Career Decision Making in the Shadow of Economic Downturn: A Study of Cape Breton High School Students

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ABSTRACT

This study examined differences in levels of career decision-making self-efficacy in Cape Breton high school students who lived in communities with recent closures of mining and steel industries compared to students who lived in communities with no such plant closures. Students demonstrated considerable confidence in their career decision-making abilities implying that substantive economic downturns may create an urgency that spurs career decision making. However, all students without definite career plans scored significantly lower on career decision-making self-efficacy and may be considered at-risk, suggesting that more specific interventions to improve career decision making are required.

RÉSUMÉ

Cet article étudie les différents niveaux d'auto-efficacité observés dans le choix de carrière d'étudiants du secondaire du Cap-Breton résidant dans des communautés ayant connu récemment des fermetures d'usines dans la sidérurgie et la mine, comparés à ceux d'étudiants habitant des communautés non touchées par de telles fermetures. Les étudiants ont démontré une confiance considérable dans leurs capacités à choisir une carrière. Ce niveau de confiance en soi laisse supposer qu'un climat de récession engendre un sentiment d'acuité favorisant le choix d'une carrière. Cependant, tous les étudiants n'ayant pas de plan de carrière ont obtenu des résultats résolument inférieurs en ce qui concerne leur auto-efficacité dans le choix de carrière. Ils peuvent donc être considérés à risques. Il peut en être déduit que des interventions particulières sont nécessaires afin d'améliorer les choix de carrière.

INTRODUCTION

When one examines the educational goals of the provinces and territories of Canada, the recurring theme that emerges is an overwhelming desire to help students develop their full cognitive, affective, physical, and social potentials and to help them acquire the knowledge, attitudes, and skills necessary to continue as thinking, learning, active, and valued members of society. A student's progression through school, acquiring and becoming much of what is described above, eventually culminates in the student making some sort choice regarding a career. Career development is the lifelong process that involves: (a) preparing to choose a career, (b) choosing a career, and (c) continuing to make choices from the many careers available (Brown, Brooks, & Associates, 1990). Career choice is the actual choice of the occupation one intends to enter once education and training are

complete and it includes one's aspirations for the ideal choice and "all the responses involved in choosing, entering, and adjusting to one's occupational role" (Crites, 1981; p. 51). This conception of career depicts flexibility in one's career outlook and an expectation that work roles within one's career will change and evolve.

Early career counselling was insufficient in explaining the "process of career choice" and did not consider that individuals might not choose careers despite an ability and/or personality match. Social learning theory is a more appropriate theoretical framework because it assumes that personal and behavioural repertoires, such as choosing a career, arise more from "learned" experiences (Mitchell & Krumboltz, 1990) and we can learn to exercise more control over our environment to suit ourselves, such as changing work roles within a career or having a completely new career.

Although every person's career choice is affected by family influences, personal values, aptitudes, and social context, there appear to be three requirements for a meaningful career choice to occur: (a) an array of choices, (b) a motivation to choose, and (c) the freedom to choose/change choices (Osipow & Fitzgerald, 1996);

> Given this analysis, it is then possible to analyze the degree to which theoretical formulations are applicable to the behavior of any particular individual or group. For example, poverty, lack of education, discrimination, and difficult economic conditions are all instances of social forces that may reduce the range and nature of available occupational choices; when these forces operate simultaneously - as has sometimes happened for some groups - the notion of choice, and thus systematic vocational development, may not be viable (p. 53).

While much of the career research has focused on the content of one's career choice (Betz & Hackett, 1986; Taylor & Popma, 1990), there has been an increasing recognition that career choice was more a developmental "process" that unfolded into adulthood and more researchers have been calling for investigations of the career choice process from a self-efficacy perspective (Betz & Hackett, 1986). Bandura (1977) described "self-efficacy" as one's belief in their ability to organize and execute the courses of action required to manage upcoming situations and noted that "efficacy expectations determine how much effort people will expend and how long they will persist in the face of obstacles" (p. 194). It is now common that individuals will change jobs or careers several times and because the realities of work have changed due to new technologies and new economies, it is even more necessary for students to develop a new awareness of "self" relative to work (Lankard, 1996). Thus, a belief that one has the ability to control their choices for work is vital to the career choice process because it enhances the development of competencies for exercising proactive control over one's occupational future and it promotes competent decision making (Bandura, 1977, 1995; Lankard, 1996; McAuley, 1998). It would appear logical, then, that an increase in career self-efficacy would lead to an increase in persistence and effort when confronted by career obstacles or barriers. Conversely, the difficulties students experience in the career choice process, including these same obstacles and barriers, are often linked to conflicting experiences which seem to prevent the

formation of this apparently necessary sense of self relative to career choice (Phillips & Pazienza, 1988).

