopt strategies to facilitate the transfer of research evidence to policymakers while working to avoid potential barriers to that transfer. The literature provided a seemingly endless list of facilitation strategies, but a majority of researchers agreed on a few of the most effective practices. More than anything, policymakers want information that is accurate, timely, easily understood, concise, and free from bias. As Oakley (2004) stated, “Evidence is everywhere these days” (p. 12). Precisely which evidence gets used will be determined in large part by the willingness of researchers to adapt to the needs of their consumers.

The goal of this literature review was to establish a framework for a study, inspired by the work of Nelson et al. (2009), which will investigate the role that research evidence plays in the policymaking process at institutions of higher education. A thorough review of the published literature found a wealth of information on the production, evaluation, distribution, and application of research evidence in fields such as public K-12 education, healthcare, public policymaking, and criminology, but very little information was unearthed relating research evidence to higher education policymaking. Perhaps this is because it is assumed that institutions of higher

education will be naturally inclined to favor peer-reviewed research, although no such finding exists in the current research. Moreover, the vast majority of the extant research focuses on process (i.e., the various ways that consumers manage the information that arises from research findings, the usefulness of intermediaries in the explication and transfer of research evidence from producers to consumers, and various factors that both facilitate and impede the use of research evidence by policymakers) rather than on the research evidence itself –particularly on the credibility of sources. This study addresses those oversights.

Chapter Three: Research Methods

The purpose of this study was to explore the role that research evidence plays in policymaking within West Virginia's higher education system, policymakers' perceptions on the reliability and usefulness of various sources of information, and their insights related to factors that facilitate and impede the use of research evidence. This descriptive, mixed-method study focused on institutions of higher education, both public and private, within the state of West Virginia. An electronic survey was administered to representatives from several key participant groups with significant roles in the policymaking process within West Virginia's higher education system. The survey instrument included questions in three primary formats – multiple choice, Likert-type, and open-ended. Multiple choice and Likert-type responses were used primarily for the quantitative portion of the study, while open-ended questions provided data for a limited qualitative analysis.

Research Questions

1. What sources of information are used by academic leaders in the policymaking process?
2. To what extent, if any, do academic leaders rely upon research evidence in the policymaking process?
3. What perceptions do academic leaders have related to the overall credibility of research evidence?
4. What perceptions do academic leaders have related to the overall usefulness of research evidence?

5. What perceptions do academic leaders have related to the overall credibility of research published in peer-reviewed academic journals in particular?
6. What perceptions do academic leaders have related to the overall usefulness of research published in peer-reviewed academic journals in particular?
7. What factors facilitate the use of research evidence in the policymaking process?
8. What factors serve as barriers to the use of research evidence in the policymaking process?

Population and Sample

Because of the number and variety of higher education institutions in the United States, it was important to be able to gather information from as large and diverse a population or sample as is feasible, as well as compare the results based on demographic characteristics of the institutions and professional characteristics of the academic policymakers. The population in this study also included higher education policymakers and administrators at those institutions of higher education within the state of West Virginia that are required to submit data through the Integrated Postsecondary Education Data System (IPEDS). These individuals included institutional presidents, governing board members, senior and high-level administrators (e.g., officer for academic affairs, development, enrollment management, finance, institutional research, student services, and legal counsel), and board members serving on institutional foundations. The survey population also included those members of the West Virginia House of Delegates and West Virginia State Senate serving on their respective education or finance committees, as well as senior administrators and board

members with the West Virginia Higher Education Policy Commission and the West Virginia Community and Technical College System.

Survey invitations were sent directly to 492 individuals, of whom 124 chose to participate. In cases where direct contact information for senior administrators or board members was not published online, emails were sent to the office of the institutional president (in most cases to the president's executive assistant) with a request that the survey invitation be forwarded, with the approval of the president, to senior administrators or governing board members. The number of survey invitations that were actually forwarded to the intended recipients is unknown, as some institutions did not respond to the requests, some expressed a willingness to participate, and others communicated a desire to opt out of the study altogether. Consequently, it was not possible to calculate a precise response rate for this survey. At best, it is safe to conclude that the response rate is less than 25.3 %, as the actual number of survey invitations distributed would equal the sum of the known value of 492 invitations emailed directly to potential respondents by the researcher, and the unknown number of invitations distributed by third parties (institutional presidents or their representatives, for example).

Institutions were identified using the IPEDS College Navigator search tool based upon institution type and level of degrees awarded. The following specific criteria were used to identify the West Virginia institutions included in the study:

1. institution type (public, private non-profit, 2-year, 4-year) and
2. degree level (associate's, bachelor's, master's, advanced)

Instrumentation

The primary survey instrument in this study was designed to determine the extent to which higher education policymakers rely upon research evidence when making major policy decisions, as well as their perceptions regarding the credibility and usefulness of such evidence. The first section of the survey was designed to obtain data that can be used to classify respondents based upon their roles within the higher education system, and the type and size of institution or organization with which they are affiliated. The instrument provided respondents with a list of potential information sources (e.g., peer-reviewed academic journals, popular media, etc.) and asked them, using a Likert-type scale, to rate each information source based upon the following criteria: 1) the extent to which each source is consulted when making major policy decisions in general; 2) the extent to which each source was used during the respondent's last major policy decision; 3) the respondent's perception of the credibility of each information source; and 4) the respondent's perception of the value or usefulness of each information source. Respondents were also asked to review the list of information sources and select the single source that played the most significant role in their major policy decisions.

Next, respondents were asked to rate the extent to which they agreed or disagreed with several statements regarding research evidence and the sources of research evidence. The purpose of these statements was to identify potential barriers and facilitators to the use of research evidence in the policymaking process. The survey instrument also included three open-ended questions, the responses from which

were used for the qualitative portion of this study. Demographic data were collected for purposes of classification and comparison.

A field test of the survey instrument, using a small sample (n=9) of local higher education administrators, was conducted to ensure that the survey sent to the larger population allowed the research questions to be answered and that the questions were properly phrased (i.e., free of bias and not confusing). The survey instrument was administered electronically using the web-based *Survey Monkey* survey tool. Potential respondents were contacted via email and provided with a link to the online survey. Great care was taken, both in the design of the survey instrument and in the collection and analysis of results, to maintain the confidentiality of respondents to the extent possible.

Data Analysis

Survey data from multiple choice and Likert-type questions were entered into and analyzed using SPSS version 22, to produce both descriptive and comparative statistics from survey responses. Analysis of responses from the survey's open-ended questions followed the steps outlined by Cresswell (2003): organizing and preparing the data, which includes scanning material and typing field notes; reading through all the data to obtain a general sense of the information and to reflect on its overall meaning; and assigning a coding process that was used to identify and discuss categories or themes that emerged from the data.

Quantitative data were analyzed using the SPSS 22 software package, with the data analysis relying mostly on frequencies of survey responses and Pearson

correlations. Qualitative data were subjected to emergent category analysis and subsequently processed in SPSS. The qualitative component of this study was limited in scope and intended to elicit policymakers' insights related to specific research questions.

Chapter Four: Presentation and Analysis of Data

The purpose of this study was to explore the role that research evidence plays in policymaking within West Virginia's higher education system, policymakers' perceptions on the reliability and usefulness of various sources of information, and their insights related to factors that facilitate and impede the use of research evidence. Data for this research study were collected using a researcher-created electronic survey instrument administered online using the Survey Monkey website. The instrument (see Appendix B) was designed to address the following research questions focusing on policymakers' use of research evidence in the policymaking process, their perceptions on the reliability and usefulness of various sources of information, and their thoughts on factors that facilitate and/or impede their use of research evidence:

1. What sources of information are used by academic leaders in the policymaking process?
2. To what extent, if any, do academic leaders rely upon research evidence in the policymaking process?
3. What perceptions do academic leaders have related to the overall credibility of research evidence?
4. What perceptions do academic leaders have related to the overall usefulness of research evidence?
5. What perceptions do academic leaders have related to the overall credibility of research published in peer-reviewed academic journals in particular?

6. What perceptions do academic leaders have related to the overall usefulness of research published in peer-reviewed academic journals in particular?
7. What factors facilitate the use of research evidence in the policymaking process?
8. What factors serve as barriers to the use of research evidence in the policymaking process?

This study was primarily quantitative in nature, therefore a majority of the findings discussed in this chapter relate to descriptive and comparative analyses of quantitative survey data. The qualitative component of this study was intentionally limited in scope and designed to elicit policymakers' insights related to specific research questions. Relevant qualitative findings are discussed along with quantitative findings within the context of specific research questions in the sections that follow.

Sample and Population

The population for this research study included all senior administrators and policymakers representing both public and private institutions of higher education in the state of West Virginia, members of the West Virginia Legislature serving on their respective chambers' education or finance committees, and senior administrators and policymakers with the West Virginia Higher Education Policy Commission and West Virginia Community and Technical College System. Institutions of higher education were identified using the *Integrated Postsecondary Education Data System (IPEDS) College Navigator* tool, an internet-based college search tool developed by the National

Center for Education Statistics. The following search criteria were used to identify institutions for inclusion in the study:

1. institution type (public, private non-profit, 2-year, 4-year) and
2. degree level (associate's, bachelor's, master's, advanced).

The College Navigator tool identified 29 institutions within the state of West Virginia that met these criteria. A list of the institutions identified by the College Navigator tool is provided in Appendix E.

Potential survey participants were identified through an extensive search of institutional and organizational websites for employee directories, organizational charts, and contact information. The search yielded direct contact information for a total of 492 individuals, including institutional presidents, senior institutional administrators, institutional board members, administrators with the West Virginia Higher Education Policy Commission and West Virginia Community and Technical College System, and members of the West Virginia House of Delegates and West Virginia State Senate. An email invitation with a link to the online questionnaire was sent to each of the individuals identified by the internet-based search. A follow-up email was sent approximately two weeks later to the same individuals.

In cases where direct contact information for senior administrators or board members was not published online, emails were sent to the office of the institutional president (in most cases to the president's executive assistant) with a request that the survey invitation be forwarded, with the approval of the president, to senior administrators or governing board members. The number of survey invitations that

were actually forwarded to the intended recipients is unknown, as some institutions did not respond to the requests, some expressed a willingness to participate, and others communicated a desire to opt out of the study altogether. Consequently, it was not possible to calculate a precise response rate for this survey. At best, it is safe to conclude that the response rate is less than 25.3 % as the actual number of survey invitations distributed would equal the sum of the known value of 492 invitations emailed directly to potential respondents by the researcher, and the unknown number of invitations distributed by third parties (institutional presidents or their representatives, for example).

Table 1

Composition of Survey Population

	<i>N</i>	Percent
Institutional Presidents	28	5.7%
Senior Institutional Administrators	319	64.8%
Institutional Board Members ^a	56	11.4%
WVHEPC and WVCTCS Administrators	23	4.7%
State Legislators	66	13.4%
Total	492	100.0%

^a Value includes only those board members whose contact information was published on institutional websites. The actual number of board members invited to participate is unknown because only some institutions elected to forward survey invitations to board members whose contact information was not published online.

The process of contacting institutional board members presented a significant challenge as few institutions publish board members' contact information, and even fewer were willing to forward survey requests to their board members. Of the 29 institutions included in the initial search, only six made board member email addresses

available online. An email request was sent to presidents' offices at the remaining institutions asking that the survey invitation be forwarded to institutional governing board members. Three institutions declined to participate, three agreed to forward the invitation, and the remainder either declined to respond or responded that they were considering the request with no further communication.

The questionnaire remained available to potential respondents for approximately 30 days, during which time 124 completed surveys were returned. As seen in Table 2, respondents represented a diverse group of academic policymakers, including senior institutional- or campus-level administrators, trustees, governing board members, commissioners, or equivalents, other administrators, and legislators.

Table 2

Demographics: Primary Role within Organization

Primary Role	<i>n</i>	Percent
Senior Administrator	73	62.9%
Trustee or Board Member	31	26.7%
Legislator	3	2.6%
Other	9	7.8%

More than three quarters of respondents represented single, independent colleges or universities, about one-fifth served statewide governing or policymaking bodies, and very few represented a state legislative body like the West Virginia House of Delegates or West Virginia State Senate. Of those respondents employed by single, independent institutions of higher education, the largest subgroup consisted of

administrators from institutions that grant both undergraduate and graduate degrees, representing slightly more than one-third of respondents. Nearly one-fourth of respondents represented two-year community or technical colleges. There were fewer from four-year degree-granting institutions and a very small number from other types of institutions (e.g., medical schools or institutions granting only graduate degrees). Table 3 illustrates these figures. Respondents to the survey consisted of 27 females, 67 males, and 30 individuals who chose not to identify their sex.

Table 3

Demographics: Type of Organization Represented

Institutions or Organizations Represented	<i>n</i>	Percent
Single, Independent College or University		
Two-year community or technical college	28	23.0%
Four-year bachelor's degree-granting institution	15	12.3%
Undergraduate- and Graduate-Degree-Granting Institution	43	35.3%
Institution Granting Only Graduate Degrees	3	2.5%
Independent Medical School	2	1.6%
Unspecified	5	4.1%
Statewide Governing Body (HEPC, WVCTCS, etc.)	23	18.9%
State Legislative Body	3	2.5%

Respondents were asked to share information about their educational backgrounds, specifically the levels of their highest degrees earned. Data were divided into two subgroups, administrators and board members, for this analysis. Legislators were excluded because of the low response rate from that subgroup. A comparison of the academic backgrounds of the two remaining subgroups revealed that more than half

of the administrators, but fewer than one in five board members held doctoral degrees. Nearly all of the administrators who responded to this question held at least a master's degree, while slightly more than one-third of the board members held similar academic credentials. These data are arrayed in Table 4.

