

Andrew D. Carson
National Analysts, Inc. (Philadelphia)

Applications of Holland's Vocational Theory to Counselling Practice Related to Vocational Education

Abstract

Holland's (1985) theory of vocational choice and adjustment has proved immensely influential in career counselling practice, the development of interest inventories, and the organization of occupational information used in a wide range of applied settings. It is not, however, immune to misapplication in the counselling and assessment process by counsellors who may permit any of a number of systematic distortions to affect the process of matching clients to suitable vocational directions. Several likely sources of such distortion are reviewed in the context of counselling English-language students as to the advisability of entering vocational education programs in the province of Quebec. Recommendations are made for the development of cost-efficient career intervention systems and improvements in career counsellor training programs.

Résumé

La théorie de Holland (1985) sur le choix et l'adaptation professionnels s'est révélée immensément influente dans le domaine de l'orientation professionnelle, la conception de répertoires d'intérêts et la structuration de renseignements professionnels utilisés dans un vaste éventail de cadres pratiques. Elle n'est toutefois pas à l'abri d'un usage impropre par les conseillers d'orientation et d'évaluation qui peuvent dénaturer comme ils l'entendent le processus qui consiste à trouver l'orientation professionnelle qui convient à leurs clients. Plusieurs sources potentielles de pareilles distorsions sont analysées dans le contexte de l'orientation d'étudiants anglophones sous l'angle de l'intérêt qu'il y a à s'inscrire à des programmes de la formation professionnell dans la province de Québec. Des recommandations sont faites pour la conception de systèmes d'intervention professionnels rentables et l'amélioration des programmes de formation des conseillers professionnels.

Holland's (1985) theory of vocational choice and adjustment has proved immensely influential in career counseling practice, the development of interest inventories, and the organization of occupational information used in a wide range of applied settings (see Lowman, 1991; Weinrach & Srebalus, 1991). It probably has enormous applicability to the problem of identifying individuals who are appropriate for Quebec's English-language vocational programs, and in this article I will briefly outline Holland's theory, describe how it applies to the identification/guidance issue in relation to the vocational programs, and finally recommend changes in current counselling practice. The bulk of this discussion is simply an extrapolation of current research evidence and general vocational theory into the specific applied problem in counselling and guidance, but I will make recommendations for how future research might be brought to bear on the issue to provide new hard evidence. This is not to say that there is not ample empirical evidence in support of Holland's theory; there certainly is, but little of it has been applied to the practical problem of helping counsellors direct the appropriate individuals toward programs traditionally under the purview of "vocational education." However, this oversight by the community of researchers involved with testing Holland's theory is hardly surprising, as may be clear from the following discussion.

Holland's Theory

In essence, Holland (1985) proposes that positive vocational outcomes (e.g., job satisfaction, productivity, and so on) depend on the degree of match between characteristics of the person (hereafter, "vocational personality") and the job (hereafter, "vocational environment"). Holland terms this degree of match between vocational personality and vocational environment "congruence." Thus, congruence is assumed to predict relevant positive job outcomes, such as job satisfaction. As Holland argues, research evidence has supported this presumed relationship, although the ability to predict the relevant outcomes appears to depend on a large number of factors (Assouline & Meir, 1987; Carson & Mowesian, 1993; Spokane, 1985). Suffice it to say that the extent to which other variables "moderate" the congruence-outcome relationship is a "hot" one in contemporary vocational psychology.

A number of such moderator variables may bear on the issue at hand, that is, the application of Holland's theory to effective guidance of individuals into Quebec's vocational programs. It may be that the strength of the economy or political uncertainties (especially the possibility that Quebec may separate from the rest of Canada) may prove to be powerful moderators of the strength of the congruence-outcome relationship. For example, under conditions of extreme political or economic uncertainty

and instability, outcomes such as job satisfaction may depend less on variables such as congruence than on job security and expectations of adequate access to food, shelter, and medical care (and the extent to which the current job is likely to maintain such access well into the future). Nevertheless, "all things being equal" (as Holland is wont to say), congruence may be expected to serve as a decent predictor of vocational outcomes, and especially of job satisfaction. The skilled counsellor is one who correctly determines when all things are **not** equal, when other factors may reasonably be expected to provide strong influences relevant to job outcomes.

