

**CAREER DEVELOPMENT EFFICACY CLEARINGHOUSE:
A WEB SITE FOR COLLABORATION AND ADVANCEMENT**

ALLISON ROEST

B.A., University of Lethbridge, 1997
B.Ed., University of Alberta, 1999

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Abstract

Organizations that deliver career programs and services are frequently pressured to be accountable for their work. Government agencies and other funding sources increasingly demand evidence of effective practice. Yet career development professionals do not commonly conduct systematic evaluations of their interventions and programs, placing the field of career development in a tenuous position. Academics, practitioners and policy makers have all identified a need to promote research on the efficacy of career development initiatives and to encourage the dissemination of information on effective strategies. This project offers a response, "IMPACT: A Clearinghouse for Information on the Efficacy of Career Development Strategies." An extensive annotated bibliography was compiled to form the foundation of the web site's data base on the efficacy of career development interventions and services. Site users can search for relevant resources, add resources to the data base, and obtain guidance on conducting effective evaluations of their own. As a prototype, the IMPACT web site still requires some modifications, but it demonstrates one way to improve access to information, foster collaboration, and encourage research into the efficacy of career development programs. A deliberate marketing strategy is required to help secure support from stakeholders and ultimately to ensure that the IMPACT web site realizes its full potential.

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Table of Contents

Abstract	iii	
Acknowledgements	iv	
Table of Contents	v	
List of Figures	vii	
Introduction	1	
Literature Review	3	
Efficacy of Career Development Interventions: Good News and Bad News	3	
Themes in Career Development Efficacy Research.....	5	
Recommendations for Improving Career Development Efficacy Research	7	
Justification for a National Clearinghouse on Career Development Research	13	
Construction of IMPACT Web Site.....	16	
A Guided Tour of IMPACT Web Site	21	
Discussion	33	
How Does IMPACT Address Needs Identified by Stakeholders?.....	33	
The Limitations of IMPACT.....	36	
The Future of IMPACT.....	40	
Conclusion.....	43	
References	44	
Appendix A. Article Analysis Matrix Using Magnusson’s Outcome Taxonomy	53	
Appendix B	Annotated Bibliography of Current Research on the Efficacy of Career Development Interventions and Programs	54
Resources Evaluating Career Development Interventions.....	54	

Resources Evaluating Career Development Programs	87
Resources on Process Studies	123
Resources on Models for Effective Outcome Research.....	128
Resources on Career Development Theory and Meta-Analyses.....	135

List of Figures

Figure 1. Welcome Page	22
Figure 2. Add a Resource: Step 1.....	23
Figure 3. Add a Resource: Step 2.....	24
Figure 4. Explore Resources: Selecting Criteria	25
Figure 5. Resource List: An Example.....	26
Figure 6. Resource Details: An Example.....	27
Figure 7. Implications for Stakeholders	28
Figure 8. Effective Evaluation of Career Development Strategies	29
Figure 9. Models for Evaluation	30
Figure 10. Exemplary Investigations	31
Figure 11. Administration Page	32

Introduction

No formal mechanism currently exists for sharing information and data on the efficacy of career development among researchers, practitioners, government officials, policy makers and employers. However, communication between these groups is essential in order for new career development initiatives to proceed efficiently and effectively. Stakeholders in the field have identified the need for a resource base on career development. This project responds to that need by the creation of IMPACT: A Clearinghouse of Information on the Efficacy of Career Development Strategies.

IMPACT is the prototype for an interactive web site designed to meet three broad purposes related to the field of career development:

- To disseminate information regarding the efficacy of career development interventions, facilitating access for practitioners, employers, policy makers and academics to specific data on the efficacy of career development strategies
- To promote and facilitate research on career development, offering guidance for those wishing to evaluate interventions, programs or services
- To provide an arena for information sharing and to encourage stakeholders to share information on the efficacy of interventions, programs or services

The general purpose of this project is to provide background information through a review of career development efficacy research, to establish that there is, in fact, a need for stakeholders to collaborate in order to advance this field, and to demonstrate how an interactive web site can meet that need. The methods used to create the IMPACT website are described, as well as the various interactive features of the web site. The project

concludes with a discussion of the implications of this web site prototype for the career development field.

Literature Review

In an effort to get a sense of the knowledge and practice currently associated with career intervention efficacy research, a survey of articles published between 1994 and 2004 was conducted. While the survey was not exhaustive, it included over 50 articles published in a variety of academic journals. Evidence of the positive effects of career interventions pervades the literature in this field. However, it is also apparent that most research has focused on the efficacy of interventions and programs designed to improve the decision-making and exploration skills of a largely homogeneous group of subjects. As a result there are significant gaps in our knowledge about career development, prompting several leading academics to make recommendations for improving research on the efficacy of career programs and interventions.

Efficacy of Career Development Interventions: Good News and Bad News

The good news is that the efficacy of career development interventions and programs has been consistently confirmed by earlier and contemporary research. Oliver and Spokane (1983, 1988) completed the first meta-analyses of career intervention studies. Their initial investigation covered research published between 1950 and 1979; the second analysis included studies published up to 1982. Although flaws in their research have been identified, Oliver and Spokane's findings are often cited as the primary indicators of the efficacy of career interventions (Whiston, Sexton, & Lasoff, 1998). More recently, Whiston, Sexton and Lasoff (1998) employed modern meta-analysis methods to replicate and extend the work of Spokane and Oliver, only to confirm that career interventions are indeed effective, though perhaps less effective than Oliver and Spokane had originally concluded (0.45 vs. 0.85 [unweighted] respectively) (p. 159).

This trend continues in Ryan's (1999) work. Her meta-analyses of 62 studies also substantiated preceding claims about career intervention efficacy, but identified an even lower effect size (0.34) than those reported in previous meta-analyses.

The bad news is that although evaluational research appears to support the efficacy of career development interventions, relatively few outcome studies have been conducted. Contemporary researchers from Canada, the U.S and the U.K. have all lamented the continuing lack of investigations in this field (Bysshe, Hughes, & Bowes, 2002; Flores, Scott, Wang, Yakushko, McCloskey, Spencer, & Logan, 2003; Hiebert, 1994; Sexton, 1996; Whiston, Brecheisen & Stephens, 2003). In a general analysis of counselling outcome studies published between 1988 and 1994, Sexton reported that only 58 the 365 studies identified pertained to career counselling. Moreover, Whiston, Brecheisen and Stephen's (2003) work reveals that even less career intervention outcome research has been carried out since the 1980s.

In addition, current research tends to focus on holistic program or intervention effects. The effectiveness of a strategy may be reported, but there is often no discussion of what processes or circumstances make it effective. Indeed, research into the processes of career counselling is scant. In their discussion of process variables in career counselling, Heppner and Heppner (2003) demonstrate that there is an almost total lack of information on what happens during career counselling and how certain practices promote client change. The question remains, why are career interventions and programs effective? It appears that, although career counselling interventions may be moderately effective, more empirical research is required to substantiate this claim. Examinations are also warranted into why interventions produce certain effects.

Themes in Career Development Efficacy Research.

The limited amount of research available on the outcomes of career counselling interventions and programs is somewhat homogeneous. Typically, similar subjects and outcomes were investigated using quantitative research methods and some mixed method designs. The majority of the research surveyed here employed Caucasian students as subjects. Of 36 articles, 19 focused on the impact of career interventions on post-secondary students. Nine studies investigated high school students, five looked at middle school students, and the remaining studies focused on other populations. These findings are corroborated by Whiston, Sexton and Lasoff's (1998) meta-analysis of studies published between 1983 and 1995 on the effects of career interventions. They reported that 49% of the investigations conducted since 1950 have been conducted with college or university students.

Conversely, this literature review identified a notable absence of research done on out-of-school, unemployed populations. A mere five studies looked at the impact of career interventions and programs on non-students. Two studies investigated the impact of career programs on unemployed, disabled individuals (Merz & Szymanski, 1997; Shaefer Enright, 1997). One examined the effectiveness of a generalized career development program for long-term unemployed individuals (Patton, 1998). Another tested a cognitive stress reduction program on recently unemployed managers (Saam, Wodtke & Haines, 1995). The fifth analyzed data on out-of-school adults who had sought counselling at a university extension centre (Healy, 2001). The dearth of research in this area is surprising, given the variety of programs available for unemployed individuals and the social and economic importance of returning people to the workforce.

Other notable omissions in the literature were investigations into the effects of career interventions and programs on women, minority groups, or people from various educational or socio-economic backgrounds. If this survey is considered to be somewhat representative of the research available on career counselling programs and strategies, perhaps one might argue that claims of the overall efficacy of career interventions should be limited to Caucasian student populations.

Magnusson has recently classified the effects of career counselling programs and interventions into several categories (personal communication, February 2004). He argues that outcomes are specific, focusing on competency or behaviour change, and global. Global outcomes would include impacts on an individual's financial situation, the economy or social system.

Echoing the findings of Bysshe, Hughes and Bowes (2002), this literature review identifies a paucity of data on the global outcomes of career counselling interventions and programming. In their report on the economic benefits of guidance, these authors state that there is limited information on the macro-economic effects or the longer-term outcomes for the economy: "At present the assumption of public benefit rests upon basic economic contentions about both private and public benefits of better-informed labour and human capital markets" (p. 8). As Bysshe et al. point out, longitudinal research seems uncommon in this field, and thus the global outcomes of career development have been somewhat ignored. In this survey only one study investigated the long-term effects of career counselling (Healy, 2001).

On the other hand, there is a variety of information on how certain aspects of career planning are impacted by vocational interventions and services. Career decision

making and exploration appear to be the main targets of current research. These specific outcomes were the focus of 30 of the 37 intervention and program evaluation studies included in this analysis. The remaining studies addressed transitional skills, anxiety or other specific outcomes. These findings may reflect the fact that several investigations were conducted into the effectiveness of tools such as the System of Interactive Guidance and Information Plus, DISCOVER, Self Directed Search, CHOICES, and Career Decision Making System (Revised), which focus on decision making and exploration. Again the themes identified in this review were similar to those identified through other assessments of the current research.

Whiston, Brecheisen and Stephens' (2003) meta-analysis also reports that the majority of investigations compare counsellor-free interventions with other counsellor-free interventions. Apparently these short-term, structured interventions allow for straightforward investigations that appeal to researchers. However, as a result we do not currently have a clear understanding of the effects of career development on global outcomes, nor do we have much information on how strategies may impact the other aspects of career planning, such as initiation, preparation or implementation. The homogeneity of research participants and the general focus on specific outcomes in current research leaves many avenues open for inquiry.

Recommendations for Improving Career Development Efficacy Research

In response to the general lack of investigations in this area and the deficiencies in what is available, several academics have made recommendations for future research.

The authors of the Annual Review published in *Career Development Quarterly*, have reported a lack of research into the effectiveness of career interventions for the last

four years and called for an increase in efficacy studies (Flores et al., 2003; Whiston & Brecheisen, 2002). Scholars continue to stress the importance of efficacy research for advancing the field of career development. Whiston and Brecheisen (2002) argue that “Career development professionals have an obligation to evaluate whether or not the career interventions they provide are helpful and to determine the most effective ways of providing career counselling interventions” (p. 231). Evaluational research also offers evidence that may be important to secure program funding. Without documentation supporting the value of interventions and programs available to clients, practitioners risk losing the cooperation of employers and policy makers. Thus, all stakeholders have a vested interest in the expansion of research into the efficacy of career development strategies.

In addition to this general plea for more research, a variety of more explicit recommendations have been made. Many scholars complain that, although we know that career interventions are effective, we know little about how they work, why they work, and for whom they work. They suggest that future research must focus on the processes of career counselling, as well as on client characteristics that might moderate treatment effects (Brown & Ryan Krane, 2000). Flores et al. (2003) specifically request that scholars examine “the effectiveness of particular interventions or various individual variables that may enhance the process and contribute to positive outcomes” (p. 123). Until now process studies have been infrequent, and thus we know almost nothing about methods of career counselling (Heppner & Heppner, 2003). The mechanisms for change are still elusive. Similarly, few studies document specific client attributes; this becomes problematic, since “Not attending to the aptitude X treatment interactions blurs the

conclusions that we can deduce” (Whiston, Sexton & Lasoff, 1998, p.161). Research into client attributes and career counselling processes would help to answer the important questions, such as, “What are the best combinations of client and interventions and under what circumstances are these interventions effective?” (Sexton, 1996, p. 599).

Another related request is for research into the effects of career programs and interventions on diverse populations. For Flores et al. (2003), “Specifically, research that explores the development of gay men and lesbians, individuals with disabilities, individuals from different social class backgrounds, Native Americans, and individuals who are not attending college is warranted” (p. 123). Other scholars suggest that more research is needed on women, people with diverse ethnic backgrounds, elementary school children, those with mental illnesses, and individuals with a variety of career-related concerns (Whiston, Sexton & Lasoff, 1998). As Brown and Ryan Krane (2000) argue, “We need research that explores the potential moderating effects of client sex, race/ethnicity, sexual orientation, social economic status and vocational problem status ... [in order to understand] how interventions can be developed or modified to take into account the unique experiences and needs of these groups” (p.760).

Longitudinal research is a significant omission in current literature on the outcomes of career development programs and interventions. Since longitudinal research is essential for gathering information on the global outcomes associated with career development, as a result we know very little about how career programs and interventions impact an individual’s financial situation, the economy, or our social systems. Moreover, as Brown and Ryan Krane (2000) point out, “There are virtually no follow-up data available on whether clients who use career services attain greater levels of later job-

satisfaction, work performance, and life satisfaction than do those who do not use career services” (p.752). Longitudinal research is essential for understanding the full effects of career interventions. It is also critical for influencing public policy. Bysshe, Hughes and Bowes (2002) state that “Being able to identify the quantifiable service achievements is relevant to the processes of resource allocation, performance review, ‘best value’ and the setting of quality targets for guidance providers” (p. 1).

Several authors call for improved research methodology and more integrity in research reporting. Those conducting meta-analyses seem particularly frustrated by studies that fail to report demographic information, use questionable methodology, and supply insufficient information on their results (Baker & Taylor, 1998; Sexton, 1996; Whiston, Sexton & Lasoff, 1998). Some suggest that diagnostic systems and standardized treatment manuals may help to remedy these problems (Brown & Ryan Krane, 2000; Sexton, 1996; Whiston, Brecheisen & Stephens, 2003; Whiston, Sexton & Lasoff, 1998).

Some researchers describe attempts to incorporate all of the previous recommendations into models for conducting effective evaluational research on career development. French, Hiebert and Bezanson (1994) offer a preliminary model for evaluating career development programs. They suggest that effective evaluation requires collaboration amongst stakeholders, must be an integral part of the organization’s mission, completely articulated in the design and implementation of the program/ service, and should incorporate both qualitative and quantitative research methods. These authors describe five dimensions that need to be addressed by these evaluations: inputs, processes, outputs, outcomes, and stakeholder concerns.

Heibert (1994) describes a “user-friendly” method for evaluating career counselling practices that employs both process and outcome measures:

It is important to build a framework for counselling that incorporates evaluation as a regular part of the counselling process, that centers evaluation in the client’s experience (rather than the frame of reference of the counsellor or the test) and views outcomes and process as inextricably entwined, both being integral parts of what counselling is about. (p. 337)

Heibert’s model attempts to meet these objectives by monitoring client and counsellor behaviours during the counselling process, relative to learning outcomes. This framework may be an initial step towards improved evaluation of career development programs.

In response to the demands being placed on career counsellors for documentation and accountability, Whiston (2001) proposes a conceptual scheme for selecting instruments that comprehensively assess the outcomes of career counselling and interventions. Whiston gives general guidelines for those selecting outcome assessments: (a) a direct relationship should exist between the goals of the career interventions and the outcome measures selected; (b) outcome measures should be appropriate to the client’s developmental level; (c) measures should be reliable and valid; (d) instruments should be sensitive to subtle differences, and (e) follow-up assessment should be performed routinely in the evaluation of career counselling interventions. Whiston contends that comprehensive outcome assessments should consider content, source, focus and time-orientation domains. This organizational scheme is designed to assist in the selection of multiple measures that would systematically evaluate the effects of career counselling or

interventions along these four domains. It is designed to help investigators devise studies that will gather outcome information efficiently and effectively.

The current research on the efficacy of career programs and interventions is unsatisfactory in many regards. Important questions still remain. In order to help advance the discipline, future investigations must be carefully conducted in accordance with a comprehensive research plan. Bysshe, Hughes and Bowes (2002) recommend a robust research program “that builds on current studies taking account of findings from evidence-based practice ... [actively involving] policy makers, researchers and practitioners in the guidance field” (p. 9).

Justification for a National Clearinghouse on Career Development Research

As demonstrated, relatively little formal information is available regarding the efficacy of career programs and interventions. Furthermore, the existing research is fundamentally fragmented and tenuous. In these times of increased accountability, quality research on the outcome of career development initiatives is essential (Whiston, Brecheisen, & Stephens, 2003). Academics, practitioners, policy makers and employers all have an inherent interest in evaluation data, and without their cooperation career development services are unlikely to advance.

Canadian career professionals have already expressed some interest in pursuing a project that would promote collaboration. In November 2003, the Canadian Career Development Foundation invited policy developers, employers, and labour and career development leaders from across Canada to attend the Pan-Canadian Symposium on Career Development, Lifelong Learning and Workforce Development. The Symposium was not a traditional conference but rather a “working symposium” with particular objectives and desired outcomes. One of these desired outcomes was “active on-going partnerships,” more specifically, “a permanent pan-Canadian mechanism to share career development research findings and innovations for use by all provinces and territories, as well as pan-Canadian and international partners” (Bezanson, Renald & Turcotte, 2003, p. 2). Although no formal action was taken on this goal, symposium participants agreed that communication between stakeholders was essential to the future of Canadian career development initiatives. They identified the need for an accessible and practical tool for retrieving and sharing current research on career development in Canada.

Relying on academic journals for communication has not been successful. While scholars may regularly refer to academic journals for current information, it is less convenient for practitioners, policy makers and employers to do so. Sexton (1996) acknowledges that, "Given the demands of practice, it seems unrealistic to expect practitioners to keep up with the diversity of studies and publication sources with the current system of information dissemination" (p. 74). In addition, journals are expensive. They are also directed to an academic audience; implications for practitioners are not always explicit and, in many cases, implications for policy makers and employers are completely ignored. This is unfortunate, as Bezanson, Renald and Turcotte (2003) point out: "Policy developers [also] need to be convinced about the economic and social impacts of career development services and the role of policy in helping both employers and workers contribute to a growing economy ... They need to see results based data that shows the effectiveness of [these] services" (p. 7). Employers could similarly benefit from understanding career development processes and effective practices, since career development can improve recruitment and retention practices (Renald, 2003, p. 3). At the same time, practitioners, policy makers and employers do not have a means of sharing their data on program and intervention efficacy, although their findings may be valuable to those conducting empirical research. At present, collaboration is a challenge and the result is a serious "research-practice gap" (Sexton, 1996, p. 74).

The World Wide Web facilitates rapid communication among people from all parts of the globe, and Internet usage is continually increasing. Patrick (2003), a founding member of the World Wide Web Consortium and the past Vice President for Internet Technology at IBM, predicts that "Soon 1 billion people will be using the 'Net,

empowering themselves to get what they want, when they want it, from wherever they are.” This includes people in the career development field. Indeed, as Hambley and Magnusson’s (2001) recent survey suggests, “Career practitioners are generally receptive to the use of the Internet in their practice” (p. 296). Reportedly, 62 percent of career practitioners use the Internet for career-related resources from one to six times per week, and the majority of respondents rated themselves as having an average comfort level with the Internet. While no data on the Internet usage of policy makers or scholars was identified, Hambley and Magnusson (2001) reported that respondents with the highest levels of education tended to have a more favourable reaction to the Internet. Thus, one might infer that researchers and policy makers would be similarly receptive to using the Internet in their practice.

To conclude, unlike academic journals, an Internet clearinghouse of career development information would be instantly accessible to practitioners, employers, policy makers and researchers across the country. A web site appears to be the logical means for facilitating communication and collaboration among stakeholders in this field.

Construction of IMPACT Web Site

Creating this prototype for a clearinghouse of information on the efficacy of career development strategies involved several steps. This section outlines the various steps or tasks involved in completing this project, their rationale, and their implications for development of the web site. One of the main goals of this web-based clearinghouse is to disseminate information on the efficacy of career development strategies. Because it is a prototype, it is also important for the web site to demonstrate its utility and generate interest in its potential. Since the content of this web site is vital, much time was spent on its compilation.

The first task was to identify and obtain relevant articles for the annotated bibliography that would eventually comprise the preliminary database for the web site. The search targeted reports published between 1994 and 2004 on the outcome of career-related interventions or programs. Articles describing meta-analyses of research on the efficacy of career development initiatives and theory on how effective evaluations can be conducted were also located. An initial general online search of various electronic journal indexes was completed. Then specific career- and psychology-related journals such as *the Canadian Journal of Counselling*, *The Career Development Quarterly*, *the Journal of Counseling Psychology*, and *the Journal of Counseling and Development* were searched more systematically. Over 50 relevant articles were selected. While this search was not exhaustive, it offered a good sample of the literature currently available on this topic.

The second task was to summarize each of the articles obtained and to create an annotated bibliography. The summaries consisted of one or two paragraphs outlining each paper's purpose, the procedures followed during the investigation (where

applicable), as well as the authors' significant findings or conclusions. Once summarized, each article was analyzed using a matrix based on Magnusson's model for evaluating career development efficacy (see Appendix A). The taxonomy included a number of variables: audience for the article/work, outcomes, target population, nature of the intervention, and methodology/research design. When completed, the annotated bibliography and the matrix helped to identify themes in the literature and provided the background needed to support the web site's development.

Another goal for this project was to make the data on the efficacy of career development strategies accessible and relevant to all stakeholders in the field. However, as previously discussed, academics sometimes fail to make explicit connections between their deductions and the practice of providing career counselling or career-related services. Therefore, the next task was to review each of the articles again, this time considering how each author's findings and conclusions might impact academics, policy makers, practitioners, and employers. If an article had implications for academics, policy makers, practitioners or employers that were not articulated in the report summaries completed for the original annotated bibliography, additional paragraphs were written.

The paragraphs devoted to implications for academics focus on directions for future research. Recommendations for direct improvement of client services are described in the paragraphs on implications for practitioners. The implications for policy makers often focused on how best to structure programs or provide leadership in the evaluation of services. In most of the articles, identifying implications for employers was difficult. The intention was to provide suggestions related to employee retention or support of employees transitioning in or out of the work force. However, many of the

investigations included in the annotated bibliography used students as subjects and examined decision making or exploration processes. Consequently, the results offered few implications for employers. In most cases, two new paragraphs were added to the original article summaries, describing implications for academics and implications for practitioners. Sometimes implications for policy makers were identified, but implications for employers were rarely noted. Typically, the recommendations and implications for each of the stakeholder groups were extrapolated directly from the journal articles themselves. In some cases, the author relied on her knowledge of the literature on the efficacy of career development to make appropriate inferences. Once completed, all of the paragraphs on stakeholder implications were included in the annotated bibliography (see Appendix B).

The fourth step was to conceptualize the web site. Three general goals had been proposed for the clearinghouse, as described above, and these guided development of a preliminary structural plan for the site. Each goal would be addressed within a separate sector of the web site, with careful consideration to the distinct needs of the four target stakeholder groups.

The first component would contain a database of information made up of the annotated bibliography on the efficacy of career development strategies, including the specific implications for each stakeholder group. This database would be accessible through a search engine related to the matrix initially used to analyze the articles.

The second component would allow users to add their findings or theoretical writings to the database by following a simple step-by-step process. Users would be required to classify their resource based on Magnusson's taxonomy, enter reference

information, provide a summary of the resource, and offer appropriate recommendations for academics, employers, policy makers, and practitioners. In this way, the web site's users could themselves continually increase and modify the data base of resources, without relying on a web master to reorganize the site's architecture in order to facilitate these changes. This unique feature was considered essential to IMPACT's ability to meet its goal of fostering collaboration and information sharing among stakeholder groups.