Table 4

Demographics: Highest Degree Earned

Degree Level	Administrators		Board Members	
	<i>n</i>	Percent	<i>n</i>	Percent
Bachelor's	2	3.0%	13	61.9%
Master's	26	39.4%	4	19.1%
Doctorate	38	57.6%	4	19.1%

More than half of respondents indicated that they have served in administrative positions for more than 10 years, while the remainder had served for five years or less. Table 5 provides a breakdown of the administrative experience of survey participants.

Table 5

Demographics: Years of Administrative Experience

Years of Administrative Experience	<i>n</i>	Percent
<1	1	1.0%
1-5	14	14.0%
6-10	19	19.0%
11-15	23	23.0%
16-20	12	12.0%
>20	31	31.0%

Findings

RQ1: What sources of information are used by academic leaders in the policymaking process?

The first research question sought to determine the sources of information used most frequently and least frequently by policymakers, in general. Participants were asked to review a list of 11 information sources and to rate each of those sources using a one-to-six-point Likert-type scale, with “one” indicating that the participant did not use the information source at all when making major policy decisions, and “six” indicating that the participant relied heavily on the information source. For the purpose of this analysis, Likert-type responses were recoded to reduce the number of possible responses from six to three. Ratings of one or two suggest that the respondent used the source of information very little, ratings of three or four suggest that their use was moderate, and ratings of five or six indicate that the source was used frequently or very frequently. Table 6 below lists the sources of information used most often by policymakers and those used least often. Percentage values were based upon the number of respondents who rated each information source with a score of five or six.

The two primary groups of policymakers upon which this study focused have significantly different academic backgrounds, with most administrators holding doctoral degrees and most appointed board members holding bachelor’s degrees. Therefore, respondents were divided into two categories for this analysis. Table 6 offers a comparison of the sources of information used by these two groups of policymakers. Legislators were excluded from this analysis since only three chose to participate in the study.

Administrators indicated that they relied most heavily on previous professional experience, institutional employees, professional membership organizations, and non-peer-reviewed journals when making major policy decisions. The same group relied least on intuition or gut instinct, intermediaries, printed popular media, members of the general public, and broadcast media.

Board members, on the other hand, relied most heavily on institutional employees, previous professional experience, students, and professional membership organizations for their information. They relied least on printed popular media, peer-reviewed journals, non-peer-reviewed publications, broadcast media, and members of the general public.

Table 6

Information Sources Used by Policymakers (in general)

Administrators		Board Members	
<i>Sources Used Most Often</i>	Percent	<i>Sources Used Most Often</i>	Percent
Professional Experience	76.1%	Institutional Employees	63.3%
Institutional Employees	54.9%	Professional Experience	60.0%
Professional Membership Organizations	42.3%	Professional Membership Organizations	43.3%
Non-Peer-Reviewed Journals	33.8%	Students	40.0%
Peer-Reviewed Journals	28.2%	Intuition or gut Instinct	30.0%
<i>Sources Used Least Often</i>		<i>Sources Used Least Often</i>	
Intuition or Gut Instinct	21.4%	Printed Popular Media	21.4%
Intermediaries	21.4%	Peer-Reviewed Journals	20.7%
Printed Popular Media	14.5%	Non-Peer-Reviewed Publications	13.3%
Members of the General Public	8.7%	Broadcast Media	10.0%
Broadcast Media	2.9%	Members of the General Public	6.7%

After being asked to consider the sources of information used in general to guide their policymaking decisions, respondents were asked to consider their most recent policy decision and, using the same one-to-six Likert-type scale, to rate the extent to which they relied upon each of the 11 information sources when making that decision. As with the previous example, the six-category Likert-type options were recoded into three possible responses and respondents were divided into two groups: administrators and board members. Results, shown in Table 7, were very similar to those in Table 6. Previous professional experience and institutional employees emerged as the two sources of information relied upon most heavily by both board members and

administrators in their most recent policy decision. Sources relied upon least often included intermediaries, printed popular media, and broadcast media.

Table 7

Information Sources Used by Policymakers (most recent policy decision)

Administrators		Board Members	
<i>Sources Used Most Often</i>	Percent	<i>Sources Used Most Often</i>	Percent
Professional Experience	73.5%	Institutional Employees	70.4%
Institutional Employees	52.9%	Professional Experience	59.3%
Intuition or Gut Instinct	35.3%	Intuition or Gut Instinct	51.9%
Professional Membership Organizations	25.4%	Students	33.3%
<i>Sources Used Least Often</i>		<i>Sources Used Least Often</i>	
Intermediaries	17.9%	Intermediaries	19.2%
Students	15.2%	Peer-Reviewed Journals	14.8%
Printed Popular Media	5.9%	Non-Peer-Reviewed Publications	11.1%
Members of the General Public	4.5%	Broadcast Media	7.4%
Broadcast Media	0%	Printed Popular Media	7.4%

Finally, respondents were provided with the same list of 11 sources and asked to choose the single source that played the most significant role in their major policy decisions. Consistent with responses to the previous questions, policymakers indicated that previous professional experience and institutional employees played the most significant roles in guiding their policy decisions. Table 8 summarizes these results.

Table 8

Information Source that Plays the Most Significant Role in Policy Decisions

Administrators		Board Members	
<i>Information Source</i>	Percent	<i>Information Source</i>	Percent
Previous Professional Experience	35.9%	Institutional Employees	64.0%
Institutional Employees	25.0%	Previous Professional Experience	16.0%
Professional Membership Organizations	10.9%	Students	12.0%

RQ2: To what extent, if any, do academic leaders rely upon research evidence in the policymaking process?

The purpose of this research question was to explore the role that research evidence plays in the policymaking process. Respondents were asked to rate, using a one-to-six Likert-type scale, their reliance on information obtained from peer-reviewed academic or professional journals as it related to policymaking in general, as well as to the policymaking process in their most recent major policy decision. With regard to policymaking in general, very few respondents indicated that they relied heavily on peer-reviewed academic or professional journals when making major policy decisions, while even fewer reported relying heavily on peer-reviewed journals in their most recent policy decision. Those figures are reinforced by the numbers of respondents reporting they did not generally use information obtained from peer-reviewed academic or professional journals at all and that they did not use information from peer-reviewed journals in their most recent policy decision.

Table 9 shows a comparison of responses between the administrator and board member subgroups. Regarding policymaking in general, nearly two-thirds of

administrators indicated that they relied to some extent on information obtained from peer-reviewed academic or professional journals, compared to less than half of board members. Approximately two of five administrators indicated that they relied on information obtained from peer-reviewed journals in their most recent policy decisions, compared to one of five board members.

Table 9

Reliance on Peer-Reviewed Academic or Professional Journals

Likert-Type Response	Administrators		Board Members	
	In General	Most Recent Policy Decision	In General	Most Recent Policy Decision
1 – Do/did not use this source at all.	9.9%	23.5%	13.8%	48.1%
2	16.9%	14.7%	17.2%	18.5%
3	12.7%	20.6%	24.1%	11.1%
4	32.4%	17.6%	24.1%	7.4%
5	18.3%	19.1%	17.2%	7.4%
6 – Rely/relied heavily on this source.	9.9%	4.4%	3.4%	7.4%

While these data suggest that administrators and board members use information obtained from peer-reviewed academic or professional journals at different rates, further analysis suggests that the difference in the use of such information by these two groups is not statistically significant. Results of the correlation are illustrated in Table 10.

Table 10

Bivariate Correlation of the Use of Peer-Reviewed Academic or Professional Journals Between Board Members and Administrators

Use of Peer-Reviewed Academic Journals by	Administrators	Board Members
Administrators	--	-.119**
Board Members	.119**	--

**Significance $p = 0.239$ (two-tailed). Correlation is not significant.

Analysis of survey data revealed a modest correlation between the extent to which policymakers relied on information from peer-reviewed academic or professional journals in general and the extent to which the same group relied upon these information sources in their most recent policy decision, as shown in Table 11. As one might expect, those who reported they use information from peer-reviewed academic or professional journals in general were more likely to have used such information in their most recent policy decisions.

Table 11

Bivariate Correlation Between Policymakers' Use of Peer-Reviewed Academic or Professional Journals in General and in their Most Recent Policy Decision

Use of Peer-Reviewed Academic Journals	In General	Most Recent Policy Decision
In General	--	.616**
Most Recent Policy Decision	.616**	--

**Correlation is significant at the $p < 0.01$ level (two-tailed).

Further, survey analysis also revealed a significant relationship between policymakers' educational levels and the extent to which they used information obtained from peer-reviewed academic journals or publications in their most recent policy decisions. The data suggest that those policymakers with higher educational attainment were somewhat more likely to use peer-reviewed journals or publications in the policymaking process, as shown in Table 12.

Table 12

Bivariate Correlation Between Policymakers' Educational Level and their use of Peer-Reviewed Academic or Professional Journals in their Most Recent Policy Decision

	Highest Degree Earned	Used Information from Peer-Reviewed Journals in Most Recent Policy Decision
Highest Degree Earned	--	.206**
Used Information from Peer-Reviewed Journals in Most Recent Policy Decision	.206**	--

**Correlation is significant at the $p < 0.05$ level (two-tailed).

Respondents were then asked to select from a list of 11 information sources the single source that played the most significant role in their major policy decisions. Administrators identified previous professional experience as their most significant source of information, while board members relied most heavily on institutional employees. Peer-reviewed academic or professional journals were identified as the most significant source of information by only a handful of administrators. None of the

31 board members responding to this question selected peer-reviewed publications as a significant source of information.

In general, institutional employees were identified as the most substantial information source by more than one-third of respondents, followed by previous professional experience, professional membership organizations, intuition or gut instinct, and intermediaries. Students and members of the general public were the least substantial sources of information. These data are shown in Table 13.

Table 13

Most Substantial Information Source

Administrators		Board Members	
Source of Information	Percent	Source of Information	Percent
Previous Professional Experience	35.9%	Institutional Employees	64.0%
Institutional Employees	25.0%	Previous Professional Experience	16.0%
Professional Membership Organizations	10.9%	Students	12.0%
Intuition Or Gut Instinct	7.8%	Intermediaries	4.0%
Intermediaries	7.8%	Members of the General Public	4.0%
Non-Peer-Reviewed Publications	6.3%		
Peer-Reviewed Academic or Professional Journals/Publications	6.3%		

Respondents were also asked to review a series of 15 statements and, using a one-to-six Likert-type scale, to rate the extent to which they agreed or disagreed with each statement. Three of these statements – those related specifically to the use of research evidence – are shown in Table 14. For the purpose of this analysis, a rating of

one to three indicates that the respondent generally disagreed with the statement, and a rating of four to six indicates that the respondent generally agreed with the statement. Percentages in Table 14 were based upon the number of respondents who provided a rating of four to six (agree to strongly agree). Approximately half of those surveyed agreed with the statement “I frequently use research evidence to guide the policymaking process,” but fewer agreed with the statement “I frequently use research evidence to evaluate major policy initiatives after implementation.” Approximately one-third of administrators felt that “[p]olicymakers should rely more upon intuition and knowledge gained through experience than on academic research findings,” compared to nearly half of board members.

Table 14

Use of Research Evidence in Policymaking

	<u>Percent that Agree or Strongly Agree</u>	
	<u>Administrators</u>	<u>Board Members</u>
I frequently use research evidence to guide the policymaking process	53.1%	47.7%
I frequently use research evidence to evaluate major policy initiatives after implementation.	41.6%	50.0%
Policymakers should rely more upon intuition and knowledge gained through experience than on academic research findings.	38.3%	45.8%

RQ3: What perceptions do academic leaders have related to the overall credibility of common sources of information?

For the purposes of this study, the credibility of research evidence was defined as the extent to which such evidence is accepted as being believed as true, real or honest. This study focused on three specific aspects of credibility: reliability, trust, and bias. The issue of bias will be addressed in the discussion and analysis of research question five.

Respondents were asked to rate, using a one-to-six Likert-type scale, each of 11 sources of information with regard to reliability, or the extent to which they felt they could depend on the accuracy and honesty of the source. For the purpose of this analysis, a rating of one to two is classified as not reliable, while a rating of five to six is classified as reliable or very reliable. Table 15 lists the information sources in order from perceptions of most reliable to least reliable as rated by survey respondents.

Percentages were calculated based upon the number of respondents who rated the information source in the range of four to six (i.e., reliable to very reliable).

Respondents believed that the most reliable sources of information were previous professional experience, peer-reviewed journals, and institutional employees. The least reliable sources included printed popular media, members of the general public, and broadcast media.