Traditionally, student self-efficacy expectations toward career decision making are accomplished and enhanced through skillful instruction, mostly in school, and by significant others exhibiting career role successes (Betz & Taylor, 1994). Conceptually then, the higher a person's perceived efficacy to fulfill educational requirements and occupational roles, the greater their range of serious career options and the stronger their interest. Thus, self-efficacy results in a better career choice process which leads to more success and satisfaction in the chosen career (Betz, Klein, & Taylor, 1996). However, the surrounding economic environment also has to be consciously considered because the work conducted within the bounds of that environment is reflective of "potential" careers and barriers, thus, one's surroundings often appear to exert more direct influence on career choices despite a student's "processing abilities" for career choice.

The Cape Breton Situation

For centuries, people in the Cape Breton Regional Municipality (CBRM) communities of Glace Bay, New Waterford, Scotchtown, Reserve, Dominion, and New Victoria have been mining coal. This area recently suffered a significant economic set back, that is, the closures of both the Cape Breton Development Corporation (DEVCO) and the Sydney Steel Corporation (SYSCO). Based on an audit of the impact of similar closures on coal-field communities in Great Britain in 1998, the Cape Breton closures were projected to cause even more unemployment, out-migration, crime, and to disproportionately reduce life expectancy (Nova Scotia Teachers Union, 1999) and while structural changes such as these affect all age cohorts, they have "a more dramatic effect on youth who are attempting to find entry-level jobs in a shrinking yet competitive labor market" (De Schiffart, 2000; p. 186). The negative economic and social fallout from such large-scale closures presents a parallel set of environmental obstacles that can undermine students' career-planning efforts and attitudes and restrict their career interests because: (a) students are more likely to reject a career activity if parents have negative perspectives about those activities (Osipow & Fitzgerald, 1996), and (b) students will have limited positive role models that exhibit career performance accomplishments (Church, Teresa, Rosebrook, & Szendre, 1992).

These types of potential negative influences resulting from such closures are of considerable concern for educators and career counsellors. If students perceive a significant number of barriers obstructing their attainment of particular career goals and they have little confidence in their ability to complete the tasks and behaviours required for effective decision making (self-efficacy), they "possess career beliefs that can interfere with effective career decision making" (Luzzo, 1997, p. 5), they are more likely to report being vocationally undecided (Betz & Taylor, 1994), and, thus, they may inadvertently contribute to considerable data which suggests a high degree of uncertainty in the career decision making of high school graduates and university entrants (Bergeron & Romano, 1994). More

importantly, these negative influences may seriously undermine efforts by educational systems to support and promote career development and the decision-making skills to accomplish such. Already, more than 80% of students from the CBRM opt for university to escape a reliance upon traditional, and perhaps undesirable, employment patterns (Nova Scotia Teachers' Union, 1999). However, while students from areas directly affected by the DEVCO and SYSCO closures would likely experience the negative influences mentioned above, students from communities with little reliance on DEVCO, SYSCO or other declining industries might not. Their environment might still provide positive role models that exhibit career performance accomplishments and provide them with positive encouragement toward career planning.

Unfortunately, this situation is a familiar one for many communities across Canada that are extremely dependent on "the company." Educators and parents cannot help but wonder whether their young adults can survive significant industry downturns and/or closures with the career decision-making skills appropriate to investigate and formulate different and fulfilling careers. A review of the literature revealed no research on career decision-making self-efficacy with adolescents from small/rural towns that are dependent on one industry. Cahill and Martland (1996) reported on strategies to address similar crises in Canadian rural communities that were dependent on natural resources, but that study primarily focussed on adult workers and a "community counselling" approach. However, there is evidence that the career issues of rural youths in general, revolve around the same issues facing Cape Breton students: (a) staying at home for cost benefits, (b) parental pressures to make financially sound career choices and avoiding careers with limited local job possibilities, (c) the consequences of the seasonal work/unemployment cycle, and (d) a clear need for career programs and detailed job market information (Lehr & Jeffery, 1996).