That congruence should predict outcomes might come as no surprise; it is, after all, simply another way of saying that the "square peg fits into the square hole." There are other theories, such as Dawis and Lofquist's (1984) Theory of Work Adjustment (TWA), that rely on this matching process. These are commonly classified as "person-environment fit" theories. Some, like TWA, that are much more complicated than Holland's (1985) theory, try to take into account more relevant variables, and properly conducted studies based on these theories often predict a greater proportion of the variance in relevant outcome variables when compared to Holland's theory.

What, then, accounts for the widespread popularity of Holland's (1985) theory compared to these others? The answer appears to be that Holland's theory is **simpler**, and may be easily taught to both clients and counsellors with a minimum of confusion. And while some of the competing theories use up to two dozen types of relevant person-level needs, interests, personality traits, and abilities which must then be matched to complementary aspects of the work environment, Holland uses only six basic vocational personality types: Realistic (R), Investigative (I), Artistic (A), Social (S), Enterprising (E), and Conventional (C), which can be linked with corresponding vocational environment types of the same name. Many vocational assessment and information materials are organized around these types. For example, since the 1970s the *Strong Interest Inventory* (Hansen & Campbell, 1985) has been organized within Holland's typology. The list of types is short enough so that clients can readily review all six types, which should allow them to gain at least an elementary conceptualization of their characteristics, which they may then use as a method of structuring their career exploration or job-search behavior.

Six types would hardly be sufficient as a method of structuring people and occupations, and characteristically Holland (1985) has proposed a simple but (arguably) effective classification scheme, in which persons and occupations may be assigned a hierarchically organized

sequence of types (or codes) reflecting the order of dominance of the type within the individual or work environment. The norm is increasingly to use three types within codes, as is done in the *Dictionary of Occupational Codes*, 2nd edition (Gottfredson & Holland, 1989). For example, the characteristics of the vocational personality/work environment which one might expect for a counsellor is SAE (Gottfredson & Holland, p. 330). In addition to this hierarchical classification scheme, Holland has suggested a widely applied structural relationship between the types in the form of a hexagon, with the types arranged in the order R, I, A, S, E, and C, forming a complete ring. Empirical support for this organization is moderately strong, although some other structural arrangements have been proposed for which there is also some empirical support.

Distortions in the application of Holland's theory

Though widely applied, Holland's (1985) theory is not, however, immune to misapplication in the counselling and assessment process by counsellors who may permit any of a number of systematic distortions to affect the process of matching clients to suitable vocational directions, that is, factors which result in selected career paths which fail to maximize level of congruence. I will review several of these potential sources of distortion in the context of counselling English-language students as to the advisability of entering vocational education programs in the province of Quebec. (I assume that the discussion generalizes to other areas in Canada, but I will focus on Quebec where possible.) In particular, the possibility that the low level of congruence between the counsellor's own vocational personality type and those attributable to available vocational education programs, coupled with the relatively lower prestige commonly ascribed to the occupations linked to the programs, may lead the counsellor to reduce the "priority" assigned to the time-consuming activities needed to develop effective and large-scale career intervention programs aimed at these career pathways. A related distorting factor may be a lack of current, extensive, and accurate information about jobs and the career "paths" typically leading to those jobs.

Incongruence-based distortion. An often overlooked factor in career counselling is the level of congruence between the vocational personality of the counsellor and that of the client, and the relative level of effectiveness of the counsellor in the face of such differential levels of congruence across clients (see Rounds & Tracey, 1990). When a social-type counsellor (the norm, based on the counsellor's anticipated vocational personality type of SAE) counsels another social type, the outcome might be expected to be quite smooth, with a very easy and verbal interchange between client and counsellor. In this case, the client and

counsellor share a world of unspoken assumptions, a common perspective, and operate on a shared set of rules. They are likely to get along, and reinforce one another's strengths. In short, such a client-counselor match may be expected to result in a group of identified possible career paths for the client with a minimum decrease of the level of congruence between the identified options and the client away from the hypothetical ideal.