The third component would provide users with access to models for systematically conducting outcome research. Exemplars would be provided to help demonstrate how the evaluation process could ideally occur.

This plan, along with a list of objectives, the extended annotated bibliography, and the matrix classifying each of the articles, was turned over to a web site designer who was charged with creating a functional web site that was user-friendly and aesthetically appealing.

Meanwhile, a name was invented for the web site and the text for each of the web pages was written. The name "IMPACT: A Clearinghouse for Information on the Efficacy of Career Development Strategies" was selected for two reasons. First, the web site focuses on the impact on clients of career interventions and programs. Second, the web site is also designed to have an impact on the stakeholders of career development: to change the way they conceptualize evaluation, to promote research into the efficacy of career development strategies, and to encourage collaboration. The title of a web site is meant to be both informative and intriguing, and "IMPACT" appears to meet those needs. The audience was carefully considered when the text for the web site was written. It was intended to be instructive and straightforward, as well as inviting. Users need to

understand how to utilize the site, but not feel overwhelmed by instructions or details. Several modifications were made to the text to satisfy these requirements.

As the web site was built, the author worked closely with the web designer to ensure that the objectives were met. Frequent tests of the search engine and “resource contribution” functions were completed, and changes were made accordingly. At times during this phase, feedback on the site was solicited from outside sources. Individuals from inside the field of career development and counselling were asked to explore the web site and provide comments on its utility and content. More changes in the site’s design resulted. Functions such as searching by author name, viewing all articles, and searching by resource type were added in response to user feedback. The steps required to add a resource also went through several modifications, since this function had to be simple enough to encourage participation. After weeks of work, the web site appeared to be fully operational and the goals for this project were achieved.

IMPACT is merely a prototype for a clearinghouse. Inherently, a prototype is expected to go through changes before it is acceptable to the majority. When this site is eventually piloted to career development stakeholders, no doubt many more modifications will be recommended. Thus, the process of creating a pan-Canadian clearinghouse for information on the efficacy of career development strategies isn’t really complete. However, much research and planning has gone into the construction of this web site, in order to demonstrate one way to facilitate the sharing of information among career development professionals, to foster collaboration, and to encourage research into the efficacy of career development initiatives.

A Guided Tour of IMPACT Web Site

The prototype “IMPACT: A Clearinghouse for Information on the Efficacy of Career Development Strategies” has recently been mounted on the World Wide Web for use by a variety of stakeholders in the career development field. The web site not only supports the dissemination of current knowledge on the impact of career programs and interventions but also promotes quality outcome research. This section of the discussion guides the reader through IMPACT and explains its many features. The web site may be viewed at http://fusion.uleth.ca/crdc/education/career_dev/ The welcome page of IMPACT is meant to prompt enthusiasm and interest from each of the stakeholder groups, as well as to provide directions for utilizing the site. The text briefly describes each of the three components of the web site and provides links for exploring resources, adding a resource, or viewing exemplars of evaluation research (see Figure 1).

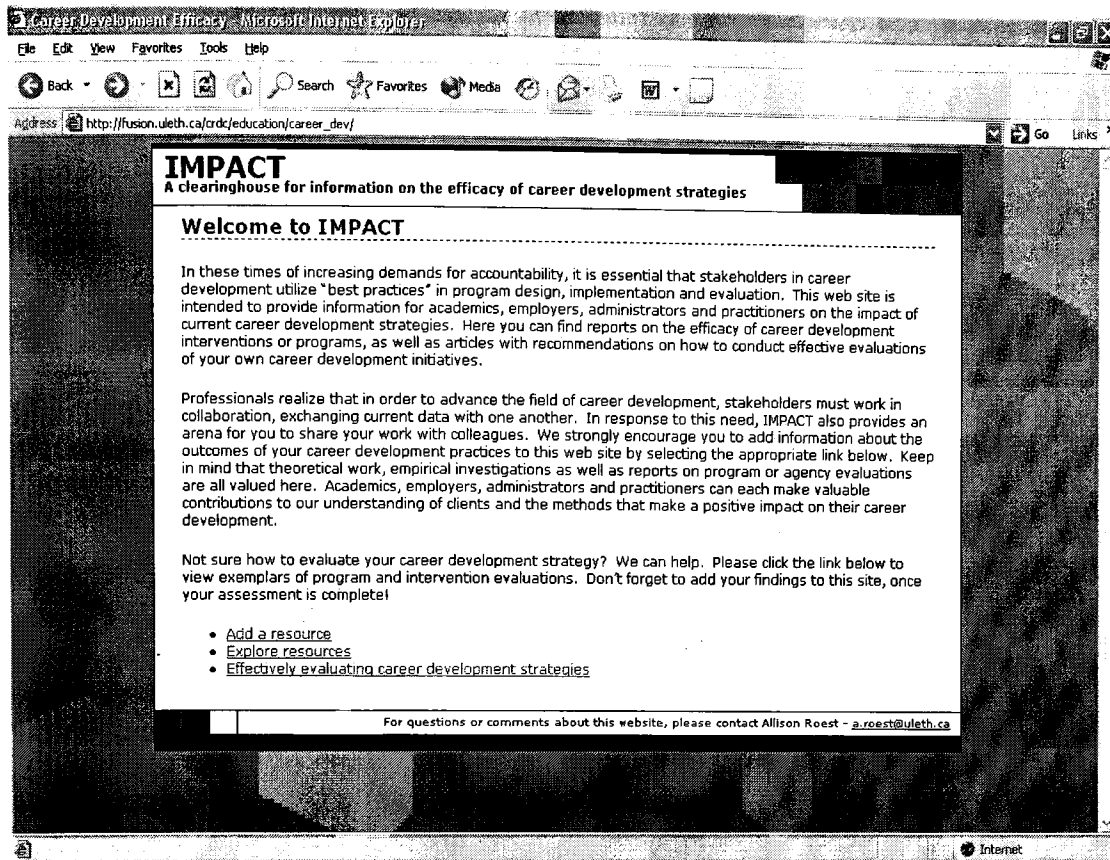


Figure 1. Welcome Page

Should users wish to share a relevant resource with colleagues, they would select “Add a resource” on the welcome page. That link would take them to a template, as shown in Figure 2.

IMPACT
A clearinghouse for information on the efficacy of career development strategies

Please classify this resource

What kind of resource is this?

Journal Article Formal piece of writing submitted for publication

Conference paper Government program evaluation

Agency report

Audience

Policy makers : Practitioners:

Academics: Employers:

Specific Outcomes

Competency (e.g. knowledge, skills, attitudes): Behaviour (e.g. educational participation, employability):

Global Outcomes

Individual (e.g. financial or occupational status) : Social:

Economic:

Target Population

College/University: Middle School:

Figure 2. Add a Resource: Step 1

The first step to adding a journal article, conference paper, government program evaluation, agency report, and so on is to classify the resource, following the taxonomy provided. Users are prompted to select appropriate boxes in order to indicate (a) the type of resource, (b) the intended audience(s), (c) the specific outcomes of the evaluation, (d) the global outcomes, if any, (e) the target population, (f) the methodology of the investigation, and (g) the nature of the intervention being evaluated. Users are also asked if they wish to submit the resource for consideration as an exemplar of career development strategy evaluation. Having completed the classification and selected “Proceed,” users are presented with another template (see Figure 3).

The screenshot shows a Microsoft Internet Explorer browser window displaying the 'IMPACT' website. The page title is 'IMPACT: A clearinghouse for information on the efficacy of career development strategies'. The main heading is 'Add a Resource'. The form contains the following fields:

- Author(s): [Text input field]
- Year of publication: [Text input field]
- Title: [Text input field]
- Descriptors: [Text input field]
- Resource Summary: [Text area with instructions: '(Provide a brief description of the purpose of the resource, the methodology of the investigation (if applicable) and the key findings or conclusions.)']
- Academic implications: [Text area with instructions: '(What are the implications for future research?')']
- Employer implications: [Text area with instructions: '(What recommendations can be made for employers interested in retention and/or supporting their employees' transitions in/out of the work force?')']
- Policy maker implications: [Text area]

Figure 3. Add a Resource: Step 2

Here users are prompted to provide reference details for the resource, including author(s), year of publication, title, source, and page numbers. They are also required to include a summary of the report, as well as to identify specific implications for academics, employers, policy makers and practitioners. When all of this is complete, users can select “Finish” in order to submit this work to the web site’s manager for inclusion in the database.

Should users wish to explore resources on the efficacy of career development strategies, they would select “Explore resources” on the welcome page. That link would take them to the site’s search engine. The layout of this page is shown in Figure 4.

IMPACT
A clearinghouse for information on the efficacy of career development strategies

Explore Resources [Home :: Search](#)

In order to help you find relevant information, please click the appropriate boxes. Please select as many criteria as you like. The more criteria you select the more specific your search becomes. If you receive few results, try choosing fewer criteria.

I would like information on how career interventions impact:

Specific outcomes	Global outcomes
<input type="checkbox"/> An individual's competency (e.g. knowledge, skills, attitudes)	<input type="checkbox"/> An individual's financial or occupational status
<input type="checkbox"/> An individual's behaviour (e.g. educational participation, employability)	<input type="checkbox"/> The economy
	<input type="checkbox"/> Society

I would like information on how career interventions influence:

<input type="checkbox"/> College/University Students	<input type="checkbox"/> Policy makers
<input type="checkbox"/> High School Students	<input type="checkbox"/> Academics
<input type="checkbox"/> Middle School Students	<input type="checkbox"/> Practitioners
<input type="checkbox"/> Other Adults	<input type="checkbox"/> Employers

I would like information that is pertinent to:

Specific Methodology

<input type="checkbox"/> Discuss current career development evaluation theory
<input type="checkbox"/> Present meta-analyses of career development evaluation data

Figure 4. Explore Resources: Selecting Criteria

IMPACT's search engine is designed to mirror the classification system used to add a resource to the database. Users can perform a general search by selecting one of the criteria listed, or they can perform a more specific search by selecting several criteria. The database can also be searched by author's name or by resource type. Users can see all of the resources available by selecting "Show all articles". Once they limit their search and click the "Search" button, a list of appropriate resources is generated (see Figure 5 for an example).

The screenshot shows a Microsoft Internet Explorer browser window displaying the 'IMPACT' website. The page title is 'IMPACT: A clearinghouse for information on the efficacy of career development strategies'. The search results are for 'Relevant Articles' and show 24 articles found. The results are presented in a table with columns for Publication Year, Journal, Title, and Author. Each row includes a 'Details' link for further information.

Publication Year	Journal	Title	Author
2003	Career Development Quarterly	The relationship between counselor verbal response modes and the working alliance in career counseling.	Multon, Karen D., Ellis-Kalton, Carrie A., Heppner, Mary J. & Gysbers, Norman C. Details
2003	The Counseling Psychologist	Application of principles: Career counseling and interventions.	Whiston, Susan C. Details
2002	Journal of Employment Counseling	Web-assisted vocational test interpretation.	Jones, W. Paul, Harbach, Robert L., Coker, J. Kelly & Staples, Pamela A. Details
2002	Career Development Quarterly	Reducing adolescent career indecision: The ASVAB Career Exploration Program.	Baker, Harley E. Details
2002	CeGS Occasional Paper, Derby: Centre for Guidance Studies, University of Derby.	The economic benefits of guidance: A review of current evidence.	Bysshe, S., Hughes, D., & Bowes, L. Details
2002	The Canadian Journal of Career Development	A career development course for academic credit: An outcome analysis.	Hung, Jeanette Details
2001	Career Development Quarterly	A follow up of adult career counseling clients of a university extension center.	Healey, Charles Details
2001	Journal of Career Assessment	Selecting career outcome assessments: An organizational scheme.	Whiston, Susan C. Details
2000	Professional School Counseling	Comparing the effects of the Career Key with Self-Directed Search and Job-OE among eight-grade students.	Jones, Lawrence K., Sheffield, Dale & Joyner, Brenda. Details
1999	Professional School Counseling	The impact of an intervention on career decision-making self-efficacy and career	Kraus, L.J., & Hughey, K.F. Details

Figure 5. Resource List: An Example

The list contains reference information for each of the resources identified, as well as the option to look at the resource's summary. Users may view a summary by selecting the "Details" button to the right of the citation.

On the "Resource Details" pages users will find full citations and report summaries (see Figure 6 for an example).

The screenshot shows a Microsoft Internet Explorer browser window. The address bar displays the URL: http://fusion.uleth.ca/crdc/education/career_dev/search/detail.cfm?RecID=158&Policy=Yes. The page content is as follows:

IMPACT
A clearinghouse for information on the efficacy of career development strategies

Resource Details [Home](#) :: [Search](#) :: [Details](#)

Citation:

Hung, Jeanette. (2002). A career development course for academic credit: An outcome analysis. *The Canadian Journal of Career Development*, 1, 1, 22-27.

Summary:

This article shares the findings of a survey that was conducted before and after students attended the course "Introduction to Career Portfolios" at Dalhousie University. Forty-nine students, from various levels of study, opted to participate in this research project. Once the course was completed and the survey data collected, groups means were compared with paired samples t-tests. This quantitative analysis revealed significant increases on measures of career certainty and decreases on measures of career indecision, career choice anxiety, as well as generalized indecisiveness. Some gender differences were noted, with females seeming to benefit more from the career development course.

Findings from this study indicate that "the study and application of career development theory, concepts and practices can have a positive impact on the career concerns of university students" (p. 25). However, at the time of publication, only 3 Canadian Universities offered courses on career development for credit at the undergraduate level.

Policy Maker Implications:

Hung points out that credited career development courses are well established at many post-secondary institutions in the United States, but Canadian institutions are just beginning to show interest in offering such courses. Concerns over academic credibility, philosophical issues and the complex nature of designing a universal career intervention to meet the needs of a wide range of students may be curbing efforts to implement such courses. Nevertheless, Hung's research demonstrates that "many students can personally benefit from a theoretically integrated approach to the understanding of career issues" (p.25). Counsellors can provide effective career interventions in a classroom setting.

Figure 6. Resource Details: An Example

If users specified a particular audience during the search, they will also see the implications relevant to that group. For example, should users have indicated that they would like to see information pertinent to practitioners, the resource details would include a paragraph on practitioner implications, if one is available. In addition, users have the option of reading about the resource's potential implications for other stakeholders (see Figure 7 for an example).

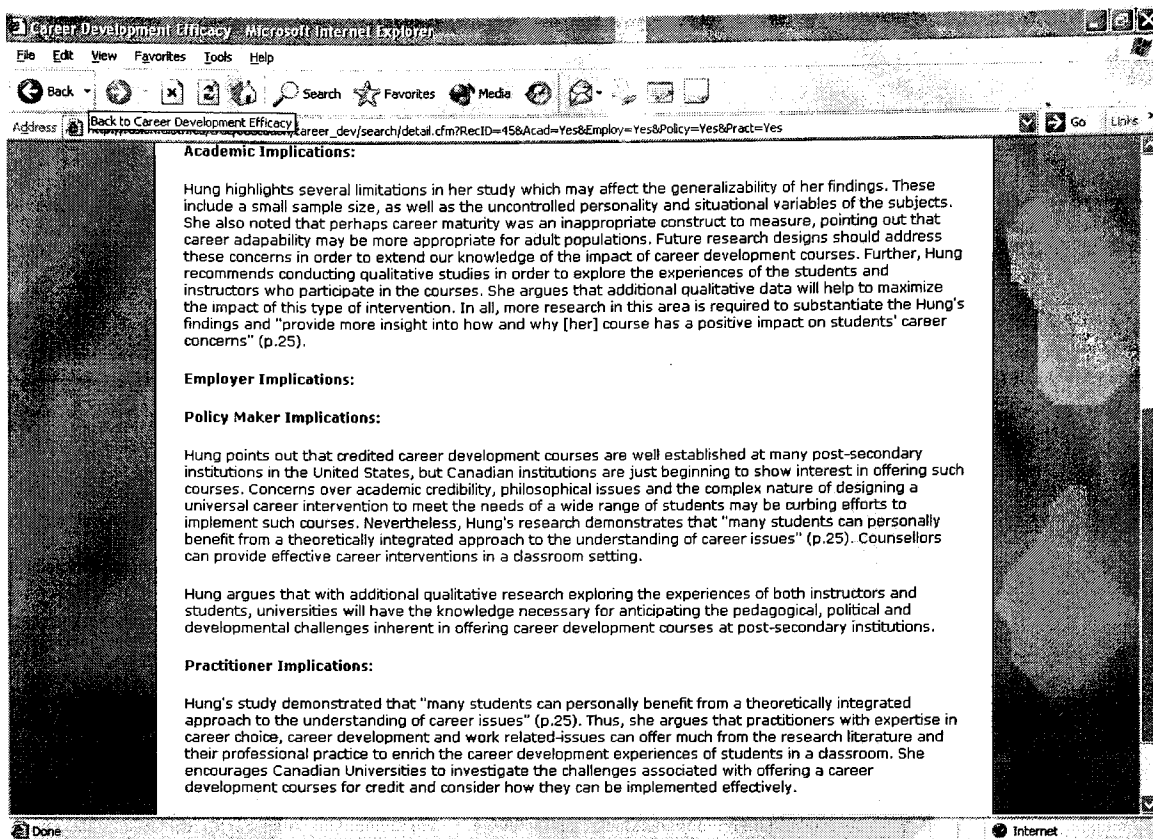


Figure 7. Implications for Stakeholders

Information on how to conduct effective evaluations of career development interventions or programs can be found by choosing the "Effectively Evaluating Career Development Strategies" button on the welcome page. This link takes users to a page addressing this issue (see Figure 8).

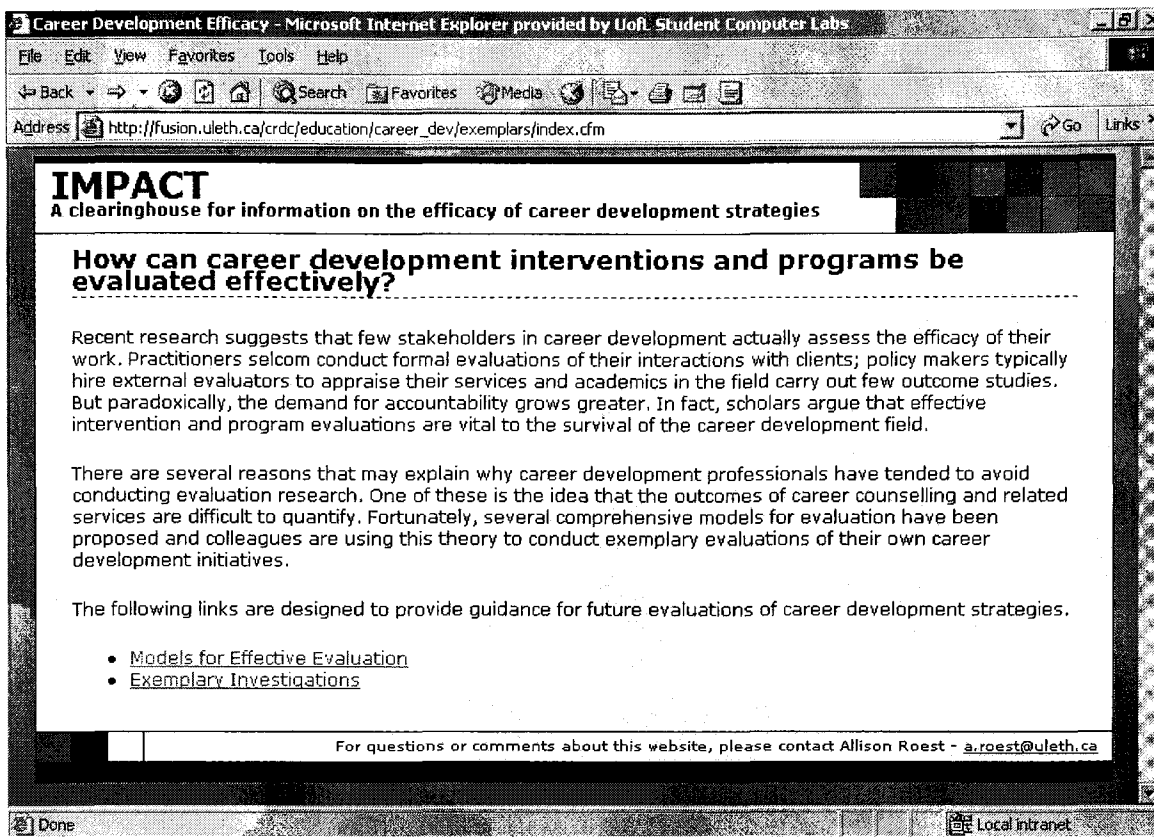


Figure 8. Effective Evaluation of Career Development Strategies

The text on this page explains the importance of conducting outcome research on career development initiatives. It also invites users to follow consecutive links to find models for evaluation, as well as exemplary investigations. By selecting “Models for Evaluation,” users are offered a list of theoretical articles discussing effective evaluation methods, as shown in Figure 9.

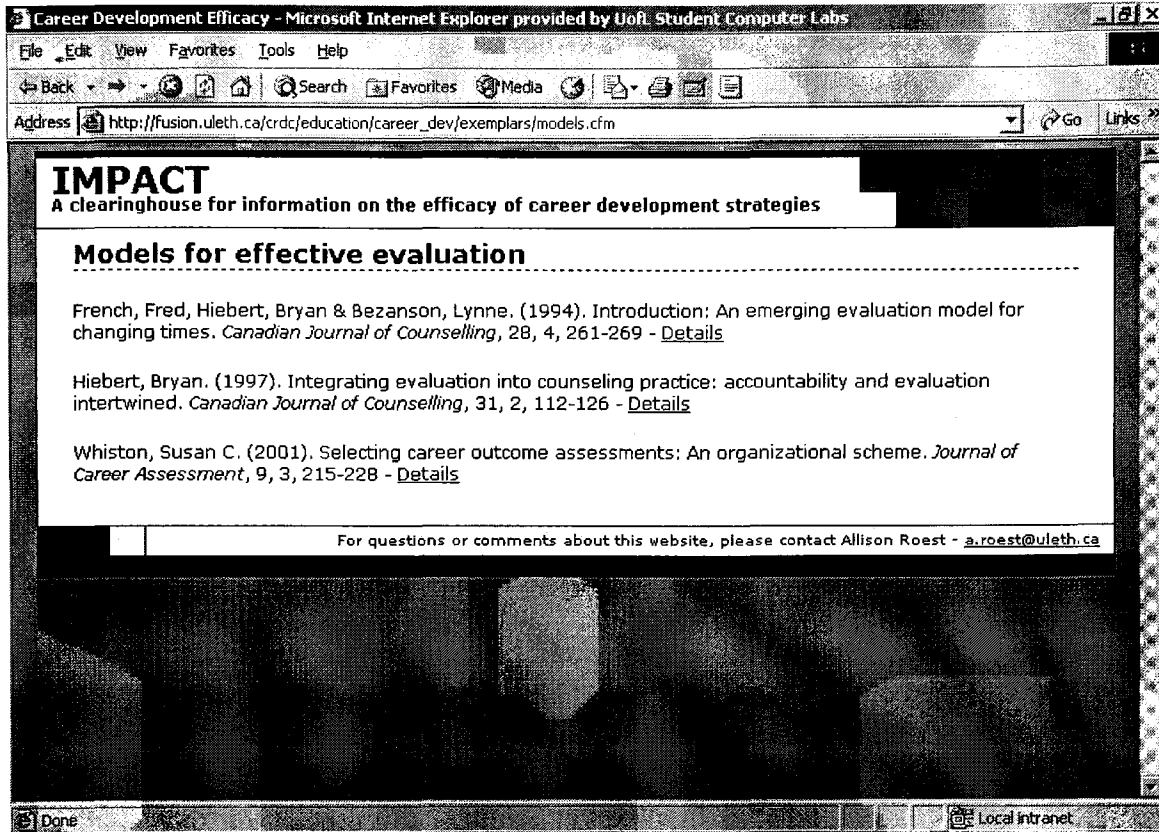


Figure 9. Models for Evaluation

Users can access article summaries by clicking on the “Details” button to the right of the citation. After selecting “Exemplary Investigations,” users are presented with a page that invites them to revisit this page in the future (see Figure 10).