Given that the career decision-making processes of CBRM grade 12 students who were about to graduate into the world of work would probably be directly affected by recent sociological and economic developments due to these closures, an investigation of these issues was warranted. The results could provide insights about whether students had acquired the attitudes and skills necessary for making career choices, overcoming career obstacles, and whether career programs needed modification. It would be valuable to know if students' career choices were affected by the decline of traditional industries that significantly contribute to the economy and whether such students encountered more barriers and difficulties related to career choice. A better understanding of these issues would enable the development of interventions to assist students in overcoming these obstacles, gain confidence in their career development skills and competencies, and thereby increase their expectations that they could effectively engage in career decision-making behaviours.

Therefore, the purposes of this study were threefold: (a) to determine the career decision-making self-efficacy of students in the CBRM, (b) to determine whether there were differences between the career decision-making self-efficacy

of students from DEVCO communities and that of students from non-DEVCO communities, and (c) to determine whether there were differences between the career decision-making self-efficacy of students with parents involved in traditional industries compared students with no relatives involved in traditional industries.

METHOD

Participants

Grade 12 students were chosen as the focus of the study because they are at a time in their lives when career decision making is important. The 133 students, all enrolled in a regular academic program, belonged to one of two groups differentiated by school: those attending a school selected because it was in a community (a) directly affected by the DEVCO closure (n = 49; 36 females/13 males); and (b) not directly affected by the DEVCO closure (n = 85; 48 females/37 males). The "directly affected" community meant that most, if not all, parents worked for the plants that closed. The "not directly affected" community meant that most, if not all, parents worked in jobs unrelated to the plants that closed. Thus, the schools were significantly separated geographically. In both schools, all grade 12 students (n ~ 700) were invited to participate in the study. The mean age of the sample was 17-9 (range = 16-11 to 19-6).

Measures

All participants completed the Career Decision-Making Self-Efficacy Scale – Short Form (CDMSE-SF) (Betz, Klein, & Taylor, 1996) and a demographic survey. The CDMSE-SF evolved out of extensive developmental and refinement research of the CDMSE (Taylor & Betz, 1983) (by date - Hackett & Betz, 1981; Betz & Taylor, 1994; Gati, Osipow, & Fassa, 1994 [Hebrew Version]; Carns, Carns, Wooten, Jones, Raffield, & Heitkamp, 1995 [High School Version]; Betz, Klein, & Taylor, 1996 {CDMSE-SF}). The CDMSE-SF takes less time to administer and was designed to measure the effect of an individual's self-efficacy on his/her ability to make career decisions (Betz & Luzzo, 1996; Educational Testing Service, 1999). It consists of 25 Likert-type self-report items scored on a 10-point continuum from "0" (no confidence at all) to "9" (complete confidence) that measure the degree of confidence individuals have in their ability to complete career-related tasks. The items are equally divided across five scales: (a) Self-Appraisal (b), Occupational Information (c), Goal Selection (d), Planning, and (e) Problem Solving. Scale scores are the sum of the responses to each scale's five items, the total score is the sum of the five scale scores. Higher scores indicate greater feelings of career self-efficacy.

Reviews indicate that the CDMSE/CDMSE-SF is: (a) an appropriate diagnostic instrument for career decision making, (b) a strong predictor of career decision making attitudes (Luzzo, 1995) and career development variables (Anderson & Brown, 1997), (c) directly linked to attribution training for internal locus of