This ideal situation might be expected to break down a bit when the Social counselor interacts with clients even only moderately discrepant in type, say, an Artistic client. The Social counsellor may view the goal as being to assist the client to recover the ability to interact positively and usefully with others, while the Artistic client may view the goal as being to learn more about his or her private events (thoughts or feelings) that may relate to a career choice. The Artistic client may not place a high value on being "nice." This may irk the Social counsellor a bit. Here the Social counsellor is trying so hard to help the client to maintain cordial, productive, and open verbal communication, and the client appears to be fumbling around in his or her own "private space." Likewise, the client may become frustrated with what he or she perceives as excessive "niceness" of the counsellor. The Artistic client may wish to explore more deeply his or her "creative vision," and may view the counsellor as being reluctant to take such steps. Such discrepancies, if identified and properly handled by the counsellor, may be the "grist for the mill" which makes for effective counsellor-client interaction and positive counselling outcomes. However, these miscues could also result in minor distortions on the part of the counsellor in his or her guidance of the client toward appropriate careers.

With the potential for distortions of the guidance process present in even the case of a fairly consistent match between client and counselor type (A is next to S in the hexagonal structure of types), imagine the much greater potential for distortions in the process of identifying suitable career paths when a Social counsellor works with much more discrepantly typed clients, such as those clients typed as Investigative, Conventional, and especially Realistic. The level of incongruence between counsellor and client would be highest with Realistic clients, as they are practically defined as having opposite characteristics (Holland, 1985), and in the hexagonal structure of types they rest on opposite sides of the hexagon.

Therein lies the rub. In order of frequency, vocational education career paths may be classified (see Table 1) within the Realistic (23 programs), Conventional (9 programs), Social (6 programs), Enterprising (5 programs), Artistic (3 programs), and Investigative (1 program);

Table 1

Vocational environment types associated with English-language vocational programs across Quebec, arranged by vocational environment type

Program Title	VET^a	Occupational Title in DHOC^b
Cabinetmaking	RIS	Cabinetmaker
Carpentry	RIE	Carpenter
Construction Electricity	RIE	Electrician
Machining Techniques	RIE	Machinist
Photolithography	RIE	Photoengraver
Welding Assembly	RIE	Welder, Fitter
Industrial Machine Mechanics	RIC	Maintenance Repairer, Industrial
Refrigeration	RSE	Refrigeration Unit Repairer
Electronic Household Appliance Repair	RSE	Electrical Appliance Repairer
Ornamental Horticulture	REI	Horticultural Specialty Grower Inside
Plumbing and Heating	REI	Plumber (Construction)
Automated Systems – Electromechanics	RES	Air-Conditioning Mechanic
Automobile Mechanics–General	RES	Mechanic-Industrial Truck
Automobile Mechanics–Specialty	RES	Mechanic-Industrial Truck
Professional Cooking	RES	Cook
General Welding	RES	Welder, Combination
Professional Fisheries	RES	Fish and Game Warden
Commercial Vehicle Mechanics	RES	Mechanic-Industrial Truck
Recreational Vehicle Maintenance	RES	Mechanic-Industrial Truck
Office Automation	REC	Photocopy Machine Operator
Building Landscape Structures Residential and Commercial	REC	Landscape Gardener
Drafting	RCI	Drafter, Architectural
Auto Body Repair and Repaint	RCI	Auto-Body Repairer, Fiberglass
High Pressure Welding	RCS	Welder, Gun
Industrial Drafting	IRE	Drafter, Mechanical
Pastry Chef	ASE	Pastry (Hotel/Restaurant)
Interior Decorating and Display	AES	Interior Designer
Desktop Publishing–Pre-Press	AES	Graphic Designer
Dental Assistant	SAI	Dental Assistant
Assistance and Nursing Care	SER	Nurse Aide
Hairdressing	SER	Hairstylist
Electrolysis	SEA	Cosmetologist
Esthetics	SEA	Cosmetologist
Assistance in Health Care Establishments	SCR	Medical Assistant
Professional Sales	ERS	Sales Representative
Restaurant Services	ESR	Food-Service Supervisor
Home Care Assistance	ESA	Home Health Technician
Travel Services	ECS	Travel Agent
Accounting Studies	CRS	Accountant
Automated Accounting and Finance	CRS	Accounting Clerk, Data Processing

