

research

Use of academic social research by public officials: exploring preferences and constraints that impact on research use

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While academics can do more to communicate the key messages of their research, the organisational cultures and information infrastructure of policy-related work units also play a large part in influencing the extent of research uptake in government agencies. Data from a large Australian survey (N 2084) of policy-related officials in government agencies is examined to provide insights into how certain preferences, constraints and organisational factors influence the ways in which policy personnel seek out and use academic social research.

key words research utilisation • research/policy relations • research-oriented culture
• academic social research

Introduction

Understanding how and under what circumstances policy makers and practitioners access and use academic research has been an important focus of research utilisation scholarship. A key aim of previous work has been to understand the flow of knowledge and influence between governmental decision makers and research produced by academics. One conclusion that has been reached is that the policy uptake of research knowledge from the university sector is relatively low, and that it is not often seen as a highly valued information source compared with other accessible and/or trusted options (Bogenschneider and Corbett, 2010; Hall and Jennings, 2010; Head, 2008; Shulock, 1999). Hence, in this context, it has been argued that there exists a 'research-policy' gap when it comes to research produced by academics and its uptake in policy and practice contexts (Nutley et al, 2007).

The reasons for this 'gap' are many. These include whether academic research is perceived as relevant by policy makers or practitioners, whether it is available when needed, whether there is a supportive organisational context that promotes research use, and whether infrastructure is available to ensure academic research is accessible (Belkhdja et al, 2007; Bogenschneider and Corbett, 2010; Landry et al, 2003; Lavis

et al, 2003; Ouimet et al, 2009). While much is made of the need for academics to form closer linkages with potential end users of research, the extent of direct influence academics have over policy or practice settings is limited. The degree to which academic research is drawn upon by policy makers or practitioners will also be determined by the latter's preferences for certain sources and types of research-based knowledge, and the internal organisational factors and processes impacting on these preferences and consequent efforts to obtain and use research evidence (Ouimet et al, 2009; Hall and Jennings, 2010; Howlett and Wellstead, 2011; Howlett and Newman, 2010). The aim of this paper is to explore the ways that certain preferences, constraints and organisational factors influence how policy personnel seek out and use academic social science research. Our specific objectives are to evaluate the impact of a research culture that favours accessing and using research evidence and an organisational ethos that facilitates access to sources of information. These questions are considered by examining results from a survey of government personnel at Federal and State levels in Australia (total sample 2084). We first examine descriptive statistics relating to the preferences of policy-related personnel for certain sources and types of research-related information, how often they consult such information, and the methods they use for accessing academic research. After exploring these descriptive statistics we turn our attention to how particular internal features within public sector agencies (in particular the strength of a research-oriented culture) help predict to what extent public officials in policy positions draw on academic social research. This question is explored through the use of a logistic regression model.

In this paper we focus on reporting overall aggregate results from our survey data, rather than considering specific policy or agency contexts, such as variations between central and line agencies or between federal and state departments in Australia. Examining such variations will be the subject of future papers. The purpose here is to provide insights into overall determinants of research use within government agencies. We begin with a review of relevant literature, describe our methodology and survey instrument, then canvass the results and conclude by considering the implications of our findings for the transfer and uptake of academic social research.

Relevant background literature

A number of the studies considered below show that a range of factors hinder or facilitate research utilisation in the policy process. These include individual, organisational and political factors, relating to such issues as the skills and abilities of public officials to access and understand research studies, whether there are forums that expose staff to research data, as well as budgeting constraints and limited timeframes that impinge on policy decisions (for example, see Belkhodja et al, 2007; Bogenschneider and Corbett, 2010; Cameron et al, 2011; Howlett and Wellstead, 2011; Howlett and Newman, 2010; Lavis et al, 2003; Ouimet et al, 2009; Bédard and Ouimet, 2012). Other factors relate to the types of informal contacts between academic researchers and policy makers, preferred ways of securing research findings and the perceived relevance and the timeliness of academic research findings (for example, Amara et al, 2004; Buckley et al, 2013; Haynes et al, 2011b; Hall and Jennings, 2010; Landry et al, 2001a, 2001b; Landry et al, 2003; Weiss and Bucuvalas, 1980). The dynamics and configuration of formal research partnerships between academic researchers and government and non-government agencies have also been shown

to influence the process of knowledge transfer and uptake (for example, Cherney, 2013; Haynes et al, 2011a; 2011b; Molas-Gallart and Tang, 2011; Orr and Bennett, 2012; Rickinson et al, 2011).

One particular issue that has gained increasing attention has been concerned with the internal organisational preferences, constraints and culture within public sector agencies that promote or undermine research use, and hence the adoption of evidence-based policy. As pointed out by Hall and Jennings (2010), the search for and use of research evidence needs to be understood in terms of the broad range of information available to influence policy decision making, with academic researchers being one source or type of information among many options. Hence it is worth understanding the value that public officials place on certain sources of information and whether they seek out such sources (Bogenschneider et al, 2013; Jennings and Hall, 2012). This is a particularly important issue since in the literature it is widely acknowledged that such information seeking by public officials can be driven by ideologies and individual interests related to policy preferences, which implies there can be a bias towards particular information sources (Nutley et al, 2007; Pawson, 2006; Head, 2008). The direction of such biases or preferences has remained under-explored (Hall and Jennings, 2010).

Further influencing the ability of government agencies to draw on research evidence and integrate it into policy decision making, is the extent to which they can rapidly acquire research evidence. Referred to as a component of absorptive capacity, the acquisition of research evidence is linked to the availability of infrastructure to access research-related products (Harvey et al, 2010; Ouimet et al, 2009; 2010). However, simply having the infrastructure available does not mean it will be relied upon or preferred. The reasons for this outcome could be due to time constraints or pressures placed on government personnel to review and produce policy, or that the type of information available may not meet their needs. Compounding these circumstances is the probability that policy personnel will not actively seek and use research evidence, and hence make attempts to draw on academic research, unless there is a broader ethos (for example, the behaviours and attitudes of fellow work colleagues and senior managers) that reinforces and supports such behaviour (Belkhdja, 2012; Cherney and Head, 2011; Landry et al, 2003). In this paper we explore how such organisational factors influence the degree to which public officials, who occupy policy-related positions, seek out and use academic social research. The focus of the survey was on whether respondents access academic research products, such as journals or reports. Clearly, there are other sources of expertise available, and other channels through which research evidence can be communicated (for example, by one's colleagues or through a private consultant). We have not explored such wider issues here.