Table 15

Information Sources Identified as Reliable or Very Reliable

Source of Information	Frequency	Percent
Previous Professional Experience	95	87.2%
Peer-Reviewed Journals	82	75.9%
Institutional Employees	81	75.0%
Intuition or Gut Instinct	79	73.1%
Professional Membership Organizations	79	72.5%
Non-Peer-Reviewed Publications	65	60.2%
Intermediaries	64	59.8%
Students	54	50.0%
Printed Popular Media	23	21.1%
Members of the General Public	20	18.3%
Broadcast Media	17	15.6%

On the issue of trust, respondents were asked to indicate the extent to which they agreed or disagreed with the statement: "I am more likely to trust research evidence developed by someone I know personally." Interestingly, fewer than half of respondents tended to agree to some degree. These results are summarized in Table 16.

Table 16

*Perceptions of Trust in Research Evidence Developed
by Personal Acquaintances*

<i>I am more likely to trust research evidence developed by someone I know personally.</i>	Frequency	Percent
1 – Strongly Disagree	8	8.2%
2	16	16.5%
3	31	32.0%
4	25	25.8%
5	11	11.3%
6 – Strongly Agree	6	6.2%

RQ4: What perceptions do academic leaders have related to the overall usefulness of common sources of information?

The usefulness of research evidence was defined for the purposes of this study as the quality of having utility and especially practical worth or applicability.

Respondents were asked once again to review a list of 11 common information sources and to rate the usefulness of each source using a one-to-six Likert-type scale. For the purpose of this analysis, ratings of one to two were categorized as not useful and ratings of five to six were categorized as useful or very useful. Table 17 lists the information sources in order from most useful to least useful as ranked by survey respondents. Percentages were calculated based upon the number of respondents who rated the item in the range of five to six.

The results of this analysis are consistent with those discussed in previous sections, with previous professional experience and institutional employees at the top of

the list. Respondents identified broadcast media (e.g., television and radio stations) as the least useful source of information.

Table 17

Information Sources Identified as Useful or Very Useful

Source of Information	Frequency	Percent
Previous Professional Experience	89	88.1%
Institutional Employees	82	81.2%
Intuition or Gut Instinct	71	70.3%
Professional Membership Organizations	69	68.3%
Peer-Reviewed Journals	65	65.0%
Intermediaries	58	59.2%
Non-Peer-Reviewed Publications	59	59.0%
Students	53	52.5%
Members of the General Public	35	34.7%
Printed Popular Media	28	28.3%
Broadcast Media	19	19.0%

A significant relationship was observed between the extent to which policymakers relied on peer-reviewed academic or professional journals and their perceptions of the usefulness of these information sources. In general, policymakers who relied most heavily on these information sources also considered them to be more useful, as shown in Table 18.

Table 18

Bivariate Correlation Between the Extent to which Policymakers rely on Peer-Reviewed Academic or Professional Journals and their Perceptions of the Usefulness of these Information Sources

	Reliance on Peer-Reviewed Academic or Professional Journals	Perceptions of Usefulness of Peer-Reviewed Academic or Professional Journals
Reliance on Peer-Reviewed Academic or Professional Journals	--	.545**
Usefulness of Peer-Reviewed Academic or Professional Journals	.545**	--

**Correlation is significant at the $p < 0.001$ level (two-tailed).

The analysis also uncovered an interesting negative correlation between policymakers' level of education and the extent to which they found information obtained from institutional employees to be useful or reliable. Policymakers with higher educational attainment were somewhat less likely to view information obtained from institutional employees as useful (Table 19)

Table 19

Bivariate Correlation Between the Policymakers' Level of Education and their Perceptions of the Usefulness of Information Obtained from Institutional Employees

	Highest Degree Earned	Perceptions of Usefulness of Information Obtained from Institutional Employees
Highest Degree Earned	--	-.264
Perceptions of Usefulness of Information Obtained from Institutional Employees	-.264**	--

**Correlation is significant at the $p < 0.05$ level (two-tailed).

Similarly, policymakers with higher educational attainment were less likely to view information from institutional employees as reliable. These results are illustrated in Table 20.

Table 20

Bivariate Correlation Between the Policymakers' Level of Education and their Perceptions of the Reliability of Information Obtained from Institutional Employees

	Highest Degree Earned	Perceptions of Reliability of Information Obtained from Institutional Employees
Highest Degree Earned	--	-.252**
Perceptions of Reliability of Information Obtained from Institutional Employees	-.252**	--

**Correlation is significant at the $p < 0.05$ level (two-tailed).

RQ5: What perceptions do academic leaders have related to the overall credibility of research published in peer-reviewed academic journals in particular?

Question five explores the issue of credibility (i.e., the extent to which evidence is accepted as being believed as true, real or honest) as it relates specifically to information published in peer-reviewed academic or professional journals.

Respondents were asked to rate, on a one-to-six Likert-type scale, the extent to which they agreed or disagreed with the statement "Research evidence rarely contains bias."

As shown in Table 21, most respondents indicated that they disagreed to some extent with this statement, and no one strongly agreed with the statement.

Table 21

Perceptions of Bias in Research Evidence

<i>Research evidence rarely contains bias.</i>	Frequency	Percent
1 – Strongly Disagree	15	15.6%
2	35	36.5%
3	34	35.4%
4	10	10.4%
5	2	2.1%
6 – Strongly Agree	0	0%

Participants were also asked to rate, on a one-to-six Likert-type scale their perceptions of the reliability (i.e., the extent to which respondents believe they can depend on the accuracy and honesty of the information) of information published in peer-reviewed academic journals. A rating of one was categorized as not at all reliable, while a rating of six was categorized as extremely reliable. As shown in Table 22, more than three-fourths of those surveyed rated information in peer-reviewed academic journals as somewhat reliable to extremely reliable (ratings of four to six). Fewer than 3% of respondents felt that information published in peer-reviewed academic journals is not at all reliable.

The issue of bias was raised by several respondents in their open-ended responses as playing a significant factor in discouraging their use of research evidence in policymaking. Interestingly, respondent comments suggest that many policymakers link bias directly to the researcher rather than to the process of research. It is the researcher, the respondents suggest, who often lacks credibility, deliberately obfuscates, and generally injects bias into research.

Table 22

Perceptions of Reliability of Peer-Reviewed Academic Journals

	Frequency	Percent
1 – Not at All Reliable	3	2.8%
2	4	3.7%
3	19	17.6%
4	21	19.4%
5	47	43.5%
6 – Extremely Reliable	14	13.0%

A weak correlation was observed between policymakers' perceptions of the reliability of information obtained from peer-reviewed academic or professional journals and the extent to which they relied upon information from peer-reviewed publications when making major policy decisions in general, as shown in Table 23. As expected, these data suggest that those policymakers who viewed such information sources as reliable were more likely to use them to guide policy decisions.

Table 23

Bivariate Correlation Between Policymakers' Perceptions of the Reliability of Information Obtained from Peer-Reviewed Academic or Professional Journals and the Extent to which they Relied Upon Information from Peer-Reviewed Publications when Making Major Policy Decisions in General

	Perceptions of Reliability of Peer-Reviewed Publications	Extent to Which Policymakers Relied on Peer-Reviewed Publications in General
Perceptions of Reliability of Peer-Reviewed Publications	--	.225**
Extent to Which Policymakers Relied on Peer-Reviewed Publications in General	.225**	--

**Correlation is significant at the $p < 0.05$ level (two-tailed).

A weak correlation was observed with regard to information used by policymakers in their most recent policy decision. As shown in Table 24, those policymakers who viewed perceived information from peer-reviewed academic or professional journals were more likely to have used these information sources in their most recent policy decisions. These findings underscore the importance of the perception of reliability in the use of a particular information source.

Table 24

Bivariate Correlation Between Policymakers' Perceptions of the Reliability of Information Obtained from Peer-Reviewed Academic or Professional Journals and the Extent to which they Relied Upon Information from Peer-Reviewed Publications when in their Most Recent Policy Decision

	Perceptions of Reliability of Peer-Reviewed Publications	Extent to Which Policymakers Relied on Peer-Reviewed Publications
Perceptions of Reliability of Peer-Reviewed Publications	--	.418**
Extent to Which Policymakers Relied on Peer-Reviewed Publications	.418**	--

**Correlation is significant at the $p < 0.001$ level (two-tailed).

Respondents were asked to evaluate the extent to which they agreed or disagreed with the statement that policymakers should rely more on intuition and experience than on information obtained through academic research. As shown in Table 25, more than half of respondents disagreed to some extent with that notion (ratings of one to three on the Likert-type scale), suggesting that most policymakers surveyed place greater value on sound academic research than on intuition and experience.

Table 25

Reliance on Intuition and Experience vs. Academic Research

<i>Policymakers should rely more upon intuition and knowledge gained through experience than on academic research findings.</i>	Frequency	Percent
1 – Strongly Disagree	7	7.2%
2	21	21.6%
3	29	29.9%
4	26	26.8%
5	9	9.3%
6 – Strongly Agree	5	5.2%

RQ6: What perceptions do academic leaders have related to the overall usefulness of research published in peer-reviewed academic journals in particular?

Respondents were asked to consider the usefulness of information contained in peer-reviewed academic journals. Usefulness was defined as the quality of having utility and especially practical worth or applicability. Usefulness was rated using a one-to-six Likert-type scale, with a rating of one meaning not at all useful and a rating of six meaning extremely useful. As shown in Table 26, nearly two-thirds of respondents rated information obtained from peer-reviewed academic journals as somewhat to extremely useful (a rating of four to six). Only a few of those surveyed felt that information in peer-reviewed academic journals was not at all useful.

Respondents were asked to provide advice to researchers wanting to increase the likelihood that their research will be used to guide policy and practice. Several responses to this open-ended question supported the idea that policymakers consider information published in peer-reviewed academic journals to be useful. One respondent

advised researchers to “publish [information] in professional journals”, while another recommended that researchers “publish in discipline specific journals.” A third respondent went a step further by suggesting that researchers not only “publish in journals,” but also that they “present data at conferences.”

Table 26

Perceptions of Usefulness of Information from Peer-Reviewed Academic Journals

	Frequency	Percent
1 – Not at all useful	4	4.0%
2	11	11.0%
3	20	20.0%
4	29	29.0%
5	25	25.0%
6 – Extremely useful	11	11.0%

RQ7: What factors facilitate the use of research evidence in the policymaking process?

The review of the literature discussed a number of studies related to facilitators, that is, to those factors with the potential to either encourage or enable the use of research evidence in the policymaking process (Boaz & Gough, 2014; Brown, 2012; Koon et al., 2012; Lightowler & Knight, 2013; Nelson et al., 2009; Ouimet et al., 2009). To that end, a major component of this research study involved eliciting respondents’ perceptions of a specific set of facilitators, such as technology, the use of summaries or briefs, their level of comfort with reading and interpreting statistical data, as well as their advice on what actions researchers can take to improve the likelihood that their

research will be used by policymakers. Respondents were asked to review a series of statements related to factors that encourage or enable the use of research evidence, and then rate the extent to which they agreed or disagreed with each one using a one-to-six Likert-type scale, with a rating of one meaning strongly disagree and a rating of six meaning strongly agree. The six-category data were recoded into two categories: disagree (a rating of one to three) and agree (a rating of four to six). Percentages shown in Table 27 reflect the number of respondents who agreed to some extent with each statement by assigning a rating of four, five or six on the Likert-type scale.

Table 27

Perceptions Related to Facilitators to the Use of Research Evidence

	Percent that Agree or Strongly Agree
Technology has improved access to research evidence.	91.9%
I would be more likely to use research evidence if it were presented in brief or summary format.	86.5%
I am comfortable reading and interpreting statistical data presented in research reports.	69.2%
I am proficient in the use of internet-based research databases.	58.7%
I often rely on subordinates to conduct research and summarize findings.	51.5%

Technology is classified as a facilitator to the use of academic research, as it has made the process of accessing information much more efficient. Respondents were asked to rate the extent to which they agreed or disagreed with this statement:

“Technology has improved access to research evidence.” More than 9 of 10 respondents agreed that technology has made research evidence more easily accessible. More than half of respondents indicated that they felt proficient in the use of internet-based research databases as well.

More than 9 of 10 respondents indicated that they would be more likely to use research evidence if it were presented in brief or summary format, as opposed to lengthy articles or research reports, and more than half indicated that they relied upon subordinates to conduct research and summarize the findings. Nearly 7 of 10 respondents felt comfortable reading and interpreting statistical data themselves.

Respondents were asked to consider all of the factors that have enabled or encouraged them to use research evidence in the policymaking process and then to identify in an open-ended question the single factor that was most influential. An emergent category analysis was conducted on these responses, and the six most frequent responses are shown in Table 28. Verbatim responses are provided in Appendix G. Interestingly, three of the top six responses – accessibility, availability, and technology – are very closely related as important facilitators to the use of research evidence. Availability and technology were also identified as substantial facilitators. The availability and/or convenience of summary reports were identified as substantial facilitators by a few respondents. This finding is consistent with the earlier finding that nearly 9 of 10 respondents would be more likely to use research evidence if it were presented in brief or summary format.

Table 28

Facilitators to the Use of Research Evidence

Factor	Frequency	Percent
Accessibility	11	8.9%
Education / Experience	6	4.8%
Summaries	6	4.8%
Availability	6	4.8%
Relevance	4	3.2%
Technology	3	2.4%

A strong relationship was observed between policymakers' level of proficiency with the use of internet-based research databases and their level of comfort with reading and interpreting statistical data presented in research reports. In general, those who reported higher levels of proficiency were more comfortable reading and interpreting statistical data, as shown in Table 29.