Program Title	VET ^a	Occupational Title in DHOC ^b
Printing–Offset	CRS	Printer-Operator, Black-and-White
Data Processing	CSR	Data Typist
Bilingual Secretarial Studies	CSE	Secretary
Cashier and Financial Services	CSE	Cashier
Secretarial Studies	CSE	Secretary
Secretarial Studies–Legal	CSE	Secretary
Secretarial Studies–Medical	CSE	Secretary
Secretarial Studies–Entrepreneurship	CSE	Secretary

Note: Titles of vocational programs derived from a brochure, “Vocational Education: English-Language Programs Across Québec, ’92-’93,” itself adapted from the *Carte des Enseignements – FP*, produced by the Québec Advisory Committee on English-Language Vocational Education.

^{a,b}The vocational environment types (VETs) of all programs are drawn from the indicated vocational titles as listed in the *Dictionary of Holland Occupational Codes* (DHOC; Gottfredson and Holland [1989]). A three-letter code indicates, in rank-order of degree of similarity (i.e., most similar first, second most similar second, and third most similar third), the degree to which the training program environment is assumed to be similar to one of six ideal work environments: Realistic (R), Investigative (I), Artistic (A), Social (S), Enterprising (E), and Conventional (C).

we can assume that close-fitting (i.e., highly congruent) students would have corresponding vocational personality types. Table 1 is a summary of the various English-language programs in vocational education in the province of Quebec, matched to three-letter Holland codes as identified in the *Dictionary of Holland Occupational Codes* (DHOC) (Gottfredson & Holland, 1989). In many cases, I could not locate the exact title of the vocational program in the DHOC, and have selected a close match from those occupations listed. Thus there is evidence to suggest that the vocational personality types of the typical student most suited for vocational education programs is quite unlike that of the typical school guidance counsellor (of type SAE). This potential for personality mismatch between the client and counsellor may spell trouble for advising and counselling of students in relation to vocational education career pathways.

Occupationism-based distortion. Occupationism is discrimination against individuals simply because of their job, or intended job (Carson, 1992; Krumboltz, 1992). In addition to possible distortion due to a simple, congruence-based incompatibility between client and counsellor (and resulting inefficiencies of communication), it is possible that counsellors might engage in occupationism against clients; for Social type counsellors this might be particularly likely to occur with Realistic type clients considering (at least initially) Realistic type jobs. Likewise, coun-

sellors might hold low opinions of many vocational career paths because of the relatively low occupational prestige typically associated with the associated occupations. These factors might combine so as to lead some counsellors to work systematically to preclude from consideration on the part of the client the lower status, more Realistic occupations associated with the vocational programs.

Poor training. The proper preparation of school-based career counsellors may be needed to counteract the potential negative effects of occupationism and related factors. Proper training in career and assessment classes may serve to increase the counsellor's basic store of knowledge related to career choice and the full world-of-work.

As an initial step, the counsellor could be trained **thoroughly** in the necessary procedures for assessment and interpretation using Holland's (1985) theory, its linkage to information about occupations (e.g., in the DHOC), and so on. Even if the resulting novice-level professional practice were the direct result of the acquisition of a set of "canned" skills, the novice counsellor would still be equipped with a set of skills which could "get the job done" with a reasonably high level of reliability and effectiveness. It would, however, be incumbent on the training program and the novice professional to ensure that such assessment skills were used appropriately, and to integrate the resulting assessment data with additional information related to the client and the "context" (such as economic, cultural, and political factors) in the process of interpreting the results of the assessment.

The counsellor-in-training, and even the experienced counsellor, must be taught how to self-monitor his or her own reactions to career pathways inconsistent with his or her own vocational personality so as to reduce the chance of engagement in occupationism in the context of counselling, e.g., in discouraging client consideration of some career options simply because they are lower in prestige (Krumboltz, 1992). "In-basket" techniques (in which the counsellor responds to hypothetical case data with what he or she considers an appropriate intervention) and the review of videotaped counselling interactions are two methods through which counsellors might increase their ability to self-monitor possibly occupationist behaviors toward clients.

Finally, counsellors in training must learn much more than they typically know about the characteristics of occupations. It may be that many novice counsellors know woefully little about most occupations, beyond simple stereotypes, and this in itself may foster occupationist behavior on the novice counsellor's part.