Study design

Data for this paper is part of a larger project examining the uptake of academic research in social policy development and programme review.¹ One phase of this project included a survey of officials in federal and state government agencies across Australia. This involved a purposive sampling technique targeting policy-relevant personnel within public sector agencies whose responsibilities covered human service policies and programmes. Included were Commonwealth (national) agencies, together with

departments in the three most populated states which include 77% of the Australian population: Queensland, New South Wales (NSW) and Victoria (see Table 1).

A total of ten central agencies and eleven line agencies at both the state and national level participated in the survey. The survey was not conducted simultaneously across these 21 agencies and had to be staggered, due to the time it took to broker access to relevant departments. Hence the survey commenced in November 2011 and closed in March 2013. Individual agencies ran the survey for differing amounts of time, from a minimum of two weeks to a maximum of two months, dependent on internal circumstances. Scope of staff invited to participate included personnel at Australian Public Service (APS) level 6 or equivalent (APS level refers to the Australian Public Service classification of job-related duties and remuneration. Level 6 and above captures senior policy officers and project managers, which excludes clerical workers and personnel assistants) through to the most senior management roles, who were involved in the following areas of responsibility: policy advice, policy development, research, evaluation, data collection or analysis, service or programme planning, service design and delivery. This breadth of relevant roles ensured that a wide variety of individuals involved in multiple ways in the policy-making process were captured in our sample. Unlike some other studies (for example, Belkhdja et al, 2007; Landry et al, 2003; Howlett and Wellstead, 2011) the research team was not able to access lists of relevant personnel to sample. Instead, participating agencies were asked to identify relevant personnel who met these criteria, and in order to maintain respondent confidentiality the contact officer in each agency maintained control over internal email lists through which targeted staff received access to the electronic survey instrument. Eleven agencies followed this procedure and were able to provide the exact number of staff to whom the electronic survey was distributed – hence for these agencies we were able to calculate a response rate. Another three agencies were able to provide close approximations of the number of staff selected, allowing for an estimated response rate. The remaining seven agencies were unable to distribute the survey exactly as requested, often due to internal constraints or circumstances (such as impending elections or machinery-of-government changes). In these cases, a broader invitation to staff was distributed for example, via the agency intranet, or a staff weekly update, or in an email, with instructions for staff to self-select after noting the study's guidelines about areas of responsibility that were in scope. A response rate cannot be estimated for these agencies. Given these contingencies and constraints in the recruitment of the sample, an overall response rate therefore cannot be calculated for the survey.² However, Table 1 provides a list of the agencies that participated, provides totals for the number of respondents in each agency, the number of staff sent the survey (where known) and calculated response rates (where possible). The final sample size was 2084 and findings reported in this paper are based on this total sample.

It is recognised that there are some limitations with our sampling method, which was affected by the level of focus and effort by agency contact members to identify in-scope positions and adhere to the recruitment process stipulated by the research team. The methodology of the project was approved by the University of Queensland Ethics Committee and by participating agencies. Nevertheless, the recruitment process was constrained by reasonable concerns expressed by participating government departments about providing staff listings to the research team, which they regarded as potentially threatening the anonymity of the survey. This is a reality of working with

government departments with variable levels of commitment to research partnerships (Cherney, 2013). Nevertheless, every effort was made by the research team to ensure that only in-scope personnel participated, which included information inserted in the emails sent to staff and in the electronic survey itself about the aims of the project, definitions of relevant terms, and a detailed list of positions that were in-scope.

It should be emphasised that the 2084 respondents who voluntarily completed the survey cannot be taken to be a representative cross-section of the total public service, nor even of the policy-relevant sections of the public service. We recognise that there are some variations in total survey responses received across the 21 agencies, which does raise the possibility of bias in the representativeness of responses across different social policy domains. The largest response rates were from Commonwealth departments, while some of our responses from particular state government departments were somewhat low (see Table 1). Given that, in this paper, we are not attempting to make comparisons across levels of government nor draw conclusions about why organisational variations exist, we have included all 21 agencies in the analysis presented here. The findings from this study are enriched by the diversity of the respondents from multiple policy and programme domains across federal and state government, as well as agencies of different sizes and levels of responsibility, rather than limited to a single organisational context (see also Landry et al, 2003). The survey data are based on self-reports of government personnel, which can be subject to social desirability biases as respondents may inflate their responses to certain items such as the value given to research evidence when making policy decisions. Given that the study is cross-sectional, we are unable to measure the longitudinal nature of research utilisation. The quantitative focus of the data gives insight into broad patterns of utilisation rather than specific cases of research uptake, which would require more qualitative approaches.³ The survey was also completed by agencies at slightly different periods of time and it was difficult for the research team to control the influence of internal organisational reforms or broader political events on how participants answered particular questions.

The survey instrument was based on a number of validated items and scales derived from previous studies (for example, Belkhdja et al, 2007; Hall and Jennings, 2010; Howlett and Wellstead, 2011; Howlett and Newman, 2010; Landry et al, 2003; Ouimet et al, 2009) and included a significant number of new questions relating, for example, to methods for accessing research such as using web-based search engines. Broadly, items were concerned with the demographics, experience and position of the respondent; their level of involvement in certain policy-related tasks; the level of importance and preferences they accorded to different information sources including academic research; whether they had trouble accessing academic research and the types of research methodologies preferred; whether academic research was viewed as important within their work unit; the existence of mechanisms to help access academic research, policy skill development and training; experiences of research partnerships; judgements about academics; perspectives of the policy-making process; ways in which academic research was used; and, its impact on policy decision making. Respondents were also able to provide qualitative responses at the end of the survey. Due to space limitations, results reported here do not canvass all the items listed above nor consider the qualitative responses.