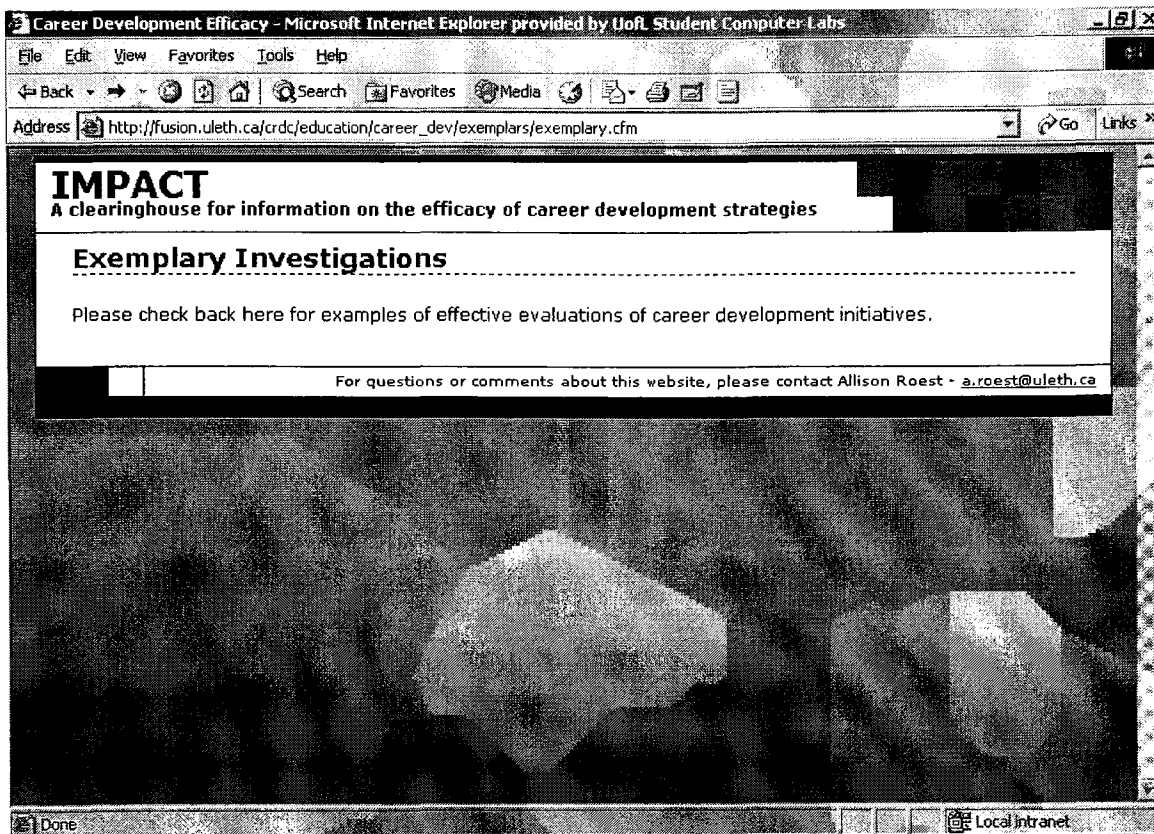


Figure 10. Exemplary Investigations

Unfortunately, there are currently no exemplary investigations to share. The hope is that stakeholders will contribute to building this portion of the web site.

IMPACT is also to be cared for by a web site manager, who can edit existing resource information and choose to accept or reject new submissions. The administration section of the web site is secure. It is accessible only to those who know the correct password. Once the web site manager reaches the administration page, several options are available. The administration page is displayed in Figure 11.

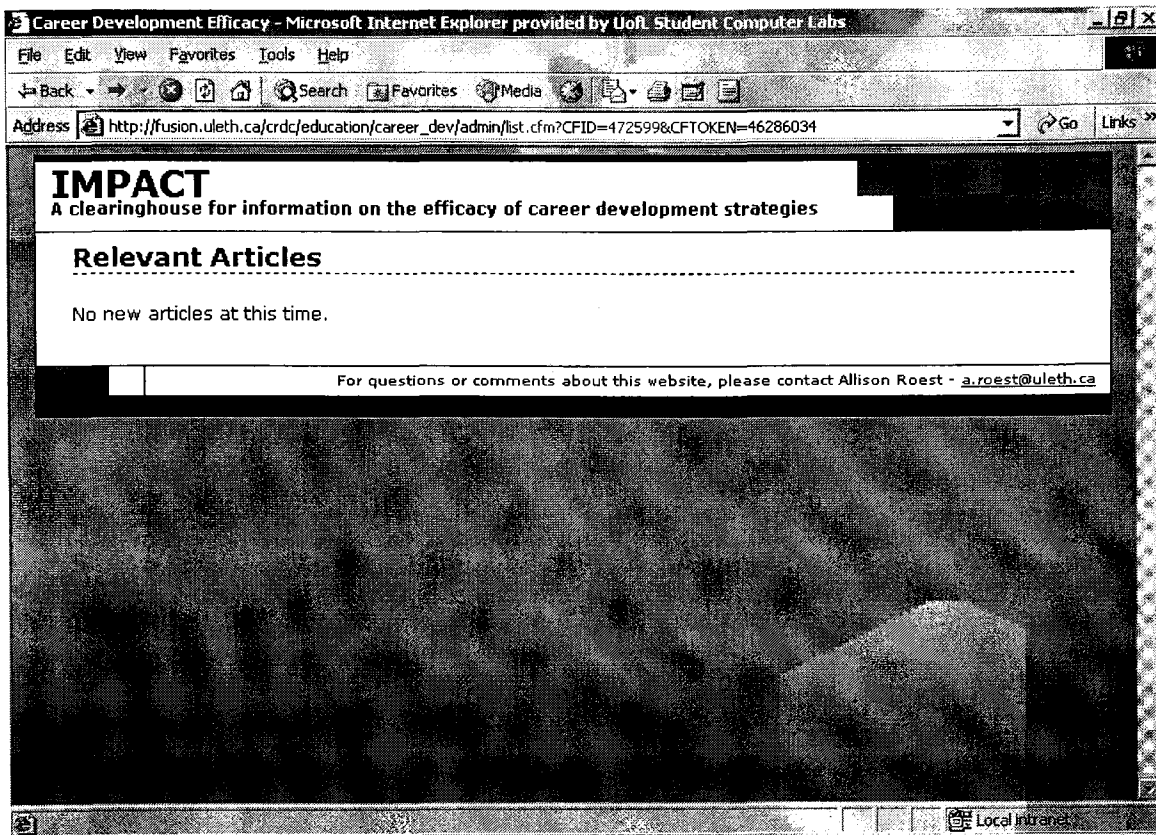


Figure 11. Administration Page

IMPACT is designed to allow and encourage users to search for pertinent resources, share their own findings, and locate information on conducting outcome research of their own, all through one convenient web site. The web site is simple and straightforward enough to appeal to all career development professionals, regardless of background or experience. Although still in its infancy, IMPACT offers one possible answer to stakeholders' requests for a mechanism by which to share career development research findings and innovations.

Discussion

The IMPACT web site focuses on the efficacy of career development, highlighting best practices and encouraging stakeholders to study the effects of their own practices using sound methodology. It has been designed in response to the recommendations of researchers and requests of Canadian career development professionals. This section reviews the strengths and limitations of IMPACT and outlines what still needs to be done in order to increase the web site's utility.

How Does IMPACT Address Needs Identified by Stakeholders?

Pre-symposium Papers: Synthesis of Issues, a document distributed at the Pan-Canadian Symposium on Career Development, Lifelong Learning and Workforce Development, identified fifteen important themes of concern to Canadian career development professionals (Bezanson, Renald, & Turcotte, 2003). The themes relate to a range of issues: creating a coherent strategy for delivering career development services, instituting professional standards, strengthening roles for career development related to labour force and skill shortage issues and goals, to name just a few. The IMPACT web site specifically addresses three of the fifteen issues listed in the *Pre-symposium Papers*: (a) access to applied research, which is useful to all stakeholders, (b) creation of mechanisms for partnership among all stakeholders, and (c) construction of mechanisms to support innovative research and to make existing research available and understandable. Clearly these issues are related, as are the other issues listed in the *Pre-symposium Papers*. In general, improved access to information and collaboration seem to be top priorities for Canadian career development professionals. The following discussion demonstrates how IMPACT attends to these needs.

Improved Access to Applied Research

Canadian career development professionals recognize that “The effectiveness of career development interventions to achieve human resource objectives is not well tested or demonstrated” (Bezanson, Renald & Turcotte, 2003, p. 7). This concern is widely endorsed in the recent academic literature, nationally and internationally, which calls for an increase in evaluation efforts, meaningful information gathering strategies to demonstrate the effect of career development initiatives, and a means of sharing evidence-based practice (ibid.). The IMPACT web site responds by offering models for conducting effective outcome research; in so doing, it also encourages investigation by simplifying the process and providing guidance to stakeholders. Furthermore, through the “Add a Resource” function, professionals can both access information on effective practices and share their own findings with colleagues. IMPACT promotes research and improves stakeholders’ access to information.

A Mechanism for Collaboration

Canadian career development professionals also realize that all stakeholders have a role in achieving the goal of “ensuring a skilled, motivated and productive workforce” (Bezanson, Renald & Turcotte, 2003, p.14). Thus, collaboration is a priority. However, mechanisms for sharing knowledge, solving problems, and supporting innovation have not been well developed. Communication linkages among academics, practitioners, employers and policy makers need improvement. IMPACT provides a forum for communication among these groups. Moreover, it attempts to break down communication barriers by translating current research into practical recommendations and implications for each group. The needs of academics, employers, policy makers and

practitioners are all taken into account. Through this web site, users can access valid information and collaborate with one another to further the field of career development.

A Mechanism to Support and Share Innovative Practice

Bezanson, Renald, and Turcotte (2003) acknowledge that “Promising practices are abundant and often not known among service providers in a single community or city, let alone a province/territory/nation” (p. 15). Best practices in career development are not typically documented, and if they are, they are not often shared among colleagues (Hiebert, 1997). IMPACT offers stakeholders suggestions for evaluating the efficacy of their practices, provides a simple format for documenting the results, and establishes a forum for sharing those findings. It is a straightforward web site through which users can access information on best practices. In this way, professionals in Nova Scotia can benefit from the experiences of their counterparts in British Columbia, and the field of career development may advance at a quicker and more productive rate.

Although its effect on Canadian career development cannot be determined until it is properly promoted and fully operational, IMPACT has the potential to meet some important needs that stakeholders have recently identified. It improves the accessibility of applied research. It offers mechanisms to support and share innovative practices, as well as to facilitate partnerships. IMPACT may make an even greater contribution to the field, since many of the needs established through the Pan-Canadian Symposium on Career Development, Lifelong Learning and Workforce Development are inter-related. For example, indirect benefits of this web site may include the promotion of professional development and improved accountability, which can often lead to funding. IMPACT represents one response to Bezanson, Renald and Turcotte’s (2003) call for “a permanent

pan-Canadian mechanism to share career development research findings and innovations for use by all provinces and territories, as well as pan-Canadian and international partners” (p. 2). Time will tell.

The Limitations of IMPACT

While the prototype described here may represent the initiation of a pan-Canadian clearinghouse on career development, it has several limitations. IMPACT’s small and homogeneous database of information, theoretical biases, and heavy reliance on stakeholder participation for growth may limit its ability to achieve its full potential.

A Homogeneous Database

The scope of this project was such that only a small sampling of resources on the efficacy of career development strategies could be identified and included in IMPACT’s database. In order to narrow the search, popular and readily available academic journals with a career or psychological focus, published between 1994-2004, were targeted. Some attempts were made to find agency or government reports on the outcomes of career development interventions or programs posted on the Internet, but the search was unsuccessful. Thus, IMPACT’s database contains over 50 somewhat homogeneous articles. All are written from an academic perspective. Many report on studies that used Caucasian students as subjects and investigated the effects of programs or interventions on subjects’ decision-making skills. Few demonstrate the findings of longitudinal studies and most were conducted in the United States. Interestingly, although IMPACT’s database is small, its limitations mirror those of current career development literature, as reported in several meta-analyses and literature surveys (Brown & Ryan Krane, 2000; Flores et al., 2003; Whiston, Sexton & Lasoff, 1998). These obvious deficiencies may

serve to highlight the need for more diverse research and reporting in the field. On the other hand, they may have a disillusioning effect on practitioners, policy makers and employers. The description of implications for policy makers and practitioners should help to make the site relevant to these groups, but information is really lacking for employers. The articles selected for the database did not implicitly or explicitly address the needs of employers, and thus it was very difficult to make recommendations for this group.

Perhaps this is not surprising. Renald (2003) contends that the value of career development is underestimated in the context of meeting the needs of employers and employees. More often, career development is associated with the unemployed or under-employed. Yet employers could utilize effective career development strategies in order to recruit and retain skilled employees. Employers can play an important role in helping individuals manage their careers. Unfortunately, some employers, especially small employers, resist this notion, believing that career development may encourage their employees to move on. Instead, Renald argues that career development practices can actually foster loyalty: "Successful business growth is increasingly dependent on reconciling companies' operating needs with the personal needs of employees. A company's growth is directly linked to growth of its employees" (p. 3). Participants in the Pan-Canadian Symposium on Career Development, Lifelong Learning and Workforce Development recognized a need to promote career development skills to employers and the workplace. More specifically, Bezanson, Renald and Turcotte (2003) make the following statement in their summary of symposium issues:

Employers are an almost untapped client base and have needs which, if articulated to the career development community, could be met through development of new tools. In order for this to occur, employers first need to see the value of career development services to their bottom line, and second, need to express their needs in a way that can be understood by career practitioners. This cannot take place without significant dialogue between the two groups on common interests and on how to frame those common interests in a language that both are comfortable using. (p. 8)

There is currently an interest in involving employers in career development. Therefore, even though there is little relevant information for employers on the IMPACT web site now, the site acknowledges employers as a stakeholder group, in order to encourage academics, practitioners and policy makers to include them in new initiatives. However, this intention may not be communicated clearly through the site, and the site may appear to have homogeneous information that is relevant only to a homogeneous user group.

Bias

The author's biases are very apparent in different components of this web site. First, the resource summaries and paragraphs of implications for academics, policy makers, employers and practitioners are all based on the author's analysis of the article. Summarizing academic journal articles into three or four paragraphs is challenging; at times, pertinent details may have been unintentionally omitted or misinterpreted. Moreover, since the author is a graduate student and novice counsellor who has no

experience as a policy maker or employer, her interpretation of recommendations for each of these groups may not be accurate.

Second, the structure of IMPACT is largely based upon Magnusson's (1992, 2004) *Five Critical Career Counselling Processes* and framework for evaluating career development efficacy. These provided the basis for the matrices used by participants both to explore the database's resources and to make new submissions. Consequently, IMPACT has a distinct way of conceptualizing its resources and influencing the way the user views that material. For example, users are prompted to consider the kinds of outcomes that are important in efficacy research (individual or global), as well as the career development processes that particular interventions or services address (initiation, exploration, decision-making, etc.). Another theoretical orientation might encourage stakeholders to adopt a different perspective and to consider other aspects of evaluation. However, this framework was chosen for its comprehensiveness, its ability to highlight both the common targets and the omissions in current literature. Nevertheless, some users may find it in opposition to their own theories and may criticize the direction provided by IMPACT. For IMPACT to succeed, stakeholders need to appreciate the theoretical orientation of the site.

Heavy Reliance on Stakeholder Participation

IMPACT relies on academics, employers, policy makers and practitioners to make contributions, in order to diversify the web site's resources and help it grow into a useful tool. A sampling of work has been provided in order to launch the site, but it is meant only to offer an example of how the mechanism can operate. The perspectives of policy makers, employers and practitioners are not represented in the present site.

Government evaluations, agency reports and conference papers are all needed fill this gap, as are studies on how career development interventions and services effect diverse populations, including working adults. Canadian career development professionals need to take ownership of IMPACT, if it is to fulfill its potential.

The Future of IMPACT.

Although the key components of a clearinghouse for information on the efficacy of career development are currently in place, a number of possible additions that could enhance IMPACT's utility. In the future, features such as a "links" page, a chat room for collaboration, an area where users can make suggestions for improving the site, and space for advertising upcoming professional development opportunities could all be incorporated into the site. The flexibility of the web site's structure will allow for IMPACT's expansion, if it is warranted.

The future of IMPACT is largely dependent upon the response of the intended users. While it appears to have the appropriate mechanisms in place to meet some of the needs expressed by Canadian stakeholders, IMPACT still requires their approval. The web site must be field tested by professionals in order to ensure that it meets its mandate. Feedback on IMPACT's utility, ease of navigation and content could provide direction for further development. Once those responses are measured and the web site is appropriately modified, it may be ready for promotion.

Because of its interactive nature, IMPACT will need careful marketing to target groups. There are several ways in which IMPACT could potentially be promoted to appropriate stakeholders. Some options are free of charge and others could become quite costly. First, the web site address should be submitted to the most popular Internet search

engines, including Google, Yahoo, MSN, Excite and Altavista. As part of these search engines' indexes, IMPACT would be widely available to users searching for career development information. Second, industry-related web sites could be approached about including IMPACT on their "links" pages. The Canadian Career Development Foundation, Contact Point, the Canadian Career Consortium, the Canadian Journal of Career Development, Career ProNews, and the Canadian Counselling Association may be interested in helping to increase IMPACT's visibility. These organizations may also have mailing lists or discussion forums that could be helpful.

With a budget for marketing purposes, IMPACT could be promoted through demonstrations at conferences related to career development and counselling. Advertising space could also be purchased in journals, newsletters or other special publications, such as conference programs.

Finally, it may be necessary to arrange meetings with key individuals in the field of career development to explain IMPACT's features and request endorsement. The value of the web site must be clearly established in order to generate enthusiasm in the field and to encourage individuals to contribute to its growth. Gaining approval and support from government agencies such as Human Resources and Development Canada could help to ensure that program evaluations are frequently shared on IMPACT. Eventually, it will also be important to connect the work of Canadian career development professionals with similar work being done internationally. An organized effort to secure traffic to the web site will be crucial to its success.

It seems clear that if supporters don't champion IMPACT, it may simply take up cyberspace without making a significant contribution to the field of career development.

This would be unfortunate however, because this web site has much potential as a means of promoting quality efficacy research, facilitating communication, and fostering collaboration among the stakeholders in career development.

Conclusion

The field of career development is currently in a precarious situation.

Paradoxically, the number of outcome investigations appears to be decreasing while the demand for accountability from career development professionals is increasing. Whiston (2002) argues that without renewed interest in outcome research, career counselling may not be considered an empirically supported psychological intervention. Other researchers have expressed similar fears for the future of career counselling and services (Brown & Ryan Krane, 2000; Hiebert, 1997). Evaluation must become a priority for all stakeholders. In order to advance the field of career development, more data is needed on the outcomes of career programs and interventions. Nationally and internationally, scholars agree that a comprehensive research program is essential, as well as a database for encapsulating “the main findings from research in a systematic way and to help disseminate ‘good and interesting’ policies and practice” (Bysshe, Hughes & Bowes, 2002, p. 9). The IMPACT web site prototype is a first step toward actualizing these goals.

IMPACT focuses exclusively on evaluation, emphasizing the importance of conducting outcome research and highlighting best practices in the field. With the support of academics, practitioners, policy makers and employers, many of the web site’s current limitations can be overcome and IMPACT can grow to fulfill the needs identified by Canadian stakeholders. In time, IMPACT could make significant contributions to the realm of career development.

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Appendix B

Annotated Bibliography of Current Research on the Efficacy of Career Development
Interventions and Programs*Resources Evaluating Career Development Interventions*

Barnes, J. A., & Herr, E. L. (1998). The effects of interventions on career progress.

Journal of Career Development, 24(3), 179-193.

Summary. In response to calls for more research on the effects of different career interventions, Barnes and Herr studied the impact of the Strong Interest Inventory and DISCOVER on college students' progress in career planning.

A three group pretest-posttest design was used in this investigation, in which 110 students were randomly assigned to the career counselling only treatment group, the career counselling/Strong Interest Inventory treatment group, or the career counselling/DISCOVER treatment group.

To test their hypotheses, the authors conducted a multivariate analysis (MANOVA) and ran t-tests on each of the eight independent variables (certainty, undecidedness, vocational identity, values, interests/abilities, occupations, decision-making, career planning and total score). Descriptive statistics for all of the treatment conditions were also reported. The data analysis indicated that each treatment condition resulted in significant progress in educational/career planning. The treatment groups that used a combination of interventions did not demonstrate greater effects on the indices of career progress than those that experienced individual counselling alone. Thus, the positive effects and the power of individual career counselling were reaffirmed.

Academic implications. Barnes and Herr suggest that future research should consider the effects of structured and unstructured counselling, while keeping the content domain constant. In addition, they encourage researchers to look at the separate components of global treatment packages. Perhaps some modules or combinations of modules from the DISCOVER package may be more effective than others, for example. Barnes and Herr also recommend investigating the effects of directly addressing career decision making factors such as (1) genetic endowment and special abilities, (2) environmental conditions and events, (3) learning experiences, and (4) task approach skills in counselling or adjunct treatments. Finally, the authors point out that future research should include a cost benefit analysis in order to evaluate further the use of certain interventions.

Employer implications. None.

Policy maker implications. This investigation demonstrated that individual career counselling paired with other assessment devices, i.e. the SSI or DISCOVER, produced modest but not significant improvements over individual counselling alone. The positive effects of individual counselling in career planning were reinforced by this study. These findings support Holland, Magoon and Spokane's (1981) observations that combining treatments together often fails to produce larger effects and that different career interventions often produce comparable effects. Barnes and Herr also recommend conducting a cost-benefit analysis in order to guide the decision making process for the selection of interventions, rather than simply choosing the intervention with which the counsellor feels most comfortable.

Practitioner implications. This investigation demonstrated that individual career counselling paired with other assessment devices, i.e. the SSI or DISCOVER, produced modest but not significant improvements over individual counselling alone. The positive effects of individual counselling in career planning were reinforced by this study. These findings support Holland, Magoon and Spokane's (1981) observations that combining treatments together often fails to produce larger effects and that different career interventions often produce comparable effects. Barnes and Herr also recommend conducting a cost-benefit analysis in order to guide the decision making process for the selection of interventions, rather than simply choosing the intervention with which the counsellor feels most comfortable.

Croteau, J. M., & Slaney, R. B. (1994). Two methods of exploring interests: A

comparison of outcomes. *Career Development Quarterly*, 42, 252-261.

Summary. Croteau and Slaney's research compared the effects of the Strong Interest Inventory (SII-SCII) and the Vocational Card Sort (VCS) on 210 male university students. The authors tested their assumptions that a) "the VCS may be better suited to clients with an internal locus of control whereas the SII-SCII may be better suited to clients with an external locus of control", b) the VCS participants would be more liable to increase their career decision making self-efficacy, and c) clients' reactions to these interventions would differ across time (p.253).

The authors used a MANOVA to assess the main effects for the intervention group (SII-SCII vs. VCS), the main effects of Career Development Responsibility (CDR) before the intervention, and the interaction of these variables with a series of dependent variables including the Satisfaction Questionnaire score, the Perceptions of Intervention

Scale score, the Vocational Needs Scale total score, the Career Decision Making Self-Efficacy (CDMSE) scale score, and the scores from the Self-Appraisal subscale of the CDMSE scale. An additional univariate analysis was performed on the CDR and the five dependent variables. Finally, satisfaction across time was analyzed using multiple t-tests.