Table 29

Bivariate Correlation Between Policymakers' Research Database Proficiency and Level of Comfort with Reading and Interpreting Statistical Data

	Research Database Proficiency	Level of Comfort with Reading and Interpreting Statistical Data
Research Database Proficiency	--	.602**
Level of Comfort with Reading and Interpreting Statistical Data	.602**	--

**Correlation is significant at the $p < 0.001$ level (two-tailed).

Similarly, those who indicated higher levels of proficiency were more likely to use research evidence to guide the policymaking process. This relationship is illustrated in Table 30.

Table 30

Bivariate Correlation Between Policymakers' Research Database Proficiency and Use of Research Evidence to Guide Policymaking

	Research Database Proficiency	Use of Research Evidence to Guide Policymaking
Research Database Proficiency	--	.359**
Use of Research Evidence to Guide Policymaking	.359**	--

**Correlation is significant at the $p < 0.001$ level (two-tailed).

Respondents were also asked to rate the extent to which they made use of research evidence to evaluate policy initiatives after implementation. Similar to the results in the previous table, a modest relationship was observed between policymakers' perceived proficiency with the use of research databases and the extent to which they use research evidence to evaluate major policy initiatives after implementation. The strength of this relationship is quantified in Table 31.

Table 31

Bivariate Correlation Between Policymakers' Research Database Proficiency and Use of Research Evidence to Evaluate Policies After Implementation

	Research Database Proficiency	Use of Research Evidence to Evaluate Policies After Implementation
Research Database Proficiency	--	.357**
Use of Research Evidence to Evaluate Policies After Implementation	.357**	--

**Correlation is significant at the $p < 0.001$ level (two-tailed).

The important role of the intermediary as a facilitator was underscored by a significant relationship between the amount of time policymakers have to read and evaluate research evidence and the extent to which they relied on information provided by institutional employees in their most recent policy decisions. The analysis suggests that those policymakers with less time to conduct their own research were somewhat more likely to rely on information provided by institutional employees, as shown in Table 32. In addition to supporting the idea that intermediaries such as institutional employees facilitate the use of research evidence, this finding also points to time, or the lack thereof, as a potential barrier.

Table 32

Bivariate Correlation Between the Amount of Time Policymakers Have to Conduct Research and their Reliance on Information Provided by Institutional Employees

	Time to Conduct Research	Reliance on Institutional Employees
Time to Conduct Research	--	-.266**
Reliance on Institutional Employees	-.266**	--

**Correlation is significant at the $p < 0.01$ level (two-tailed).

The results also suggest that institutional employees help policymakers overcome another barrier to the use of research evidence: the sheer volume of existing research. The analysis uncovered a slight correlation between policymakers' perceptions of the difficulty in finding information as a result of the volume of information available and the extent to which policymakers relied on information obtained from institutional employees in their most recent policy decisions. Policymakers who felt that the volume of existing research makes it difficult to find the information they need were more likely to rely on institutional employees to provide information, as shown in Table 33.

Table 33

Bivariate Correlation Between the Policymakers' Perceptions of Difficulty in Finding Information and their Reliance on Institutional Employees

	Perceptions of Difficulty in Finding Information	Reliance on Institutional Employees
Perceptions of Difficulty in Finding Information	--	.305**
Reliance on Institutional Employees	.305**	--

**Correlation is significant at the $p < 0.01$ level (two-tailed).

Finally, participants were asked to respond to an open-ended question offering advice to researchers who want to have their research used more frequently by policymakers. A few common themes emerged from an analysis of these responses. Verbatim responses are provided in Appendix H. Several respondents advised researchers to provide clear, concise, and succinct summaries of research findings, as brevity appeared to be important to many busy policymakers. One commented, "I like the professional business report model that presents an introduction, detailed information, data and analyses, followed by a very brief set of findings. With this model of writing, it is easy to understand the analyses and to refer to the full range of data and details in the actual report when necessary." Another respondent advised researchers to "capture no more than three or four major findings and present them in a clear and concise manner."

The issue of relevance also emerged as an important facilitator to the use of research evidence. One respondent cautioned researchers to “remember that not all colleges and universities are large Research I institutions. Smaller schools are more numerous and have very different issues and concerns.”

RQ8: What factors serve as barriers to the use of research evidence in the policymaking process?

The final research question examined barriers – factors that prevent or discourage the use of research evidence. Respondents were asked to review a series of statements related to these factors and to rate, using a one-to-six Likert-type scale, the extent to which they agreed or disagreed with each one. The six possible responses were recoded into two categories: disagree (a rating of one to three) and agree (a rating of four to six). Results are displayed in Table 34. Percentage values reflect the number of respondents who rated each statement with a value of four to six.

More than 7 of 10 respondents pointed to the lengths of research reports as a significant barrier. Only a 34.3% of respondents believed that research evidence is presented in a succinct and readable format. A similar number felt that current methods for disseminating research findings were acceptable. Moreover, only 16.3% of respondents indicated that they have ample time to find, read and evaluate research evidence. Bias also emerged as a potential barrier.

Table 34

Perceptions Related to Barriers to the Use of Research Evidence

	Percent that Agree or Strongly Agree
Research reports are often too lengthy.	70.2%
Current methods for disseminating research findings are acceptable.	35.8%
Research evidence is often presented in a succinct and readable format.	34.3%
I have ample time to find, read and evaluate research evidence.	16.3%
Academic research rarely contains bias.	9.7%

Regarding the length of research reports as a significant barrier to their use in policymaking, analysis of survey data uncovered weak relationships between policymakers' perceptions of the lengthiness of research reports and their reliance on previous professional experience and information obtained from institutional employees to guide the policymaking process. Policymakers who perceived research reports as being too lengthy were somewhat more likely to rely on previous professional experience as shown in Table 35.

Table 35

Bivariate Correlation Between the Length of Research Reports and Policymakers' Reliance on Information from Previous Professional Experience

	Perceptions of Report Length	Reliance on Previous Experience
Perceptions of Report Length	--	.196**
Reliance on Previous Experience	.196**	--

**Correlation is significant at the $p < 0.05$ level (two-tailed).

Policymakers who perceived research reports as being too lengthy were also somewhat more likely to obtain information from institutional employees when making major policy decisions. Table 36 illustrates the strength of the relationship between these two variables.

Table 36

Bivariate Correlation Between the Length of Research Reports and Policymakers' Reliance on Information from Institutional Employees

	Perceptions of Report Length	Reliance on Institutional Employees
Perceptions of Report Length	--	.258**
Reliance on Institutional Employees	.258**	--

**Correlation is significant at the $p < 0.01$ level (two-tailed).

Similarly, those who believed that research evidence was often presented in a succinct and readable format were more somewhat more likely to use information obtained from peer-reviewed academic or professional journals. This relationship is illustrated in Table 37.

Table 37

Bivariate Correlation Between the Policymakers' Perceptions of the Succinctness and Readability of Research Evidence and the Use of Information from Peer-Reviewed Journals

	Perceptions of Succinctness and Readability	Use of Information from Peer-Reviewed Publications
Perceptions of Succinctness and Readability	--	.242**
Use of Information from Peer-Reviewed Publications	.242**	--

**Correlation is significant at the $p < 0.05$ level (two-tailed).

Further, the analysis uncovered a modest relationship between policymakers' perceptions of the length of research reports and the likelihood that they would use research evidence if it were presented in brief or summary format. Policymakers who perceived research reports as being too lengthy were somewhat more likely to state that they would use research evidence more if it were presented in a more concise format, as shown in Table 38.

Table 38

Bivariate Correlation Between the Policymakers' Perceptions of the Length of Research Reports and Willingness to Use Information if Presented in Brief or Summary Format

	Perceptions of Report Length	Willingness to Use Information from Briefs
Perceptions of Report Length	--	.536**
Willingness to Use Information from Briefs	.536**	--

**Correlation is significant at the $p < 0.001$ level (two-tailed).

Participants were also asked to consider all of the factors that have prevented or discouraged them from using research evidence in the process of making major policy decisions and then to respond to an open-ended question with the single factor that stood out as the most influential. Responses were analyzed using emergent-category analysis, the results of which are provided in Table 39. Time emerged as the single most substantial barrier, with 20.2 % of respondents stating that limited time prevents them from using research evidence as often as they would like. Other barriers included the lengths of research reports, complexity of results, and perceived bias of academic research.

Table 39

Barriers to the Use of Research Evidence

Factor	Frequency	Percent
Time Available	25	20.2%
Length of Reports	11	8.9%
Complexity of Results	7	5.6%
Bias	5	4.0%
Accessibility	4	3.2%

Summary

The purpose of this study was to explore the role that research evidence plays in policymaking within West Virginia's higher education system, policymakers' perceptions on the reliability and usefulness of various sources of information, and their insights related to factors that facilitate and impede the use of research evidence. Using data obtained through an internet-based questionnaire completed by more than 100 higher education policymakers, the study resulted in several notable findings, many of which reinforced similar findings uncovered in the review of the literature. Those findings will be discussed in Chapter Five.

Chapter Five: Summary, Findings and Recommendations

Purpose

The purpose of this descriptive, mixed-method study was to examine the role that research evidence plays in the policymaking process within West Virginia's higher education system, with the ultimate goal of assisting researchers in improving the likelihood that their work will be used to inform policy and practice. This study sought to contribute to that goal by determining the sources of information that policymakers use when making major policy decisions, their perceptions related to the reliability and usefulness of various information sources, and factors that either facilitate or impede policymakers' use of research evidence, by addressing a series of eight research questions:

1. What sources of information are used by academic leaders in the policymaking process?
2. To what extent, if any, do academic leaders rely upon research evidence in the policymaking process?
3. What perceptions do academic leaders have related to the overall credibility of research evidence?
4. What perceptions do academic leaders have related to the overall usefulness of research evidence?
5. What perceptions do academic leaders have related to the overall credibility of research published in peer-reviewed academic journals in particular?

6. What perceptions do academic leaders have related to the overall usefulness of research published in peer-reviewed academic journals in particular?
7. What factors facilitate the use of research evidence in the policymaking process?
8. What factors serve as barriers to the use of research evidence in the policymaking process?

Population

The population in this study consisted of all senior administrators (e.g., presidents, vice presidents, provosts, etc.) and governing board members at 29 public and private institutions of higher education in the state of West Virginia, administrators and appointed board members with the West Virginia Higher Education Policy Commission and West Virginia Community and Technical College System, and members of the West Virginia Legislature serving on their respective education or finance committees. Survey invitations were sent to 492 individuals, of whom 124 chose to participate.

Methods

Institutions were identified for inclusion in the study using the *Integrated Postsecondary Education Data System (IPEDS) College Navigator* tool and the following search criteria:

1. institution type (i.e., public, private non-profit, 2-year, 4-year), and
2. degree level (i.e., associate's, bachelor's, master's, advanced).

Potential survey respondents were identified through an extensive search of institutional and organizational websites for employee directories, organizational charts, and contact information. The search yielded direct contact information for 492 individuals, including 28 institutional presidents, 319 senior institutional administrators, 56 institutional board members, 23 administrators with the West Virginia Higher Education Policy Commission and West Virginia Community and Technical College System, and 66 members of the West Virginia House of Delegates and West Virginia State Senate.

A researcher-developed questionnaire (Appendix B) was administered via the internet using the Survey Monkey website. Survey invitations were sent by email to each of the 492 policymakers identified in the internet search. A follow-up email was distributed approximately 2 weeks later. The questionnaire remained available online for 30 days.

Quantitative data were analyzed using the SPSS 22 software package. Qualitative data were subjected to emergent category analysis and subsequently processed in SPSS. The qualitative component of this study was limited in scope and intended to elicit policymakers' insights related to specific research questions. These findings are summarized along with quantitative findings in the sections that follow.

Summary of Findings

RQ1: What sources of information are used by academic leaders in the policymaking process?

Administrators within West Virginia's higher education system relied most heavily on previous professional experience when making major policy decisions, which was the case regardless of their years of professional experience. In fact, nearly 98% of

administrators with more than 10 years of experience and 81% of those with 10 years of experience or less relied on previous professional experience more than any other factor in their policy-related decision-making. Administrators also relied heavily on institutional employees, professional membership organizations, and non-peer-reviewed journals. The same group relied least on intuition or gut instinct, intermediaries, printed popular media, members of the general public, and broadcast media.

Board members relied most heavily on institutional employees, previous professional experience, students, and professional membership organizations for their information. They relied least on printed popular media, peer-reviewed journals, non-peer-reviewed publications, broadcast media, and members of the general public. Peer-reviewed journals, considered to be among the most reliable sources of research evidence, were used infrequently by administrators and board members, which should be a concern to institutional and other researchers whose intent is most often to provide the kinds of data that are useful in academic decision-making .

RQ2: To what extent, if any, do academic leaders rely upon research evidence in the policymaking process?

As a group, fewer than 1 in 10 policymakers surveyed indicated that they rely heavily on research evidence when making major policy decisions. Only about 1 in 20 relied heavily on research evidence in their most recent policy decision. Perhaps predictably, nearly two-thirds of administrators indicated that they rely on information obtained from peer-reviewed journals, compared to only about one-third of board members. Approximately 40% of administrators indicated that they relied, to some extent, on information obtained from peer-reviewed journals in their most recent policy

decisions, compared to only one of five board members. Interestingly, while peer-reviewed academic or professional journals were considered to be among the most reliable sources of information (i.e., 75.9% of respondents rated this source as reliable or very reliable), only 6.3% of administrators and 0% of board members selected peer-reviewed publications as a significant source of information in their decision-making.