	Frequency	Percent (of total PSS)	No. of staff survey distributed to	Response rate %
Productivity Commission (Commonwealth)	60	2.88	100	60.00
Australian Bureau of Statistics (Commonwealth)	228	10.94	772	29.53
Treasury (Commonwealth)	123	5.9	400	30.75
Department of the Prime Minister and Cabinet (Commonwealth)	14	0.67	300-400	-----
Department of Families, Housing, Communities & Indigenous Affairs (Commonwealth)	252	12.09	1115	22.60
Department of Education, Employment and Workplace Relations (Commonwealth)	88	4.22	1200	7.33
Queensland Health	112	5.37	916	12.23
Queensland Department of Communities	100	4.8	Not known	-----
Queensland Department of Employment, Economic Development & Innovation	73	3.5	160	45.63
Queensland Department of the Premier and Cabinet	18	0.86	60	30.00
Queensland Treasury	13	0.62	Not known	-----
Queensland Department of Education and Training	70	3.36	230	30.43
NSW Department of Education and Communities	65	3.12	395	16.46
NSW Treasury	41	1.97	277	14.80
NSW Department of Premier and Cabinet	55	2.64	Not known	-----
NSW Department of Family and Community Services	154	7.39	548	28.10
Victorian Department of Planning and Community Development	28	1.34	108	25.93
Victorian Department of Education and Early Childhood Development	384	18.43	Initial invitation 3023; targeted reminder to 838 central staff	12.70
Victorian Department of Human Services	102	4.90	Not known	-----
Victorian Department of Premier and Cabinet	50	2.40	120	42.50
Victorian Treasury	54	2.59	Not known	-----
Total	2084	100		

Results

Participants' backgrounds

The gender of respondents and the position they occupied at the time of the survey is reported in Table 2. As can be seen, a higher number of females compared to males completed the survey and were well represented across the four position domains of data analyst, policy officer, manager and senior executive. The high representation of females in the survey does reflect an increasing trajectory of females occupying public servant roles in the Australian public sector (Australian Public Service Commission, 2012). Approximately 90% of the sample had a bachelor degree or post-graduate qualification, and had over 10 years of service in the public sector, indicating the sample was qualified and experienced.

Table 2: Demographics

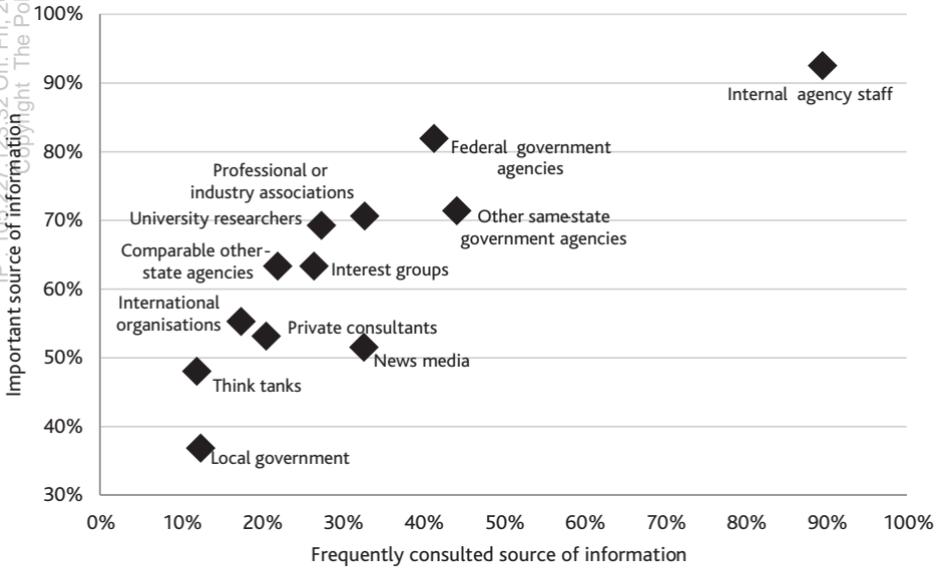
Current position	Male	Female	Total
Senior Executive	3.9	3.8	7.7
Manager	14.4	23.6	38.0
Policy officer	14.6	28.6	43.1
Data analyst	5.3	5.9	11.2
Level of education			
Year 12	2.5	3.5	6.0
Advanced Diploma/Diploma	1.8	2.7	4.5
Bachelor Degree	12.4	21.7	34.2
Graduate Diploma/Graduate Certificate	5.8	10.4	16.2
Postgraduate Degree	15.6	23.5	39.2
Years in the public service			
Less than a year	0.6	1.9	2.5
1-5 years	7.5	11.8	19.3
5-10 years	7.7	15.9	23.6
10-20 years	9.9	17.2	27.1
20-30 years	7.3	10.8	18.1
30-40 years	4.2	3.8	8.1
40+ years	1.0	0.3	1.3
Total	38.20	61.80	100.00

Preferred sources for accessing research related information

Key issues involved in understanding the uptake of academic research concern the means available, and preferences policy makers may have for accessing research-related information and the importance given to university-based research in this process.

In this regard, we asked respondents about the level of importance their work unit placed on information available from particular sources to inform decision making and how frequently these sources were consulted. Figure 1 reports the combined results for the total number of respondents who identified particular information sources as very important or important, and how frequently they consulted these sources in the last 12 months. The results show that information from immediate colleagues was overwhelmingly judged as the most valuable source, followed by other government agencies, with university researchers seen as the fifth most important information source. These results show that ease of access and the level of association with the agency, entity or individual from whom information is accessible matters a great deal in determining the value that public officials place on different information sources. When one examines the horizontal axis, it indicates that preferences are reflected in reported levels of use (albeit consultation), particularly as it relates to the role of work colleagues and other government departments. One exception is the news media: while seen as an important source of information by 52% of the sample, it is comparatively less important than other information sources. However it is a frequently consulted source of information. While only 32 % of the sample indicated they had consulted the news media in the last 12 months, this was higher than consultation with academic researchers (See also Ouimet et al, 2010 for a similar result relating to preferences given to certain sources of information by Canadian public officials).