control (Luzzo, Funk, & Strang, 1995), and (d) inversely related to perceived future career-related barriers (Luzzo, 1997). Other reviews have found that students with higher levels of career decision-making self-efficacy possess more mature attitudes toward the career decision-making process (Bergeron & Romano, 1994; Betz & Hackett, 1986; Blustein, 1989; Luzzo, 1993; Nevill & Schlecker, 1988; Osipow & Fitzgerald, 1996; Osipow & Gati, 1998; Phillips & Pazienza, 1988; Robbins, 1985; Solberg, Good, Fischer, Brown, & Nord, 1995; Taylor & Popma, 1990). Tests of reliability and validity for the CDMSE reveal high internal consistency reliability alphas of .97 (Taylor & Betz, 1983), .75 (Fouad & Spreda, 1996), and .88 (Goldman, Osborne, & Mitchell, 1996) and there are strong indicators of content, concurrent and discriminant validity (Luzzo, 1993; Robbins, 1985; Taylor & Betz, 1983). The CDMSE-SF has high internal consistency coefficient alphas of .73 to .83 (Betz, Klein, & Taylor, 1996) and .92 (Silcox & Cummings, 1999). The mean inter-item correlation measure of internal consistency for the present sample was .88.

The demographic survey solicited information regarding students' age, career plans and whether their relatives were associated with DEVCO or other traditional industries. All data analyses were conducted using Corel® Quattro® Pro 8 (Corel Corporation, 1997).

RESULTS AND DISCUSSION

Career Self-Efficacy

The first research goal was to determine the career self-efficacy of Cape Breton students. The total CDMSE-SF scores indicated that these students had "Much Confidence" in their ability to perform effective career decision-making tasks (M = 6.3). This result may be a reflection of positive exposures to career programs in schools and/or exposures to positive career outcomes of their families. Students were confident in their abilities to determine their careers and to become informed about preferred occupations and, according to the CDMSE-SF, they appeared to have obtained encouraging feedback on these abilities. This result might also indicate that the existing economic uncertainty and resultant career limitations is a catalyst that spurs students' acquisitions of the career decision-making skills offered in school programs. This finding is encouraging for other Canadian communities whose students face similar economic situations. Thus, although significant industry closures have many obvious detrimental impacts, these high school students can still make quality career choices.

The subscale mean scores were; Self-Appraisal (6.7), Occupational Information (6.5), Goal Selection (6.3), Planning (6.2), and Problem Solving (5.8) and their order followed the same descending score order of the manual norms. The lowest subscale mean score was for Problem Solving and while this score was not low compared to the manual norms, it may indicate that the students' problem solving for career decision making might benefit from programs that emphasize

more critical thinking, thoughtful analysis and synthesis, and strategic learning situations as suggested by Blumenfeld (1992).

Despite a two year and seven month difference between the oldest and youngest participants, a post-hoc analysis revealed that there was no relationship between CDMSE-SF scores and age. This finding is consistent with all other similar studies except Luzzo (1993) which appears to be an anomaly finding. Similarly, post-hoc analysis revealed no difference in CDMSE-SF scores across gender, reiterating the findings of Betz et al. (1996).

Comparison of Students from Different Communities

The second research goal was to determine whether there were differences in career self-efficacy between students from DEVCO and non-DEVCO communities. A one-way ANOVA was conducted and, contrary to the premise of this study, there was no significant difference between CDMSE-SF scores of students from the DEVCO school and students from non-DEVCO school. Likewise, there was no significant difference between the CDMSE-SF scores of students with families involved in traditional industries and those of students without families involved in traditional industries (Question #3). Not surprisingly, students from the DEVCO school reported a higher family employment reliance upon traditional industries (55%) than students from the non-DEVCO school (41%).

There are two possible explanations for these results. First, it may be that the overall economic downturn of the CBRM had no effect on student career decision making; thus, there are no differences related to economic dependence. This explanation is supported by relatively high overall CDMSE-SF scores that are consistent with other populations studied. However, this explanation is unlikely given the magnitude of the DEVCO closures and the pervasive decline of other traditional industries. A more likely explanation is that the CBRM downturn has heightened all students' concerns for career and financial security, thereby, enhancing their career decision making. In a related fashion, parents affected by the closures probably encouraged their children to make more determined efforts toward career exploration because of the "competitive job market and scarcity of opportunities within the community itself" (Anderson & Brown, 1997, p. 311).