Previous professional experience was identified by administrators as their most significant source of information, while board members relied most heavily on institutional employees. Among all respondents, institutional employees were identified as the most significant information source by 38.1% of respondents. Students and members of the general public were the least significant sources of information.

About half of survey respondents use research evidence to evaluate policy initiatives after implementation. Fewer than half of those surveyed felt that they should rely more upon intuition and knowledge gained through experience than on academic research findings.

RQ3: What perceptions do academic leaders have related to the overall credibility of common sources of information?

The overall credibility of common sources of information was measured by respondents' perceptions of the reliability of information sources, the extent to which bias affects the outcomes and conclusions of academic research studies, and the role that trust plays in a policymaker's decision to use an information source to guide policy-related decisions. Previous professional experience, which emerged as the single most significant source of information among administrators and the second most significant source among board members, was perceived by both groups of participants to be the

most reliable source of information. Intuition and gut instinct, peer-reviewed journals, and institutional employees were also identified by a majority of respondents as either reliable or very reliable.

The least reliable sources included printed popular media, members of the general public, and broadcast media. An unexpected finding related to the question of whether a policymaker would place a greater degree of trust in an information source if the research were conducted by someone the policymaker knew personally. Interestingly, fewer than half of respondents would be more likely to trust information generated by personal acquaintances.

RQ4: What perceptions do academic leaders have related to the overall usefulness of common sources of information?

The term “usefulness” was used to describe an information source’s utility, practical worth, or applicability in the decision-making process. Previous professional experience and institutional employees were identified by respondents as the most useful information sources. Broadcast media (e.g., television and radio stations) were considered the least useful. One respondent offered an interesting insight related to how the information needs of large institutions differ from that of smaller institutions, stating that researchers should “remember that not all colleges and universities are large Research I institutions” and that “smaller schools are more numerous and have very different issues and concerns.”

RQ5: What perceptions do academic leaders have related to the overall credibility of research published in peer-reviewed academic journals in particular?

Responses to this question reflected some contradictory results. On one hand, respondents suggested that most policymakers believe that bias is present in academic research published in peer-reviewed journals. In fact, 87.5% of respondents disagreed with the statement “research evidence rarely contains bias.” At the same time, most respondents (75.9%) rated information in peer-reviewed academic journals as reliable or extremely reliable. In general, most policymakers placed greater value on academic research than on intuition and experience. The findings also suggested that those policymakers who are most likely to use information contained in peer-reviewed academic or professional journals were those who perceive the information as reliable.

RQ6: What perceptions do academic leaders have related to the overall usefulness of research published in peer-reviewed academic journals in particular?

Peer-reviewed academic journals were rated as somewhat useful to extremely useful by 65% of respondents, with 1 in 10 considering information published in peer-reviewed journals to be extremely useful. Only 4% of those surveyed felt that information in peer-reviewed academic journals was not at all useful.

RQ7: What factors facilitate the use of research evidence in the policymaking process?

The study found that most policymakers (91.9%) felt that technology has made research evidence more easily accessible. More than half also indicated that they felt proficient in the use of internet-based research databases.

Nearly all respondents indicated that they would be more likely to use research evidence if it were presented in brief or summary format, as opposed to lengthy articles or research reports, and more than half indicated that they relied upon subordinates to conduct research and summarize the findings. Two-thirds of policymakers surveyed felt comfortable reading and interpreting statistical data themselves.

Accessibility and/or availability of information and the use of technology to access information were among the most significant factors to contribute to the use of research evidence by policymakers. Policymakers place a great deal of value on and trust in summary reports and briefs, presumably because they take less time to read and interpret than full-length research reports or raw, unprocessed data. In fact, policymakers cited the convenience of summary reports as a significant facilitator to their use of research evidence, with 87% indicating that they would be more likely to use research evidence if it were presented in brief or summary format.

Information must not only be readily available and easy to digest, it must also be relevant to the information consumer. The issue of relevance was raised by several respondents, one of whom advised researchers to consider the needs of smaller institutions, as their information demands are often very different from those of larger institutions.

RQ8: What factors serve as barriers to the use of research evidence in the policymaking process?

Consistent with findings in the previous section, more than two-thirds of respondents pointed to the length of research reports as a significant barrier to their use in day-to-day decision-making. Only about one-third believe that research evidence is

generally presented in a succinct and readable format. Even fewer (16.3%) indicated that they have ample time to find, read and evaluate research evidence on their own. Bias also emerged as a barrier, with fewer than 10% of respondents believing that academic research is unbiased.

Time emerged as the single most significant barrier, with 20.2% of respondents stating that limited time prevents them from using research evidence as often as they would like. Other barriers included the lengths of research reports and complexity of results.

The issue of accessibility, which was raised by some respondents as a facilitator to the use of research evidence, also emerged as a potential barrier. One respondent commented on the expense associated with maintaining access to research databases: “Our agency does not provide free access to search multiple journals. Our division has purchased subscriptions to two publications most related to our work ... It costs about 1,000 a year for these two -- access to more would be cost prohibitive for us.”

Implications and Conclusion

In a high-stakes world of 24-hour news cycles, a contentious political climate, rising costs, shrinking budgets, and increased competition for available resources, modern policymakers are faced with tremendous pressure to make timely, mindful, and well-informed decisions. In order to make a mindful, well-informed decision, however, a policymaker must devote time and energy to seeking out as much relevant, useful, and reliable information as possible in the shortest amount of time, a task made ever more

difficult by the sheer volume of information available and the limited amount of time to find, scrutinize, and apply it to the decision-making process.

Psychologist Ellen Langer is regarded as one of the world's foremost experts on the art and science of "mindful" decision-making. "Mindfulness," Langer explains, is "a state of conscious awareness in which the individual is implicitly aware of the context and content of information" (Langer, 1992, p. 289). A mindful person is, according to Langer, one who is open to new information and, just as importantly, to different points of view (Langer, 1989). Karellaia and Reb (2014) extol the benefits of mindfulness as well, arguing that it leads to the facilitation of more and better options for decision-makers, that it reduces bias, and that it may help improve the quality of the information used in the decision-making process. They further contend that mindfulness may reduce the effects of bias and will generally lead to better decisions (p. 2). In the end, most researchers agree that the best decisions are those that are based upon the most reliable information available.

This study was catalyzed by the work of Nelson et al. (2009), which focused on informed policymaking in the area of K-12 education. Similar to the results of this study, Nelson et al. found that while research evidence plays an important role in policymaking, it is often used less frequently than other forms of information. They unearthed several important factors that contribute to a policymaker's use of research evidence, including the involvement of intermediaries in the interpretation and transfer of information and the role of factors such as bias in a policymaker's perception of research evidence. Inspired by the work of Nelson et al., and guided by their recommendations for future research, this study sought to elicit policymaker's

perceptions of a variety of information sources that might be used in the process of mindful decision-making, from printed popular media to peer-reviewed academic journals, along with their insights regarding factors that serve as barriers and facilitators to the use of research evidence in the policymaking process, and finally their advice on what strategies researchers should employ in order to increase the likelihood that their work will be used to guide institutional policy. In short, the purpose of this study was to build connections between information producers (researchers) and information consumers (policymakers).

One of the study's most significant findings was the fact that most policymakers have little time to devote to conducting research or reviewing lengthy research reports. While this finding is not necessarily earth-shattering or entirely unexpected, it sends a clear message to academic researchers: if you want your research to be used to guide policymaking, practice the art of brevity or, at a minimum, provide well-written and informative summaries of lengthy research reports.

For those policymakers who value academic research but have limited time to seek it out, intermediaries play an important role. Intermediaries are those individuals or organizations that facilitate the transfer of information between producers and consumers. They might be research assistants, interns, colleagues, or in some cases professional membership organizations that conduct research, interpret results, and summarize findings. Of course, the use of an intermediary carries with it a certain degree of risk. Intermediaries typically conduct research themselves, then generate summary reports that they in turn provide to the information consumer. During that process, the opportunity for mistakes, misinterpretation, or even bias to affect the

accuracy and reliability of the information received by the consumer is quite significant. Policymakers participating in this study were asked about how frequently they use information provided by intermediaries when making major policy decisions and about half responded “somewhat often” to “very often.” While the intermediary was listed as a separate option on the survey, other information sources that could be classified as intermediaries were also included. In particular, respondents were asked about their use of information provided by institutional employees and professional membership organizations. The survey found that a majority of policymakers use information from institutional employees and almost two-thirds use information from professional membership organizations. Policymakers were asked if they would be more likely to trust information provided by individuals they know personally and, surprisingly, most said no.

The ability to make a mindful decision is also dependent on the reliability of information provided, so policymakers were asked for their perceptions of the reliability of various sources of information. Interestingly, previous professional experience emerged as the source of information considered most reliable by those policymakers surveyed. This finding raises an important question about the level of experience of policymakers and its role in policymaking. If they consider professional experience to be of such great value in policymaking, greater in fact than all other sources of information, how then might years of experience affect a policymaker’s ability to make a mindful decision? Do those policymakers with less experience stand a greater chance of making poor decisions? While those questions are outside the scope of this research

study, they would certainly stimulate an interesting discussion and might prove valuable as a consideration for future research.

Peer-reviewed academic journals or publications were considered reliable or very reliable by about three-fourths of respondents. It was these peer-reviewed publications that became the primary focus of the research in this study, as the ultimate goal was to evaluate the extent to which policymakers relied on and trusted information obtained from peer-reviewed academic research. One interesting finding emerged almost immediately. While most policymakers claim to use academic research when making major policy decisions, most also believe that a majority of research contains some degree of bias. Recognizing this, researchers must be vigilant in keeping bias or the appearance of bias out of their work if they hope to increase the likelihood that it will be used.

Finally, the study sought to provide a better understanding of those factors that facilitate the use of research evidence and those that serve as barriers to its use in policymaking. As discussed previously, the length of research reports and limited time emerged as significant barrier to the use of research evidence by policymakers, and several survey participants advised researchers to provide concise summaries of research findings. Interestingly, accessibility emerged as both a barrier and a facilitator. While some respondents pointed out that they are more likely to use research evidence because it is easily and increasingly accessible, others suggested their access to sound academic research was limited. One respondent pointed out that access to online research databases is cost-prohibitive to most policymakers. On the whole, however,

most respondents (9 of 10) believed that technology had improved access to research evidence.

Recommendations

Policymakers participating in this study provided a wealth of valuable insight into the role of research evidence in policymaking and the factors that both facilitate and inhibit its use. As a result, these recommendations can be made to researchers:

1. present research reports in brief or summary format;
2. work to reduce bias or the appearance of bias in research findings;
3. be concise when reporting research findings;
4. report findings in a manner that allows them to be easily interpreted and understood by the consumer, avoiding the assumption that all policymakers have a background in research and statistics; and
5. work to ensure that research studies are designed with the consumer in mind by focusing on relevance and the specific information needs of the intended consumer(s).

This study examined, from a broad perspective, the role of research evidence within West Virginia's higher education system. Findings from both the literature review and analysis of survey data unearthed a number of avenues for future research. These include the following.

1. A number of respondents offered advice to researchers on how to make research findings more palatable to consumers. To that end, future research

- might involve an examination of potential strategies that researchers might employ to increase the likelihood that their work will be used by policymakers. Such a study might explore the use of summary reports, the engagement of intermediaries in the distribution of research evidence, or the use of technology to improve the accessibility of research evidence.
2. This study found that a majority of policymakers believe that few research reports are free of bias. Future research should explore the role that bias (or the perception of bias) plays in a policymaker's decision to trust an information source. Researchers might seek to determine the rationale for perceptions of bias or perhaps the extent to which bias has permeated academic research, if at all. If charges of bias are found to be legitimate, perhaps new guidelines for researchers can be developed or proposed in order to reduce the frequency and/or influence of bias. If researchers find that bias is not pervasive, strategies for changing false perceptions of the presence of bias in academic research could be explored.
 3. Approximately 7 in 10 respondents indicated that they were comfortable with analyzing and interpreting statistical data in research reports. Future research might include an evaluation of policymakers' knowledge of and experience with academic research methods and the interpretation of data. This might provide researchers with guidance on the most effective methods of summarizing and presenting research findings in a consumer-friendly format.