Figure 1: Sources of information



Accessing academic research

Figure 1 shows that compared with other information sources, information from academic researchers is seen as important by our sample, and while they are not consulted as often compared to other options, they do appear to be a valued information source when contrasted with other possible choices, such as think tanks or private consultants.

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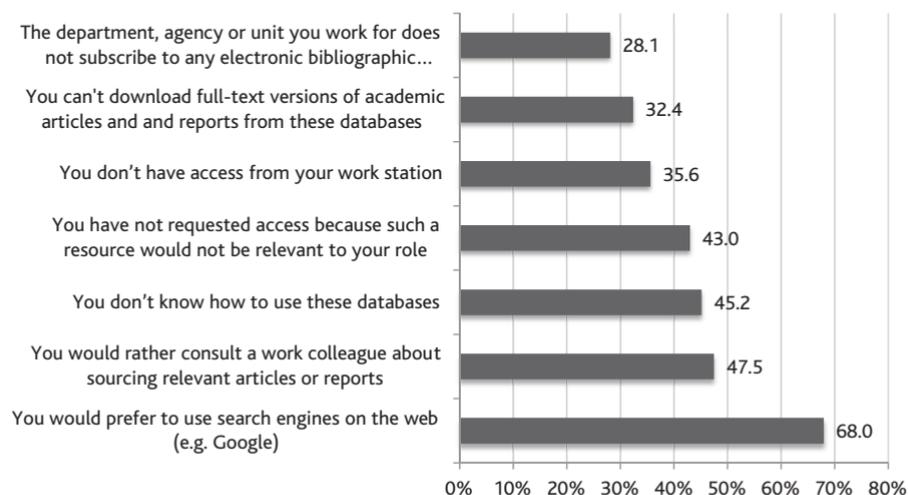
For academic research to have an influence it must be accessible. The concept of accessibility relates to both the cognitive and physical dimensions of research-based knowledge. Accessibility is related to whether research can be comprehended by end users and translated in a way that is applicable to particular policy or practice contexts. Therefore, language and methods of communication become important, as well as the existing skills of end users to understand research-related data. In addition, academic research must also be physically accessible, in the sense that end users must be able to access and read research-related products. The data indicate that the existence of knowledge infrastructure in government departments is likely to affect the levels at which public officials consult and utilise research. However, as other parts of our survey results suggest, the availability of this infrastructure may not mean it is actually accessed by potential users in the public sector.

To tap the issue of physical accessibility and its bearing on research use, we asked respondents whether they accessed electronic bibliographical databases to download or print academic journal abstracts, articles and reports.⁴ This was to the exclusion of using general search engines such as Google, the use of which we examined through other questions. As indicated in Table 3, over 50% of the sample indicated they accessed electronic bibliographical databases. The majority of the sample indicated that they did so, on less than a monthly basis. However, while such infrastructure might be available, it may not be the preferred means of accessing academic research. To partially explore this issue we asked those respondents who indicated that they did not access electronic bibliographical databases, why this was so. Figure 2 reports these results.

Table 3: Use of Electronic databases

Do you access electronic bibliographic databases to download or print academic journal abstracts, articles or reports?	Freq.	Percent
Yes	1216	58.4
No	868	41.7
Total	2084	100.0

Figure 2: If you don't access bibliographical databases, is it because: (n = 868)



As shown in Figure 2, the majority of the sample who revealed they did not access electronic bibliographical databases preferred to use search engines such as Google on the web, consult a work colleague about research products, or did not know how to use a bibliographical database. Preference for consulting a work colleague reflects the findings reported above concerning accessing particular entities or individuals for research-related information. A lack of skills to operate databases to access research products illustrates that the training of government personnel in these types of research-related skills has a potential bearing on research uptake. A lack of such skills and understanding about the benefits afforded by bibliographical databases could account for why some of our sample did not see such infrastructure as relevant to their role (see Figure 2). These results suggest that the availability of infrastructure alone will not determine if opportunities afforded by capabilities to access and consult research will be preferred as a viable option by public officials. The emphasis on the use of Google as a means to seek out academic research is potentially related to the ease of access and useability of such search engines. However, it does raise issues around the quality of the research that is being drawn upon, and also the variety and amount, given that academic research is confined to sources (that is, peer-reviewed journals) that are not always widely available for public consumption (Cherney et al, 2012b).

Constraints influencing the use of research

While there may be ways and means available to government policy personnel to access academic research, it does not follow that such opportunities will be taken up. The contingencies and constraints government officials encounter are important to understanding why this is so. To investigate this issue, respondents were asked the degree to which they agreed or disagreed with a series of statements that aimed to examine factors preventing them from accessing and using academic research in their day-to-day duties. For the purpose of simplicity Figure 3 reports overall results for those who strongly agreed or agreed with these statements. As indicated in Figure 3, the primary factor that prevented our sample of policy personnel from accessing and using academic research was simply that there was not enough 'time in the day' to engage (read) academic research, followed by the lack of opportunities available to build linkages with academic researchers. Taking account of the time pressures public officials encounter in their policy work, these results have an intuitive validity. Hence the reliance on work colleagues and Google to access academic research may partly be an adaption to these constraints that provides convenient 'quick checks', as an alternative to expending a large amount of time and resources to become familiar with existing and emerging research relevant to a particular policy domain.