Career versus emigration counselling. The English (language/culture) population in Quebec has declined in recent years relative to

other groups, with a corresponding decline in enrollment in English-language education in the province (Task Force on English Education of Quebec, 1992). Chambers (1992) reported that in the meetings with parents, teachers, and students leading up to the completion of the report of the Task Force on English Education of Quebec, the task force received many complaints that career counsellors in English-language public schools in Quebec had counselled their clients to leave the province if they wanted to find a job. If this were indeed the case, it would be likely to contribute to the ongoing decline of the English population of the province (if only in terms of absolute numbers).

Even aside, however, from issues related to what constitutes "politically correct" practice (that is, practice in accord with the political objectives of the primary stakeholder community for English-language schools), the reports of a potential bias in favor of emigration as a means to "adequate" career development may suggest an additional factor at work in the distortion of the eventual choice away from a congruent one. In many predominantly English-language areas of the world, the economic conditions are worse than is the present case in Quebec, and those occupational fields with which clients are most congruent may have even **fewer** openings elsewhere than is the case in Quebec. We know that there currently are job openings in Quebec in many fields now represented in the province's English-language vocational programs. By steering English-language clients outside the province in search of work, the counsellor may well be encouraging the client, albeit inadvertently, to make a **less** congruent career choice than would be the case if he or she remained **in** the province. And given that level of congruence is a reasonably good predictor of vocational outcomes, this would imply that by engaging solely in emigration counseling as a form of career counselling, without similarly attending to the potential congruent career paths available to clients **within** the province, counsellors may be acting both unprofessionally (in terms of providing sound career advice) and against the better long-term interests of the community that ultimately pays their salary. Of course, this argument (arising as it does from mainstream person-environment fit theories of career development, such as Holland's) assumes that the maximization of congruence between worker and work environment typically would be of greater importance than other issues, such as living in an agreeable geographic location; others might reasonably contend that geographic location, in some situations, might be the more important basis for making sound career-related decisions. While I have no ultimate basis for resolving this issue, I would suggest that most mainstream theorists of career development underscore the ability to maximize congruence as a primary criterion on which to evaluate the effectiveness of career interventions (e.g., Spokane, 1991).

Helping interests of counsellors. The counsellors of the province may be less interested in helping clients with career problems than in

helping those with other sorts of problems. I have developed a questionnaire, *The Helping Interest Inventory*, or HII (Carson, Mowesian, & Drum, 1994), which assesses forms of "helping interests" among mental health professionals, and I have assessed the helping interests of master's level counselling students at McGill University, which serves as an important "feeder" program for school guidance counsellors in the province. The HII consists of 62 items briefly describing various types of potential populations in need of the assistance of helping professions; 56 of these items are grouped (in sets of 8 items each) into 7 "level of need for assistance" (LNFA) scales, ranging from a more preventative LNFA, reflecting only potential "at-risk" groups, to a highly remedial LNFA, indicating groups of individuals with chronic mental health problems greatly in need of assistance. (Six items also indicate a preference in working with specific age groups, but do not contribute to other scales.) Crossed with the 56 items forming the LNFA scales are a number of scales of varying length reflecting interest in working with specific types of problem "content", e.g., educational/vocational problems, eating disorders. Overwhelmingly, the students in the McGill program appear more interested in other sorts of client problems (e.g., isolation and depression, dependency, eating disorders, and so on) than in problems related to educational or vocational issues. They are also, as a group, more interested in working with clients at higher levels of psychopathology (i.e., higher LNFA) than would typically be the case in the context of career counselling. Thus, there may exist a mismatch between the helping interests of many career counsellors in Quebec schools (if the McGill sample is a representative one) and the typical needs of clients seeking career services in public schools. Counsellors may be less interested in assigning a high priority to effective career guidance with clients than to working with clients with moderate to high levels of mental illness. In short, those would-be career clients moving toward incongruent occupational choices would receive no cautionary influence from the counsellor.

High perceived (and actual) costs of career intervention systems

Counsellors may view the provision of career services as inappropriately costly. In many cases, this may in fact be the case, especially given the real budgetary constraints of many school boards and the admittedly costly methods typical of traditional, individual career counselling. Again, the high perceived or actual cost may lead some counsellors simply to refrain from even attempting to provide career intervention services. However, some newly developed career intervention services tend to cost much less in both real dollars and counsellor time, and may prove more feasible in the present schools. I will review such a cost-effective program in the next section.