4. Approximately 9 in 10 respondents believed that technology has improved access to research evidence, therefore an examination of the role of technology in the production, distribution, and consumption of research evidence is warranted. This research might include an analysis of the extent to which researchers and policymakers are knowledgeable of and proficient with the use of academic research databases, and also an inventory of the specific tools and resources available to them.
5. Time emerged as a significant barrier to the use of research evidence. The role of time as a barrier should be investigated further. New information on the amount of time that policymakers have to devote to seeking out and interpreting academic research might prove valuable to researchers looking for the most efficient techniques for presenting research findings.
6. Few respondents felt that research findings were presented in a succinct and readable format. To that end, future research might involve a study of the readability of research reports. Such research might include comparison of the Lexile scores of various research reports or journal articles to the reading levels of the intended information consumers to determine if the “typical” research report or journal article is written at a reading level appropriate for the intended reader.
7. This study found that institutional employees play an important role in the transfer of information from producer to consumer. Researchers might explore characteristics of these intermediaries, like academic credentials, their level of training and experience with academic research and statistics,

- and the methods they employ when deciding what information to provide to information consumers, and the format in which it should be provided.
8. This study was limited to higher education policymakers in the state of West Virginia. Future research might involve replicating this study with a focus on a larger population, to include higher education policymakers within a specific geographical region, or those serving institutions of a particular size or Carnegie classification nationwide.
 9. A number of board members indicated that they receive information from intermediaries such as institutional employees. Future research might include a study of the minutes of board meetings to determine what types of information are being provided to board members by institutional employees (verbal reports, written summaries, raw data, etc.) and the sources of the information.

References

- Abrami, P. C., Borokhovski, E., Bernard, R., Wade, C. A., Tamim, R., Persson, T., Bethel, E.C., Hanz, K., & Surkes, M. (2010). Issues in conducting and disseminating brief reviews of evidence. *Evidence & Policy*, 6(3), 371-89. doi: 10.1332/174426410X524866
- AGB. (2010). *Statement on board accountability*. Retrieved December 3, 2010, from Association of Governing Boards of Universities and Colleges (AGB): <http://agb.org/statement-board-responsibility-institutional-governance>
- AGB. (2010, January 22). *Statement on board responsibility for institutional governance*. Retrieved December 3, 2010, from Association of Governing Boards of Universities and Colleges (AGB): <http://www.agb.org/sites/agb.org/files/u3/Statement%20on%20Institutional%20Governance.pdf>
- AGB. (2014). *The president-board chair relationship: Making it work, making it count*. Retrieved March 25, 2015, from Association of Governing Boards of Universities and Colleges (AGB): <http://agb.org/trusteeship/2014/11/president-board-chair-relationship-making-it-work-making-it-count>
- Balfanz, R. (2012). A path forward: Evidence-based approaches to educational policy and practice. *Journal of Applied Research on Children: Informing Policy for Children at Risk*, 3(2), 1-4. Retrieved from <http://digitalcommons.library.tmc.edu/childrenatrisk/vol3/iss2/1>

Bellinger, G., Castro, D., & Mills, A. (2004). *Data, information, knowledge, and wisdom*.

Retrieved June 4, 2013, from Systems Thinking: <http://www.systems-thinking.org/dikw/dikw.htm>

Boaz, A., & Gough, D. (2010). Closing the gap between evidence and policy. *Evidence & Policy*, 6(3), 289-90. doi: 10.1332/174426410X524794

Boaz, A., & Gough, D. (2014). Strategies for enabling the use of research evidence. *Evidence & Policy*, 10(1), 3-4. doi: 10.1332/174426413X13836441441630

Boaz, A., Grayson, L., Levitt, R., & Solesbury, W. (2008). Does evidence-based policy work? Learning from the UK experience. *Evidence & Policy*, 4(2), 233-53. doi: 10.1332/174426408784614680

Bogenshneider, K., Olson, J. R., Linney, K. D., & Mills, J. (2000). Connecting research and policymaking: Implications for theory and practice from the family impact seminars. *Family Relations*, 49, 237-339. doi: 10.1111/j.1741-3729.2000.00327.x

Brown, C. (2012). The 'policy-preferences model': A new perspective on how researchers can facilitate the take-up of evidence by educational policy makers. *Evidence & Policy*, 8(4), 455-72. doi: 10.1332/174426412X660106

Burchett, H. E., Lavis, J. N., Mayhew, S. H., & Dobrow, M. J. (2012). Perceptions of the usefulness and use of research conducted in other countries. *Evidence & Policy*, 8(1), 7-16. doi: 10.1332/174426412X620100

Cameron, A., Salisbury, C., Lart, R., Stewart, K., Peckham, S., Calnan, M., Purdy, S., & Thorp, H. (2011). Policy makers' perceptions on the use of evidence from evaluations. *Evidence & Policy*, 7(4), 429-47. doi: 10.1332/174426411X603443

- Campbell, D., Donald, B., Moore, G., & Frew, D. (2011). Evidence check: Knowledge brokering to commission research reviews for policy. *Evidence & Policy*, 7(1), 91-107. doi: 10.1332/174426411X553034
- Chalmers, I. (2005). If evidence-informed policy works in practice, does it matter if it doesn't work in theory? *Evidence & Policy*, 1(2), 227-42. doi: 10.1332/1744264053730806
- Chait, R.P., Holland, T.P., & Taylor, B.E. (1993). *The effective board of trustees*. Phoenix, AZ: Oryx Press.
- COLMR. (2009, November 9). *A framework for management research*. Retrieved December 3, 2010, from Center for Organizational Leadership and Management Research (COLMR): http://www.colmr.research.va.gov/mgmt_research_in_va/framework/evidence.cfm
- Cooper, A., Levin, B., & Campbell, C. (2009). The growing (but still limited) importance of evidence in education policy and practice. *Journal of Educational Change*, 10, 159-71. doi: 10.1007/s10833-009-9107-0
- Corcoran, T. (2003). *The use of research evidence in instructional improvement*. Retrieved May 2, 2014, from CPRE Policy Briefs: http://www.cpre.org/images/stories/cpre_pdfs/rb40.pdf
- Covey, S.R. (1989). *The 7 habits of highly effective people: Powerful lessons in personal change*. New York: Simon & Schuster.
- Creswell, J.W. (2003). *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches* (2nd ed.). Thousand Oaks, CA: Sage Publications.

- Coughlin, E. K. (1993). *New spin on decision making*. Retrieved July 4, 2013, from The Chronicle of Higher Education: <http://chronicle.com/article/New-Spin-on-Decision-Making/93068/>
- Davies, H. T., & Nutley, S. M. (2008). *Learning more about how research-based knowledge gets used*. Retrieved April 15, 2013, from The William T. Grant Foundation: <http://www.wtgrantfoundation.org/resources/studying-the-use-of-research-evidence>
- Dobbins, J. J. (2008). A state-wide examination of governance practices of community college trustees (Doctoral dissertation). *Morgan State University*. Baltimore, MD.
- Education Sciences Reform Act of 2002. (2002). (*107th Cong., 2nd Sess.*), *H.R. 3801*.
- Esler, K. J., Prozesky, H., Sharma, G. P., & McGeoch, M. (2010). How wide is the "knowing-doing" gap in invasion biology? *Biological Invasions*, *12*(12), 4065-75. doi: 10.1007/s10530-010-9812-x
- Freeman, R. (2009). What is 'translation'? *Evidence & Policy*, *5*(4), 429-47. doi: 10.1332/174426409X478770
- Hall, J., Sapsed, J., & Williams, K. (2000). *Barriers and facilitators to knowledge capture and transfer in project-based firms*. Retrieved May 1, 2014, from <http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.97.8258&rep=rep1&type=pdf>
- Hess, F. M. (2008). When education research matters. *Social Science and Public Policy*, *45*, 534-539. doi: 10.1007/s12115-008-9142-0
- Hevey, D. (1984). Research dissemination: Sales pitch or public relations. *ESRC Newsletter*. (51), 30-1.

- Honig, M. I., & Coburn, C. E. (2008). Evidence-based decision-making in school district central offices: Toward a policy and research agenda. *Educational Policy*, 22(4), 578-608. doi: 10.1177/0895904807307067
- Karelaia, N. & Reb, J. (2014). Improving decision making through mindfulness. Retrieved from <http://www.insead.edu/facultyresearch/research/doc.cfm?did=54608> .
- Karlsson, P., Bergmark, A., & Lundström, T. (2014). Procedures and claims among US evidence-producing organisations: The case of the Incredible Years programme. *Evidence & Policy*, 10(1), 61-76. doi: 10.1332/174426513x672444
- Koon, A., Nambiar, D., & Rao, K. D. (2012). *Embedding of research into decision-making processes*. Retrieved April 3, 2014, from Alliance for Health Policy and Systems Research: http://www.who.int/alliance-hpsr/alliancehpsr_backgroundpaperembeddingresearch.pdf
- Langer, E. (1989). *Mindfulness*. Cambridge, Mass.: Perseus Books.
- Langer, E. (1992). Matters of mind: Mindfulness/mindlessness in perspective. *Consciousness and Cognition*, 1, 289-305.
- Lavis, J. N., Robertson, D., Woodside, J. M., McLeod, C. B., & Abelson, J. (2003). How can research organizations more effectively transfer research knowledge to decision makers? *The Milbank Quarterly*, 81(2), 221-48. doi: 10.1111/1468-0009.t01-1-00052
- Lee, J., & Cho, J. (2005). Consumers' use of information intermediaries and the impact of their information search behavior in the financial market. *The Journal of Consumer Affairs*, 39(1), 95-120. doi: 10.1111/j.1745-6606.2005.00005.x

- Levin, B. (2004). *Making research matter more*. Retrieved March 1, 2014, from <http://epaa.asu.edu/epaa/v12n56/>
- Lightowler, C., & Knight, C. (2013). Sustaining knowledge exchange and research impact in the social sciences and humanities: investing in knowledge broker roles in UK universities. *Evidence & Policy*, 9(3), 317-334. doi: 10.1332/174426413X662644
- Lindblom, C. E., & Cohen, D. K. (1979). *Usable knowledge: Social science and social problem solving*. New Haven, CT: Yale University Press.
- MacColl, G. S., & White, K. D. (1998). *Communicating educational research data to general, nonresearcher audiences*. Retrieved December 3, 2010, from Practical Assessment, Research & Evaluation: <http://pareonline.net/getvn.asp?v=6&n=712/7/2010>
- Miao, K. (2012). Performance-based funding for higher education. *Higher Education*. Retrieved January 15, 2013, from <http://www.americanprogress.org/issues/higher-education/report/2012/08/07/12036/performance-based-funding-of-higher-education/>
- Middle States Commission on Higher Education (MSCHE). (2010). *Governing boards: Understanding the expectations of the Middle States Commission on Higher Education*. Philadelphia, PA. Retrieved February 15, 2013, from <http://www.msche.org/publications/Governing-Boards-FINAL.pdf>
- Nelson, S. R., Leffler, J. C., & Hansen, B. A. (2009). *Toward a research agenda for understanding and improving the use of research evidence*. Retrieved December

3, 2010, from Education Northwest:

http://educationnorthwest.org/webfm_send/311

Newman, K. (2012). *Research-based policymaking is complicated... or is it?* Retrieved December 14, 2013, from The Impact Blog: The London School of Economics and Political Science:

<http://blogs.lse.ac.uk/impactofsocialsciences/2012/12/03/newman-policymaking-complicated/>

No Child Left Behind Act of 2001. (2001). (107th Cong.), H.R. 1.

Noland, B. (2010). *About Us*. Retrieved December 3, 2010, from West Virginia Higher Education Policy Commission:

http://wvhepcnew.wvnet.edu/index.php?option=com_content&task=view&id=16&Itemid=40

Oakley, A. (2004). The researcher's agenda for evidence. *Evaluation and Research in Education*, 18(1&2), 12-27. doi: 10.1080/09500790408668306

Oakley, A. (2012). The strange case of the two Wootten Reports: What can we learn about the evidence-policy relationship? *Evidence & Policy*, 8(3), 267-83. doi: 10.1332/174426412X654022

Ouimet, M., Landry, R., Ziam, S., & Bédard, P.O. (2009). The absorption of research knowledge by public civil servants. *Evidence & Policy*, 5(4), 331-50. doi: 10.1332/174426409X478734

Pettus, C., & Diener, E. (1977). Factors affecting the effectiveness of abstract versus concrete information. *The Journal of Social Psychology*, 103, 233-242. doi: 10.1080/00224545.1977.9713322

- Room, G. (2013). Evidence for agile policy makers: the contribution of transformative realism. *Evidence & Policy*, 9(2), 225-44. doi: 10.1332/174426413x662653
- Sanderson, I. (2011). Evidence-based policy or policy-based evidence? Reflections on Scottish experience. *Evidence & Policy*, 7(1), 59-76. doi: 10.1332/174426411X553007
- Sebba, J. (2013). An exploratory review of the role of research mediators in social science. *Evidence & Policy*, 9(3), 391-408. doi: 10.1332/174426413X662743
- Sin, C. H. (2008). The role of intermediaries in getting evidence into policy and practice: Some useful lessons from examining consultancy-client relationships. *Evidence & Policy*, 4(1), 85-103. doi: 10.1332/174426413x662743
- Toner, P., Lloyd, C., Thom, B., MacGregor, S., Godfrey, C., Herring, R., & Tchilingirian, J. (2014). Perceptions on the role of evidence: An English alcohol policy case study. *Evidence & Policy*, 10(1), 93-112. doi: 10.1332/174426514X13899745453819
- Tranfield, D., Denyer, D., & Smart, P. (2003). Towards a methodology for developing evidence-informed management knowledge by means of systematic review. *British Journal of Management*, 14, 207-22. doi: 10.1111/1467-8551.00375
- Tseng, V. (2012). *Social policy report: The uses of research in policy and practice*. Retrieved May 1, 2014, from William T. Grant Foundation: <http://www.wtgrantfoundation.org/File%20Library/Resources/Tseng-Social-Policy-Report-2012.pdf>
- U.S. Government Accountability Office (GAO). (2010). Institutions' Reported Data Collection Burden is Higher Than Estimated but Can Be Reduced through

