

**EVALUATION OF A SEMI-STRUCTURED CAREER ASSESSMENT
INTERVIEW DERIVED FROM SYSTEMS THEORY FRAMEWORK**

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Current literature indicates that vocational assessment in the field of career counseling and guidance has been dominated by quantitative and empirical methods. Recent criticism of the field from the post-modernist perspective has stimulated the development of theories that account for a wider range of influences present in an individual's phenomenal world with respect to career. This study investigated the practical efficacy of a semi-structured interview, derived from the Systems Theory Framework (STF), which was developed for application in the career counselling service at a university. Another interview derived from 'standard' practice methods was also developed for comparison purposes. Clients of a careers counselling service received either form of interview in an experiment that utilised a pre-test post-test design. Three measures of outcome (self-exploration, environment exploration, and attributional style) were used to assess the two interview methods. Results indicated that the interview based upon the STF has some tentative merit as a potential alternative method for career assessment.

EVALUATION OF A SEMI-STRUCTURED ASSESSMENT INTERVIEW DERIVED FROM SYSTEMS THEORY FRAMEWORK

Traditional theories and practice of career counselling have been widely based upon empirical and logical-positivist approaches which seek to ‘match’ or ‘fit’ people to an occupation or environment (Brott, 2001). The original approach of Parsons (1909) and the subsequent trait and factor theories were best related to an industrial world that was predictable, and a belief that a career consisted of a lifetime occupation. Recent global changes in economies and micro-economic reforms have introduced uncertainty and change to the concept of a ‘job for life’. The traditional models have recently received criticism because they oversimplify the profound personal issue of career (McMahon & Patton, 2000). Moreover, the emergence of a ‘post-industrial society’, ‘information age’, and globalisation has stimulated significant debate on the relevance of traditional vocational assessment models (Savickas & Walsh, 1996; McMahon & Patton, 2000).

Post-modern approaches to assessment in the psychological or counselling setting, emphasise plurality of perspectives, contexts, realities, and meanings (Thorngren & Feit, 2001), rather than the traditional search for occupational fit. There has been a growing awareness and application of a particular version of post-modernist approaches in the form of ‘constructivist’ methods (Chiari & Nuzzo, 1996; Chen, 2002). Savickas (1995) has suggested that these constructivist or perspectivist approaches collectively challenge the fundamental postulates of vocational and career psychologies. This contentious suggestion has merit because the accepted schools of scientific psychologies have built themselves upon a tradition of empiricism. Constructivist methods, however, do not assume the same conditions of what constitutes ‘knowledge’.

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Counsellors who adopt the constructivist position make no attempt to be seen as an authority figure in the interview dyad and endeavour to facilitate the client's understanding of their condition through the interview dialogue (McMahon & Patton, 2000). Furthermore, constructivist approaches must be holistic and consider a broader range of issues in the person's career-life, not just a narrow set of variables relating to 'type'. In this vein, assessment through interview becomes a conversation aimed at creating new personal understanding, as opposed to 'objectively' gathering facts.

SYSTEMS APPROACHES TO CAREER

Traditional approaches to career assessment have espoused reference to Lewin's (1935) classical equation, $B = f(P,E)$; that behaviour is a function of the person and their environment. A post-modern perspective would take this to be a reasonable assumption. However, Woodd (2000) has critically argued that the predominant interest for the traditional models has been the person, rather than a balanced interest in person *and* environment. This has resulted in a preoccupation with quantitative measurement of personality as it relates to vocation. Woodd exhorts the application of Bronfenbrenner's (1979) conceptualisation of environment in the assessment of a person's career because career-decisions often involve a person's non-psychological world (e.g., family, work). In this system a person's environment ranges across four levels: micro; meso; exo; and macro. Micro-system relates to the elements of a person's environment with which they have regular contact (e.g., school). Meso-system includes two or more micro-level systems and their links. Exo-system includes micro- and meso-systems, but additionally posits that a person has no direct influence at this level. The enveloping macro-system includes ideological and social influences (e.g., government, unemployment). All these

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levels interact. Bronfenbrenner's theory would therefore view a person's career at all levels in addition to their intra-personal interests, values, and skills.