However, a post-hoc analysis (1-way ANOVA: $F(1, 128) = 13.04$, $p < .01$) revealed that students "with definite career plans" ($n = 65$; $M = 165.7$) had significantly higher CDMSE-SF scores than students "without definite career plans" ($n = 69$; $M = 149.6$). Students with definite career plans were those who, on their demographic survey, were able to describe their academic, vocational, or career plan for the next year when they would be attending post-secondary institutions or hoping to join the workforce. This result supports previous research linking CDMSE/CDMSE-SF scores with positive academic, career, and vocational decisions (Taylor & Popma, 1990; Bergeron & Romano, 1994; Osipow & Gati, 1998) and it provides further evidence of the CDMSE-SF's concurrent validity. It is also further evidence that career programs need to provide experiences specifically designed to enhance the career planning component of effective career

decision making (Luzzo, 1993) including attribution and locus of control awareness and training (Luzzo, 1996; Stewart, 1995). Students should have opportunities to outline their career plans and to discuss them with teachers or counsellors because one's level of confidence to make career decisions appears to be directly related to the amount of career planning activities experienced (Anderson & Brown, 1997).

In addition, given that all participants were enrolled in the university preparatory program, it may be that students "without definite career plans" were merely accompanying those "with definite career plans" into post-secondary programs without proper career deliberations. Because lower CDMSE scores are associated with increased career attrition (Taylor & Popma, 1990; Bergeron & Romano, 1994; Luzzo, 1996; Osipow & Gati, 1998), students with no career plan may not complete these ill-chosen and ill-suited post-secondary programs. By extrapolation, this may partially explain the CBRM's overwhelming number of incomplete university degrees per capita (CBRM Planning Department, 1999). This is a worrisome prospect for other small and economically dependent communities. Their young adults may be electing post-secondary schooling by default because it means "getting out" of the community, rather than because it is a consciously "preferred" choice.

These results must be interpreted within the context of the limitations of the study. First, the CDMSE-SF is a self-report instrument wherein students may provide more socially desirable responses. Second, the social and economic conditions of the CBRM are unique in both circumstances and time.

SUMMARY

Overall, grade 12 students in the CBRM possessed ample knowledge regarding career choices and despite difficult social and economic conditions, they were still positively engaged in the career development process and had considerable confidence in their career decision-making abilities. However, students *without a definite career plan* appeared to be at-risk for career indecision, lower career maturity, increased academic, career, and vocational indecision, and increased career attrition (Taylor & Popma, 1990; Bergeron & Romano, 1994; Luzzo, 1995, 1996; Osipow & Gati, 1998). They also risk developing a type of "learned helplessness" related to school and work (Luzzo, 1997) and this is of grave concern because the more individuals feel that their life control is attributed to external forces, the less confidence they have in the career decision-making abilities (Taylor & Popma, 1990).

Given the labourforce changes that will transpire in the CBRM such as long term unemployment for the existing workforce resulting in a reduction in career paths for young adults, future research should examine whether the healthy levels of career decision-making self-efficacy evident in this sample change over time. This longitudinal type of enquiry is important because it has been noted that self-efficacious beliefs about career desion making are related to career exploratory activity (Blustein, 1989) and the willingness to engage in nontraditional occupations (Nevill & Schlecker, 1988). Comparative research on two fronts also

appears warranted: (a) examining the career decision-making self-efficacy of students from more stable economic areas of Nova Scotia, and (b) examining whether similar results emerge from other one-industry communities in other parts of Canada. All students in such communities are facing difficult career decision-making choices if significant social and economic upheaval is occurring around them. Their most daunting obstacle will be the stark probability of having to move away from home to pursue and engage in their career choices. While the DEVCO and SYSCO closures do not appear to have selectively affected the career decision-making self-efficacy of Cape Breton students, the closures will invariably impact students' ultimate career choices by reducing their career options and creating a greater concern for financial security. Educators and community leaders across "small town" Canada need to prepare career interventions to help students overcome the inevitable fallout from similar closures and the further decline of other traditional industries. It also behooves us to regularly monitor the career decision-making abilities of the students in these communities so that they do not merely select the default options of choosing anything for a career as long as it is a way out of their community. Hektner's (1995) research succinctly implies that this is the sort of conflict facing rural adolescents as they bridge the gap to the adult world.