The results of this study showed that clients' locus of control had no relation to the relative effectiveness of the VCS versus the SII-SCII. In addition, the VCS did not seem to increase clients' career decision making self-efficacy any more or less than did the SII-SCII. However, the data did indicate that clients' reactions to both interventions were favourable at all points in time. Reactions to receiving the results of the SII-SCII were more positive than reactions to receiving the results from the VCS, but the positive nature of the reactions to the VCS was less likely to fade over time.

Academic implications. In order to provide more empirical data for career counsellors, Croteau and Slaney recommend that researchers continue to examine the differences in interest interventions and their effects on clients with specific attributes.

Employer implications. None.

Policy maker implications. None.

Practitioner implications. Croteau and Slaney write, "Our data do not support the notion that counsellors are better off selecting an 'authorative' appearing method like the SII-SCII for clients who seem to be looking for the ANSWER from the EXPERT" (p.258). Similarly, the VCS did not seem to be best suited to clients with an internal locus of control. The data did not indicate any significant differences in the clients' experience of exploring interests with either intervention.

However, the researchers did identify a significant relationship between Career Development Responsibility (CDR) and Career Decision Making Self-Efficacy (CDMSE) which “may suggest that individuals who feel control over their own career development also tend to see themselves as capable of making career decisions and vice versa” (p.259).

Also of interest were the data regarding client satisfaction. According to this investigation, counsellors can anticipate that clients will react favourably to either the VCS or the SII-SCII at all times during the process. If the counsellor desires the most positive reaction in one session, the VCS and its instant results may be more successful than the SII-SCII. Nevertheless, if more sessions are possible, clients may tend to be more enthusiastic in the time directly after receiving the results of the SII-SCII than in the time directly after receiving the VCS results. After two weeks, counsellors can expect little difference in client satisfaction with the two interventions.

Jones, L. K., Sheffield, D., & Joyner, B. (2000). Comparing the effects of the Career Key with Self-Directed Search and Job-OE among eighth-grade students. *Professional School Counseling, 3*(4), 238-247.

Summary. This article describes the findings of an investigation designed to test the effects of the Career Key (CK) against the Self-Directed Search Career Explorer (SDSCE) and the Judgment of Occupational Behaviour-Oriented Enhanced (Job-OE). A total of 201 eighth grade students participated in the study. They were divided randomly, by class, into three intervention groups (CK, Job-OE or SDSCE) and one control group. The Career Information Exploration Scale, the Satisfaction Opinionnaire, the Career Choice Importance Scale, and an author-designed questionnaire were used to

solicit information about the students' experiences with their respective career interest inventory.

A one-way analysis of variance (ANOVA) was used to analyze the data. When the ANOVA results were significant, indicating the presence of intervention effects, further analyses were done to compare different pairs of means. The results showed that the students found the CK as helpful and satisfying as the Job-OE and the SDSCE. The CK was quicker to complete and suggested many more occupations than the other inventories. However, after three weeks, there was no difference among the three groups and the control group in terms of how many occupations they were considering or their career information seeking behaviour.

Academic implications. This investigation did not examine all of the competencies that might be affected by the interventions. In future, researchers could study the impact of the CK, Job-OE and SDSCE on career planning and understanding of the career development process, for example. The authors also suggested investigating whether or not the occupations students were considering would change after they experienced the interventions.

Employer implications. None.

Policy maker implications. The Career Key (CK) was found to be as helpful and satisfying to grade eight students as other interest inventories, i.e. the SDSCE and the Job-OE. However, the CK appears to be relatively more efficient and cost effective. Principals or others purchasing school materials may want to consider these findings before choosing career development resources for their schools.

Practitioner implications. The Career Key (CK) was found to be as helpful and satisfying to grade eight students as other interest inventories, i.e. the SDSCE and the Job-OE. However, the CK appears to be relatively more efficient and cost effective. The authors suggest that perhaps the usefulness of the CK could be enhanced if students were encouraged to do research on the occupations listed in their inventory results. Other recommended follow-up activities include comparing and graphing the CK results of class members, or grouping students according to occupational clusters for projects or presentations.

Jones, W. P., Harbach, R. L., Coker, J. K., & Staples, P. A. (2002). Web-assisted vocational test interpretation. *Journal of Employment Counseling, 39*(3), 127-138.

Summary. This investigation compares the effectiveness of three vocational interest inventory interpretation modalities: (a) online text chat, (b) online text chat with visual cues, and (c) traditional face-to-face interaction. The authors were primarily concerned with client satisfaction. Participants were solicited from an undergraduate psychology course. Twenty-seven students (81% females) took part in the research.

The subjects were first asked to complete the Vocational Preference Inventory (VPI). Later, each received a 30-minute test interpretation session. The assignment of delivery modality was quasi-random. After the session, the participants were asked to complete the Session Evaluation Questionnaire (SEQ).

The descriptive statistics collected demonstrated three major findings: (a) when the online session included video cues, there were no significant differences in the participants' ratings of session depth as compared to the face-to-face group; (b) the ratings on the depth scale were significantly high in both face-to-face and chat/video

conditions, when compared to online text chat alone; and (c) the chat/video format received significantly lower ratings than the face-to-face format and lower ratings than the online chat-alone format on smoothness. While many limitations to this study were noted, the authors tentatively concluded that “Online interpretation of vocational test scores could become an important new tool for the employment counsellor” (p. 134).

Academic implications. Since this study was conducted using novice counsellors and a convenience sample, the authors recommend that future research be conducted in naturalistic settings with expert counsellors. Follow-up studies are also advised, in order to determine what may have caused the participants experiencing the chat/ video modality to rate it as relatively low on SEQ smoothness.

Employer implications. None.

Policy maker implications. Policy makers may be interested in knowing that, while Jones et al. warn career counsellors against providing test interpretations using the text chat modality alone, they are cautiously optimistic about their findings. They argue that if their data is validated with future research, online interpretation of vocational test scores could become an important new tool for career counsellors, particularly if the video from the counsellor is available to the user. There is potential for vocational tests to be both administered and interpreted online. The online delivery of career counselling services may allow increased access by clients in remote areas or crowded urban settings, as well as more options for the career counsellor regarding when and where client interactions are provided.

Practitioner implications. While Jones et al. warn career counsellors against providing test interpretations using the text chat modality alone, they are cautiously

optimistic about their findings. They argue that if their data is validated with future research, online-interpretation of vocational test scores could become an important new tool for career counsellors, particularly if the video from the counsellor is available to the user. The potential for vocational tests to be both administered and interpreted online is there. The online delivery of career counselling services may allow increased access by clients in remote areas or crowded urban settings, as well as more options for the career counsellor regarding when and where client interactions are provided.

Kraus, L. J., & Hughey, K. F. (1999). The impact of an intervention on career decision-making self-efficacy and career indecision. *Professional School Counseling, 2*, 384-391.

Summary. The intervention used in this study was based on Crites' (1978) career choice competencies and adapted the lessons of the Career Decision-Making Course (Savickas & Crites, 1981). The purpose of the intervention is to teach career choice competencies, provide students the opportunity to practice these competencies, and enable students to apply them to their career development and career decision-making. Participants for the treatment (n=30) and control groups (n=30) were high school juniors.

A posttest-only delayed posttest control-group design was used in the study. A mixed model, repeated measures statistical analysis was employed to test interactions and main effects. Analysis of variance (mean and SD) and t-tests were used to analyze the data. Overall, no statistically significant differences were found between treatment and control groups in either career decision-making self-efficacy or career indecision. However, a significant treatment by gender interaction was found for career decision making self-efficacy. After the intervention the males in the control group demonstrated

higher levels of career decision-making self-efficacy than the females in the control group. In addition, the career decision-making self-efficacy of females in the treatment group was higher than the career decision-making self-efficacy of females in the control group. The authors report that this finding of gender differences in career decision making self-efficacy is contrary to previous literature. Their findings support Hackett and Betz's (1981) theory that differential sex role socialization fosters lower, weaker and less generalized career-related self-efficacy among women. Kraus and Hughey encourage counsellors to be mindful of the gender differences that may exist in the classroom.

Academic implications. Kraus and Hughey's investigation highlights the importance of considering students' developmental and gender differences when planning and implementing career development interventions. They recommend research into the provision of career decision making interventions that adapt to participants' developmental and gender differences. New investigations could also test their conclusion that students who are more confident in their career decision making self-efficacy may experience less career indecision. Kraus and Hughey suggest that it would be helpful to test the effects of specific career interventions on the career decision making self-efficacy of students who are prescreened low in the construct. They stress the potential economic advantages of facilitating students' career development and enabling them to gain career decision making skills.

Employer implications. None.

Policy maker implications. Kraus and Hughey stress the economic importance of initiating activities that will facilitate students' career development and enable them to gain career decision making skills. They stress that these activities may have to be varied

in order to meet the diverse needs of students in our education systems. Gender and developmental differences are just two factors that impact how students benefit from career interventions.

Practitioner implications. Although acknowledging that gender differences in career decision making self-efficacy have not generally been supported in recent literature, Kraus and Hughey argue that their results may have several implications for school counsellors implementing career interventions as part of their guidance programs. Their findings imply that, despite efforts to encourage female students to choose rigorous programs of study and to consider traditional and non-traditional occupations, females may lack confidence in their career decision making skills. Thus, the authors encourage counsellors to be aware of gender differences in career decision making self-efficacy that may exist in the classroom. Counsellors may need to find ways to promote female students' career-related efficacy expectations, in order to help these individuals make well informed and independent career choices.

Kraus and Hughey also note that counsellors should recognize that high school students also differ in their career development status and need for guidance, as well as in gender. Counsellors need to know what stages students are in, before developing and implementing career guidance activities. The authors suggest that assigning individual learning activities may be the best approach to meeting students' individual needs. Kraus and Hughey stress the economic importance of initiating activities that will facilitate students' career development and enable them to gain career decision making skills.

Luzzo, D. A., Funk, D. P., & Strang, J. (1996). Attributional retraining increases career decision making self-efficacy. *Career Development Quarterly*, 44, 378-386.

Summary. The authors hypothesized that an attributional retraining intervention could increase the career decision making self-efficacy (CDMSE) of college students with an external locus of control. In order to test their hypothesis, 60 undergraduate students aged 18-49 were recruited to take part in this study. These students were initially assessed using the Career Locus of Control Scale, and classified as having an internal or external locus of control relative to other participants in the investigation. One half of the participants from each category were randomly assigned to a treatment or control group. Each group was pre-tested. The Career Decision Making Self-Efficacy Scale (CDMSES) was used to determine subjects' self-efficacy expectations regarding career decision making tasks. The treatment groups were shown an 8-minute video designed to persuade the audience of their ability to control their own career development. Control groups watched a "no-training" video. Two weeks following the intervention, all participants were asked to complete the CDMSES again.

The results of the multivariate analysis of covariance (MANCOVA) indicated the absence of any significant sex differences among the career measures. Men and women reported similar levels of career locus of control as well as similar pretest and posttest CDMSE. A 2x2 analysis of covariance (ANCOVA) was also conducted, with career locus of control and attributional retraining as the independent variables and CDMSE as the dependent variable. Luzzo, Funk and Strangs' findings showed that attributional retraining was an effective method for increasing the CDMSE of college students who initially exhibited an external career locus of control, but ineffective as a method of increasing the CDMSE of students who already possessed an internal locus of control. It

was not known if the effects would be sustained beyond the two-week period of this investigation.

Academic implications. Longitudinal studies on the effects of attributional retraining interventions, like the one used by Luzzo, Funk and Strang, are needed to confirm the benefits over time.

Employer implications. None.

Policy maker implications. None.

Practitioner implications. Luzzo, Funk and Strang demonstrated that their 8-minute attributional retraining video tape seemed successful in introducing new causal attributions to college students with an external locus of control, but that the intervention had no effect on students with an internal locus of control. This short intervention had significant effects on a large group of students, and those effects appeared to last for at least two weeks following the intervention.

The authors caution practitioners against using attributional retraining on all students who have low CDMSE: “Clients seeking career counseling who have low levels of CDMSE because they do not possess certain decision making skills or important information for making career decisions will require a different intervention than will clients who are aware of important information and possess adequate skills yet still experience low self-efficacy” (p. 384). The counsellor must take into account clients’ personal characteristics when determining the most effective intervention strategy. Aside from skills, interests and aptitudes, gender and racial status are two other specific characteristics that should not be overlooked. For women and minorities, who have traditionally been denied access to occupational opportunities, it may be more adaptive to

attribute career-related outcomes to uncontrollable factors. A blanket approach to applying attributional retraining is not recommended.

Luzzo, D. A., James, T., & Luna, M. (1996). Effects of attributional retraining on the career beliefs and career exploration behavior of college students. *Journal of Counseling Psychology, 43*(4), 415-422.

Summary. This article discusses the findings of two studies designed to evaluate the efficacy of attributional retraining as a career counselling intervention. The researchers argue that “By helping students develop attributions for making career decisions that reflect a strong sense of control over and responsibility for making career decisions, positive changes in career beliefs, attitudes and behaviors may result” (p. 416).

In order to test this theory, the researchers showed participants in the experimental groups a video tape designed to foster internal, controllable and unstable attributions for career decision making. The control groups were shown a similar video that lacked any reference to career-related attributions. In study 1, students were tested one month after they were given the intervention; in study 2, students were assessed 6 weeks following the intervention. Participants in these investigations were largely first year students aged 18-43.

In the first study, univariate analyses of covariance (ANCOVAs) were calculated with the treatment/control group as the independent variable, post-treatment Career Beliefs Inventory (CBI) scores as the dependent variables, and pre-treatment CBI scores as covariates. In the second study, several correlations were calculated between each of the pre- and posttest measures. A MANCOVA was also performed with the treatment/control group as the independent variable, posttest scores from three

Assessment of Attributions for Career Decision Making (AACDM) scales and two Career Exploration Survey (CES) scales as the dependent variables, and pretest scores as covariates. The results collected from both studies indicated that attributional retraining increases students' beliefs that they have control over and responsibility for career decision making. The second study demonstrated that attributional retraining also increases students' tendency to engage in career exploration activities. These findings led the authors to conclude that attributional retraining can have a positive influence on the career development of college students.

Academic implications. Luzzo , James and Luna encourage researchers to explore the potential benefits of attributional retraining procedures in career development. They suggest several avenues for future research, including studies to (a) determine the limitations of using such a brief intervention on long term career development, (b) evaluate the effectiveness of attributional retraining as a supplement to other types of career interventions, (c) investigate the effects of attributional retraining with diverse populations, and (d) determine the effects of attributional retraining on other measures of adaptive career decision making, such as career decisiveness.

Employer implications. None.

Policy maker implications. Attributional retraining appears to have a positive influence on the career development of college students. Cost effectiveness, relative ease of administration, and the fact that it is based on sound theoretical principles make attributional retraining an attractive option for career counsellors and program administrators.

Practitioner implications. The results of these two studies show that Luzzo, James and Luna's attributional retraining intervention helped students to increase their beliefs associated with control over and responsibility for making career decisions. Thus, attributional retraining appears to have a positive influence on the career development of college students. Cost effectiveness, relative ease of administration, and the fact that it is based on sound theoretical principles make attributional retraining an attractive option for career counsellors.

The authors caution, however, that career-related difficulties are not always associated with maladaptive attributions, and therefore, attributional retraining may be inappropriate for some clients: "For example, clients seeking career counselling because they lack certain decision-making skills or important information for making career decisions require a different intervention strategy than clients who have access to information and exhibit adequate decision-making skills, yet espouse maladaptive career beliefs that inhibit effective career decision-making" (p. 421). They note that, in some circumstances, it is more adaptive for clients to attribute career-related outcomes to uncontrollable factors such as discriminatory practices or systemic barriers. Attributional retraining is intended for clients with specific career decision making difficulties.

Luzzo, D. A., & Pierce, G. (1996). Effects of DISCOVER on the career maturity of middle school students. *Career Development Quarterly*, 45, 170-172.

Summary. DISCOVER is a computer assisted career guidance system (CACG) created for use in schools and universities. Although DISCOVER could be considered one of the most popular CACGs, no evaluations of its effects on the career development and maturity of middle school students had been conducted. Luzzo and Pierce sought to

fill this gap by testing the program on 38 rural middle school students. Twenty-two girls and 16 boys, all between the ages of 12 and 15, participated in the study. Subjects were randomly assigned to the DISCOVER treatment group or the control group. Both groups were pre- and posttested using the Screening Form A-2 of the Career Maturity Inventory's Attitude Scale (CMI-AS). The treatment group completed the DISCOVER unit over a two-week period, while students in the control group had no access to DISCOVER.

A Treatment Condition (experimental vs. control) x Time of Testing (pretest vs. posttest) analysis of variance for career maturity was conducted. Luzzo and Pierce found that the posttest career maturity scores were significantly higher for students in the treatment group than for students in the control group. Based on these results, the authors concluded that "A middle school student's attitudes toward career decision making process may become more age-appropriate after using DISCOVER" (p. 172).

Academic implications. The prevalence of CACG systems is rapidly increasing without much evidence of their effectiveness. More research is needed in order to inform counsellors of the benefits and limitations of using CACG in a variety of educational settings. More specifically, additional research on DISCOVER is warranted. Since the researchers used only one measure of career maturity and conducted the investigation on a small population, the generalizability of their findings is limited. In order to confirm that DISCOVER is an appropriate tool for increasing the career maturity of middle school students, more comprehensive investigations are required.

Employer implications. None.

Policy maker implications. None.

Practitioner implications. Luzzo and Pierce's results support the use of DISCOVER as a means of increasing the career maturity of middle school students. After only two weeks of using the program, middle school students' attitudes toward the career decision making process seemed to become more age-appropriate. However, the generalizability of these findings is limited. Counsellors who use DISCOVER and other CACG systems are encouraged to evaluate the effectiveness of the intervention on the career maturity of their own students.

Luzzo, D. A., & Taylor, M. (1995). Comparing the effectiveness of two self-administered career exploration systems. *Journal of Career Assessment*, 3(1), 35-43.

Summary. Luzzo and Taylor report the findings of a study designed to compare the effectiveness of the Self Directed Search (SDS) and the Career Decision Making System – Revised (CDM-R) on the career maturity of first year college students. Sixty-eight 18 and 19 year olds took part in the investigation. Participants were randomly assigned to the SDS treatment group, the CDM-R treatment group, or the delayed treatment control group. The subjects' knowledge of career decision making principles and career decision-making attitudes were tested pre- and post-intervention.

Significant relationships between the continuous variables in this study were examined using Pearson product-moment correlations. The interaction between gender and treatment or main effects of either variable on career decision making attitudes and skills was measured using a 2x3 (gender x treatment) MANOVA. Finally, planned comparison t-tests were used to analyze simple main effects.

The results of this investigation supported the use of the CDM-R as one means of slightly improving college students' knowledge of career decision making principles.

However, career decision making attitudes were not affected by the CDM-R. The students in the SDS or delayed treatment group did not exhibit any gains in career maturity. The authors suggest that these findings imply that “Brief exposure to content-based, career exploration inventories does not appear to produce any meaningful changes in college students’ attitudes toward career decision making process or knowledge of career decision making principles” (p. 41). More exploration is necessary into the efficacy of cost-efficient career interventions.

Academic implications. Luzzo and Taylor argue that information on the relative value of different career interventions is very important to career counsellors who are struggling to provide effective career counselling within financial constraints. They encourage counsellors and academics to continue to investigate the efficiency of different career interventions. Specifically, Luzzo and Taylor suggest that “Future comparisons of the SDS, CDM-R and other career exploration systems should include outcome measures (e.g., career decidedness, career commitment, career exploration behaviour) designed to assess aspects of the career decision-making process that might be more appropriately affected by a brief career intervention” (p. 41). They hypothesize that, although the CDM-R and the SDS are too brief or vague to impact students’ career maturity overall, these interventions may still have specific advantages.

Employer implications. None.

Policy maker implications. Post-secondary institutions are likely to continue experiencing economic difficulties that will limit the range of services that can be offered to students. Cost-effective methods for delivering career counselling services are

essential. Policy makers should support investigations designed to compare the relative value of different career counselling interventions.

Practitioner implications. Luzzo and Taylor's findings indicate that "Brief exposure to content-based, career exploration inventories does not appear to produce any meaningful changes in college students' attitudes toward the career decision making process or knowledge of career decision making principles" (p. 41). Although the CDM-R appeared to improve students' knowledge of career decision-making principles slightly, their career decision making attitudes were not affected in any way by the treatment. Students participating in the SDS treatment did not report any gains in career maturity following the intervention. The authors suggest that their findings may highlight the need for career counsellors to spend time employing multiple interventions in order to impact the career maturity of college students.

Marko, K. W., & Savickas, M. L. (1998). Effectiveness of a career time perspective intervention. *Journal of Vocational Behaviour*, 52, 106-119.

Summary. Marko and Savickas' study tested the effects of a time perspective intervention on participants' future orientation and career planning. The authors suggest that clients must be future oriented in order for career interventions to be meaningful to them. They hypothesized that the Time Perspective Modification Intervention would "foster career development for individuals who increase their orientation to the future" (p. 108).

Two groups of students from predominantly white, middle-class neighbourhoods were used for this study. One group was comprised of 30 grade 10 students and the other of 25 community college students. Participants in the study were assigned to

experimental or control groups. Upon conclusion of the four-week intervention, all groups were assessed using The Long Term Personal Direction scale, the Achievability of Future Goals scale, the Career Maturity Inventory – Attitude Scale, and The Occupational Plans Questionnaire. ANOVAs and descriptive statistics were used to test the authors' hypotheses. The data supported the hypothesis that the time perspective intervention increases future orientation. However, the hypothesis that the intervention would promote career preparation received only partial support.

Academic implications. The results of Marko and Savickas' study have limited generalizability, and thus more research is necessary on the effects of the Time Perspective Modification Intervention (TPMI). The authors suggest that future research should field-test the TPMI with at-risk students "such as economically disadvantaged juvenile delinquents who typically lack a future orientation" (p. 117). Future research should also include follow-up mechanisms that assess the effectiveness of the TPMI over time, as well as different outcome measures. The authors argue that if a measure of planning competence, such as the Career Maturity Inventory – Planning Test, had been used, a difference in career planning skill between the experimental and the control participants might have been detected at the post-test. Finally, modifying the intervention to promote more client participation may also help prompt greater affective change in clients, such as increased optimism. Research that modifies both the research methods and the intervention structure will provide more important data on the impact of the TPMI and the importance of time orientation to the career development process.

Employer implications. None.

Policy maker implications. None.

Practitioner implications. The authors suggest that time orientation is an important consideration for career counsellors, because in order for most career interventions to be meaningful, clients must be aware of the future and optimistic about planning careers. However, this is generally not the case, according to Marko and Savickas: “Many individuals in our diverse society do not orient themselves to the future and seldom, if ever, think about how their career might unfold” (p. 107).

The results from Marko and Savickas’ study demonstrated that the Time Perspective Modification Intervention (TPMI) can be effective at modifying clients’ career time perspective. In particular, “[The TPMI can] increase students’ future orientation by developing their sense of a unified continuous flow of past, present and future and increasing their optimism about the achievability of future goals” (p. 117). The TPMI represents a simple, cost-effective, easily administered intervention that produces significant changes in time perspective. With more research, the TPMI may prove quite useful in increasing clients’ readiness to benefit from the future oriented interventions currently offered by career planning services.

Mau, W. (1999). Effects of computer assisted career decision making on vocational identity and career exploratory behaviours. *Journal of Career Development*, 25(4), 261-274.

Summary. The purpose of this study was to compare and evaluate the relative effectiveness of different computer-assisted career guidance systems (CACG). Specifically, Mau’s research addressed three questions: (a) Does teaching career decision making strategies (CDM) result in greater vocational identity and career exploratory behaviours? (b) How does the CDM approach compare with the career interest

assessment approach (SDS-CV), the information approach (CHOICES), and a combination approach (SDS-CV + CDM)? Which approach has greater long-term effects? and (c) How are the CACG programs received by students?