The development and application of systems theory to the field of vocational psychology is at an early stage and there are various forms of 'systems theory'. The Systems Theory Framework (STF) used in this research was developed by Patton and McMahon (1997, 1999). The individual is central in STF. They emphasise that 'individual' indicates the unique nature of each person and their situation. They include the following influences in the realm of the individual: gender; values; self-concept; ability; interests; skills; aptitudes; knowledge of the world of work; age; ethnicity; sexual orientation; personality; beliefs; disability; physical attributes; and health. These personal factors are in many respects no different from the usual content of focus for traditional theories. However, in STF, the personal factors have been contextualised.

Context, in STF, has been conceptualised as social context and environmental/societal context. This separation provides some level of distinction between the proximity of influences to the individual (in much the same way as Bronfenbrenner's conceptualisation). Social context influences include: educational institutions; workplace; peers; family; media; community groups; and employers. Environmental/societal influences include: employment market; socio-economic status; historical trends; globalisation; political decisions; and geographical location. Environmental/societal context is a higher order of influence in that it is more distal than social context. The influences contained within social context would likely have a more visible and known role within an individual's life, than would the higher order influences. For example, a person who is retrenched from their position at the factory would

obviously notice changes at his/her local level; however, that individual may not be aware of the international economic forces that induced their factory's restructure.

The concept of reciprocal interaction between influences gets to the core of the systems idea. Essentially it indicates that each and every influence has an impact upon the another, to varying degrees. The interactions operate within individual influences, within contextual influences, and between individual and contextual influences. In this way, a distal influence may have significant impact upon a proximal influence. For example, socio-economic status may impact upon individual knowledge. Patton and McMahon (1999) later modified the concept of reciprocal interaction and installed 'recursiveness' in its place. They argued that the original formulation of reciprocal interaction failed to consider that the impact of some influences may vary in size and direction, and are not necessarily equal with one another. Recursiveness suggests that influences may have non-linear relationships in past, present, or future. This amplifies the openness of the entire system of the person.

The notion of happenstance, serendipity or unpredicted change in career has received increasing attention in the literature (e.g., Furbish, 2002). Through use of the notion of 'chance', Patton and McMahon (1997) have deliberately added the randomness of life to their conceptualisation of career. This is a clear rejection of the trait-and-factor assumption of lifelong stability in characteristics.

Chance relates to change over time. Patton and McMahon (1997) have indicated that all influences change over time, and consequently, the sum of the parts change too. This allowance suggests that influences have varying levels of potency at different points in time in a person's life. For example, age in relation to career decisions is prepotent at

the approach of retirement, but less so in childhood. The entire system of the person is enveloped in the past, present, and future.

METHODS OF VOCATIONAL ASSESSMENT

The process of 'career assessment' or 'vocational assessment' has been an integral component of career counselling and vocational guidance. Objective assessment procedures tend to be classified as 'tests' or 'inventories', with tests measuring optimal performance, and inventories measuring typical performance (Isaacson & Brown, 1993, p. 339). Objective assessment implies some level of standardisation in materials, administration procedures, scoring, and normative data (Anastasi, 1988, p. 25). Objective instruments should also possess some level of acceptable reliability and validity so that the user may be assured that the test measures consistently the construct it is purported to measure. Standardised tests based upon a normative sample allow comparisons between an individual's performance and that of a general reference group. This form of assessment relates strongly to the empirical tradition within career psychologies.

Qualitative methods of vocational psychology have received increasing interest and acceptance in recent years (Lee, Mitchell, & Sablynski, 1999). Qualitative assessment procedures do not necessarily involve standard instructions or scoring, and the results are not compared against a normative sample (Isaacson & Brown, 1993, p. 339). Nevertheless, some qualitative procedures have developed into formal observational techniques that offer considerable standardisation, particularly inter-observer reliability.

Goldman (1992, pp. 619-620) has argued that qualitative assessments in the counselling setting have significant advantages, and these include:

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- an active, participative role for clients, including them in the ‘thinking’ behind the interview processes;
- more holistic and integrative than standardised testing, with greater potential for generalisation to the client’s ‘real world’;
- operation within a developmental framework which encourages clients to learn about themselves;
- potential for greater intimacy in the counselling relationship because of the conversational presentation; and
- more adaptable to diverse populations (e.g., cultural differences).

Qualitative assessment in vocational assessment includes: behavioural observations, verbal description of behaviour, autobiographical and biographical data, simulations, games, card sorts, and more (Goldman, 1992; Okocha, 1998). A description of the many types of qualitative assessment is not warranted in this paper. Instead, the ‘interview’ is the focus of qualitative assessment for the purposes of this study.