Recommendations for reduction of distortions in the guidance process

Based on the above discussion, I will make four general recommendations which might serve to enhance the quality of guiding appropriate individuals toward vocational career paths. The suggestions relate to testing the many hypotheses embedded in the preceding discussion, improving the training of counsellors, and the development of high-utility career intervention systems which could be introduced rapidly into the schools.

Action research: Are these hypotheses correct? I recommend that counsellors employed in the English-language schools of Quebec become involved in research which will examine the hypotheses addressed in this article. The research would not necessarily have to be centrally coordinated; in fact, I believe that different applied research projects may best address the particular local problems. There are a number of forums for sharing the results of such research. Of particular importance may be issues related to the extent to which clients perceive that they are being counselled to leave the province, and what sorts of actions on the counsellor's part might be adopted to increase client consideration of realistic options within Quebec. Research on the extent to which Holland's (1985) theory is being applied by counsellors may also be useful as a preliminary step prior to advocating a more general adoption of the theory as a basis for career assessment and interventions by counsellors in the Province and across Canada.

Improve the quality of the education of counsellors. This recommendation strikes especially close to home personally. I think that the definition of "counsellor" in the English-language schools may need reconsideration based on what the most critical stakeholders, in this case school administrators, parents, and especially students, perceive as the proper roles of the counsellors in the schools. The desired competencies need to be articulated by these groups and communicated to the appropriate professional organizations and training institutions. At that point, these intended competencies can be translated into curricula. As a preliminary step, the Ministry of Education might conduct an investigation of the present curricula of the training programs for counsellors in the province of Quebec, and recommend curricular modifications which are consistent with the objectives of the relevant stakeholders.

Improve the quality of occupational information materials available to counsellors. Materials describing the various vocational education career paths might be organized within Holland's (1985) system, along the lines of the DHOC (Gottfredson & Holland, 1985). Measures of Holland's types might be used to assess the characteristics of voca-

tional education programs (via their students) and associated occupations (using workers in the field). This information could then be used to generate the needed information for counsellors. The work environment assignments provided in Table 1 are merely estimates; this new effort at data collection would vastly simplify the effort of matching appropriate individuals to highly congruent occupations.

Develop cost- and time-efficient career intervention systems based on sound theoretical foundations. A major obstacle to improving the ability to effectively and efficiently direct appropriate individuals to vocational education programs in Quebec is the relatively high cost of effective career assessment currently available for that purpose. In particular, assessment for this purpose preferably would take into account "measured", as opposed to "self-reported", abilities, skills, and aptitudes (hereafter, aptitudes) germane to vocational education *per se*, such as manual dexterity skills. Self-reported aptitudes are, of course, less expensive to assess, but unfortunately are often only minimally related to objective measures. Many such aptitudes are not assessed through the traditional paper-and-pencil tests typically used in schools and by counsellors, which tend to focus on aptitudes more relevant to university career paths. A promising option is the use of computer-administered tests of a wide array of aptitudes, such as are available in the United States with the *Armed Services Vocational Aptitude Battery*, or ASVAB (see Spokane, 1991).

Conclusion

I have outlined the central characteristics of Holland's (1985) theory of careers, with applications to improving the guidance of suitable individuals toward English-language vocational education programs in the province of Quebec. The hypothesis of errors or distortions in the matching of students to career paths arises directly from Holland's theory and its wide research base. Several such potential distortions were examined and discussed in relation to the problem of placement into vocational programs. I did not address several additional issues, such as how counsellors might respond to increasing pressure to be accountable to school administrators, parents, and clients for the quality of career advice they provide. My guess is that at least some counsellors may face such potentially threatening scrutiny with defensiveness, and particularly with staunch denial that any significant problem exists. I would suggest, however, that with increased accountability will also come increased power to effect positive change, and that in this world, no worthwhile change comes without some cost. However, the cost of **failing** to invest in necessary change is, in the **long** run, the highest cost of all.