The results reported in Figure 3 provide some insight into the types of immediate, day-to-day constraints that impinge on the extent to which public officials engage with academic research, and why they choose particular methods for doing so. These findings help to further contextualise patterns of research use among end users. Such patterns are clearly influenced by the pressures public officials are under to make policy decisions, which can lead them to be less than thorough in their review of relevant research. These circumstances are also exacerbated by there being few opportunities for officials to build relationships with academic researchers. An overall willingness to seek out academic research will be determined by whether the occupational milieu in which policy personnel work is one that values academic research and sees it as

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Figure 3: Accessing and using research evidence in day-to-day duties: Strongly agree/ Agree



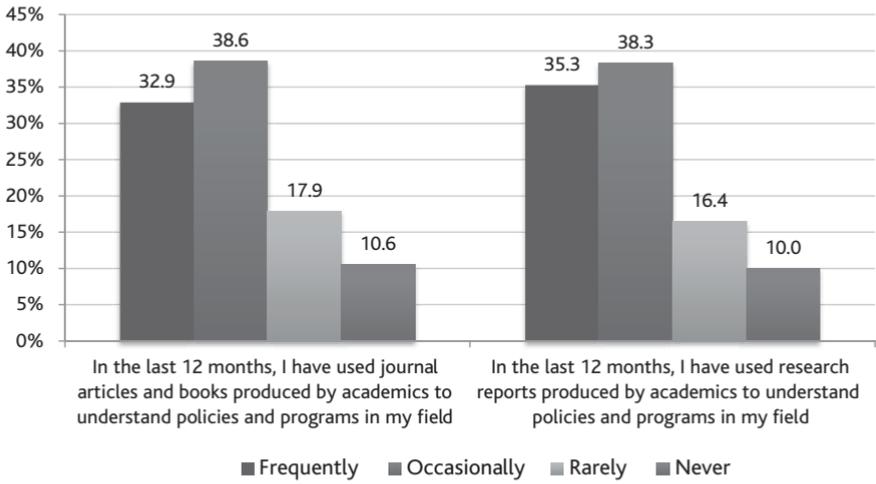
important, which attests to the influence that organisational factors (for example, the extent of a research-oriented culture) may have on patterns of utilisation.

We further explored this issue through the use of a logistic regression model to examine the relative strength of various organisational factors on reported levels of research use. Our dependent variable measure of research use was based on questions asking respondents whether in the last 12 months they had used academic products or outputs to understand policies and programmes in their field. As can be seen in Figure 4, over half of the respondents indicated that in the last 12 months they had drawn upon academic research that was related to specific policy activities.

The measure of research utilisation was divided into a dichotomous variable (0 = don't consult academic research and 1 = consult academic research). More specifically this was created from two items (listed in Figure 4) measured on a 4-point scale, ranging from 1 (frequently) to 4 (never): (1) in the past 12 months, I have used journal articles and books produced by academics to understand policies and programmes in my field; (2) in the last 12 months, I have used research reports produced by academics to understand policies and programmes in my field. This is similar to a measure used by Ouimet et al (2010). Respondents that scored a 1 or a 2 for either question were recorded as 1, and all other responses were recorded as 0.

We were parsimonious in our choice of independent variables, which comprised individual and organisational factors. We are particularly interested in the relationship between a supportive organisational ethos and culture and the reported use of academic social research. We also included specific individual level variables including judgements about skills levels, and impediments to accessibility such as difficulty in accessing full text versions of academic articles and reports. We included these items in view of our previous findings and conclusions concerning dimensions of accessibility, notably that accessibility relates to both the cognitive abilities of end users (skills) and the physical availability of research products.

A number of indices were created and included in our models as independent variables. The items used in each index were determined by factor analyses, with each

Figure 4: Consultation of academic research

index comprising a 1-factor solution, only items with factor loadings above 0.7 and communalities above 0.5 were retained. Detailed descriptions of index compositions are presented in Appendix 1. The Cronbach's alpha for the indices are presented in Table 4 and all item-test and item-rest correlations were acceptable.

Table 4: Internal reliability coefficients (Cronbach's alpha) for variables

Name of variable	n	No. of items in a scale	CA
Lack research skills	2051	2	0.83
Lack a research culture	2058	4	0.78
Policy making based on sound evidence	2084	2	0.58

The dependent variable (research utilisation) was measured dichotomously and a logistic regression (LR) model was used to explore a number of predictors, while including a number of control variables such as position and education (see Model 1, Table 5). To enable comparisons between the predictors, Table 5 also reports the fully standardised coefficients for this model.

Four of the six indices were significant predictors of research utilisation. These were: 'academic research results are considered relevant by my colleagues', 'research is important in my professional field', 'there is a lack of a research culture', and 'difficulty in accessing full text academic articles and reports'. That is, when academic research is considered relevant and important to one's colleagues and one's professional field, the odds of research uptake are considerably increased. The absence of a research culture in the workplace significantly decreased the odds of research uptake in our sample of policy personnel. Difficulty in accessing full text articles and reports significantly increased the odds of research uptake. This is somewhat unusual because one would assume it should be a negative relationship – that is, difficulty in accessing full text academic articles and reports would have a detrimental bearing on the uptake of academic research. An explanation for this result is offered below. Table 5 also shows

that having completed a graduate diploma or postgraduate degree also significantly increased the odds that academic research was used in policy-related work. The three most important predictors as revealed by the standardised coefficients are: 'academic research results are considered relevant by my colleagues', 'research is important in my professional field', and 'difficulty in accessing full text academic articles and reports'.

To explore the effects of organisational context on these results, a multilevel logistic regression was conducted, with agency as level 1 and policy makers nested within these agencies as level 2 (Model 2, Table 5). The results revealed that only 4% of the variability is due to the differences between agencies, suggesting that the differences are within agencies. Examining the information criteria, the Bayesian information criterion (BIC) decreased from 1630.628 to 1621.613, which indicates that Model 2 is a slightly better fit.

The results reported in Table 5 provide support for the argument that an overall organisational ethos and professional culture that value research have a bearing on the uptake of academic research among policy personnel, well above any perceived deficits in individual skills. As stated the positive relationship observed between experiencing difficulties in accessing articles and reports and the uptake of academic research is somewhat unusual. This can perhaps be explained by the fact that respondents who are actively engaging academic research and are using it to inform their work (hence score high on levels of utilisation), are likely to report more difficulties in physically accessing academic research products, since they are making greater attempts to do so.