INTERVIEW AS ASSESSMENT

An early form of qualitative assessment in a psychological setting was the clinical interview, best exemplified by the work of Sigmund Freud and Carl Jung (Groth-Marnat, 1997). Lee et al. (1999) concluded that interviews were the most frequently used form of qualitative inquiry in the field of vocational psychology. Interviews can generally be described in terms of their organisation, ranging from unstructured to structured.

The structured interview is a list of set questions with a limited range for additional exploration. This approach is exemplified by the spoken questionnaire in which questions and responses are predetermined (e.g., marketing surveys on product Final and authorised version first published in the *Australian Journal of Career Development* in 12(3), published by the Australian Council for Educational Research. Copyright © 2003 Australian Council for Educational Research.

likes and dislikes). In contrast, unstructured interviews tend not to follow any preconceived idea set by the interviewer. Kidd (1988, p. 25) suggested that assessment remains an integral component of an unstructured interview and may involve:

- encouraging the client to identify and elaborate on themes;
- reflecting and summarising;
- asking appropriate questions;
- offering information so that client's may assess themselves; and
- offering interpretations and inferences.

Kidd's summary is not particularly different from the general approach to client-centred counselling. The emphasis is upon the client's freedom to explore and direct the interview conversation. This approach to assessment is gentle and assists in creating a supportive and relaxed environment in which the client can better understand their situation. Nevertheless, Kidd raised the issue of interviewer bias and judgement as being possible sources of error.

Kidd (1988, p. 27) has described the semi-structured interview as a preconceived framework and *aide memoire*. The key feature of the semi-structured interview is that it follows a pattern of inquiry that has been established by the interviewer. This raises an important issue in terms of how the interviewer elicits information and what information they seek. Clark (1994) conducted an analysis of career counsellors' interview activities and mental processes and found that counsellors use an (unconscious) heuristic to explore the issues presented by clients. Their heuristic generates the lines of inquiry and the type of questions asked.

The semi-structured interview brings some balance to the issue. On the one side there is the free ranging dialogue of a totally open interview (similar to free association)

through to the rigid control of the set questionnaire method of a fully structured-interview. Although preconceived by the interviewer, the semi-structured interview method brings some level of consistency to the interview situation and avoids any problems associated with potentially inappropriate heuristics used by counsellors, such as discussed by Clark (1994).

The constructivist position holds central the notion that individuals actively participate in the creation of their own meanings and realities (McMahon & Patton, 2000). In this way subjectivity is prepotent to real understanding, as opposed to objectivity. Language (and speech) is the primary data of constructivist methodologies. McMahon and Patton (2000) have suggested that the process individuals use to construct their own reality through language and dialogue contributes to this ongoing activity. Hence, the conversational dynamic of an assessment interview, which is essentially a discussion toward shared meaning, can be viewed from this perspective. In this way, the counsellor and client engage in a social process of dialogue in which the client's past, present and future are brought into meaning and reference to action (Brott, 2001).

SUMMARY

Patton and McMahon's (1997, 1999) STF enables practitioners to develop assessments and interventions within a body of coherent theory. Moreover, the has shown that the non-personal elements of an individual's life are important in the development of their career. This framework offers coherency in attempts to understand the links between all of the proximal and distal influences in a person's life. Furthermore, the framework has been developed to enable testing of its applicability in the field.

This research sought to address the practicality of integrating qualitative assessment methods in the setting of career counselling in higher education. A semi-structured interview was developed using the STF. This semi-structured interview tapped into the multiple influences lived by an individual. Moreover, the interview protocols took a generalised conversational approach, typical of a narrative, counselling framework. To investigate the efficacy of this interview, another semi-structured interview, that represented the 'standard' type of vocational assessment interview, was also developed to act as a comparative benchmark.

This exploratory study aimed to determine if one interview method produced different outcomes to the other. The outcomes of these two interviews were compared against measures of self-understanding, job search behaviour, and global career attributions.

METHOD

Participants

Eighteen clients of the Career Counselling section of the University of Southern Queensland's Student Services, participated in the investigation. All were undergraduate students and had approached the Service for the purpose of seeking career counselling. Their participation was voluntary and they were fully informed of the processes of the study. They were required to complete questionnaires prior to and after their counselling session.