References

Anderson, S., & Brown, C. (1997). Self-efficacy as a determinant of career maturity in urban and rural high school seniors. *Journal of Career Assessment, 5(3),* 305-315.

Bandura, A. (1995). *Self-efficacy in changing societies.* New York: Cambridge University Press.

Bandura, A. (1977). Self-efficacy: Toward a unifying theory of behaviour change. *Psychological Review, 84(2),* 191-215.

Bergeron, L. M., & Romano, J. L. (1994). The relationships among Career Decision-Making Self-efficacy, educational indecision, vocational indecision, and gender. *Journal of College Student Development, 35(1),* 19-24.

Betz, N. E., & Hackett, G. (1986). Application of self-efficacy theory to understanding career choice behaviour. *Journal of Social and Clinical Psychology, 4(3),* 279-289.

Betz, N. E., Klein, K. L., & Taylor, K. M. (1996). Evaluation of a short form of the Career Decision-Making Self-Efficacy Scale. *Journal of Career Assessment, 4(1),* 47-57.

Betz, N. E., & Luzzo, D. A. (1996). Career assessment and the Career Decision-Making Self-Efficacy Scale. *Journal of Career Assessment, 4(4),* 413-428.

Betz, N. E., & Taylor, K. M. (1994). *Manual for the Career Decision-Making Self-Efficacy Scale (CDMSE).* Columbus, OH: Author.

Blumenfeld, P. S. (1992). Classroom learning and motivation: Clarifying and expanding goal theory. *Journal of Educational Psychology, 84,* 272-281.

Blustein, D. L. (1989). The role of goal instability and career self-efficacy in the career exploration process. *Journal of Vocational Behaviour, 35,* 194-203.

Brown, D., Brooks, L., & Associates (1990). *Career choice and development: Applying contemporary theories to practice (2nd ed.)* San Francisco: Jossey-Bass.

Cahill, M., & Martland, S. (1996). Community career counselling for rural transitions. *Canadian Journal of Counselling, 30(3),* 155-164.

Cape Breton Regional Municipality Planning Department (1999). *The Cape Breton Regional Municipality at the end of the 20 century: A demographic and economic overview.* Sydney, N. S.: CBRM, March 31, 1999.

Carns, A., Carns, M., Wooten, H., Jones, L., Raffield, P., & Heitkamp, J. (1995). Extracurricular activities: Are they beneficial? *Texas Counseling Association Journal, 23,* 37-45.

Church, A., Teresa, J., Rosebrook, R., & Szendre, D. (1992). Self-efficacy for careers and occupational consideration in minority high school equivalency students. *Journal of Counseling Psychology, 39(4),* 498-508.

Crites, J. (1981). *Career Counseling: Models, methods, and materials.* Montreal: McGraw-Hill.

De Schiffart, C. (2000). Community service learning with unemployed young Nova Scotians. *Canadian Journal of Counselling, 34(3),* pp. 186-192.

Educational Testing Service (1999). *Career decision-making self-efficacy scale (CDMSE).* (ERIC Clearinghouse on Assessment and Evaluation. ETS Tracking # TC018856).

Fouad, N. A., Smith, P. L., & Enochs, L. (1997). Reliability and validity evidence for the Middle School Self-Efficacy Scale. *Measurement and Evaluation in Counseling and Development, 37(1),* 17-31.

Fouad, N. A., & Spreda, S. L. (1996). Translation and use of a Career-Decision Making Self-Efficacy assessment for Hispanic middle school students. *Journal of Vocational Education Research, 21(4),* 67-85.

Gati, I., Osipow, S. H., & Fassa, N. (1994). The scale structure of multi-scale measures: Application of the split-scale method to the Task-Specific Occupational Self-Efficacy Scale and the Career Decision-Making Self-Efficacy Scale. *Journal of Career Assessment, 2(4),* 384-397.

Goldman, B. A., Osborne, W. L., & Mitchell, D. F. (1996). *Directory of unpublished mental measures. Vols. 4-5.* Washington: American Psychological Association.

Hackett, G., & Betz, N. E. (1981). A self-efficacy approach to the career development of women. *Journal of Vocational Behaviour, 18,* 326-339.