The undergraduate students who participated in the study were randomly assigned to one of six groups: (1) CDM, (2) SDS-CV, (3) CHOICES, (4) SDS-CV + CDM, (5) wait-listed control, and (6) hold-out group. A total of 108 subjects, including 82 females and 26 males, were involved in this investigation.

Mau used two-way 5 (group) by 2 (sexes) ANOVAs to examine the short-term gain in vocational identity among the groups, the long-term gain in vocational identity among the groups, and their differences in exploratory behaviours. Perceived satisfaction with the CACG programs was examined using one-way ANOVA. The data analysis showed that the CDM not only resulted in short-term gains in students' vocational identity, but the impact appeared to be long lasting as well. CHOICES had significant long-term effects on subjects' vocational identity but not short-term effects. Interestingly, the SDS-CV did not significantly raise students' vocational identity scores, but students appeared to favour it over the other CACG. Finally, the combination of SDS-CV + CDM also failed to significantly increase students' vocational identity. Several explanations were offered for this finding. No gender effects were apparent.

Academic implications. Generalizations from this study are limited because of the limited selection of sample and outcome measures. The subjects for this investigation were primarily junior and senior university students, and thus were likely to have thought out their career goals. Theorizing that CACGs may have a greater impact on students who are less advanced in their career development status, Mau encourages future

research to replicate this investigation using a more diverse student population, in order to verify this hypothesis. Mau also recommends that future studies examine how different CACGs provide different kinds of help to students. Utilizing outcome measures that assess decision-making ability and efficacy may yield some interesting insight, for example.

Employer implications. None.

Policy maker implications. None.

Practitioner implications. Mau concludes that “Teaching career decision-making strategies using micro-computers not only resulted in short-term gains in students’ vocational identity, but the impact seems to be long lasting” (p. 270). Concluding that the use of CACG for teaching career decision-making enhances counselor productivity, Mau argues that, rather than devoting a great deal of time to teaching career decision-making skills, practitioners can tailor the computer program to each client’s unique situation and still expect positive effects on the client’s vocational identity and exploratory behaviours (p. 271).

Interestingly, this study found that user satisfaction does not necessarily correlate with objective indexes of benefits. Mau encourages practitioners to avoid making decisions based on studies that collect only satisfaction data and imply that, if the students liked it, the intervention must be beneficial. Instead, cost-effect analyses of CACGs would provide useful information.

Mau, W., Calvert, C., & Gregory, R. (1997). Effects of career interventions on vocational cognitive complexity. *Journal of Career Development, 23*(4), 279-293.

Summary. Career development has been conceptualized as an ongoing restructuring of vocational schemes. Mau, Calvert, and Gregory state that, “Vocational cognitive complexity is comprised of vocational construct differentiation and vocational construct integration. Vocational construct differentiation is the ability to distinguish among many vocational constructs, whereas vocational construct integration represents the ability to assimilate constructs into a cohesive cognitive scheme” (p. 279). Career decidedness and career exploratory behaviour are just two of the positive career behaviours found to be associated with vocational cognitive complexity.

The purpose of this study was to investigate the effects of the Vocational Card Sort (VCS), Self-Directed Search (SDS), and the System of Interactive Guidance and Information Plus (SIGI+) on vocational construct differentiation and integration. A total of 121 first-year college students were randomly assigned to the VCS, SDS, SIGI+ or wait listed control groups. Outcome measures were administered after the intervention was completed. The Career Grid and the Program Satisfaction Questionnaire were both used in the assessment.

In order to analyze the data, a two-way 4 (treatment) x 2 (gender) MANCOVA was performed. Since the MANCOVA indicated significant main effects for treatment, univariate analyses of variance (ANOVA) were also performed for each of the three dependent measures (construct integration, construct differentiation and number of occupations chosen). Additionally, students’ overall satisfaction was examined using two-way ANOVAs. The results showed that all three interventions were effective in facilitating the vocational cognitive development, especially construct integration, of college students, as measured by the Career Grid. The data from the Program Satisfaction

Questionnaire also indicated that students felt very positive about the interventions they experienced.

Academic implications. Very few studies have examined the effects of different career interventions on vocational cognitive complexity. Further investigations are needed in order to expand and clarify the results of this study. Specifically, longitudinal and cross-sectional studies may advance our current understanding of the impact that career interventions have on the different stages of vocational cognitive development. In addition, the Career Grid, the structural model used to understand the effects of career interventions, has not yet been validated, nor has the independence of construct differentiation and integration.

Employer implications. None.

Policy maker implications. Individuals purchasing resources of counselling agencies or centers may be interested in knowing that this investigation found the SIGI+, SDS, and VCS to be equally effective in facilitating construct integration and generating more occupational options for clients. Therefore, a counsellor's time and material costs become important factors in the selection of instruments used for interventions. The VCS the least expensive tool, but it requires more of the counsellor's time. Although more expensive to purchase, the SIGI+ may be more cost-effective in the long run, because it can free counsellors to do other counselling activities. Nevertheless, the SDS is also a reasonable choice because it is less expensive than the SIGI+ and demands fewer human resources than the VCS.

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Mau, Calvert and Gregory suggest that Neimeyer's (1988) vocational cognitive development model may be used to evaluate and monitor students' progress through various stages of vocational identity development. They argue that understanding how an individual progresses through the stages of vocational cognitive development is crucial in order to evaluate the effectiveness of career interventions. Counsellors also need to be aware of gender differences as well as individual differences in vocational cognitive complexity.

Multon, K. D., Ellis-Kalton, C. A., Heppner, M. J., & Gysbers, N. C. (2003). The relationship between counsellor verbal response modes and the working alliance in career counseling. *Career Development Quarterly*, 51(3), 259-273.

Summary. The primary aim of this study was to investigate the verbal responses of counsellors-in-training during career counselling sessions, as well as the impact of those verbal responses on working alliance. The participants were 26 clients aged 16-59 and 19 counsellors-in-training. The Working Alliance Inventory – Short Form (WAI-S), the Revised Hill Counselor Verbal Response Modes Category System, and a demographic questionnaire were used to collect data. The researchers coded the

counsellors' responses during their first three sessions with their clients. The WAI-S was completed by both the counsellor and the client at the end of the third session.

In accordance with the manual for Hill's system, the frequency of verbal response was rated for each of the counsellors. Several raters were used, and results from the kappa statistic indicated good inter-rater reliability. Correlations were performed in order to determine the relationship between counsellor responses and clients' final WAI-S scores, as well as the relation of various types of verbal responses to potentially relevant characteristics of the counsellor (experience level).

The investigation revealed that the most frequent verbal responses were information, paraphrase and closed question. These reactions accounted for 79% of the total counsellor responses. This result reinforced the findings of one previous study of verbal response mode in the career counselling literature. While strong working alliances seemed to have been built between the counsellors and clients in this investigation, none of the frequently used responses were significantly related to the working alliance. Conversely, counsellor self-disclosure was negatively correlated with clients' ratings for working alliance. This finding was somewhat surprising, given the evidence supporting counsellor self-disclosure in psychotherapy research. However, the authors point out that the self-disclosures recorded in this study were largely inappropriate. More research is needed into the mechanisms that contribute to the working alliance in career counselling.

Academic implications. Future research must further examine contributions to the working alliance in career counselling, including the impact of the counsellor's level of experience in providing career counselling. More information is required on the variables

in the career counselling process that lead to the effective outcomes consistently reported in the career counselling literature.

Employer implications. None.

Policy maker implications. Results from this study may provide a training tool for career counselling practice. For example, the data could prompt an important discussion of the appropriate uses of counsellor self-disclosure. Previous findings show that counsellor self-disclosure can enhance working alliance. However, this investigation demonstrated that inappropriate self-disclosures can be ineffective. Self-serving self-disclosures may very well make clients feel uncomfortable, sensing that perhaps their counsellor isn't attending to them. Counsellors-in-training need to be taught how to manage their negative self-talk, rather than revealing their feelings of inadequacy to their clients.

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Neumann, H., McCormick, R. M., Amundson, N. E., and McLean, H. B. (2000). Career counselling First Nations youth: Applying the First Nations Career-Life Planning Model. *Canadian Journal of Counselling* 34(3), 172-185.

Summary. The authors report a general lack of research on First Nations career development and few models for career counselling First Nations people. In an effort to address the needs of First Nations youth and also to explore effective practices in this area, Neumann et al. conducted a field test of the First Nations Career-Life Planning Model. The First Nations Career-Life Planning Model (McCormick & Amundson, 1997) is a framework for reflection that includes traditional First Nations values such as balance, gifts, and spirit, as well as education, interests and labour market options.

The field test was conducted with 13 (7 male and 6 female) First Nations young people, along with their respective family and community members. Neumann facilitated counselling sessions in the participants' home communities, using the Career-Life Planning Guide or chart and the Pattern Identification Exercise (Amundson, 1995) to structure the session. At the end of the session, the facilitator solicited feedback from the participants.

In order to determine the effects of the First Nations Career-Life Planning Model, descriptive narratives were developed for each of the case studies. Using these narratives and the transcripts, the authors identified recurring themes. Analysis of the feedback revealed several important findings. First, all young people who participated reported that they had learned more about themselves. Most of that insight was associated with feedback received from the peers, family and community members who were present during the session. The participants liked the way traditional practices were included in

the counselling sessions. The process was respectful. The facilitator was able to create a comfortable environment for those involved. Second, several recommendations for improvement included specific suggestions for enhancing the Career-Life Planning Guide or chart, conducting more than one session, and preferences for who was invited to attend the sessions. Overall, the results showed that the First Nations Career-Life Planning Model offered a positive experience for all those involved.

Academic implications. This study offers a number of avenues for future research: (a) testing this model in career exploration with people from other collectively oriented cultures, (b) investigating the effects of this model on First Nation youth populations in rural areas, (c) conducting longitudinal studies to document the effectiveness of this approach over time, and (d) performing comprehensive examinations of the career paths of First Nations people. The authors hope that, “With a better understanding of First Nations career-life planning and the continued development of an appropriate career model ... First Nations clients will be better served in the future” (p. 183).

Employer implications. None.

Policy maker implications. None.

Practitioner implications. This study highlights the fact that existing career programs and models need to be re-evaluated and tailored to meet the needs of First Nations youth. The First Nations Career-Life Planning Model has shown that it can be an important first step in students’ career planning. The integration of relevant cultural practices was appropriate and beneficial. Neumann et al. encourage practitioners to utilize this model in First Nations schools and organizations and to make this approach available to a larger population of young people. The authors hope that, “With a better

understanding of First Nations career-life planning and the continued development of an appropriate career model ... First Nations clients will be better served in the future” (p. 183).

Wnuk, S. M., & Amundson, N. E. (2003). Using the Intelligent Careers Card Sort[®] with university students. *Career Development Quarterly* 51(3), 274-284.

Summary. The article examines the effectiveness of the Intelligent Careers Card Sort (ICCS), a career intervention developed to elicit an individual’s views concerning his or her desired career. The ICCS is based on the concepts of the Intelligent Career model (Arthur et al., 1995). It is made up of 112 cards that are subdivided into categories representing three ways of knowing: knowing-why, knowing-how and knowing-whom. Useful information is gathered through a process that attempts to engage client and counsellor in a dynamic, constructive dialogue. The authors used focus group interviews to explore the experiences of individuals who utilized the ICCS. Twenty students aged 17-53 participated in the study.

The authors employed Vaughn, Schumm and Sinagub’s (1996) focus group data analysis procedure, which involves transcribing recorded interviews and identifying thematic units of data, in order to investigate the effects of the ICCS. Most of the feedback indicated that students found the intervention useful. They liked the way that the cards were divided into three competency categories, offering a comprehensive picture of career. They viewed the knowing-why cards, and the way they facilitated an exploration of personal values, as particularly helpful. Participants appreciated receiving a permanent record of their results that they could refer to in the future. On the other hand, they felt that the wording of some of the cards made it difficult to discriminate

between them, and the knowing-whom cards seemed to pose problems for some individuals. Despite their concerns, participants expressed a preference for the ICCS over other activities used in their career development groups.

Academic implications. This was the first study to investigate the effects of the Intelligent Careers Card Sort (ICCS) with university students. More studies need to be conducted on different campuses with larger samples and diverse populations. Longitudinal studies may provide important information on the effects of the intervention over time. Wnuk and Amundson recommend exploring the active engagement nature of the ICCS, the way it enhances an individual's understanding of herself/himself, and the new world of work.

Employer implications. None.

Policy maker implications. None.

Practitioner implications. The positive results of the research so far have shown that the Intelligent Careers Card Sort (ICCS) helps individuals better understand themselves and the new world of work: “[It] provides a holistic view of career through its framework of three ways of knowing” (p. 282). The authors offer several recommendations for enhancing the ICCS administration: (a) giving clients enough time to complete the card sort (one to two hours), (b) explaining in some detail the meaning of the three ways of knowing, (c) linking career exploration activities to the ICCS's framework (e.g., values exploration exercises fall within the domain of knowing-why; informational interviewing is an example of knowing-whom), and (c) using the ICCS model in conjunction with other career counselling principles, such as the constructivist framework proposed by Savickas (2001).

Wnuk and Amundson note that many participants stated that they preferred the ICCS to other activities used in their career counselling group, including the Strong Interest Inventory and the Keirsey-Bates Temperament Sorter. In light of this preference, the ICCS may prove a valuable tool to career practitioners as economic pressures become the norm.

Resources Evaluating Career Development Programs

Anderson, K. J. (1995). The use of a structured career development group to increase career identity: An exploratory study. *Journal of Career Development, 21*(4), 279-291.

Summary. Anderson applied components of Super and Holland's respective theories in order to design a structured career development group to promote career maturity. Using personal insight and introspection, Anderson hoped to enable the participants "to develop a more clearly defined sense of their present 'possible self' and begin to develop new 'possible selves' and thus be more ready to make career decisions" (p. 282).

The treatment group consisted of 13 volunteer students (3 males, 9 females) who received extra course credit for their participation. All group members considered themselves indecisive regarding their career goals and direction. The subjects attended a two-hour session once a week for 10 weeks. Assessments were conducted pre- and post-intervention using the Vocational Identity (VI) scale. Qualitative data was also recorded by the researcher and collected from student evaluations. During the sessions, essay questions were used to assist the participants in their self-exploration. The essay topics focused on issues of childhood and adolescence, influence of parents and other relatives,

influence of friends and role models, and their childhood / adolescent environment.

Topics for the essays included resources, life roles, values, self-awareness and empowerment.

While no detailed discussion of the methods of analysis is included, the author reports that structural and process factors influenced participants' understanding of their personal self-concepts. The content of the essays helped these individuals to identify some of the self-schemas that have blocked or limited the development of their goals and aspirations. Common group characteristics may have helped group members to become hopeful about their ability to become career oriented. Generally, the students commented that the experience had been extremely useful. In addition, results from the VI scale indicated that, following the intervention, students were considerably more prepared to begin the career-decision making process.

Academic implications. Although the pilot of this intervention program has shown some success, further trials with an experimental design would provide more useful data. This study could be repeated with various populations, as well as alternative treatments and control groups, in order to extend Anderson's findings. Additional analysis of the differential impact of both process and content factors may help to identify the most helpful treatment components.

Employer implications. None.

Policy maker implications. None.

Practitioner implications. Anderson hypothesizes that his structured group intervention was successful due to both content and process factors. Many evaluative comments indicated that the content of the six essays encouraged student to explore many

self-schemas that have begun to shape their motives, aspirations and goals. As Anderson's qualitative data showed, the students felt that the process factors were influential in increasing their understanding of their personal self-concept. The consistency of the group's composition (all members considered themselves indecisive) appeared to encourage individuals to be self-disclosing and to incorporate new aspects of self. Overall this type of structured intervention appeared to be successful at improving students' career maturity. More experimental data is necessary to confirm these results and to uncover the effective components of the intervention.

Baker, H. E. (2002). Reducing adolescent career indecision: The ASVAB Career Exploration Program. *Career Development Quarterly*, 50(4), 359-370.

Summary. The Armed Services Vocational Aptitude Battery (ASVAB) Career Exploration Program is one of the largest career development programs in the world. It is a cooperative project between U.S. schools and the Department of Defense. The ASVAB Program has two purposes: (a) to assist students in planning for their post-high school years, and (b) to act as a means of recruiting interested and qualified students for the U.S. Armed Forces.

This article reveals the results of a study conducted to explore the effects of the ASVAB on students' self-knowledge relevant to career exploration and career indecision. Participants included 677 high school students from several different regions of the U.S. The students were both males (53%) and females (47%), and the majority (72%) were Caucasian, Baker's research design included one experimental group and two control groups. All groups were pre- and post-tested using the Career Decision Scale (CDS) and the Career Exploration Knowledge Scale (CEKS).

The CEKS pretest scores were submitted to a one-way analysis of variance (ANOVA) to determine pretest differences among groups. Since significant initial group differences were found, a Participant Group x Gender x Ethnicity x School Program x Grade ANOVA analyzed the CEKS gain scores. Similarly, the CDS subscale pretest scores were submitted to a multivariate analysis of variance (MANOVA) to determine pretest differences among groups. Again, a significant initial multivariate difference was found among the groups. These scores were included in a Participant Group x Gender x Ethnicity x School Program x Grade MANOVA. Upon completion of these analyses, the data showed that participation in the ASVAB Career Exploration Program increases career exploration knowledge, and decreases aspects of career indecision. More specifically, the diffusion and approach-approach components of career indecision appeared to be positively influenced by the program.

Academic implications. Baker's investigation into the impact of the ASVAB was not an experiment; therefore, other interpretations of his data are possible. Baker did not control for initial student differences in career exploration knowledge or career indecision, and so ASVAB participants may have started this study with less career exploration knowledge and higher levels of career indecision than their peers, for example. In addition, study participants were not placed in groups by random assignment, and no attempts were made to ensure that the groups did not engage in additional career development activities that might have influenced their post-test scores. Perhaps more experimental investigations are needed in order to confirm Baker's results and to identify the most useful components of the ASVAB.

Employer implications. None.

Policy maker implications. Baker argues that high school students benefit from participating in broad-based career intervention courses, such as the Armed Services Vocational Aptitude Battery (ASVAB) Career Exploration Program. The students assessed in this study gained relevant career knowledge and reduced their career indecision. The ASVAB is offered free of charge to U.S. schools and students. Given the relatively poor funding available for career development programs, the ASVAB may be a good choice for school counsellors

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Donohue, R., & Patton, W. (1998). The effectiveness of a career guidance program with long term unemployed individuals. *Journal of Employment Counseling*, 35(4), 179-184.

Summary. Donohue and Patton utilized pre and post-intervention questionnaires in an effort to evaluate the effectiveness of a generalized career development program for long-term unemployed individuals in Australia. Frequencies were obtained from the questionnaire items, and the qualitative responses were categorized according to themes. Both the qualitative and the quantitative data indicated that the program was effective for most participants. Post-intervention results showed that 67% of the participants believed

that the career guidance process was very effective; 91% believed that they had developed more realistic expectations about career opportunities.

The study did not identify what parts of the intervention were particularly useful to the participants, nor did it report on specific job outcomes. The positive outcomes identified related to self-awareness, opportunity awareness, decision making skills, and transition skills.

Academic implications. In order to be efficient and effective, practitioners need to know about specific mechanisms for change. Identification of the most effective workshop components is important, as are the specific job outcomes related to career development workshops. Future research might address these issues. Donohue and Patton suggest conducting in-depth interviews with participants in order to garner further insight, as well as performing longitudinal studies to investigate the long-term benefits of her program.

Employer implications. None.

Policy maker implications. This research has several implications for policy makers and practitioners. First, long-term unemployed individuals require greater access to career guidance services. Too often service providers assume that the long-term unemployed do not need career guidance but should simply go out and search for any job. Donohue and Patton's investigation demonstrated that career guidance provided these subjects with greater focus, personal insight and self-confidence – factors that contribute to finding a job. Second, the authors advocate for increases in career guidance services and additional training for career counsellors. Finally, in order to encourage participants

to follow through with their career goals, they suggest that career practitioners offer additional information, support and resources at the conclusion of the workshop.

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Fouad, N. A. (1995). Career Linking: An intervention to promote math and science career awareness. *Journal of Counseling and Development*, 73, 527-533.

Summary. In an effort to promote math and science careers to minority and female students, Fouad experimented with Career Linking, an intensive career awareness model. She tested the model on eighth grade students, hoping to see improvements in their occupational knowledge, self-esteem, effort and achievement in math and sciences, as well as interest in those subjects. Fouad hypothesized that the program would prompt the students to choose their high schools on the basis of interest. Students' occupational knowledge was measured using the Cognitive Vocational Maturity Test, and their self-esteem was measured with the Coopersmith Self-Esteem Inventory. Participants completed each assessment pre- and post-intervention. Achievement, course selection

and high school choice were assessed using data collected by the public school system, and their teachers evaluated the students' effort.

To determine whether students' self-esteem and occupational knowledge were impacted by Career Linking, the researcher performed two separate repeated measures analysis of variance (ANOVA) for pre- and posttests by gender and ethnicity.

Improvements in the participants' math and science achievement, compared with the control group's achievement, were examined using a repeated measures MANOVA by gender and ethnicity. Independent t-tests and chi-square analyses were used to test the theory that the intervention would increase math and science course selection and achievement in high school. Independent t-tests were also used to analyze the students' choice of high school. Finally, descriptive statistics were presented for each of the dependent variables.

Fouad's data demonstrated that the Career Linking program was moderately successful. The students who participated in Career Linking appeared to make more informed decisions about the high school they would attend, were relatively better at math and science when compared with the control group, and chose different high school math courses than the control group. However, Fouad's other hypotheses were unsupported.

Academic implications. Fouad's investigation could be replicated using an experimental design. Initial differences in the cohort group that would have led them to go to magnet schools regardless of the intervention, as well as other pertinent data, could have been identified had the control group also been given the CVMT and the CSEI pre-

and post-intervention. More tests are needed in order to determine the impact of the Career Linking intervention.

Employer implications. None.

Policy maker implications. None.

Practitioner implications. Fouad's results demonstrate how a program such as Career Linking, an intensive career awareness model that is integrated with math, science, English and history curricula, may be moderately effective at promoting math and science achievement and career awareness, as well as future course selection among middle school students. Fouad argues that the early intervention appeared to counteract several findings reported in relevant literature: (a) that minority students and girls are less likely than white boys to take math courses in high school; (b) that minority students lack the experiences needed to link school and work; and (c) that minority students and girls have low self-efficacy in math and science.

Fouad points out that implementation of the Career Linking program was very time consuming and required coordination between the counsellors and classroom teachers. She suggests building a library of printed and audio-visual materials, arranging for common planning times, and assigning organizational tasks to interns or practicum students. In addition, Fouad recommends that counsellors augment the career awareness activities offered through Career Linking with exploration and decision making activities.

Healey, C. (2001). A follow up of adult career counseling clients of a university

extension center. *Career Development Quarterly*, 49, 363-373.

Summary. Seeking to provide more information about the career counselling of out-of-school adults, Healey examined several questions regarding the completion rates

of clients in brief and comprehensive career programs, client satisfaction, and client recommendations for improving career counselling programs. Participants in the investigation included 94 women and 87 men who received career counselling in a brief or comprehensive program at a university extension center. Almost all subjects sought help in identifying or affirming a satisfying career direction through individual counselling. The program consisted of three, one-hour interviews and two to six hours of assessment. The comprehensive career development program featured five interviews and nine to thirteen hours of assessment. One month to a year following their last career counselling sessions, participants were telephoned and asked about their reactions to the program. Responses were solicited by way of seven standardized questions.

The feedback was examined using several statistical measures. ANOVA was used to calculate program and sex differences in completion, as well as participants' satisfaction. Descriptive statistics were used to investigate what participants considered helpful about the counselling programs, what they considered not helpful, and what kinds of follow through they reported. Finally, correlations were used to test whether overall satisfaction and completion related to the kinds of help and follow through reported.