Three appropriately qualified professionals (including the first author) conducted the career counselling sessions with the clients. The counsellors were employees of the Service. The Service receptionist was responsible for booking counselling appointments and supplying clients with the questionnaires.

Materials

Interview Schedules. Two interview schedules were constructed for the purpose of standardising the semi-structured interviews¹. These were the Standard Method, which followed current interview methods (e.g., Groth-Marnatt, 1997), and the Systems Method based upon STF. These interview schedules were constructed using the recommendations for qualitative methods made by Lee et al. (1999). These recommendations included *a priori* decisions made in terms of interview duration, formality, number of people to be interviewed, and how the data were recorded. Furthermore, Kidd (1988, p. 26) has suggested that interviewers should attempt to remove any systematic bias where possible. Technically this could include avoidance of:

¹ Copies of the interview schedules are available from Peter McIlveen.

- closed questions that require yes/no answers;
- leading questions with bias;
- multiple questions that deliver several questions in one utterance;
- false alternatives containing options which are not mutually exclusive; and
- rhetorical questions.

The control interview (Standard Method) schedule was based upon the methods of 'current practice' in the field of vocational assessment. This was the type of interview used previously by the Student Services. This interview made reference to a client's presenting issues, interests, values, abilities, attitudes, work experience, and education. In terms of content, the experimental interview (Systems Method) schedule was based upon the STF propounded by Patton and McMahon (1997). This took into account a wider range of variables that have potential impact upon personal functioning. The questioning style was in a narrative format and conversational. Each interview required approximately 45 to 50 minutes to complete.

Psychometric Inventory. Most clients of the Service who seek career counselling receive a *Self-Directed Search* (Shears & Harvey-Beavis, 2001). It is sometimes appropriate to administer the SDS during the first session of career counselling. However, in this study clients were not be given the SDS in the first session. If the SDS was indicated, a client would be advised to take a copy home and return it for the scoring and discussion in the next session (if appropriate to the needs of the client). Removing the SDS from the first interview ensured that its potential effects upon clients' perceptions of counselling value and outcomes would not be present.

Questionnaires and Measured Variables. Participants received questionnaires that measured the impact and outcomes of the counselling experience. The composite questionnaires were entitled *My Career Thoughts I* and *My Career Thoughts II*. Version I was given prior to the session (i.e., pre-test) and version II was given immediately after (i.e., post-test). Instructions for each measure were different (and are explained below). The questionnaires contained three scales: the *Self-Exploration Scale* and the *Environmental Exploration Scale*, both subscales of the *Career Exploration Survey* (Stumpf, Colarelli, & Hartman, 1983; Werbel, 2000), and the *Assessment of Attributions for Career Decision-Making* (AACDM) (Luzzo & Jenkins-Smith, 1998).

The version of the *Self-Exploration Scale* (SES) (Stumpf et al., 1983; Werbel, 2000) used in this study assessed the extent to which an individual has engaged in self-assessment in relation to their career. This scale was found to have a coefficient alpha = .87 and test-retest reliability = .83 (Stumpf et al, 1983; Blustein, Devenis & Kidney, 1989). The SES utilised four items in a Likert scale format ranging from 1 (very little) to 5 (very great extent). The SES contained in *My Career Thoughts I* (i.e., the pre-test) instructed participants to consider their self-assessment activities during the two months previous. The SES in *My Career Thoughts II* (i.e., the post-test) instructed participants to prospectively rate the extent to which they would engage in self-assessment activities over the coming two months with reference to the session they had just attended.

The *Environmental Exploration Scale* (EES) (Stumpf et al., 1983; Werbel, 2000) was a measure of behavioural engagement in seeking information about job opportunities. This scale was found to have a coefficient alpha = .88 and test-retest reliability = .85 (Stumpf et al, 1983; Blustein, Devenis & Kidney, 1989). The EES Final and authorised version first published in the *Australian Journal of Career Development* in 12(3), published by the Australian Council for Educational Research. Copyright © 2003 Australian Council for Educational Research.

contained five items in a Likert scale format ranging from 1 (very little) to 5 (very great extent). The EES contained in *My Career Thoughts I* instructed participants to consider their information seeking activities during the two months previous. The EES in *My Career Thoughts II* instructed participants to prospectively rate the extent to which they would engage in seeking information on employment opportunities over the coming two months with reference to the session they had just attended.