Increased Coordination. Retrieved January 18, 2012, from

<http://www.gao.gov/products/GAO-10-871>

UNCTAD. (2006). *Research based policy making: Bridging the gap between researchers and policymakers*. Retrieved December 3, 2010, from United Nations Conference on Trade and Development (UNCTAD): <http://vi.unctad.org/tda/papers/tradedata/tdarecs.PDF>

Ward, V., Smith, S., Foy, R., House, A., & Hamer, S. (2010). Planning for knowledge translation: A researcher's guide. *Evidence & Policy*, 6(4), 527-541. doi: 10.1332/174426410x535882

Weiss, C. H. (1979). The many meanings of research utilization. *Public Administration Review*, September/October, 426-31. doi: 10.2307/3109916

Weissert, C. S., & Weissert, W. G. (2000). State legislative staff influence in health policy making. *Journal of Health Politics, Policy and Law*, 25(6), 1121-48. doi: 10.1215/03616878-25-6-1121

Whitehurst, G. J. (2003). *Evidence-based education – What is it?* Retrieved July 15, 2013, from <http://www2.ed.gov/nclb/methods/whatworks/eb/evidencebased.pdf>

Appendices

Appendix A: Institutional Review Board Approval

Appendix B: Consent Forms

Appendix C: Survey Instrument

Appendix D: Survey Invitation Emails

Appendix E: Institutions Included in the Study Population

Appendix F: Verbatim Responses to Question 13

Appendix G: Verbatim Responses to Question 14

Appendix H: Verbatim Responses to Question 15

Appendix I: Vita

Appendix A: Institutional Review Board Approval



Office of Research Integrity
 Institutional Review Board
 401 11th St., Suite 1300
 Huntington, WV 25701

FWA 00002704

IRB1 #00002205

IRB2 #00003206

October 29, 2014

Barbara Nicholson, Ph.D.
 Leadership Studies Department

RE: IRBNet ID# 671233-1

At: Marshall University Institutional Review Board #2 (Social/Behavioral)

Dear Dr. Nicholson:

Protocol Title: [671233-1] Policymakers' Perceptions on the Application of Research Evidence in the Policymaking Process within West Virginia's Higher Education System

Expiration Date: October 29, 2015

Site Location: MJGC

Submission Type: New Project **APPROVED**

Review Type: Exempt Review

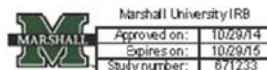
In accordance with 45CFR46101(b)(2), the above study and informed consent were granted Exempted approval today by the Marshall University Institutional Review Board #2 (Social/Behavioral) Designee for the period of 12 months. The approval will expire October 29, 2015. A continuing review request for this study must be submitted no later than 30 days prior to the expiration date.

This study is for student Christopher Treadway.

If you have any questions, please contact the Marshall University Institutional Review Board #2 (Social/Behavioral) Coordinator Bruce Day, ThD, CIP at 304-696-4303 or day50@marshall.edu. Please include your study title and reference number in all correspondence with this office.

Appendix B: Consent Forms

Policymakers' Perceptions on the Application of Research Evidence in the Policymaking Process within West Virginia's Higher Education System



Thank you for willingness to participate in this research study on the application of research evidence in policymaking. The contributions of knowledgeable and experienced professionals like you are critical to the success of this project. We understand that your time is valuable and are most appreciative that you have agreed to share some of it with us.

Before you begin, please take a moment to review the following consent. If you agree to the terms, click the "NEXT" button at the bottom of the page. Thank you again for your participation!

Voluntary Consent to Participate in this Research Study

You are invited to participate in a research project entitled "Policymakers' Perceptions on the Application of Research Evidence in the Policymaking Process within West Virginia's Higher Education System" designed to analyze the types and sources of information used by educational policymakers in the policymaking process, and their perceptions about the credibility and usefulness of such information. The study is being conducted by Dr. Barbara Nicholson from Marshall University and has been approved by the Marshall University Institutional Review Board (IRB). This research is being conducted as part of the dissertation requirements for Chris Treadway.

This survey is comprised of a series of multiple choice, Likert scale, and open-ended questions and should take approximately 10-15 minutes to complete. Your responses will be confidential to the extent permitted by federal law and institutional policy, so do not enter your name or other identifying information anywhere on the survey. Your IP address will not be collected and once you complete the survey you can delete your browsing history for added security. There are no known risks involved with this study.

Participation is completely voluntary and there will be no penalty or loss of benefits if you choose to not participate in this research study or to withdraw. If you choose not to participate you can leave the survey site. Once you begin the survey, you may end your participation at any time by clicking the "Exit this Survey" button on the top right corner of the screen, or by simply closing your browser. Completing the on-line survey indicates your consent for use of the answers you supply. If you have any questions about the study you may contact Dr. Barbara Nicholson at (304) 746-2094 or at bnicholson@marshall.edu, or Chris Treadway at (304)-389-3669 or at treadway11@suddenlink.net. If you have any questions concerning your rights as a research participant you may contact the Marshall University Office of Research Integrity at (304) 696-4303. By completing this survey you are also confirming that you are 18 years of age or older.

Please print this page for your records.

Appendix C: Survey Instrument

Policymakers' Perceptions on the Application of Research Evidence in the Policymaking Process within West Virginia's Higher Education System

Thank you for willingness to participate in this research study on the application of research evidence in policymaking. The contributions of knowledgeable and experienced professionals like you are critical to the success of this project. We understand that your time is valuable and are most appreciative that you have agreed to share some of it with us.

Before you begin, please take a moment to review the following consent. If you agree to the terms, click the "NEXT" button at the bottom of the page. Thank you again for your participation!

Voluntary Consent to Participate in this Research Study

You are invited to participate in a research project entitled "Policymakers' Perceptions on the Application of Research Evidence in the Policymaking Process within West Virginia's Higher Education System" designed to analyze the types and sources of information used by educational policymakers in the policymaking process, and their perceptions about the credibility and usefulness of such information. The study is being conducted by Dr. Barbara Nicholson from Marshall University and has been approved by the Marshall University Institutional Review Board (IRB). This research is being conducted as part of the dissertation requirements for Chris Treadway.

This survey is comprised of a series of multiple choice, Likert scale, and open-ended questions and should take approximately 10-15 minutes to complete. Your responses will be confidential to the extent permitted by federal law and institutional policy, so do not enter your name or other identifying information anywhere on the survey. Your IP address will not be collected and once you complete the survey you can delete your browsing history for added security. There are no known risks involved with this study. Participation is completely voluntary and there will be no penalty or loss of benefits if you choose to not participate in this research study or to withdraw. If you choose not to participate you can leave the survey site. Once you begin the survey, you may end your participation at any time by clicking the "Exit this Survey" button on the top right corner of the screen, or by simply closing your browser. Completing the on-line survey indicates your consent for use of the answers you supply. If you have any questions about the study you may contact Dr. Barbara Nicholson at (304) 746-2094 or at bnicholson@marshall.edu, or Chris Treadway at (304)-389-3669 or at treadway11@suddenlink.net. If you have any questions concerning your rights as a research

participant you may contact the Marshall University Office of Research Integrity at (304) 696-4303. By completing this survey you are also confirming that you are 18 years of age or older.

Please print this page for your records.

1. Having read the terms, conditions and disclosures in the voluntary consent above, are you willing to participate in this survey?

- Yes - Take me to the survey
- No - I want to exit the survey

2. Which of the following best describes your organization or institution?

- A single, independent college or university
- A statewide governing or policymaking body (HEPC, WVCTCS, etc.)
- A state legislative body (Senate, House of Delegates)
- I prefer not to answer (skip this question)
- Other (please specify)

3. Which of the following best describes the institution or organization with which you are affiliated?

- A two-year community or technical college
- A four-year bachelor's degree-granting institution
- An undergraduate- and graduate-degree-granting institution (i.e., bachelor's plus master's and/or doctorate)
- I prefer not to answer (skip this question).
- Other (please specify)

4. According to your best estimate, approximately what percentage of your fulltime faculty are required to conduct and/or publish scholarly research?

- Faculty are not required to conduct scholarly research.
- 1%-24%
- 25%-49%
- 50%-74%
- >75%
- I don't know.
- I prefer not to answer (skip this question).
- Other (please specify)

5. Which of the following best describes your primary role within your institution or organization?

- Trustee, Governing Board Member, Commissioner, or equivalent
- Senior Institutional- or Campus-Level Administrator (Chancellor, President, Vice President, Provost, Dean, etc.)
- I prefer not to answer (skip this question).
- Other (please specify)

12. On a scale of 1 to 6, with 1 meaning 'strongly disagree' and 6 meaning 'strongly agree,' please indicate how strongly you agree or disagree with each of the following statements.

	1 Strongly Disagree	2	3	4	5	6 Strongly Agree
I frequently use research evidence to evaluate major policy initiatives after implementation.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I often rely on subordinates to conduct research and summarize findings.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Current methods for disseminating research findings are acceptable.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Academic research rarely contains bias.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Policymakers should rely more upon intuition and knowledge gained through experience than on academic research findings.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am more likely to trust research evidence developed by someone I know personally.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Technology has improved access to research evidence.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

13. Consider all of the factors that have prevented or discouraged you from using research evidence in the process of making major policy decisions. What single factor stands out as the most influential?

14. Consider all of the factors that have enabled or encouraged you to use research evidence in the process of making major policy decisions. What single factor stands out as the most influential?

15. What advice would you offer to a researcher who wants to have her/his research used more frequently by policymakers?

Finally, please tell us about yourself.

16. What is your sex?

- Female
- Male
- I prefer not to answer.

17. What is the highest degree level you have earned?

- Bachelor's Master's Doctorate I prefer not to answer.
- Other (please specify)

18. In what field was your highest degree awarded?

19. Approximately how many years have you served in an administrative position?

- <1 1-5 6-10 11-15 16-20 >20 I prefer not to answer.

Thank you for your participation! If you have questions about the survey you just completed or the research study in general, please contact Dr. Barbara Nicholson at bnicholson@marshall.edu or Chris Treadway at treadway11@suddenlink.net.

Appendix D: Survey Invitation Emails

Initial Invitation Email

Dear {Title} {LastName}:

My name is Christopher Treadway. I am a doctoral candidate in Higher Education Administration in the Department of Leadership Studies at Marshall University's College of Education and Professional Development and am presently working toward the completion of a dissertation research study with the working title "Higher Education Policymakers' Perceptions of the Use of Research Evidence in the Policymaking Process within West Virginia's Higher Education System." The purpose of my research study is to determine the sources of information higher education leaders like you find most valuable in their decision-making.

The success of my study is largely dependent upon the responses I receive to a brief online survey. To that end, I would be most appreciative if you would consider devoting approximately 10 minutes of your valuable time to completing the survey found at the following URL.

<https://www.surveymonkey.com/s/DTF2MCM>

Your responses will be confidential, results will be reported only in aggregate fashion, and the online survey tool (Survey Monkey) does not create or store any values that can be used to identify an individual participant. This study has been approved by the Marshall University Institutional Review Board (study number 671233-1) with Dr. Barbara Nicholson as the principal investigator.

I appreciate your time and consideration, and would be most grateful for your participation. If you have any questions regarding this study, please feel free to contact Dr. Nicholson by phone at (304) 746-2094 or via email at bnicholson@marshall.edu.

Thank you for your time and consideration.

Kindest Regards,

Chris Treadway
Doctoral Candidate

Reminder Email

Dear{Title} {LastName}:

You recently received an email requesting your participation in an IRB-approved research study examining the sources of information used by «PositionGeneral» like you in decision-making.

If you have already completed the survey, thank you for your assistance and please disregard this message. If not, I would be most appreciative if you would consider taking approximately 10 minutes of your time to do so. The success of this study, and my ability to complete my dissertation in a timely manner, are largely dependent upon the responses I receive to the online survey. The survey may be accessed using the following URL:

<https://www.surveymonkey.com/s/DTF2MCM>

Your responses will be confidential, results will be reported only in aggregate fashion, and the online survey tool (Survey Monkey) does not create or store any values that can be used to identify an individual participant. This study has been approved by the Marshall University Institutional Review Board (study number 671233-1) with Dr. Barbara Nicholson as the principal investigator.

I appreciate your time and consideration, and would be most grateful for your participation. If you have any questions regarding this study, please feel free to contact Dr. Nicholson by phone at (304) 746-2094 or via email at bnicholson@marshall.edu.

Thank you for your time and consideration.

Kindest Regards,

Chris Treadway
Doctoral Candidate

Appendix E: Institutions Included in the Study Population

Invitations to participate in this research study were sent to policymakers and administrators at the following institutions of higher education:

1. Alderson Broaddus University
2. Bethany College
3. Blue Ridge Community and Technical College
4. Bluefield State College
5. Bridge Valley Community and Technical College
6. Carver Career Center
7. Concord University
8. Davis & Elkins College
9. Eastern West Virginia Community and Technical College
10. Fairmont State University
11. Glenville State College
12. Marshall University
13. Mountwest Community and Technical College
14. New River Community and Technical College
15. Ohio Valley University
16. Pierpont Community and Technical College
17. Potomac State College of West Virginia University
18. Shepherd University
19. Southern West Virginia Community and Technical College
20. University of Charleston
21. West Liberty University
22. West Virginia Northern Community College
23. West Virginia School of Osteopathic Medicine
24. West Virginia State University
25. West Virginia University
26. West Virginia University at Parkersburg
27. West Virginia University Institute of Technology
28. West Virginia Wesleyan College
29. Wheeling Jesuit University

Appendix F: Verbatim Responses to Question 13

Consider all of the factors that have prevented or discouraged you from using research evidence in the process of making major policy decisions. What single factor stands out as the most influential?