Discussion and conclusion

As indicated when describing our study design, there are some limitations related to our methodology and representativeness of our sample. Given that our sample is confined to Australia, any generalisability of the results to other jurisdictions needs to be undertaken with some caution. However, our results do reflect some of the factors and patterns found in similar studies in Canada and the USA (for example, Ouimet et al, 2009, 2010; Hall and Jennings, 2010; Howlett and Wellstead, 2011; Howlett and Newman, 2010; Jennings and Hall, 2012; Landry et al, 2003; Ouimet et al, 2010). Our survey measured research uptake mainly in the context of whether respondents access academic research products, such as journals or reports. It must be reiterated that there are many other means and channels through which research evidence can be communicated (for example, by one's colleagues or through a private consultant) and the content of that message can differ based on this source. The content of the message may be important in influencing research use. We have not explored this issue here. We have only focused on one main channel (academic outputs) and source (academic social researchers). Additionally our measure of research utilisation as reflected in Model 1 and 2 (see Table 5) was based on whether academic research had been consulted in the last 12 months. It can be argued that such consultation (a form of accessing and engaging research) is different from whether it is actually used to inform policies and programmes.

The results presented in this paper support a number of general conclusions. First, an overall willingness to seek out academic research will be determined by whether the occupational milieu in which policy personnel work is one that values academic research and sees it as important. This draws further attention to the influence that organisational factors (for example, the extent of a research-oriented culture) may

Table 5: Factors impacting on the use of academic research products

	Model 1		Model 2		
	β	SE	β	SE	95% CI for Odds Ratio Lower Upper
Academic research results are considered relevant by my colleagues	0.70***	(0.09)	0.70***	(0.09)	1.70 2.02
Research is important in my professional field	0.72***	(0.09)	0.71***	(0.09)	1.72 2.04
Lack research skills	0.08	(0.07)	0.02	(0.08)	0.88 1.02
Lack a research culture	-0.39***	(0.10)	-0.40***	(0.10)	0.55 0.67
Policy making based on sound evidence	-0.12	(0.10)	-0.08	(0.10)	0.76 0.92
Difficulty accessing full text	0.65***	(0.09)	0.65***	(0.09)	1.59 1.91
Advanced diploma	0.35	(0.37)	0.31	(0.38)	0.64 1.36
BA	0.45	(0.26)	0.54	(0.27)	1.01 1.72
Graduate diploma	0.73*	(0.29)	0.76*	(0.30)	1.19 2.13
Postgraduate degree	0.94***	(0.27)	0.95***	(0.28)	1.49 2.58
Senior executive	-0.12	(0.27)	-0.01	(0.28)	0.57 0.99
Manager	-0.44**	(0.15)	-0.31**	(0.16)	0.53 0.73
Data analyst	-0.82***	(0.21)	-0.69***	(0.22)	0.32 0.50
Yes staff linking to researchers	0.28	(0.17)	0.24	(0.17)	0.90 1.27
Constant	-4.49***	(0.76)	-4.51***	(0.78)	0.00 0.01
Observations	1996		1996		
Log likelihood	-758.322		-750.015		
Pseudo R2	0.242				
chi2 (df=20)	483.18				
Groups			21		
Random effects			0.1405	(0.08)	
Wald chi2 (14)			310.40		

Standard errors in parentheses

have on patterns of utilisation. This issue has been explored in a variety of ways in the literature (for example, see Belkhodja et al, 2007; Belkhodja, 2012; Dagenais et al, 2012; French, 2005; Kyratsis et al, 2012; Ouimet et al, 2009; 2010). Second, it is clear that ease of access and the level of association with the agency, entity or individual from whom information is accessible matters a great deal in determining the value that public officials place on different information sources. These reported preferences also reflect results found in a number of other studies (for example, Hall and Jennings, 2010; Jennings and Hall, 2012). Third, it is no surprise that the existence of knowledge infrastructure in government departments is likely to affect the levels at which public officials consult and utilise research (Bédard and Ouimet, 2012). However, as other parts of our survey results suggest, the availability of this infrastructure may not mean it is actually accessed by potential users in the public sector. Fourth, ease of access and the level of association with the agency, entity or individual from whom information is accessible matters a great deal in determining the value that public officials place on different information sources. These reported preferences also reflect results found in other studies (for example, Hall and Jennings, 2010; Jennings and Hall, 2012).

Our analysis shows that while policy personnel generally claim to value academic research, the critical issue concerns their preferred methods for accessing such sources of information. There is little doubt that convenience and expediency matter, with the physical or electronic availability of research products also playing a role in determining the uptake of academic research. This finding can be contextualised by considering that the day-to-day pressures and constraints faced by policy personnel may serve to reinforce various patterns of behaviour relating to seeking out and using academic research. A strong organisational ethos and professional culture can help to generate behaviours that promote the utilisation of academic research in policy-related roles. This result points to the fact that in order for government units to become more evidence based in how they design and deliver policy, there must also be a climate in which the use and adoption of research evidence is expected, encouraged and valued within organisational units (Cherney and Head, 2011; Head, 2013; Durlak and DuPre, 2008; Klein and Sorra, 1996).

There are important lessons from our results for academics. If academics are interested in ensuring their research has an influence, they need to build close relationships with public officials. This point has also been emphasised in many studies and debates about knowledge coproduction and research partnerships between academics and governments end users (Cherney, 2013; Haynes et al, 2011a; 2011b; Molas-Gallart and Tang, 2011; Orr and Bennett, 2012; Rickinson et al, 2011). The reputation of an academic can matter a great deal for whether policy personnel seek out their research (Haynes et al, 20011a, 20011b; Ouimet et al, 2014), but so does the skill of academics to form close bonds with end users and to maintain these networks. If, as our results show, public officials' first port of call for research-related information is their own immediate colleagues, the latter's awareness of researchers and research findings may also be a factor in research use. Similar questions would arise about their previous contacts with particular academics and the availability of academic research through search engines such as Google.