The *Assessment of Attributions for Career Decision-Making* (AACDM) (Luzzo & Jenkins-Smith, 1998) was constructed to measure attributions of a person's sense of control, stability, and causality in relation to their career in three respective subscales. These elements relate to an individual's causal beliefs about their successes and failures in relation to career. The AACDM also provides a composite measure that relates to career indecision and career exploration behaviour. The version used in this study consisted of nine items and measured only the composite score (i.e., combined control, stability, and causality). This scale had a coefficient alpha = .85 and test-retest reliability coefficient = .81. The same five-point Likert scale used in the SES and EES was adopted. Participants were instructed to indicate their agreement with the beliefs presented in the AACDM in *My Career Thoughts I*. In the post-test, participants had to rate their beliefs in reference to the session they had just attended.

Procedures

The process through which a client received their counselling was not to be markedly different from the usual processes that occur with Student Services.

Study Design. This study used a pretest-post test control group design. Use of a true control group (i.e., no intervention) was not possible. Clients who attend the service for counselling have a right to receive counselling as soon as is practically possible. Thus a waiting list for the purposes of research would not be appropriate. So in this study the Standard Method acted as a benchmark and control of sorts.

The receptionist randomly allocated clients to a counselling condition. The order of allocation was developed through use of a random number table. This measure of objectivity ensured that bias was removed from the process of allocating clients to experimental conditions. It was not possible to randomly allocate clients to counselors due to workplace client flows. The receptionist allocated clients to the next available appointment with the next available counsellor. This allocation process was not random, however, the standardisation of the two interview procedures was considered sufficient to contain some of the potential bias effects of counsellor characteristics.

After making an appointment, clients were advised of the project and their willingness to participate was determined. Upon return for their appointment, clients were given a copy of an 'Informed Consent Form'. This version included additional text that indicated their understanding and agreement to participate. After clients completed the Informed Consent Form they were asked to complete the *My Career Thoughts I*. After the counselling session, clients were given *My Career Thoughts II*. This data was retained by the receptionist and later entered into the client's confidential file.

The data were analysed using the SPSS for Windows Release 11.00 (Statistical Package for the Social Sciences). All analyses used an alpha level of significance set at $p = .05$; nevertheless, exact probability levels have been reported in the Results section. Final and authorised version first published in the *Australian Journal of Career Development* in 12(3), published by the Australian Council for Educational Research. Copyright © 2003 Australian Council for Educational Research.

RESULTS

Data Screening

The relatively small number of participants in the study warranted inspection of the data to determine the presence of violations of the assumptions of normality (Tabachnick & Fidell, 2001). There were no missing data. Individuals' scores on each dependent measure were converted to z-scores on a group-wise basis. This analysis did not reveal significant univariate outliers. Statistics on kurtosis and skewness were calculated for each measure on a group-wise basis. This indicated that each curve approached a normal distribution. These results suggested the data set was amenable to parametric analyses.

Baseline and Overall Effects

The mean and standard deviation of pre- and post-test measures of SES, EES, and AACDM across the two groups are presented in Table 1. The means for the Standard Method are consistently higher than those for the Systems Method on pre-test measures. However, the differences between the means on post-test measures are not as distinct. Furthermore, inspection of the standard deviations indicates less variance in the Systems condition. These differences raise the possibility of a consistently positive effect for the Systems condition.

The pre-test measures across the two groups were compared to determine a baseline. An independent groups t-test revealed that pre-test measures across the groups were not significantly different for SES, $t(16) = -.86, p = .41$; EES, $t(16) = -1.90, p = .07$; and AACDM, $t(16) = -.50, p = .62$.

The data were analyzed as an entire combined set to determine the presence of an overall effect. This required use of paired t-tests for pre-test and post-test measures of SES, EES, and AACDM. The analysis revealed significant differences for the SES, $t(17) = -3.32, p = .004$; and the EES, $t(17) = -7.20, p = .00$; and the AACDM, $t(17) = -3.26, p = .01$. These results indicate that there was a generalised positive increase in the measures in both direction and magnitude between pre-test and post-test.

Within Group Comparisons

The pre- and post-test means for the Systems Group were analysed using paired samples t-tests. The pre and post-test measures were found to be significantly different for SES, $t(8) = -4.41, p = .00$; EES, $t(8) = -6.92, p = .00$; and AACDM, $t(8) = 2.30, p = .05$. These results indicate that the mean scores for the post-test measures were significantly more than the pre-test measures for the Systems Group.