Note: The following responses are provided in their unedited form, exactly as they were submitted by survey respondents via the online questionnaire.

1. Time in acquiring all the information on questions requiring immediacy for decisions.
2. The overwhelming volume and depth in how the information is presented.
3. Not being able to verify the results apply to the issue being dealt with; for example, how was the test run, who was surveyed, were there any inherent biases, etc.
4. Ease of access
5. It often is not Germaine to the issue at hand.
6. Time
7. Limited data bases available at institution
8. Unavailable research near my workplace or online
9. Obfuscation
10. No relevance to specific issues of a multi-campus community and technical college in a distressed area.
11. Time needed to identify information.
12. Lengthy Reports
13. Research evidence is for academia to read. Often times misrepresented / difficult to read and understand.
14. Length
15. Time
16. Length of the research report

17. Difficulty deciphering data
18. Needed institutional information not available
19. Time constraints to sift through research
20. Credibility of the author
21. Time to conduct the research
22. Time
23. Access
24. Time constraints
25. Lack of relevant research to the needs of my organization
26. There is not always time to research every issue to the extent you would like to.
27. Limited time
28. Time and staff constraints
29. Bias of information
30. The length and complexity of the research evidence.
31. Volume and complexity
32. Bias of researchers and their research.
33. Too much to sort through in the time available.
34. Time to find the resource and lack of research usually on policy for community colleges
35. Lengthy, non-relevant, wordy studies that do not present relevant analyses.
36. Lacking in a well written and comprehensive executive summary...when forming policy, I need to know what the study found
37. Bias
38. Lack of ability to find research that addresses a specific need
39. Time. My position has me working more hours than the typical employee. This prevents me from reading outside of the office.

40. The research I have reviewed is of limited usefulness.
41. Time
42. Length of articles
43. Research evidence is often too detailed or technical
44. Time for research and reading.
45. Time constraints
46. Length and lack of clarity of research evidence
47. Consistency among sources
48. Limited data that is available
49. Lack of time to research
50. Conflicting data
51. Time
52. Time to identify best sources of research evidence.
53. Adequate time to search and read research documents
54. Time
55. The volume of the work presented.
56. Time required to access research on specific topic
57. Biased nature/perspective of the researcher.
58. Time to locate research
59. Length of report; written in highly legalistic way
60. Complexity and length of the information.
61. Our agency does not provide free access to search multiple journals. Our division has purchased subscriptions to two publications most related to our work- Health Affairs and Academic Medicine. It costs about 1,000 a year for these two- access to more would be cost prohibitive for us.
62. Information is not presented in a concise and coherent manner.

- 63. Discussions with knowledgeable and experienced peers
- 64. Always immersed in practice
- 65. Understanding how the conclusions were reached
- 66. Lack of time to adequately research
- 67. Following up to verify the results
- 68. Not applicable to situation
- 69. Personal bias that interferes with facts.
- 70. The faculty

Appendix G: Verbatim Responses to Question 14

Consider all of the factors that have enabled or encouraged you to use research evidence in the process of making major policy decisions. What single factor stands out as the most influential?

Note: The following responses are provided in their unedited form, exactly as they were submitted by survey respondents via the online questionnaire.

1. Those educated individuals in our organization upon whom I rely in compiling the information.
2. When presented well research evidence can be instrumental in making policy decisions.
3. Easy access with a clear abstract or executive summary
4. Ease of access
5. Similarities with current issue.
6. What is best for the student
7. Accessibility of information on the Internet
8. Availability of research evidence online
9. Clarity
10. Peer to peer institutions research
11. Importance of the decision
12. Summary and the ability to ask questions
13. Executive Summaries of the Findings that are easy to access and interpret.
14. Rely very little on research evidence.
15. Experience
16. Easily accessible and time to review it.
17. Availability
18. Compelling executive summary

19. Availability online
20. Biases, especially political/cultural
21. Clearly explained methodology
22. Accessibility of data through online outlets
23. Time available
24. # of research papers on the same subject
25. Reliability
26. Reliability
27. Appropriate Presentation Venue to the Authorizing Body – Budget Decision-makers
28. Brief summary reports
29. Research conducted by organizations with recognized expertise
30. Advanced education and training in research methodology
31. Easy accessibility
32. Results based on factual or statistical information
33. Ease of access to information
34. Last resource
35. Objective data.
36. Having staff support to collect and summarize the available data.
37. None
38. Having well written summaries of results. Having adequate time to accomplish goals is the greatest challenge of this position.
39. Access to reliable data
40. Reports that had good visuals and good summaries of the research
41. Relevance to specific situation
42. Implementation of new law in an area where my knowledge was limited

43. My PhD. I am able to understand and synthesis the information.
44. When a study is mentioned in a popular press article, I am more likely to find and read it.
45. Volume available
46. Usefulness
47. Professional experience over 40 years as a senior level administrator and board member
48. Technological access.
49. Measurable success over time
50. Opportunity for relatively unbiased information
51. Experience
52. Technology
53. Access to data
54. Importance of the issue
55. Ability to properly evaluate effectiveness or trustworthiness of evidence
56. Technology
57. When it has come from a trusted source.
58. Access to NCES and SREB data
59. Common sense approaches that outweigh theoretical hyperbole.
60. Evidence
61. Succinct and to the key points
62. Relevance to the topic.
63. Finding the time in my schedule to read all the articles I collect that I want to read related to policy issues that affect our division.
64. Information is concise and coherent.
65. Easy access

66. Professional Journals

67. Graduate education.

68. Overall understanding of the article(s) reviewed

69. Applicability of research to specific policy being addressed

70. Costs effective

71. It is applicable and concise

72. Wide knowledge that is now available and published.

73. Support of, dialogue and consensus with other administrators

Appendix H: Verbatim Responses to Question 15

What advice would you offer to a researcher who wants to have her/his research used more frequently by policymakers?

Note: The following responses are provided in their unedited form, exactly as they were submitted by survey respondents via the online questionnaire.

1. Provide relevant, succinct information with a pertinent bibliography.
2. Be concise!
3. Be transparent in presenting the research results, methodologies, and what it addresses and what it doesn't. I will discount research I can't prove applies to the situation rather than assume it applies.
4. Make sure it is unbiased and implementable.
5. Use local, not national information.
6. Easy access & short summary
7. A simple and clear thematic organization of existing literatures available on a single website overseen by a reputable national organization relating to higher education
8. Learn communication techniques that will allow a non-expert in your field to understand your research methods, analysis and outcomes.
9. Be brief and to the point.
10. Identify specific issues that relate to a specific set of criteria that will be relevant to multiple institutions with common demographics and student enrollments that is currently not being provided by research in general.
11. Speak to as many lay groups about research i.e. Rotary etc
12. As a business person, I prefer a brief summary with references to particular sections that I may want to research further
13. Make it user friendly.
14. Condensed and to the point. Do not try to impress. Often times very complicated.
15. Keep it brief and to the point.

16. Publish it in professional journals, news letters, that will be directly and easily accessible to the policymaker.
17. None
18. Prepare a well written executive summary
19. Write clearly, succinctly.
20. Make it more readily available
21. Summarize coherently; avoid political/cultural biases
22. Clearly explain the methodology used and clarify any possible ambiguous statistics
23. Get it published.
24. The report needs to be supported by easily obtained facts and sources
25. Clear concise results. Don't trumpet weak results.
26. Do presentations as much as possible to various groups.
27. Summarize and share inks with the policy makers
28. Focus on a very specific policy or program outcome, get a large sample size and keep your report to less than 5 pages.
29. Present clear, concise summaries of findings and implications of the study
30. Provide executive summary
31. Make it relevant to the goals and priorities of the organization.
32. It's important to get your name "out there" via papers, conferences, being involved in professional organizations, networking with related nonprofits, etc... Publishing in the right journals and trade papers is also important.
33. Publish in discipline specific journals, use clear titles, write clearly and succinctly with details available but not needed for an initial understanding.
34. Present at conferences, distribute to appropriate groups
35. Summarize points clearly with supporting evidence following
36. Be simple.
37. Concise, accurate

38. Buy the policy makers drinks and make social connections to them.
39. Write succinct, decision-support oriented executive summaries.
40. Find multiple ways to get the research communicated...use more resources other than peer reviewed publications
41. I would recommend well written, succinct summaries. I like the professional business report model that presents an introduction, detailed information, data and analyses, followed by a very brief set of findings. With this model of writing, it is easy to understand the analyses and to refer to the full range of data and details in the actual report when necessary.
42. I think researchers being able to draw upon real life experiences help lend credibility to academic research activities and publications. It falls in line with what we have often heard about folks only being "book smart" and not having real work experience.
43. Use executive summaries.
44. Make the conclusions accessible, readable and easy to navigate
45. Reliability of the source(s) of information: need for accurate data with an understanding that most any other means policymakers use are still based on research. Keeping in mind that policymakers also need to improve their ability to understand research terminologies and use.
46. Ease of interpretation
47. Publish on relevant topics. If you are able to identify topics of interest, people will find your research. Also publish your research and present it at conferences. This is something that if I had more time I would be doing myself. I know this is how my professors gained notoriety from their works.
48. Remember that not all colleges and universities are large Research I institutions. Smaller schools are more numerous and have very different issues and concerns.
49. None
50. Clearly written abstract that gives some results and conclusions
51. Capture no more than three or four major findings and present them in a clear and concise manner.
52. Keep the presentation short, the data clear, and learn to tell a fact based story.
53. None

54. Executive summary or conclusions of findings.
55. Offer a clear and succinct executive summary.
56. White papers or "briefs" are most helpful. Including national or regional trends on related topics is also helpful in WV since we tend to follow rather than lead. Measurable success, not just anecdotal narratives are helpful.
57. Simplify; clarify; avoid extensive disclaimers; "get to the point"; anticipate how your conclusions will be used
58. Make it statistically sound
59. Get it cited in popular media
60. Write well, address current issues
61. Remember that trustees, legislators, etc. don't always know acronyms, and can often be put off by academic language.
62. Include an executive summary and provide news sources or national groups copies to distribute.
63. Provide brief summaries with supporting data
64. Use of executive summary documents
65. I would recommend it to be in a user friendly format and shared through avenues that are trusted.
66. Present data at conferences. Publish in journals
67. Take a realistic, common-sense approach to implementable recommendations.
68. Make it readable to the general population. Remember the individuals reading the research generally are not researchers.
69. Clear, clean, succinct and to the main points
70. Provide a summary FIRST so we can determine fit
71. Use simpler statistical measures – sometime non-parametric statistics are easier to use and more informative
72. People have multiple jobs and tasks – we don't have time to read 30 page reports – short and to the point, please.

73. Find a way to get it distributed through state level trade and nonprofit groups who send out email updates to state policymakers. I have time to read my email and spot articles that are sent that way (finding time to read them is a challenge still), but actually finding time to do a lit search on a topic is even less likely to happen.
74. Clearly state your findings and then back each finding up with tangible and credible evidence.
75. Succinct and relevant
76. Summarize it and make easily read
77. One-on-one contact with both parties rather than meeting with committees.
78. Data / Outcomes based including charts, graphs and percentages
79. Make it readable and succinct and relevant.
80. Summarize Ensure ease of navigation throughout research Don't overwhelm; if the policymaker wants to research further, point them there. Provide useful links (can be internal to the documentation)
81. Get to the main point asap then explain methods and proof of how the change will impact today, tomorrow and the future
82. Make it understandable and relevant to the subject matter.
83. Be brief, use facts, keep bias out of conclusions.
84. Send a summary directly to university administrators through email and give the bibliographic information of the peer reviewed journal that it is published in with a link to the journal's website

Appendix I: Vita

CHRISTOPHER TREADWAY

Education

2015	EdD Educational Leadership	Marshall University Huntington, WV
2006	MS Information Systems	Marshall University Huntington, WV
1998	BS Chemistry	University of Charleston Charleston, WV

Work Experience

2015-Present	Post-Doctoral Research and Policy Analyst WV Higher Education Policy Commission Charleston, WV
2007-Present	Adjunct Faculty – Physical Sciences University of Charleston Charleston, WV
2003-Present	Project Manager WV State Social Studies Fair (Consultant) WV Department of Education Charleston, WV
2008	Adjunct Faculty – Computer Science Southern WV Community and Technical College Foster, WV
2006-2014	Director West Virginia STARBASE Academy Charleston, WV
2001-2006	Deputy Director West Virginia STARBASE Academy Charleston, WV

Publications

Alley, R., Green, J., Lawson, D., and Treadway, C. (2008). *Doctoral student collaborative research: Creating 'Stewards of the Discipline'*. Academic paper presented at 49th Annual Conference of the Southern Regional Council on Educational Administration, Charleston, WV.