The results were as follows: (a) 33% of adults did not use all of their allotted counselling sessions; (b) completion rates for the two programs were not statistically different; (c) there were no differences in completion by age, gender or education level; (d) the majority were satisfied with their career counselling; (e) use of all sessions did not relate to satisfaction; (f) "being listened to," "help in clarifying assets and values," "feedback from testing," and "information" were common responses to the question of what was helpful in counselling; (g) 85% reported that they had taken action since

counselling; and (g) lack of specific leads from the assessment or the counsellor was reported to be the major shortcoming of the career counselling programs. Healey concluded that “Well-educated adults will find brief individual career counselling programs featuring assessments and a limited number of counselling interviews useful in developing their careers ... Some adults may not want assistance in developing plans from appraisal results” (p. 317).

Academic implications. While Healy acknowledges that his results should be regarded with caution, he argues that “[This investigation] presents previously unavailable empirical data that alerts counsellors who would evaluate adults’ follow through on career counselling to assess a variety of outcomes, and it suggests that some adults find career counselling with minimal counsellor contact acceptable” (p. 372). This study should be replicated with diverse populations from other institutions and agencies, in order to confirm or refute Healy’s findings.

Employer implications. None.

Policy maker implications. None.

Practitioner implications. Healey concluded that “Well-educated adults will find brief individual career counselling programs featuring assessments and a limited number of counselling interviews useful in developing their careers ... Some adults may not want assistance in developing plans from appraisal results” (p. 317). He argues that effective career counselling requires establishing a working alliance with the client and providing access to current career information. Experimenting with tiered programs may help career counselling centers to identify the most cost-effective mode of assistance. Healy also recommends that counsellors consider approaches for fostering perseverance in career

counselling, such as discussions of objectives and clients' perceptions about the benefits of counselling. Telephone reminders could also improve attendance.

Loughead, T. A., Liu, S., & Middleton, E. B. (1995). Career development for at-risk youth: A program evaluation. *Career Development Quarterly*, 43, 274-284.

Summary. PRO-100 is a career development program for inner city, impoverished youth. Work experience and a career development curriculum were the main components of the seven-week course. Youth aged 14-18 worked in teams for six hours each day performing landscaping and beautification tasks for their city. Following each work day, students attended a one-hour career development class. In order to ascertain its effectiveness, PRO-100 was evaluated using (a) standardized assessments, (b) self-report data from coaches and students, (c) interviews with participants, (d) questionnaires and semi-structured interviews, and (e) general observations.

Multivariate analysis of variance (MANOVA) was used to conduct the preliminary analyses. Repeated measures t-tests were employed to examine the differences among pre- and posttest scores on all quantitative outcome variables. The qualitative data was analyzed using the Constant Comparative Method. The examination of the quantitative data revealed that, upon completion of the program, the youths had made significant gains in career planning and job search skills. Similarly, the qualitative data revealed that all stakeholders felt the students had acquired effective work habits and gained job search skills while being involved in PRO-100.

Academic implications. Loughead, Liu and Middleton argue that "It is essential that career development specialists increase their awareness of the issues confronting at risk populations, and that future investigations expand as the proportions of minorities in

the workforce increases” (p. 283). They recommend that researchers adopt their article as a paradigm of combined quantitative and qualitative methods for use in further career development program evaluation. More studies are required in order to fully assess the effectiveness of PRO-100. Research on at-risk populations in varying locations may be warranted, as well as longitudinal studies to measure the social and economic impact of PRO-100 over time.

Employer implications. None.

Policy maker implications. The evidence demonstrated that at-risk youth have the ability to participate in career development programs and to make significant gains in job search skills and career planning. The authors contend that their data indicate that “Perhaps at risk populations ... are in need of gaining successful job securing skills and work habits, which contribute to transferable life skills, before moving on to higher order career needs such as career decision making, career planning and job satisfaction” (p. 282). Consequently, programs like PRO-100, which incorporate work and curricular activities, have the potential to impact at-risk youth positively. Three critical program components were identified. First, it is important to involve youth actively in preparing for the world of work, instead of simply talking about it. The link between education and the world of work was also critical. Finally, it is important to have good group facilitators. Coaches who were respectful, consistent with rules, and open with communication seemed to have interns who were well-behaved and task-oriented. Thus, program training coaches on how to relate to at-risk youth is recommended.

Longitudinal studies are required in order to measure the social and economic impact of PRO-100 over time.

Practitioner implications. The evidence demonstrated that at-risk youth have the ability to participate in career development programs and to make significant gains in job search skills and career planning. The authors contend that their data indicate that “Perhaps at risk populations ... are in need of gaining successful job securing skills and work habits, which contribute to transferable life skills, before moving on to higher order career needs such as career decision making, career planning and job satisfaction” (p. 282). Consequently, programs like PRO-100, which incorporate work and curricular activities, have the potential to impact at-risk youth positively. Three critical program components were identified. First, it is important to involve youth actively in preparing for the world of work, instead of simply talking about it. The link between education and the world of work was also critical. Finally, it is important to have good group facilitators. Coaches who were respectful, consistent with rules, and open with communication seemed to have interns who were well-behaved and task-oriented.

Heebner, A. L. (1995). The impact of career magnet high schools: experimental and qualitative evidence. *Journal of Vocational Education Research*, 20(2), 27-55.

Summary. New York City’s career magnet high schools and programs focus on integrating academic and vocational education with a focus on educational equity. These schools have prospered for over 15 years and are popular amongst students and their parents. This study examined the impact of participation in magnet programs on students’ learning and career development. Heebner’s research was comprised of both qualitative and quantitative assessments that compared the experiences of “lottery winners” and “lottery losers.” Lottery winners attended the magnet programs, while lottery losers attended their neighbourhood comprehensive high school. The evaluation included an

analysis of statistical data concerning over 5000 students, a series of intensive interviews with 70 students and 62 school staff, and a survey of school administrators in over 100 career magnet programs.

The following conclusions were derived from Heebner's descriptive statistics and qualitative findings: the magnet schools enhance students' career development more than the comprehensive high schools; career magnets provide students with hope for a productive future; students at these schools are challenged by the range and rigor of their coursework; medium and high range readers tend to do better academically at the magnet schools, whereas under-prepared students are often lost along the way; and both career magnets and comprehensive high schools are understaffed in their counselling offices.

Academic implications. Heebner's research demonstrates some the strengths and weaknesses of the career magnet schools in New York. However, the study did not investigate or discuss the contribution of specific program components. The career magnet high schools may enhance the career development of high school students, but why or how these benefits occur is unknown. Future research could address these issues.

Employer implications. None.

Policy maker implications. Educational policy makers argue that the success of the economy is contingent upon improving the education of all students, especially the average and below-average ones. Although experimental results revealed that low readers benefited less than medium-high readers from the programming at magnet schools, students with low reading scores were less likely to drop out of these schools than their counterparts at comprehensive schools. Moreover, the students who stayed in school developed confidence in their ability to use their skills in the workplace. The career

magnet school model may provide some insight for policy makers wishing to improve the education system and enhance students' career development.

Practitioner implications. Heebner's research demonstrates that schools like the career magnet high schools in New York, which blend college and vocational preparation with regular high school curriculum, may help a variety of students. Career magnet schools seemed to have a positive impact on students' career development, supporting an interest in skills and planning for the future. Students with medium to high reading scores also showed higher math test scores in career magnet schools than did students with similar scores attending comprehensive high schools. However, underprepared students were often unsuccessful in the rigorous environment of the career magnet schools. Heebner acknowledges that disadvantaged students often lack the cultural capital necessary for realizing their career aspirations. She encourages counsellors and teachers to be more sensitive to the situation of these students in order to recognize opportunities to help them develop the self-confidence, knowledge, skills and abilities they need to succeed.

Heim Bikos, L., & Smith Furry, T. (1999). The Job Search Club for international students: An evaluation. *Career Development Quarterly*, 48, 31-44.

Summary. This study sought to evaluate the effectiveness of the Job Search Club (JSC) with international students. Previous research indicates that the JSC has been effective with lower functioning clients. In this study, the subjects were highly functioning students with unique employment concerns. Job search behaviours and psychological issues related to career planning were the main focus of the program evaluation.

Eight men and 16 women volunteered to participate in this evaluation by completing the pre- and posttest measures. The mean age of the subjects was 29, and they represented 7 foreign countries. More than half were from the People's Republic of China. Sixty-seven percent were Master's level students.

The participants attended five to seven JSC sessions, where topics like developing job search plans, using campus career services, writing resumes, dealing with work permits, using the Internet, drafting job search correspondence, and networking were discussed. Data on the effectiveness of the JSC was collected using several instruments: a demographic survey, a job search behaviour worksheet, the Career Confidence Scale, Career Decision-Making Self-Efficacy Scale, My Vocational Situation and an author-constructed questionnaire.

Several different t-tests were performed to analyze the quantitative data collected from the pre- and post- measures. McNemar tests were used to evaluate the differences in related pre- and post- job search behaviours of the JSC participants. A content analysis of the open-ended evaluation was also completed. The results of the investigation support the use of the JSC as an intervention for international students looking for work. Upon completion of the program, participants demonstrated significant increases in certain job search behaviours (writing a resume, writing a cover letter, participating in an interview) and activities. They also showed moderate improvement in career self-efficacy and vocational identity. In addition, the qualitative and quantitative data indicated client satisfaction with the program.

Academic implications. The authors recognize several limitations in their study and encourage future researchers to make adjustments. Specifically, Heim Bikos and

Smith Furry recommend using a larger sample population and a control group, in order to eliminate potential issues related to the internal validity of the study. They also suggest a more complex research design allowing for a multivariate approach for statistical analyses, as well as new methods for assessing the students' job search behaviours and self-efficacy. An examination of the critical components of the intervention may also be warranted. The authors support continued efforts to refine and evaluate the JSC as an intervention for international students.

Employer implications. None.

Policy maker implications. None.

Practitioner implications. Based on these results, practitioners may want to consider using the JSC as an intervention for international students seeking work in the U.S. The JSC model used in this study appeared to help increase students' job search behaviours and activities, as well as career self-efficacy and vocational identity.

The authors recommend the following: (a) formally incorporating information on cultural differences and law, as it applies to job search; (b) providing more time for resume writing, interviewing and business correspondence; and (c) using a modified time frame which would give students more opportunity to complete their assignments. Heim Bikos and Smith Furry support the use and refinement of JSC with international students. Hung, J. (2002). A career development course for academic credit: An outcome analysis.

The Canadian Journal of Career Development, 1(1), 22-27.

Summary. This article shares the findings of a survey that was conducted before and after students attended the course "Introduction to Career Portfolios" at Dalhousie University. Forty-nine students, from various levels of study, opted to participate in this

research project. Once the course was completed and the survey data collected, group means were compared with paired samples t-tests. This quantitative analysis revealed significant increases on measures of career certainty, and decreases on measures of career indecision, career choice anxiety, as well as generalized indecisiveness. Some gender differences were noted, with females seeming to benefit more from the career development course.

Findings from this study indicate that “The study and application of career development theory, concepts and practices can have a positive impact on the career concerns of university students” (p. 25). However, at the time of publication, only three Canadian Universities offered courses on career development for credit at the undergraduate level.

Academic implications. Hung highlights several limitations in her study that may affect the generalizability of her findings. These include a small sample size, as well as the uncontrolled personality and situational variables of the subjects. She also noted that perhaps career maturity was an inappropriate construct to measure, pointing out that career adaptability may be more appropriate for adult populations. Future research designs should address these concerns in order to extend our knowledge of the impact of career development courses. Hung recommends conducting qualitative studies in order to explore the experiences of the students and instructors who participate in these courses. She argues that additional qualitative data will help to maximize the impact of this type of intervention. In all, more research in this area is required to substantiate Hung’s findings and to provide more insight into how and why this type of course has a positive effect on students’ career concerns.

Employer implications. None.

Policy maker implications. Hung points out that credited career development courses are well established at many post-secondary institutions in the United States, but Canadian institutions are just beginning to show interest in offering such courses. Concerns over academic credibility, philosophical issues, and the complex nature of designing a universal career intervention to meet the needs of a wide range of students may be curbing efforts to implement such courses. Nevertheless, Hung's research demonstrates that "Many students can personally benefit from a theoretically integrated approach to the understanding of career issues" (p. 25). Counsellors can provide effective career interventions in a classroom setting.

Hung argues that additional qualitative research exploring the experiences of both instructors and students will provide the information that post-secondary institutions need in order to anticipate the pedagogical, political and developmental challenges inherent in offering career development courses.

Practitioner implications. Hung's study demonstrated that "Many students can personally benefit from a theoretically integrated approach to the understanding of career issues" (p. 25). She argues that practitioners with expertise in career choice, career development and work related-issues can draw on the research literature and their professional practice to enrich the career development experiences of students in a classroom. She encourages Canadian universities to investigate the challenges associated with offering a career development courses for credit and to consider how such courses can be implemented effectively.

Jurgens, J. C. (2000). The undecided student: Effects of combining levels of treatment parameters on career certainty, career indecision and client satisfaction. *Career Development Quarterly*, 48, 237-250.

Summary. Fretz (1991) categorized career interventions based on three treatment parameters: content domain, interpersonal context, and degree of structure. Each of these parameters is also defined by “levels.” The content domain includes occupational information, self-knowledge and decision making skills. The interpersonal context includes one-to-one counselling, group counselling, and self- or computer-administered interventions. Finally, the degree of structure domain includes highly structured, semi-structured and unstructured interventions.

Jurgen’s research intended to examine the “distinctive effects of combined levels of treatment parameters on outcomes of career certainty, career indecision and satisfaction with the interventions” (p. 240). She compared the efficacy of a four-phase intervention, combining all three levels of each of the three treatment parameters with a two-phase intervention, combining only two levels of each of the three treatment parameters. The subjects were 37 undergraduate, undeclared students, with an average age of 22 years. The students were randomly assigned to one of two treatment groups. Treatment group 1 was assigned a four-phase intervention consisting of (a) a two-hour decision making workshop, (b) a two-hour computerized assessment using DISCOVER, (c) a one-hour individual career counselling session, and (d) a two- hour professional forum. Treatment group 2 received a two-phase intervention consisting of (a) a two-hour computerized assessment on DISCOVER, and (b) an individual career counselling

session. A pre- and posttest was done using the Career Decision Scale (CDS). The programs were also evaluated using an author-created questionnaire.

General linear model repeated measures analyses of variance were computed on the pre- and posttest scores from the Certainty Scale of the CDS, in order to evaluate the impact of the four-phase intervention on career certainty compared with the impact of the two-phase intervention. Similar procedures were used to determine the interventions' effects on career indecision. In this case, the pre- and posttest scores from the Indecision Scale of the CDS were analyzed. Descriptive statistics and t-tests were used to assess which intervention resulted in higher levels of client satisfaction.

The results of Jurgens' study indicated that both the four-phase and two-phase interventions were effective in increasing participants' career certainty. However, the four-phase intervention was significantly better in this regard. Both treatments were equally effective in decreasing levels of career indecision. Finally, there were no significant differences in levels of client satisfaction between the two groups. The phase that received the highest ratings of client satisfaction in assisting participants with their career decision making was the individual career counselling sessions. This study confirms previous findings that "Comprehensive programs and short-term interventions can be effective for reducing career indecision and increasing career certainty" (p. 247). Jurgens concludes that agencies with limited resources could utilize basic, cost-effective interventions to offer assistance to undecided students.

Academic implications. Jurgens recognizes several areas of limitation in her investigation and offers direction for future research: (a) incorporating a wider variety of personal variables (e.g. non-students, different age groups and ethnic groups etc.), (b)

adding a control group, (c) analyzing counsellor characteristics and their affects on treatment, and (d) utilizing larger sample sizes. More information on the effectiveness of combination decision making programs could be gained through further testing. This information could be very useful to program planners.

Employer implications. None.

Policy maker implications. None.

Practitioner implications. Jurgens argues that counsellors working with post-secondary students on career development can benefit from her findings in several ways. Her research showed that (a) individual counselling sessions were rated as highly beneficial to students needing help with decision making; (b) group work appeared to be advantageous with undecided populations (i.e. cost-effective) and normalized the experience for students; (c) both treatment conditions seemed to decrease career indecision, while increasing the career certainty of participants. Consequently, "It seems that interventions can be customized to meet the needs of the agency or organization and that even the most cost-effective intervention may offer some relief to the undecided individual" (p. 249).

Merz, M. A., & Szymanski, E. M. (1997). Effects of a vocational rehabilitation based career workshop on commitment to career choice. *Rehabilitation Counseling Bulletin, 41*(2), 88-105.

Summary. Merz and Szymanski discuss the findings of a study that was conducted to assess the impact of a vocational-rehabilitation-based workshop on commitment to career choice. The subjects were 48 individuals with a variety of disabilities. Men and women, Caucasians and African Americans were equally represented in the study. A

pretest-posttest research design was used to assess the experimental and control groups. Once the intervention was complete, the researchers conducted aptitude treatment interaction analysis (ATI) in order to evaluate the workshop's influence on vocational identity, vocational exploration, and commitment. The results indicated that the career planning workshop "increased the levels of vocational identity and commitment to career choice in clients who had low levels of these attributes prior to attending the workshop" (p. 99). The authors argue that active participation in the rehabilitation and career development process was the key to the success of this intervention.

Academic implications. Merz and Szymanski note that their investigation is the first of its kind and that it expands the generalizability of career workshop research to state vocational rehabilitation agencies. Nevertheless, they encourage replication studies in order to confirm their findings and compare the workshop with other vocational rehabilitation services. They also suggest that additional research may look at the relationship between vocational rehabilitation case status and the Vocational Exploration and Commitment Scale and Vocational Identity Scale, as well as the level of participation in the workshop and level of involvement in the rehabilitation process.

Employer implications. None.

Policy maker implications. None.

Practitioner implications. Merz and Szymanski view their results as a positive indicator that "Rehabilitation expertise combined with effective career counselling methods may be a successful response to current market demands" (p. 101). Participants in this study were particularly satisfied with the self-assessment tools, the detailed information presented, their increased self-confidence, and the opportunities to give, as

well as receive, provided by the workshop. Counsellors involved in the program also reported a sense of job enrichment as a result of designing and facilitating the workshop. Moreover, the structured setting of the workshop enabled vocational rehabilitation counsellors to provide comprehensive services in a time-efficient manner. In all, the authors argue that a vocational rehabilitation-based workshop can be a means for eliciting the active consumer involvement that is necessary for empowering clients in their career development.

Peng, H. (2001). Career group counseling in undecided college female seniors' state anxiety and career indecision. *Psychological Reports, 88*, 996-1004.

Summary. Peng conducted a study of 35 female college students in Taiwan, in order to test the hypothesis that "Women would rate state anxiety lower and report less career indecision after career group counselling" (p. 998). Twenty-seven women participated in group counselling sessions that combined cognitive restructuring interventions with career decision making skills training. Eight women were placed in a control group. Pre- and posttests were given in order to determine the participants' levels of state anxiety and career decision. The effects of the treatment were measured using an analysis of covariance (ANCOVA) of state anxiety scores and career indecision scores. Although generalizations are limited, Peng's quantitative research showed that undecided college female students' lower ratings of state anxiety and career indecision were positively associated with her approach to career group counselling.

Academic implications. Peng supports more research on the career development of female college students, hypothesizing that more investigation into career indecision and state anxiety may highlight some of the barriers that face female college students

wishing to make career decisions. Generalizations based on the present study are limited due to the small sample size. Peng suggests modifying the intervention for subsequent inclusion in career education programs, as well as conducting “longitudinal research focused on the relations among career indecision, state anxiety, and trait anxiety, career locus of control, and academic grades over time with a larger sample of women” (p. 1003). Examinations of the effectiveness of the various components of Peng’s “Female Career Counselling Approach” may also provide useful insight into specific mechanisms for change.

Employer implications. None.

Policy maker implications. None.

Practitioner implications. The findings presented in this article suggest that Peng’s model for career group counselling was positively associated with undecided female college students’ lower ratings of state anxiety and career indecision. Peng argues that “An undecided female client who has learned to manage anxiety through a combination of cognitive restructuring with career decision making skills training should be more receptive to and comfortable with making career decisions and experience a lower state anxiety when doing so” (p. 1003). She encourages practitioners to offer career group counselling, involving various activities on career awareness and anxiety management, in the context of career decision making.

Peng, H. (2001). Comparing the effectiveness of two different career education courses on career decidedness for college freshmen: An exploratory study. *Journal of Career Development, 28*(1), 29-41.

Summary. Peng's investigation compared the effectiveness of a cognitive restructuring intervention and career decision-making skills training. Two different career education courses were designed for Taiwanese business college students, and the courses' impact on career decision making was tested. The participants included 164 college freshmen. The subjects' average age was 19, and the majority (77.4%) were female.

The design selected for this study was a pre- and posttest plan using two experimental groups and one control group. After the data was collected, a 3 (treatment) x 2 (gender) multivariate analysis of covariance (MANCOVA) was conducted. Peng's findings demonstrated statistically significant increases in posttest scores registered by students taking career education courses as compared to the control group. In addition, both styles of intervention were equally effective at decreasing the participants' career indecision scores on the Career Decision Scale.

Academic implications. It is interesting to note that both types of career development interventions resulted in similar outcomes, i.e. decreased career indecision, for Taiwanese business students. Future research may explore what components of these interventions made them successful. Peng suggests using large random sampling in order to minimize subject bias and increase the generalizability of the results. Testing students from other nationalities and different post-secondary institutions may also improve our understanding of the effectiveness of career development programming. Finally, Peng encourages researchers to examine the combined or differential effects of career education courses and other career interventions, such as individual counselling and

computer assisted career guidance systems, in facilitating college students' career decision making.

Employer implications. None.

Policy maker implications. None.

Practitioner implications. Peng's findings supported those of previous researchers who found that career education courses have a positive impact on career decision making. In addition, it appears that a cognitive restructuring intervention and career decision making training can be equally successful in this regard. Thus, practitioners have a variety of potentially effective options open to them when designing career development programs to meet their clients' needs.

Peng, H., & Herr, E. L. (1999). The impact of career education courses on career beliefs and career decision making among business college students in Taiwan. *Journal of Career Development, 25*(4), 275-290.

Summary. Peng and Herr's study examined the general hypothesis that a career education course may influence Taiwanese students' career decision making and career beliefs. Their study was the first to examine the impact of career education in Taiwan.

A total of 495 business college students were involved in this quasi-experimental investigation. Participants in treatment group 1 took part in a course that focused largely on interpersonal relationships, while treatment group 2's course focused on career planning. Both treatment groups and the comparison group were assessed using the Career Decision Scale and the Career Beliefs Checklist before and after the career education courses were implemented.

Three-way analysis of covariance (ANCOVA) was used to analyze the information obtained during the assessment process. Post-hoc analysis of variance tests were also performed in order to determine the sources of significant differences. The findings suggest that “Career education courses appear to have utility in facilitating career certainty and, to a limited degree, career beliefs” (p. 288). Interestingly, both approaches to career education seemed to have the same impact on the students’ career decision making, even though they had different emphases. Additionally, neither course had much of an effect on career beliefs. The authors reason that a semester-long career education course may not be sufficient time to modify most career beliefs, or that the career education course content may not have been appropriate for this task.

Academic implications. Peng and Herr’s study was “the first designed to examine a possible relationship among career education courses, career beliefs, and career decision making in Taiwan” (p. 286). Although their results supported earlier findings that career education courses have a positive impact on career decision making, more research is needed in this area. Peng and Herr reported that their career education courses promoted statistically significant changes on only 3 of 20 scales (Self-Sufficiency scale, Jobs to Serve All Purposes scale, and the Control Tendency scale) of the Career Beliefs Checklist, and several of the results were mediated by the influence of college year status and gender. The data demonstrated that two different career education approaches have a similar, positive affect on career decision making. Additional research is needed test these findings and to explore the mechanisms responsible for change.