NOTES

This article is based on a paper presented at the symposium, *Symposium II: Vocational education career paths—Obstacles & Opportunities*, jointly sponsored by the following: the Quebec Association of Protestant School Boards; the Association of Directors of English Schools (Quebec); Faculty of Education, McGill University; and Direction des services éducatifs aux anglophones, Ministry of Education, Quebec. The author wishes to thank Patricia Dawes of the Department of Educational and Counselling Psychology at McGill University, Carol Kahn of the Jewish Vocational Service of Montreal, and Barbara Goode of the Ministry of Education (Quebec) for their help in the preparation of this article. Financial assistance for the completion of this article was provided through the Quebec Association of School Boards, the Ministry of Education, Quebec and FCAR Quebec (through a new researcher grant to the author). Please send comments to the author at National Analysts, Inc., 1700 Market St., Philadelphia, PA 19103, USA.

REFERENCES

- Assouline, M., & Meir, E. I. (1987). Meta-analysis of the relationship between congruence and well-being measures. *Journal of Vocational Behavior, 31*, 319-332.
- Carson, A. D. (1992). On occupationism. *The Counseling Psychologist, 20*, 490-508.
- Carson, A. D., & Mowesian, R. (1993). Moderators of the prediction of job satisfaction from congruence: A test of Holland's theory. *Journal of Career Assessment, 1*, 130-144.
- Carson, A. D., Mowesian, R., & Drum, D. (1994). *Helping interests of masters-level counselling psychology students*. Unpublished manuscript.
- Chambers, G. (1992). Discussion of the results of the Task Force on English Education in Quebec. In *Report of the Results of Task Force on English Education in Quebec*. Symposium conducted at the Faculty of Education, McGill University, Montreal, QC.
- Dawis, R. V., & Lofquist, L. H. (1984). *A psychological theory of work adjustment: An individual differences model and its applications*. Minneapolis, MN: University of Minnesota Press.
- Gottfredson, G. D., & Holland, J. L. (1989). *Dictionary of Holland occupational codes* (2nd ed.). Odessa, FL: Psychological Assessment Resources.
- Hansen, J. C., & Campbell, D. P. (1985). *Manual for the SVIB-SCII* (4th ed.). Stanford, CA: Stanford University Press.
- Holland, J. L. (1985). *Making vocational choices: A theory of vocational personalities and work environment*, 2nd ed. Englewood Cliffs, NJ: Prentice-Hall.
- Krumboltz, J. D. (1992). The dangers of occupationism. *The Counseling Psychologist, 20*, 511-518.
- Lowman, R. L. (1991). *The clinical practice of career assessment: Interests, abilities, and personality*. Washington, DC.: American Psychological Association.

- Rounds, J. B., & Tracey, T. J. (1990). From trait-and-factor to person-environment fit counseling: Theory and process. In W. B. Walsh & S.H. Osipow (Eds.), *Career counseling: Contemporary topics in vocational psychology*. Hillsdale, NJ: Lawrence Erlbaum.
- Spokane, A. R. (1985). A review of research on person-environment congruence in Holland's theory of careers [Monograph]. *Journal of Vocational Behavior*, 26, 306-343.
- Spokane, A. R. (1991). *Career Intervention*. Englewood Cliffs, NJ: Prentice-Hall.
- Task Force on English Education in Quebec (1992). *Report to the Minister of Education of Quebec*. Montreal, QC: Ministry of Education, Quebec.
- Weinrach, S. G., & Strebals, D. J. (1990). Holland's theory of careers. In D. Brown & L. Brooks (Eds.), *Career choice and development*, 2nd ed. (pp. 37-67). San Francisco: Jossey-Bass.

Andrew D. Carson is Associate Project Manager at National Analysts Inc., in Philadelphia. Until recently he was Assistant Professor in the Department of Educational and Counselling Psychology, Faculty of Education, McGill University, where he completed this article. He has published extensively in the area of career and vocational education.

Andrew D. Carson est gestionnaire de projet adjoint chez *National Analysts Inc.* à Philadelphie. Il a été professeur adjoint au département de psychopédagogie et de counselling à la faculté des sciences de l'éducation de l'Université McGill où il a recueilli les données qui forment la teneur de son article. Il a abondamment publié dans le domaine de la formation professionnell.