The main themes highlighted in this paper are that the personal preferences and organisational contexts, which contextualise the work of policy personnel, have an important role to play in determining whether policy personnel seek out and draw

on academic research to inform decision making. While it is true that academics have little direct influence over decisions made in policy or practice settings, there is much they can do to help ensure their research is 'competitive' with other possible options. This includes ensuring the research they produce is accessible, in the sense that it can be comprehended by public officials, is transferable, and also searchable and accessible through open access repositories and via web-based search engines. Knowing more about the ways policy personnel seek out academic research and the means they adopt for doing so, would provide greater insight into processes that impact on knowledge translation in the social sciences. Much work is already beginning to occur around how academics can improve the policy impact of their research (for example, see Dunleavy et al, 2013). An important dimension to which we have drawn attention in this paper is the importance of unpacking how certain preferences, constraints and organisational factors influence the extent to which policy personnel seek out and use academic research.

Notes

¹ The data presented here are drawn from an Australian Research Council funded project with nine industry partners (LP 100100380). These partners provided in-kind and cash support for this project. They include the Productivity Commission; Australian Bureau of Statistics; Queensland Health; Queensland Communities; Queensland Department of Employment; Queensland Department of Premier and Cabinet; Victorian Department of Planning and Community Development; Victorian Department of Education and Early Childhood and the Victorian Department of Human Services. The project involves four phases: (1) a targeted survey of Australian social scientists; (2) a targeted survey of policy personnel; (3) interviews with a selection of academic respondents; and (4) interviews with policy personnel. Results reported in this paper are only based on the phase two survey. Phase one results have been reported elsewhere (see Cherney et al, 2012a, 2012b, 2013).

² Of the 3128 respondents who commenced the electronic survey by answering at least the first question, 2084 completed the survey.

³ This is why subsequent phases of this research involve interviews with personnel across different government departments. 125 interviews in total have been conducted with public servants.

⁴ This is similar to an item used in Ouimet et al (2009).

Table 6: Independent variables measures

Academic research results are considered relevant by my colleagues	This is a single item variable that reflects whether academic research results are considered relevant within their workplace by other colleagues. The responses are recorded on a 5-point scale, ranging 1 (strongly disagree) to 5 (strongly agree).
Research is important in my professional field	This is a single item variable that reflects whether research is important in their professional field. The responses are recorded on a 5-point scale, ranging 1 (strongly disagree) to 5 (strongly agree).
Lack research skills	This Index measures the perceived lack of research skills needed to access and use research evidence in their day-to-day duties. This index is comprised of two items that range on a 5-point scale, ranging 1 (strongly disagree) to 5 (strongly agree). The two items are: (1) I do not have the necessary skills to interpret results from statistical analyses; (2) I lack expertise in how to apply the results of research studies.
Lack a research culture	This Index measures the research culture pertaining to accessing and using research evidence in the day-to-day duties. This index is comprised of four items that range on a 5-point scale, ranging 1 (strongly disagree) to 5 (strongly agree). The four items are: (1) the use of research evidence is a low priority of my unit; (2) staff are not encouraged to use research evidence; (3) there is little opportunity to build relationships with researchers outside the public service; (4) my department has no formal processes to translate academic research into policy.
Policy making based on sound evidence	This Index measures the perspectives policy personnel have of the policy making process in their department, specifically in terms of being based on sound evidence. This index is comprised of two items that range on a 5-point scale, ranging 1 (strongly disagree) to 5 (strongly agree). The two items are: (1) Policy decisions are based on research data and evidence about what works; (2) Research-based analysis is valued by decision makers in my organisation.
Difficulty accessing full text	This is a single item variable that measures the frequency to which policy personnel experience difficulties in accessing full-text versions of academic articles and reports. The responses are recorded on a 4-point scale, ranging 1 (never) to 4 (always).
Educational level	Dummy variables were created for each level of education. Respondents were asked to indicate the highest level of education they had attained. Year 12 was used as the reference group.
Position	Dummy variables were created from the question asking policy personnel what their current position was. Policy officer was used as the reference group.
Staff linkages	This is a dummy variable created from the question asking policy personnel if they have people in their department whose role it is to link staff to researchers outside the public service. No or don't know were recorded as 0 and used as the reference group.

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References

- Amara, N, Ouimet, M, Landry, R, 2004, New evidence on instrumental, conceptual, and symbolic utilization of university research in government agencies, *Science Communication* 26, 1, 75–106
- Australian Public Service Commission, 2012, *State of the Service 2011–12*, Canberra: Australian Public Service Commission
- Bédard, P-O and Ouimet, M, 2012, Cognizance and consultation of randomized controlled trials among Ministerial policy analysts, *Review of Policy Research* 29, 5, 625–44
- Belkhdja, O, 2012, Toward a revisited organisational and social perspective of knowledge utilization: Contributions from organizational theory, *The International Journal of Knowledge, Culture and Change Management* 11, 3, 39–58
- Belkhdja, O, Amara, N, Landry, R, Ouimet, M, 2007, The extent and organizational determinants of research utilization in Canadian health services organizations, *Science Communication* 28, 3, 377–417
- Bogenschneider, K, Corbett, TJ, 2010, *Evidence-based policy making: Insights from policy-minded researchers and research-minded policymakers*, New York: Routledge
- Bogenschneider, K, Little, OM, Johnson, K, 2013, Policymakers' use of social science research: Looking within and across policy actors, *Journal of Marriage and Family* 75, 2, 263–75
- Buckley, H, Tonmyr, L, Lewig, K, Jack, S, 2013, Factors influencing the uptake of research evidence in child welfare: A synthesis of findings from Australia, Canada and Ireland, *Child Abuse Review* 23, 1, 5–16
- Cameron, A, Salisbury, C, Lart, R, Stewart, K, Peckham, S, Calnan, M, Thorp, H, 2011, Policy makers' perceptions on the use of evidence from evaluations, *Evidence & Policy* 7, 4, 429–47
- Cherney, A, 2013, Academic-industry collaborations and knowledge co-production in the social sciences, *Journal of Sociology*, doi: 10.1177/1440783313492237
- Cherney, A, Head, B, 2011, Supporting the knowledge-to-action process: A systems-thinking approach, *Evidence & Policy* 7, 4, 471–88
- Cherney, A, Povey, J, Head, B, Boreham, P, Ferguson, M, 2012a, What influences the utilization of educational research by policy-makers and practitioners? The perspectives of academic educational researchers, *International Journal of Educational Research* 56, 23–34
- Cherney, A, Head, B, Boreham, P, Povey, J, Ferguson, M, 2012b, Perspectives of academic social scientists on knowledge transfer and research collaborations: A cross sectional survey of Australian academics, *Evidence & Policy* 8, 4, 433–53
- Cherney, A, Povey, J, Head, B, Boreham, P, Ferguson, M, 2013, Research utilization in the social sciences: A comparison of five academic disciplines in Australia, *Science Communication* 35, 780–809
- Dagenais, C, Lysenko, L, Abrami, PC, Bernard, RM, Ramde, J, Janosz, M, 2012, Use of research-based information by school practitioners and determinants of use: A review of empirical research, *Evidence & Policy* 8, 3, 285–309
- Dunleavy, P, Bastow, S, Tinkler, J, 2013, *The impact of the social sciences: How academics and their research makes a difference*, London: Sage
- Durlak, JA, DuPre, EP, 2008, Implementation matters: A review of research on the influence of implementation on program outcomes and the factors affecting implementation, *American Journal of Community Psychology* 41, 327–50