Employer implications. None.

Policy maker implications. None.

Practitioner implications. Peng and Herr conclude that “If a career education course becomes part of the college requirement, the contributions of career education in the college will include helping college student learn how to make career decisions, and perhaps with refinements in course content, help students identify selected core beliefs which may block them from or facilitate them in making particular career decisions” (p.288). It appears that different approaches to career education have a similar capacity to facilitate career decision making, possibly leaving a variety of program planning options open to practitioners. However, since only 3 of the 20 career belief scales were affected by participation in the career education courses, the authors hypothesize that a semester-long class may not be sufficient time to modify most career beliefs, or that career education courses may need to be tailored to the needs of younger or older students.

Roy Sullivan, K., & Mahalik, J. R. (2000). Increasing self-efficacy for women:

Evaluating a group intervention. *Journal of Counseling and Development*, 78, 54-61.

Summary. The purpose of Roy Sullivan and Mahalik’s research was to investigate a career group intervention designed to increase career decision making self-efficacy (CDMSE) in women. Betz’s (1992) strategies for modifying career-related self-efficacy and a focus on the effects of feminine socialization were important components of their program. The authors hypothesized that CDMSE and vocational exploration and commitment (VEC) would increase for women participating in the career group intervention, compared with women in a no-treatment control group. Sixty-one female university students who reported being undecided about career took part in the study. The

majority of the participants were Caucasians aged 18-43. The intervention consisted of six 90-minute group counselling sessions.

In the preliminary analysis, Roy Sullivan and Mahalik used analyses of variance (ANOVAs) and chi square analysis to compare the five treatment groups across demographic and pre-test variables. The pre-test scores and demographics of the control group were compared to the data collected on the treatment groups using chi-squares and t-tests. Differences in participants' career group experiences were also examined using ANOVAs. In the main analysis, the researchers performed two repeated measures analyses of covariance (ANCOVAs) in order to demonstrate the intervention's effects on CDMSE and VEC. Finally, the treatment gains were assessed using repeated measures ANOVAs comparing mean scores after the posttest, with mean scores at the six-week follow up. The results of this analysis indicate that women in the career counselling group improved in career decision making and vocational exploration and commitment. Gains in these areas were found to be maintained six weeks after the end of the group intervention. It appeared that "Incorporating the four influences on self-efficacy into career work and addressing socialization factors for women had a positive effect on decision making and vocational exploration" (p. 59).

Academic implications. Although positive outcomes were recorded, Roy Sullivan and Mahalik are cautionary about making generalizations beyond female, Caucasian, college-aged and college-educated populations. They recommend examining the longer-term effects of this type of career counselling group for girls and women, as well as more research into psychological and educational interventions designed to increase career-related self-efficacy in women.

Employer implications. None.

Policy maker implications. None.

Practitioner implications. Roy Sullivan and Mahalik's results "support Betz's strategies for increasing career-related self-efficacy through addressing performance accomplishments, vicarious experiences, emotional arousal and verbal persuasion" (p. 59). Incorporating these four influences and addressing socialization factors for women had a positive effect on clients' career development. Based on these findings and their experiences with the group, the authors offer many specific recommendations for counselors: (a) choosing career interventions that attend to clients' self-efficacy attributions about their interests, values and talents; (b) revisiting options that may have already been eliminated based on faulty self-efficacy perceptions; (c) incorporating contextual factors such as gender socialization issues into their career work with women; (d) helping clients manage anxiety with relaxation techniques; and (e) providing encouragement and positive reinforcement as clients perform successfully.

Saam, R. H., Wodtke, K. H., & Hains, A. A. (1995). A cognitive stress reduction program for recently unemployed managers. *Career Development Quarterly, 44*, 43-51.

Summary. Saam, Wodtke and Hains hypothesized that "An experimental group exposed to a structured cognitive stress reduction intervention program would (a) experience greater reduction in anxiety, (b) experience greater reduction in anger, and (c) be reemployed sooner than a control group" (p. 45). In order to test these hypotheses, these researchers conducted a study on 42 adults who had recently lost their jobs and were participating in outplacement programs. The average age of the subjects was 46.

Individuals in the experimental and control groups were pretested before partaking in the appropriate treatment. Those in the experimental group received the cognitive stress reduction intervention, and the control group received only the typical stress management advice given in a usual outplacement program.

In order to test the hypothesis that the experimental group would have lower mean posttest anxiety and anger scores than the control group, analyses of covariance were used. T-tests were used to compare the mean number of days it took for participants in each group to find employment. The data collected largely supported the authors' hypotheses. The cognitive stress reduction intervention effectively reduced the state anxiety, state and trait anger, and anger expression of the experimental group. In addition, participants who received the intervention tended to find jobs sooner than their counterparts in the control group. The qualitative data collected from the counsellor offering the training supported the quantitative results. It was not clear whether the structure, timing or content of the intervention was responsible for the outcome of this investigation.

Academic implications. The authors acknowledge that they were unable to discern the specific components of the intervention that were responsible for promoting client change. They encourage future studies to explore the contributions of the structure, timing and content of the intervention. This intervention may also be tested on diverse populations in alternate settings, in order gain more insight into the generalizability of these findings.

Employer implications. None.

Policy maker implications. None.

Practitioner implications. As Saam, Wodtke and Hains point out, recent business trends indicate that frequent, involuntary job change will typify the careers of most managers, and as such this population will require effective stress reduction techniques in order to maintain their personal well-being. The authors argue that the intervention investigated in this study was both successful at helping participants reduce their stress and cost-effective for outplacement counselling agencies.

Schaefer Enright, M. (1997). The impact of a short-term career development program on people with disabilities. *Rehabilitation Counseling Bulletin*, 40(4), 285-300.

Summary. Schaefer Enright tested the effectiveness of a three-week community based career development program for people with disabilities. A posttest was used to assess two hypotheses: (a) that a short-term career development program will decrease the career indecision of people with disabilities, and (b) that a short term career development program will increase the career decision making self-efficacy of people with disabilities. Thirty-eight participants, the majority of whom were white males, were randomly assigned to experimental and control groups.

The two research hypotheses were tested using independent sample t-tests. Schaefer Enright's results showed no significant differences between the experimental and control groups across the three instruments used to measure career indecision and career decision making self-efficacy. However, data from the exit interviews indicated that the majority of the subjects found the workshop enhanced their self-esteem and life decision making self efficacy. The author discusses several possible explanations for the inconsistency in her data: (a) failure of random assignment, (b) poor construct validity of the outcome measures, (c) weakness of the treatment, (d) low statistical power, and (e)

failure to account for possible attribute-treatment interactions. Schaefer Enright concludes that career development workshops for people with disabilities are both feasible and practical. She suggests that these programs may be more effective if they encourage active participation in the career development process.

Academic implications. Schaefer Enright suggests that the lack of statistically significant treatment effects may be due to a combination of several factors: (a) failure of random assignment, (b) poor construct validity of outcome measures, as well as (c) weaknesses in the design and implementation of the treatment itself. Nevertheless, she argues that the results support the practicality and value of career development workshops for people with severe disabilities. Schaefer Enright encourages researchers to continue to design, implement and evaluate career programs for this population.

Employer implications. None.

Policy maker implications. None.

Practitioner implications. Despite the lack of statistically significant data to support her intervention, Schaefer Enright argues her results support the feasibility and value of career development workshops for people with severe disabilities. Her data revealed that the majority of her subjects were eager participants, committed to the process, and experienced higher self-esteem and decision making self-efficacy following the program. Schaefer Enright makes recommendations for practitioners, suggesting that career development programs should “(a) emphasize the active involvement of participants in the processing and working with career information (Mastie, 1994), (b) require in-depth weekly homework assignments, (c) be of sufficient duration and rigor to produce lasting change, and (d) follow, whenever possible, a pre-test, post-test

experimental design to permit the measurement of change within groups” (p. 297). She also argues that counsellors should encourage their clients to make an investment in their job quest and career development process, since the more the individual is involved in the process, the more likely he or she is to overcome barriers.

*Speight, J. D., Rosenthal, K. S., Jones, B. J., & Gastenveld, P. M. (1995). Medcamp’s effect on junior high school students’ medical career self-efficacy. *Career Development Quarterly*, 43, 285-296.

Summary. The article describes an intervention designed to increase medical career self-efficacy and evaluates its effects, using the Medical Career Self-Efficacy Scales (MCSES). Medcamp is a three-day problem-based program in which participants are given the task of diagnosing and suggesting treatment for a clinical case history involving bacterial pneumonia. Medcamp is based on Bandura’s four roots of self-efficacy. A total of 45 ninth grade, minority students took part in the summer program.

In order to determine Medcamp’s significant effects on each of the MCSES, dependent t-tests were conducted. Upon analysis of the pretest and posttest data, the researchers concluded that Medcamp was indeed effective in increasing the junior high school students’ self-efficacy. Students’ self-efficacy increased for the tasks they had performed during the intervention, as well as for related tasks, lifestyle and study habit variables. In the short term, it appears that Medcamp significantly increased students’ confidence in their ability to succeed in medical school.

Academic implications. Longitudinal data are essential to support the effects of Medcamp on students’ self-efficacy. The junior high school students who participated in Medcamp are not likely to reach college for four to five years. Will they still feel as

positively about their ability to achieve in medical occupations at that time? How will the program have affected their early career choices? Due to the relatively high costs of implementing the Medcamp program, more data is required to illustrate and clarify its actual benefits (short-term and long-term) and to justify making it widely available to students.

Employer implications. None.

Policy maker implications. None.

Practitioner implications. Medcamp was found to be effective at increasing junior high school students' self-efficacy for a variety of tasks, medically related and otherwise. Since women and minorities typically have few opportunities to develop medical career self-efficacy, this experience was an important step towards expanding these students' career options. Betz's model for increasing career self-efficacy appeared to provide a good theoretical framework for this type of intervention. Based on their results, Speight et al. recommend that "Interventions such as Medcamp should recruit members of groups who possess sufficient intelligence to succeed in professional education but still experience low career self-efficacy for traditionally White male occupations" (p. 292).

Practitioners should also note that, given the relatively high costs of implementing the Medcamp program, perhaps more data is required to illustrate and clarify its actual benefits (short-term and long-term) and to justify making it widely available to students.

Resources on Process Studies

Heppner, M. J., & Hendricks, F. (1995). A process and outcome study examining career indecision and indecisiveness. *Journal of Counseling and Development, 73*, 426-437.

Summary. Little empirical data exists regarding appropriate career counselling interventions for different types of clients. In response to this gap in the literature, Heppner and Hendricks' study examined the change process in career counselling with an indecisive and an undecided client. "Undecided" students are those who have yet to make a decision about their career direction, usually because they lack information, while "indecisive" students are those who are characteristically unable to make decisions in a wide variety of contexts. This study employed process and outcome measures to determine (a) what specific events were the most significant in each session, (b) counsellor intentions in the "best" versus "worst" sessions, (c) the role of working alliance with career clients, and (d) differential counselling outcomes.

Two students and two counsellors took part in this investigation. One student was a 21 year old male who was identified as indecisive, and the other was a 19 year old male who was identified as undecided. Each of the students was pretested and then offered career counselling. The two female counsellors were instructed to conduct their sessions as similarly to non-experimental conditions as possible. Counselling for the undecided student took four sessions, while the indecisive client met with his counsellor six times. Several assessment tools were employed in analyzing the process and outcome of the counselling sessions.

The authors collected a wide variety of data on these two counselling relationships. Correlations between counsellor and client ratings on task, goal and bond were calculated in order to evaluate working alliance, while descriptive statistics were used to analyze the outcomes of the sessions, perceptions of helpfulness, best/worst sessions, depth, positivity, arousal, smoothness, and so on. The most significant findings

were the preliminary empirical support indicating that indecisive and undecided clients experience counselling sessions in different ways, as well as the evidence that working alliance may be important to clients in career counselling.

Academic implications. The authors acknowledge that their single-subject design limits the generalizability of their findings; they strongly encourage additional research to confirm their observations. Nevertheless, Heppner and Hendricks argue that their study provides the first empirical evidence to support the efficacy of using different counsellor intentions with different career clients. The data demonstrate a differing process and outcome of counselling an undecided as opposed to an indecisive client. Since most career counselling outcome research has homogenized career clients, further investigations of this type may be very beneficial to improving the practice of career counselling with diverse clients. More specifically, researchers may consider examining the relationship between client need, counsellor intervention, and counselling outcome, as well as the connection between the strength of working alliance and career counselling outcome.

Employer implications. None.

Policy maker implications. None.

Practitioner implications. While additional research is warranted, Heppner and Hendricks' initial observations provide preliminary empirical support indicating that undecided and indecisive clients experience the process and outcome of career counselling quite differently. In this case, current treatment recommendations for career clients were beneficial only to the undecided client, while the indecisive client appeared to require a more personal counselling approach. This information highlights the need for

career counselors to examine individual differences. These findings also suggest that, like personal counselling, the career counselling process profits from a strong working alliance. Clearly these results conflict with previous career counselling outcome research that has homogenized career clients and downplayed the role of the relationship in the career counselling process.

Kirschner, T., Hoffman, M. A., & Hill, C. E. (1994). Case study of the process and outcome of career counseling. *Journal of Counseling Psychology, 41*(2), 216-226.

Summary. A case study approach was used to analyze the process and outcomes of career counselling. The authors' purpose was to describe the process of career counselling, to determine what interventions were most helpful, and to compare counsellor behaviours in career and personal counselling. The process was analyzed using the Session Evaluation Questionnaire, the Therapist Intention List, the Client Reactions System, as well as free-responses generated by the client and the counsellor. The outcome measures included the Self-Directed Vocational Goal Attainment Scale, the Vocational Identity Scale, and the Career Exploration Survey.

The client and counsellor met for seven 50-minute sessions. The counsellor was instructed to conduct the session in her usual style, using career issues as the central organizing theme. Each session was evaluated individually, a post-counselling assessment session was conducted, and the client was contacted again 18 months later.

Most of the data collected by the researchers was analyzed using descriptive statistics. However, sequential analyses were also utilized to examine the relationship between specific counsellor intentions and client reactions. The main findings were as follows: (a) the most frequently identified helpful components in this case were insight

and challenge; (b) unlike typical personal counselling sessions, these career counselling sessions frequently used “information giving”; (c) the client benefited from the career/life focus of her career counselling sessions; and (d) the main difference between the counsellor’s approach to career counselling and personal counselling was that she set more limits and gave more information during the former, reflecting the goal-directed nature of her career counselling. Many links between the present study and previous research findings are also noted. The authors argue that the findings of this study help to refute some of the stereotypical assumptions made about career counselling.

Academic implications. Given the limited number of process studies available, Kirschner, Hoffman and Hill’s work offers some important insight for the career development field. The authors argue that “High priority should be given to the examination of career counselling from the vantage point of immediate and intermediate process-outcome links” (p. 224). They recommend that similar studies should be performed involving career counsellors from various backgrounds and theoretical orientations, as well as diverse clients. Moreover, Kirschner et al. suggest that an objective approach to data collection may add additional richness to research data. They encourage academics to confirm the usefulness of insight and challenge, since determining when and with whom these components of the career counselling process are most effective may help practitioners improve their counselling sessions. Finally, the authors challenge future researchers to assess the outcomes of integrating career and personal counselling compared with simply providing test interpretation.

Employer implications. None.

Policy maker implications. None.

Practitioner implications. Kirschner, Hoffman and Hill's findings lead them to conclude that. "Rather than conceptualizing career counselling as a separate entity from personal counselling, counselling might best consider it as a brief focused counselling ... The work of career counsellors is probably facilitated when they consider the entire person" (p. 224). The authors challenge future researchers to assess the outcomes of integrating career and personal counselling compared with simply providing test interpretation. They remind practitioners that social support is an important element of the counselling process. In this study, constructive feedback, encouragement and advocacy, positive reinforcement and the counselling relationship all appeared to help the client feel supported throughout her counselling sessions.

Resources on Models for Effective Outcome Research

French, F., Hiebert, B., & Bezanson, L. (1994). Introduction: An emerging evaluation model for changing times. *Canadian Journal of Counselling, 28*(4), 261-269.

Summary. Career development professionals agree that, although a large number of career development approaches, models and strategies exist, there is little information on their efficacy. French, Hiebert and Bezanson's proposes offers a preliminary model for evaluating career development programs. The authors suggest that effective evaluation (a) requires collaboration amongst stakeholders, (b) must be an integral part of the organization's mission, completely articulated in the design and implementation of the program/ service, and (c) should incorporate both qualitative and quantitative research methods. French, Hiebert and Bezanson describe five dimensions that need to be addressed by these evaluations: inputs, processes, outputs, outcomes, and stakeholder

concerns. The authors express hope that, although still in its infancy, the model represents an initial step towards improved evaluation of career development programs. .

Academic implications. Program evaluation is an essential part of career development initiatives. The model presented by French, Hiebert and Bezanson provides a preliminary framework for investigative outcomes. Researchers must implement and assess the proposed model in order to determine its effectiveness and contribute to its evolution.

Employer implications. None.

Policy maker implications. Accountability is an important issue in career development today. All stakeholders rely on program evaluation to help shape the delivery of services. French, Hiebert and Bezanson argue that the time is right for a new approach to outcome assessment, one which meets the needs of policy makers, managers, funders, counsellors and clients. They suggest that their model describes the factors that need to be addressed in evaluation of career development programs and thus represents an initial step towards thinking of evaluation in a new way.

Practitioner implications. Accountability is an important issue in career development today. All stakeholders rely on program evaluation to help shape the delivery of services. French, Hiebert and Bezanson argue that evaluation can support counsellors and provide them with useful information. They suggest that their model describes the factors that need to be addressed in evaluation of career development programs and thus represents an initial step towards thinking of evaluation in a new way.

Heppner, M. J., & Heppner, P. (2003). Identifying process variables in career counseling:

A research agenda. *Journal of Vocational Behaviour*, 62(3), 429-452.

Summary. Heppner and Heppner argue that career development research must address the underlying processes and mechanisms that lead to effective change in career counselling. They cite three reasons for the lack of information on this topic: (a) a perception of high levels of efficacy of career counselling, (b) a perception that career counselling is not a psychological process but rather a short-term rational process, and (c) the fact that findings derived from labour-intensive process studies are typically incremental. The authors systematically refute each of these views and offer ten potential lines of inquiry intended to inspire the growth of career counselling process research. Many of these possibilities are based on insights drawn largely from psychotherapy process research and the limited existing career counselling process research. Heppner and Heppner encourage researchers to learn from the wealth of psychotherapy process research but “to understand the uniqueness of career counselling and to develop process research that captures the idiosyncratic nuances that have made this specialty unique and effective over time” (p. 450).

Academic implications. None

Employer implications. None.

Policy maker implications. None.

Practitioner implications. None.

Hiebert, B. (1994). A framework for quality control, accountability and evaluation: Being clear about the legitimate outcomes of career counselling. *Canadian Journal of Counselling, 28*(4), 334-345.

Summary. Hiebert briefly summarizes a survey of career and employment counselling in Canada performed by Conger in 1993. The findings indicated that very

little evaluation was taking place within the field of career counselling. In light of the growing concern over accountability in the career counselling field, Hiebert proposed that practitioners should seriously consider the importance of evaluation for demonstrating their effectiveness. This article describes a “user-friendly” method for evaluating career counselling practices, one that employs both process and outcome measures. Heibert argues that “It is important to build a framework for counselling that incorporates evaluation as a regular part of the counselling process, that centers evaluation in the client’s experience (rather than the frame of reference of the counsellor or the test) and views outcomes and process as inextricably entwined, both being integral parts of what counselling is about” (p. 337). The model he describes attempts to meet these objectives, largely by monitoring the behaviours of the client and counsellor during the counselling process, relative to learning outcomes.

Academic implications. None

Employer implications. None.

Policy maker implications. None.

Practitioner implications. None.

Hiebert, B. (1997). Integrating evaluation into counselling practice: Accountability and evaluation intertwined. *Canadian Journal of Counselling, 31*(2), 112-126.

Summary. Research shows that counsellors seldom formally evaluate their work with clients; when evaluation is conducted, it is often treated as an afterthought, rather than an integral part of the counseling endeavour (Conger, Hiebert, Hong-Farrell, 1993). Most evaluational research of agencies and programs is conducted by an external evaluator. This implies that evaluation is separate from the services being delivered and

that practitioners are not capable of objectively evaluating their own work. Hiebert contends that evaluation must be collaborative, proactive and more completely integrated into the counseling process. Hiebert deals with some of the issues involved in making this change and promotes the development of new approaches for evaluating the effectiveness of counselling.

Hiebert proposes a specific model for creating an evaluation policy. It includes (a) a statement of who the potential stakeholders might be, how other stakeholders will be identified and how consultation and collaboration will take place; (b) a description of the roles and responsibilities of all of the stakeholders; and (c) an outline of the types of evidence that will be considered as legitimate indications of worth, as well as the time frames associated with each element of the evaluation process. Hiebert's approach depicts a dynamic inter-relationship between the evaluation policy and the agency's evaluation practices. In this model, evaluation practices are split into three main clusters: intervention or program factors (process and outcome evidence); agency factors (input and service evidence); and communication factors (audience and message). He explains that "Policies themselves are informed by the nature of the interventions implemented, the resources of the agency, and the stakeholders, all of which reflect the mandate of the agency and the clients being served" (p. 122).

Inherent in Hiebert's approach to evaluation is the need for stakeholders to broaden their range of acceptable evidence to include informal measures such as checklists, The Life Line, portfolios, observation forms, cognitive mapping, self-monitored data, authentic assessment, and performance assessment. Although critics point out that these tools are not technically considered reliable or valid, Hiebert

maintains that informal assessment tools are good alternatives to standardized measures and provide acceptable demonstrations of counselling effectiveness.

Hiebert argues that all stakeholders need to re-conceptualize evaluation and to identify ways of gathering evidence that attests to the success of counselling. He encourages groups, at the outset, to come to agreement on the method of evaluation, the evidence that would demonstrate success, and the manner in which evidence will be gathered. In this way, the evaluation procedures should be integrated into the intervention package. Hiebert believes that “Counselling is composed of both process and outcome, and that both process and outcome need to be present in order for counseling to be seen as successful” (p. 123).

Academic implications. Academics need to examine the reliability and validity of the informal methods that Hiebert promotes. It may also be worthwhile to study the impact of this type of evaluation model on the agencies, practitioners and clients involved.

Employer implications. None.

Policy maker implications. In order to be accountable, agencies need to find effective ways to evaluate the impact of the services they provide. Hiebert strongly advocates for the involvement of policy makers in the evaluation process. Practitioners should not be solely responsible for evaluation. For Hiebert, “All stakeholders need to be involved in determining the nature of the services provided, the approach to evaluation and the evidence that will indicate success” (p. 119). The model proposed includes simple and specific recommendations for carrying out this procedure.

Practitioner implications. Hiebert argues that, in order to ensure the existence of counselling in the future, counsellors must look for ways to integrate evaluation into their practice, rather than keeping it “bolted to the side” of the intervention process. He suggests that practitioners should consider before implementation how the success of an intervention will be measured and incorporate evaluation into the intervention plan, since “Both process and outcome need to be present in order for counselling to be considered effective” (p. 123). In order to do this, the range of acceptable evidence has to be expanded to include informal measures such as checklists, life lines, portfolios, observation forms, cognitive mapping, self-monitored data, authentic assessment and performance assessment. Hiebert describes each of these methods. In addition, he encourages practitioners to work closely with other stakeholders in to order to coordinate evaluation efforts and to ensure that the needs of all parties are being met. A simple model for developing an evaluation policy and carrying out evaluational practices is proposed.

Whiston, S. C. (2001). Selecting career outcome assessments: An organizational scheme. *Journal of Career Assessment*, 9(3), 215-228.