Hektner, J. M. (1995). When moving up implies moving out: Rural adolescent conflict in the transition to adulthood. *Journal of Research in Rural Education, 11(1),* 3-14.

Lankard, B. A. (1996). Acquiring self-knowledge for career development. *ERIC Digest,* Number 175. 1-4. (ERIC Document reproduction Service. No. ED399414).

Lehr, R., & Jeffery, G. (1996). Career support needs of youth: A qualitative analysis of the rural perspective. *Canadian Journal of Counselling, 30(4),* 240-253.

Luzzo, D. A. (1997). *Correlates of Mexican American college students' perceptions of career-related barriers.* Paper presented at the Annual Meeting of the American Psychological Association. Chicago, IL. (ERIC Document No. ED422530).

Luzzo, D. A. (1996). A psychometric evaluation of the Career Decision-Making Self-Efficacy Scale. *Journal of Counseling and Development, 74(Jan/Feb),* 276-279.

Luzzo, D. A. (1995). The relative contributions of self-efficacy and locus of control to the prediction of career maturity. *Journal of College Student Development, 36(1),* 61-66.

Luzzo, D. A. (1993). Reliability and validity testing of the Career Decision-Making Self-Efficacy Scale. *Measurement and Evaluation in Counseling and Development, 26(July),* 137-142.

Luzzo, D. A., Funk, D. P., & Strang, J. (1995). Attributional retraining increases Career Decision-Making Self-efficacy. *The Career Development Quarterly, 44(4),* 378-386.

McAuley, C. (1998). Counselling individuals who experience career decision-making difficulties. *Guidance & Counselling, 13(3),* 3-13.

Mitchell, L. K., & Krumboltz, J. D. (1990) Social learning approach to career decision making: Krumboltz theory. In D. Brown, L. Brooks and Associates, (Eds.), *Career choice and development (2nd ed.).* San Francisco: Jossey-Bass Publishers.

Nevill, D. D., & Schlecker, D. I. (1988). The relation of self-efficacy and assertiveness to willingness to engage in traditional/nontraditional career activities. *Psychology of Women Quarterly, 12,* 91-98.

Nova Scotia Teachers Union (1999, May). *Our view . . . Cape Breton a community in crisis.* Paper presented to Government of Canada, Government of Nova Scotia, and Nova Scotia Legislative Committee, Halifax, NS.

Osipow, S. H., & Fitzgerald, L. F. (1996). *Theories of career development (4th ed.).* Toronto: Allyn and Bacon.

Osipow, S. H., & Gati, I. (1998). Construct and concurrent validity of the Career Decision-making Difficulties Questionnaire. *Journal of Career Assessment, 6(3),* 347-364.

Phillips, S. D., & Pazienza, N. J. (1988). History and theory of the assessment of career development and decision making. In W. B. Walsh and S. H. Osipow (Eds.), *Career decision making.* Hillsdale, New Jersey: Lawrence Erlbaum Associates.

Robbins, S. B. (1985). Validity estimates for the Career Decision-Making Self-Efficacy Scale. *Measurement and Evaluation in Counseling and Development, 18(2),* 64-71.

Silcox, P. E., & Cummings, A. L. (1999). A comparison of women in nontraditional and traditional science majors: Implications for career counsellors. *Canadian Journal of Counselling, 33(4),* 264-276.

Solberg, V. S., Good, G. E., Fischer, A. R., Brown, S.D., & Nord, D. (1995). Career decision-making and career search activities: Relative effects of career search self-efficacy and human agency. *Journal of Counseling Psychology, 42(4),* 448-455.

Stewart, J. (1995). Counselling individuals who experience career decision-making difficulties. *Guidance & Counselling, 10(4),* 52-56.

Taylor, K. M., & Betz, N.E. (1983). Applications of self-efficacy theory to the understanding and treatment of career indecision. *Journal of Vocational Behaviour, 22(1),* 63-81.

Taylor, K. M., & Popma, J. (1990). An examination of the relationship among career decision-making self-efficacy, career salience, locus of control, and vocational indecision. *Journal of Vocational Behaviour, 37,* 17-31.

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