- French, B, 2005, Contextual factors influencing research use in nursing, *Worldviews on Evidence-Based Nursing* 2, 4, 172–83
- Hall, JL, Jennings, ET, 2010, Assessing the use and weight of information and evidence in US state policy decisions, *Policy and Society* 29, 2, 137–47
- Harvey, G, Skelcher, C, Spencer, E, Jas, P, Walshe, K, 2010, Absorptive capacity in a non-market environment: A knowledge-based approach to analysing the performance of sector organizations, *Public Management Review* 12, 1, 77–97
- Haynes, AS, Derrick, GE, Chapman, S, Redman, S, Hall, WD, Gillespie, J, Sturk, H, 2011a, From ‘our world’ to the ‘real world’: Exploring the views and behaviour of policy-influential Australian public health researchers, *Social Science and Medicine* 72, 7, 1047–55
- Haynes, AS, Gillespie, J, Derrick, JE, Hall, WD, Redman, S, Chapman, S, Sturk, H, 2011b, Guides, champions, and shields: The many ways that policymakers use public health researchers, *Milbank Quarterly* 89, 4, 564–598
- Head, BW, 2008, Three lenses of evidence based policy, *Australian Journal of Public Administration* 67, 1, 1–11
- Head, BW, 2013, *How do government agencies use evidence?*, Stockholm: Swedish National Board of Health and Welfare, www.socialstyrelsen.se/Lists/Artikelkatalog/Attachments/19163/2013-6-38.pdf
- Howlett, M, Newman, J, 2010, Policy analysis and policy work in federal systems: Policy advice and its contribution to evidence-based policy-making in multi-level governance systems, *Policy and Society* 29, 2, 123–36
- Howlett, M, Wellstead, AM, 2011, Policy analysts in the bureaucracy revisited: The nature of professional policy work in contemporary government, *Politics & Policy* 39, 4, 613–33
- Jennings, ET, Hall, JL, 2012, Evidence-based practice and the use of information in state agency decision making, *Journal of Public Administration Research and Theory* 22, 2, 245–66
- Klein, KJ, Sorra, JS, 1996, The challenge of innovation implementation, *Academy of Management Review* 21, 4, 1055–80
- Kyratsis, Y, Ahmad, R, Holmes, A, 2012, Making sense of evidence in management decisions: The role of research-based knowledge on innovation adoption and implementation in healthcare, Study protocol, *Implementation Science* 7, 1, 2–7
- Landry, R, Amara, N, Lamari, M, 2001a, Climbing the ladder of research utilization: Evidence from social science research, *Science Communication* 22, 4, 396–422
- Landry, R, Amara, N, Lamari, M, 2001b, Utilization of social science research knowledge in Canada, *Research Policy* 30, 2, 333–49
- Landry, R, Lamari, M, Amara, N, 2003, The extent and determinants of the utilization of university research in government agencies, *Public Administration Review* 63, 2, 192–205
- Lavis, JN, Robertson, D, Woodside, JM, McLeod, CB, Abelson, J, 2003, How can research organizations more effectively transfer research knowledge to decision makers? *Milbank Quarterly* 81, 2, 221–48
- Molas-Gallart, J, Tang, P, 2011, Tracing productive interactions to identify social impacts: An example from the social sciences, *Research Evaluation* 20, 3, 219–26
- Nutley, S, Walter, I, Davies, H, 2007, *Using evidence: How research can inform public services*, Bristol: Policy Press

- Orr, K, Bennett, M, 2012, Public administration scholarship and the politics of coproduction academic-practitioner research, *Public Administration Review* 72, 4, 487–96
- 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
- Ouimet, M, Bédard, P-O, Turgeon, J, Lavis, JN, Gelineau, F, Gagnon, F, Dallaire, C, 2010, Correlates of consulting research evidence among policy analysts in government ministries: A cross-sectional survey, *Evidence & Policy* 6, 4, 433–60
- Ouimet, M, Bédard P-O, Léon, G, 2014, Are indicators of faculty members' credibility associated with how often they present research evidence to public or partly government-owned organisations? A cross-sectional survey, *Evidence & Policy* 10, 1), 5–27
- Pawson, R, 2006, *Evidence-based policy: A realist perspective*, London: Sage
- Rickinson, M, Sebba, J, Edwards, A, 2011, *Improving research through user engagement*, London and New York: Routledge
- Shulock, N, 1999, The paradox of policy analysis: If it is not used, why do we produce so much of it?, *Journal of Policy Analysis and Management* 18, 2, 226–44
- Weiss, CH, Bucuvalas, M, 1980, *Social Science Research and Decision-Making*, New York: Columbia University Press