Summary. In response to the demands being placed on career counsellors for documentation and accountability, Whiston proposes a conceptual scheme for selecting instruments that comprehensively assess the outcomes of career counselling and interventions. Whiston outlines some general guidelines for selecting outcome assessments: (a) there must be a direct relationship between the goals of the career interventions and the outcome measures selected; (b) the outcome measure should be appropriate to the client’s developmental level; (c) the measures should be reliable and

valid; (d) instruments should be chosen that are sensitive to subtle differences; and (e) follow-up assessment should be performed routinely in evaluation of career counselling interventions.

Whiston contends that comprehensive outcome assessments should consider content, source, focus and time-orientation domains. The organizational scheme described in this article is designed to assist in the selection of multiple measures that would systematically evaluate the effects of career counselling or interventions along these four domains. The purpose of this article is to help investigators devise studies that gather outcome information efficiently and effectively. An example of how to utilize Whiston's model is included.

Academic implications. None

Employer implications. None.

Policy maker implications. None.

Practitioner implications. None.

Resources on Career Development Theory and Meta-Analyses

Baker, S. B., & Taylor, J. G. (1998). Effects of career education interventions: A meta-analysis. *Career Development Quarterly*, 46, 376-384.

Summary. This article summarizes the results of a meta-analysis of 12 reports on the efficacy of career education interventions. The studies included in Baker and Taylor's research (a) were experimental or quasi-experimental with treatment and comparison groups, (b) were published in refereed journals, (c) assessed career education interventions, and (d) had students, grades kindergarten through 12, as participants. The data showed that the overall effect size was consistently in the small-medium range (0.34,

0.42 and 0.39), indicating that career education interventions have modest effects. The authors conclude that, given the challenges associated with carrying out experimental research in an educational setting, the effects are promising. Furthermore, for Baker and Taylor, the small number of articles on the effectiveness of career education may mean that “This is an underrepresented area of applied or field evaluation research” (p. 383).

Academic implications. None

Employer implications. None.

Policy maker implications. None.

Practitioner implications. None.

Brown, S. D., & Ryan Krane, N. (2000). Four (or five) sessions in a cloud of dust: Old assumptions and new observations about career counseling. In S. D. Brown & R. W. Lent (Eds.), *Handbook of Counseling Psychology* (3rd ed) (pp. 740-766). Toronto, ON: Wiley.

Summary. Some current themes in the literature on the outcomes of career counselling include these arguments: (a) “Although we know that career interventions are effective, we know little about how, why and for whom they work” (p. 740), and (b) career and personal counselling should be considered identical activities. However, Brown and Ryan Krane’s article presents new and interesting findings regarding the content of career counselling that may serve to refute these claims. Their article makes several suggestions regarding future directions for career counselling research.

Revising the methods used in previous meta-analyses (Oliver & Spokane, 1988; Whiston, Sexton & Lasoff, 1998), Ryan (1999) conducted meta-analyses focusing on career choice and development outcomes to examine “the contributions of specific

intervention components to effect-size variability exceeding that accounted for by study, method, participant and treatment characteristics” (p. 743). The results were based on 63 studies. Ryan’s investigation confirmed that career counselling interventions are effective, but it also uncovered some new assumptions about the process of career counselling. First, four to five sessions appear to yield the greatest effect size. Second, the most effective form of treatment is group counselling. Third, “Five specific components were identified as contributing significantly to effect size variability in at least one of the analyses: (1) written exercises, (2) individualized interpretations and feedback, (3) world of work information, (4) modeling opportunities, and (5) attention to building support for choices within one’s social network” (p. 744). These five components appear to be related to linear increases in career-choice effect sizes. Based on these findings, Brown and Ryan Krane argue that career choice interventions may be improved by incorporating each of the five key activities in the treatment design. They call for additional research to confirm this hypothesis.

An extensive section on other future directions for research and practice suggests the need for data on (a) the effects of the key components on counselling outcomes, (b) incorporating career theory to improve outcomes, (c) the efficacy of career interventions in promoting long-term work satisfaction, and (d) attribute “x” treatment research. Such data will help to ensure that counselling efforts meet the needs of the greatest number of clients.

Academic implications. Brown and Ryan Krane argue that there is still much interesting, challenging and important research to do in the field of career development. The work includes “investigating the degree to which the five critical components relate

to the working alliance, exploring the central mechanisms through which written exercises influence-outcomes, comparing the relative efficacy of support-enhancement methods, and assessing the additive contributions of counsellor cultural knowledge and awareness to the effectiveness of support enhancing interventions” (p. 749). In addition, we need more information on the degree to which specific client characteristics moderate the efficacy of particular career interventions. The authors specifically describe how investigations into these and other areas could proceed.

Employer implications. None.

Policy maker implications. None.

Practitioner implications. Although more research is needed to confirm their theory, Brown and Ryan Krane claim that practitioners may be able to improve the effectiveness of their career counselling sessions if they keep the relationship brief (four to five sessions) and utilize career interventions that “(1) allow clients to clarify career and life goals in writing, (2) provide clients with individualized interpretations and feedback, (3) give up-to-date information the requirements and likely consequences of considered career paths, (4) include models who demonstrate effective planning and coping strategies, and (5) help clients develop support networks that will facilitate their abilities to pursue their aspirations” (p. 760).

Brown, S. D., Ryan Krane, N., Brecheisen, J., Castelino, P., Budisin, I., Miller, M., &

Edens, L. (2003). Critical ingredients of career choice interventions: More analyses and new hypotheses. *Journal of Vocational Behavior*, 62(3), 411-428.

Summary. This article extends the arguments presented in Brown and Ryan Krane’s (2000) “Four (or five) sessions and a cloud of dust: Old assumptions and new

observations about career counselling.” The authors of this article offer additional meta-analytic data supporting the efficacy of (a) written exercises, (b) individualized interpretations and feedback, (c) world of work information, (d) modeling opportunities, and (e) attention to building support for choices within one’s social network for career development. In this study, the authors call for researchers to systematically investigate how and why these components influence career choice, as well as their efficacy in this capacity. Brown et al. describe various ways in which career professionals could use these key ingredients in designing interventions to help clients make positive career decisions.

Academic implications. Brown et al. suggest a number of ways in which their “five critical components” can be implemented to maximize their effects on career choice outcome. Each of their 16 recommendations is purely speculative, however, and requires testing in the future. The authors suggest that more data is required in order to identify the necessary, unnecessary, and necessary but not sufficient mechanisms of career counselling. They acknowledge that, although some intervention components may be considered non-critical, they may represent “essential building blocks upon which the ‘critical’ components work” (p. 424). Future research should also seek to uncover why and how the “five critical components” elicit positive changes in clients.

Employer implications. None.

Policy maker implications. None.

Practitioner implications. Although more research is required, Brown et al. propose several actions that practitioners can take to help their clients obtain “the skills, competencies, vocational identities and self-beliefs that will enable them to make

effective career choices now or in the future” (p. 424). Career professionals can increase the effectiveness of their interventions in several ways: (a) help clients to develop written goals for their future, post-intervention career work, together with reasonable intentions for implementation and individualized counsellor input; (b) allow clients opportunities to gather and process occupational information; (c) encourage clients to seek occupational information outside sessions; (d) help clients to compare occupations or fields of interest and to consider what support is available for different options; (e) offer individual consultations for problematic assessment results; and (f) refer to models who have successfully coped with career exploration and choice making difficulties.

Bysshe, S., Hughes, D., & Bowes, L. (2002). *The economic benefits of guidance: A review of current evidence*. CeGS Occasional Paper. Derby: University of Derby, Centre for Guidance Studies.

Summary. This report summarizes a more extensive paper by Hughes, Bosley, Bowes and Bysshe, “The Economic Benefits of Guidance” (2002). It provided an extensive analysis of current evidence in this area. Its purposes were (a) to identify the key sources of information within agreement parameters, (b) to summarize key messages from existing research and identify gaps in knowledge and evidence, and (c) “to collate and analyze the research data and present it in a clear and accessible format as a basis for future action” (Hughes et al, 2002, p.4). While much of the report focused on research conducted in the United Kingdom., international studies were also included where appropriate. Immediate, intermediate and longer-term outcomes (individual and economic) were investigated.

In this context, immediate and intermediate outcomes relate to what are referred to as the learning outcomes of guidance: “the skills, knowledge and attitudes which facilitate informed and rational occupational and educational decision-making and the implementation of occupational and educational decisions” (p. 4). The literature review supports the notion that guidance promotes positive learning outcomes.

Longer-term outcomes for individuals “relate to young people and adults’ participation in formal and informal education and training; student retention and achievement within a further and higher education context; the role of guidance in supporting the development of job search skills; and/or its impact on reducing unemployment” (p. 6). The research shows the following: (a) guidance increases the likelihood of adult participation in continuing education and training; (b) institutions and agencies of further education and higher education consider guidance very important in terms of student retention and achievement levels; and (c) guidance intended to support the job search of unemployed people reduces mean job search time and enhances the re-employment rate over the short-to-medium term.

The authors point out that there is limited information on the macro-economic effects or the longer-term outcomes for the economy: “At present the assumption of public benefit rests upon basic economic contentions about both private and public benefits of better-informed labour and human capital markets” (p. 8).

Overall, it appears that most outcome studies have addressed immediate and intermediate outcomes, while few have addressed long-term outcomes for the individual or the economy. Several of the challenges to career guidance outcome research were identified, and the implications of the findings were discussed. In conclusion, the authors

make several recommendations for policy makers, researchers, managers and practitioners interested in improving the field of guidance. The recommendations include a coordinated research strategy, longitudinal research methods, a robust research program, a systematic review of discrete and integrated interventions, and the creation of a national research database in the UK. Career development professionals are encouraged to work collaboratively in order to find practical and systematic ways of gathering evidence to show the effectiveness of their work. Doing so will bolster their case for more resources to improve the quality of guidance services.

Academic implications. None

Employer implications. None.

Policy maker implications. None.

Practitioner implications. None.

Flores, L. Y., Scott, A. B., Wang, Y., Yakushko, O., McCloskey, C. M., Spencer, K. G., & Logan, S. A. (2003). Practice and research in career counseling and development: 2002. *Career Development Quarterly*, 52, 98-131.

Summary. This annual article provides an analysis of career development literature printed over the past year. A total of 165 journal articles published in 2002 were reviewed and organized into the following categories: career theory, career assessment, career counselling interventions and practice, career counselling training, professional issues, and international issues in career counselling.

In the career counselling interventions and practice section, the authors point out that career interventions were the focal point of many studies in 2002. Nevertheless, they also identify a lack of investigations into the effectiveness of particular interventions as

an ongoing trend in career development literature. Flores et al. encourage career scholars to facilitate and evaluate career development programs that target larger audiences, rather than focusing largely on interventions at the individual level. They stress that “Articles that examine the effective techniques in career counselling and the career development process ... will help to continue advancing the field” (p. 123).

Academic implications. Flores et al. call for future research to continue to investigate the process and outcomes of career counselling practice. Specifically, they suggest examining the effectiveness of particular interventions or various individual variables that may enhance the process or contribute to positive outcomes. Studying programs that target larger audiences may also provide some useful information on how career development impacts society in general. Finally, the authors note that more research is needed on the career development process of diverse groups, such as homosexuals, individuals with disabilities, people from various socioeconomic backgrounds, Native Americans, and non-students.

Employer implications. None.

Policy maker implications. None.

Practitioner implications. Flores et al. recommend that practitioners and researchers work together on developing programs and evaluating their effectiveness. Collaboratively, career development professionals can generate important data on effective strategies for “career counselling and the career development process, across the life span and with culturally, ethnically and racially diverse groups of people” (p. 123). A concerted effort is needed for progress in the career development domain.

Flynn, R. J. (1994). Evaluating the effectiveness of career counselling: Recent evidence and recommended strategies. *Canadian Journal of Counselling, 28*(4), 270-280.

Summary. As Flynn maintains, previous studies have demonstrated that career counselling is generally as effective as other psychological, academic or behavioural interventions. Nevertheless, Flynn argues, practitioners and researchers need more information about “why career counselling is effective, with whom, under what conditions and on which outcomes” (p. 272). He recommends a variety of evaluation strategies, including both quantitative and qualitative methods for examining the process of career counselling, and several steps for increasing the utility of outcome assessments.

Academic implications. Flynn encourages researchers to abandon the “Which is better?” approach to evaluation in favour of a more balanced emphasis on evaluation and explanation; for example, asking why one intervention works better than another. He argues that the need to know why career counselling is effective, with whom, under what conditions, and on which outcomes is especially great in Canada, where studies report that career programs are often not evaluated at all (p. 272). In an effort to inspire practitioners and academics to address this need, Flynn outlines several models for evaluation research and provides examples showing how these models can be implemented. Both process-oriented evaluation strategies and outcome oriented evaluation strategies are described. Flynn also suggests that the costing of career counselling services is another increasingly crucial topic that needs to be addressed in future literature.

Employer implications. None.

Policy maker implications. None.

Practitioner implications. Flynn encourages researchers to abandon the “Which is better?” approach to evaluation in favour of a more balanced emphasis on evaluation and explanation; for example, asking why one intervention works better than another. He argues that the need to know why career counselling is effective, with whom, under what conditions, and on which outcomes is especially great in Canada, where studies report that career programs are often not evaluated at all (p. 272). In an effort to inspire practitioners and academics to address this need, Flynn outlines several models for evaluation research and provides examples showing how these models can be implemented. Both process-oriented evaluation strategies and outcome oriented evaluation strategies are described. Flynn also suggests that the costing of career counselling services is another increasingly crucial topic that needs to be addressed in future literature.

Sexton, T. L. (1996). The relevance of counseling outcome research: Current trends and practical implications. *Journal of Counseling and Development, 74*, 590-600.

Summary. This article reports the findings of a systematic analysis of 365 counselling outcome studies. Sexton chose to evaluate mental health/community, career and school counselling articles that met specific inclusion criteria. Each article was analyzed according to characteristics in four categories: general characteristics, outcome research methods, research focus, and outcome evaluation measures. Comparisons were made between mental health/community, career and school counselling outcome investigations. Descriptive statistics were reported.

Sexton’s review included 58 career counselling outcome studies published between 1988 and 1994. Some of his significant findings related to career counselling

outcome research are as follows: the majority of career intervention studies were clinical investigations (81%); the largest proportion of participants in career studies were non-clients; few career studies used follow-up measures, as compared to mental health/community counselling studies; the majority of studies investigated specific career interventions (74%) rather than career programs (22%); finally, research on career counselling effectiveness tended to focus on clients' satisfaction with a specific career intervention as an outcome.

Discussing general trends, Sexton pointed out that, while many of the findings from individual counselling (mental health/community) studies may also apply to career and school counselling, little specific outcome research is available on career or school counselling. Sexton's analysis also revealed a disturbing general lack of attention to treatment integrity, and little consistency or standardization in the use or choice of outcome measures. The article concludes with a list of suggestions for integrating research into clinical practice.

Academic implications. Sexton's thorough discussion of his findings reveals the deficiencies of outcome research and their implications. He offers a variety of recommendations for academics: (a) that researchers carefully consider methodological issues in planning and implementing outcome research; (b) that they use treatment manuals and supervision in order to improve treatment integrity; (c) that researchers develop more standardized outcome instruments that measure outcomes from multiple perspectives, since instruments with established validity for assessing the construct of concern are essential if research findings are to be considered relevant; (d) that researchers assess outcomes using diverse methods and measures; and finally, (e) that

they broaden their research to include a range of clients and settings, in order to investigate questions such as “What are the best combinations of client and interventions?” and “What is the best way to match client and counsellor?” (p. 599).

Employer implications. None.

Policy maker implications. None.

Practitioner implications. Sexton’s thorough discussion of his findings reveals the deficiencies of outcome research and their implications. Sexton offers a variety of recommendations for practitioners. First, he notes that practitioners need to have realistic expectations of what outcome research has to offer: “The outcome-based knowledge is currently not, and may never be, refined to the point that it will dictate specific treatments for an individual client ... [Rather], outcome research should give practitioners a reason to think differently about and behave differently in counselling” (p. 74). Second, Sexton encourages practitioners to make appropriate use of counselling outcome research. In order to be good consumers, counsellors must have a good understanding of the strengths and limitations associated with common research methods. In addition, “Clinical questions must be matched with a type of study that that can provide the appropriate answers” (p. 74.). Practitioners must also remain current by reading outcome research regularly. Sexton acknowledges that this can be a difficult task for career professionals, but it is an important one, as research findings are continually expanding and changing. Finally, the author calls upon the counselling profession to “reevaluate and strengthen its dedication to the integration of research in both training and practice” (p. 74).

Whiston, S. C. (2002). Application of principles: Career counseling and interventions.

The Counseling Psychologist, 30(2), 218-237.

Summary. Whiston applies the Principles of Empirically Supported Interventions (PESI) in an effort to determine whether career counselling modalities and interventions fit into the category of empirically supported treatments. According to Whiston, the PESI (Wampold, Lichtenberg & Waehler, 2002) “provide a systematic scheme for evaluating the efficacy of interventions and thus, furnish a framework for evaluating the effectiveness of career interventions” (p. 218). The principles are these: (1) level of specificity should be considered when evaluating outcomes; (2) level of specificity should not be restricted to diagnosis; (3) scientific evidence needs to be examined in its entirety and aggregated appropriately; (4) evidence for absolute and relative effectiveness needs to be presented; (5) causal attributions for specific ingredients should be made only if the evidence is pervasive; (6) outcomes should be assessed appropriately and broadly; and (7) outcomes should be assessed locally and freedom of choice should be recognized. Each of the seven principles is discussed in detail, relative to the current data on career counselling interventions.

Although pointing out that “The PESI do not provide clear quantifiable criteria for evaluating the empirical support, but rather adopt more of a compelling evidence approach,” Whiston concludes that career interventions are generally effective and that individual counselling and career classes may be the most effective methods for providing career interventions. Noting several deficiencies in career intervention outcome investigations, Whiston makes these recommendations: (a) more outcome research is needed on career interventions; (b) more information is necessary regarding which treatments are effective with which clients; (c) a systematic classification or diagnostic system would be useful for identifying client attributes; (d) research should involve

diverse clients from a variety of developmental levels; (e) researchers need to incorporate manualization; and (f) better attention to treatment integrity issues is essential.

Academic implications. None

Employer implications. None.

Policy maker implications. None.

Practitioner implications. None.

Whiston, S. C., Brecheisen, B. K., & Stephens, J. (2003). Does treatment modality affect career counseling effectiveness? *Journal of Vocational Behaviour*, 62(3), 390-410.

Summary. This study reports the findings of a meta-analysis comparing treatment modalities used in career counselling. The authors identified research published between 1975 and 2000 that evaluated career treatment modalities. To be eligible for inclusion, a study must have compared two or more career interventions, involved random assignment to treatment groups, and contained the necessary statistics to calculate effect size. Of the 347 studies identified for consideration, 57 met these criteria and were included in the meta-analysis.

Several insights were acquired into career outcome research over the last 25 years, including the fact that the majority of the studies were published between 1975 and 1985; there appears to be a decrease of interest in conducting outcome research. In addition, 68% of the studies involved college students, and the largest number of studies compared counsellor-free interventions with other counsellor-free interventions. Whiston et al. expressed frustration with widespread problems regarding research design, methodology, and the reporting of statistical information. In regards to what treatment

modalities are most effective, they found that (a) workshop/structured group interventions were more beneficial than unstructured group counselling; (b) counsellor-free interventions were less effective than other modalities; and (c) career computer programs plus counselling are more effective than clients using computerized career programs in isolation.

Academic implications. Whiston, Brecheisen and Stephens discuss their findings in detail. While recognizing the limitations of their work, they support a variety of recommendations for future research and propose several intriguing questions about the efficacy of treatment modalities. Some of their recommendations are as follows: (a) more career outcome research is needed in order to maintain career counselling's status as an empirically supported psychological intervention; (b) researchers must ensure that they use sound methodology, attend to treatment integrity issues, and conscientiously report statistical information; (c) conducting applied research, investigating counsellor-provided interventions, testing class interventions, or comparing individual test interpretation with group interpretation would be more beneficial than continually examining counsellor-free techniques; (d) when investigating attribute by treatment interactions, a research focus on client variables such as personality may provide more valuable information than a focus on simple moderators such as age; and (e) a vocational diagnostic system is necessary in order to determine which clients, under what circumstances, benefit from which career interventions.

Employer implications. None.

Policy maker implications. None.

Practitioner implications. Whiston, Brecheisen and Stephens' meta-analysis uncovered several trends that may be of interest to practitioners. Overall, previous research has shown that counsellor involvement is very important to the efficacy of career interventions. Since counsellor-free interventions appeared to be comparatively less effective than other treatment modalities, the authors argue that effective career interventions should include a counselling component. In addition, structured workshops or groups seemed to be more beneficial to clients than unstructured workshops, although there were also variations among the structured groups. This meta-analysis was unable to discern what made the structured groups effective. The authors call on professionals to continue to investigate what kinds of treatment work best for which clients. More information is needed on the efficacy of treatment modality.

Whiston, S. C., Sexton, T. L., & Lasoff, D. L. (1998). Career intervention outcome: a replication and extension of Oliver and Spokane (1988). *Journal of Counseling Psychology, 45*(2), 150-165.

Summary. Whiston, Sexton and Lasoff report results of a meta-analysis designed to replicate and extend the work of Oliver and Spokane (1988). The researchers analyzed 46 studies on the effectiveness of career interventions, published between 1983-1995. Although 152 studies on career intervention outcomes were identified, many were excluded because they lacked a no-treatment control group, involved an excluded population, or did not contain sufficient data.

Results from the meta-analysis indicated several themes. Overall, career interventions can be considered moderately effective. The majority of career intervention research is conducted with college students; in fact, 49% of studies evaluating career

interventions since 1950 focused on this population (p.160). Although only a small number of studies have been conducted with junior high school or middle school students, the results indicate that career interventions may be most effective with these groups. Career interventions appear to be effective across the lifespan, with the exception of elementary school populations. The meta-analysis also indicated that individual counselling is the most effective treatment approach, although research has not shown what contributes to its effectiveness.

Whiston, Sexton and Lasoff make several suggestions for future investigators: that they provide detailed descriptions of the subjects used in research, examine different kinds of treatment modalities, utilize diverse populations (rather than only college students), develop a standardized set of outcome measures, and ensure more conscientious reporting.

Academic implications. None

Employer implications. None.

Policy maker implications. None.

Practitioner implications. None.

Worth Gavin, D. A. (1994). Evaluating career-development programs for women:

Critique and recommendations. *Canadian Journal of Counselling*, 28(4), 290-298.

Summary. Worth Gavin's article provides an overview of five evaluations of career-development programs for women, performed between 1981 and 1987. After analyzing these studies, Worth Gavin recommends several strategies for improving the evaluation of future programs.

Worth Gavin points out that, given the shortage of reports on the efficacy of career development interventions in general, it was not surprising that few evaluations of career-development interventions were designed specifically for women. Her literature search revealed only five articles based on U.S. studies, and each was theoretically and methodologically flawed to some extent. Worth Gavin suggests that future studies on the efficacy of women's career development programs need to be purposeful, well designed, and based on a theoretical framework. She emphasizes the importance of careful evaluation research for advancing the field of career development.

Worth Gavin points that, in order for administrators to describe a program's utility and effectiveness, evaluations need to be methodologically sound and built into the intervention itself. She suggests that evaluators of women's programs ask themselves several questions: (1) Does the best and most up-to-date theoretical and empirical research available in the field of women's career development and career counselling inform the needs addressed by this intervention, as well as its goals, content and procedures? (2) Are the goals and objectives of this intervention stated clearly? (3) Does the proposed program evaluation actually evaluate these goals and objectives? (4) Given the goals, objectives, and level of the intervention, are its proposed evaluation strategies and methodological procedures the most appropriate possible? (p. 297).

Academic implications. None

Employer implications. None.

Policy maker implications. None.

Practitioner implications. None.