The pre- and post-test means for the Standard Group were analysed using paired samples t-tests. The difference between the pre- and post-test measure of EES was significantly different, $t(8) = -3.94, p = .00$. However, the means for SES, $t(8) = -1.44, p = .19$; and AACDM, $t(8) = 2.18, p = .06$ were not significantly different.

DISCUSSION

This exploratory study used an experimental model to investigate the differences between and outcomes produced by two models of career assessment that used semi-structured interviews. The study has revealed important results for the status of systems theory applied to career counselling. The design nevertheless contains potential confounds which necessitate caution in the interpretation of results. The overall positive results may

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be related to possible demand characteristics of the study in that participants may have felt an obligation to rate their experience as a positive one. Furthermore, the overall positive results may have been related to test-retest characteristics of the measures. These caveats, however, would not necessarily account for the differential results at post-test and leave open the possibility that the interview conditions played a significant role.

Analysis of the entire data set indicated that, in general, clients' measures of *Self-Exploration Scale*, *Environmental Exploration Scale* and the *Assessment of Attributions for Career Decision-Making* increased significantly as a result of the counselling experience. This result indicates that the experience of counselling was having some positive impact upon the clients willingness to explore their sense of self, engage in employment search, and to take a more positive attributional style in the months following the experience.

The refined analyses examined within group differences on the pre-test and post-test measures of SES, EES, and AACDM. This revealed that both groups indicate a significant increase in the measure of EES as a result of the assessment experience. This result indicates that the Standard Method and Systems Method had a positive impact upon the individuals' intentions to engage in employment related searches and their attributional style. There was, however, notable differences on the measures of SES and AACDM. Only the Systems Method produced significant results in the positive direction. This can be taken to mean that clients' career attributions and intentions to engage in self-exploration over the coming two months were stimulated.

The results support the conclusion that the Systems Method added an extra dimension to the psychological outcomes experienced by clients of career counselling.

The breadth of personal enquiry facilitated by the Systems Method is a likely reason for the additional intent to explore one's self in reference to career.

It is not reasonable to conclude that the Systems Method is superior to the Standard Method because of the SES and AACDM scores. It may well be the case that the Standard Method may show better results on different measures. What can be concluded, however, is that both methods are successful in bringing about an intention to change career related activities in the clients' attitudes and behaviour. In making this conclusion, it is obvious that there are equally viable alternatives to the traditional way of doing vocational assessment. Moreover, this study has provided some initial experimental evidence indicating the value of systems theory with respect to the development of practical methods of career counselling.

REFERENCES

- Anastasi, A. (1988). *Psychological testing*. (6th ed.). New York: MacMillan Publishing Company.
- Blustein, D. L., Devenis, L. E., & Kidney, B. A. (1989). Relationships between the identity formation process and career development. *Journal of Counseling Psychology*, *36*, 196-202.
- Bronfenbrenner, U. (1979). *The ecology of human development*. Cambridge, MA: Harvard University Press.
- Brott, P. (2001). The storied approach: A postmodern perspective for career counselling. *Career Development Quarterly*, *4*, 304-313.
- Chen, P. C. (2002). Enhancing vocational psychology practice through narrative inquiry. *Australian Journal of Career Development*, *11*, 14-21.
- Chiari, G. & Nuzzo, M. L. (1996). Personal construct theory within psychological constructivism: Precursor or avante-garde? In B. Walker, J. Costigan, L. Viney & B. Warren (Eds.), *Proceedings of the 1993 International Congress of Personal Construct Psychology* (pp. 25-54). Melbourne: Australian Psychological Society.
- Clark, H. (1994). What are careers officers thinking of? How information cues are selected and used in careers interviews. *British Journal of Guidance and Counselling*, *22*, 247-258.
- Furbish, G. (2002). *Planning for the unplannable: Using uncertainty models in career counselling*. 11th Annual Conference “Beyond Boundaries - Challenging Issues in Career Development”, Australian Association of Career Counsellors, 3-5 April, 2002, Melbourne
- Final and authorised version first published in the *Australian Journal of Career Development* in 12(3), published by the Australian Council for Educational Research. Copyright © 2003 Australian Council for Educational Research.

- Goldman, L. (1992). Qualitative assessment: An approach for counsellors. *Journal of Counseling and Development, 70*, 616-621.
- Groth-Marnat, G. (1997). *Handbook of psychological assessment* (3rd ed.). New York: John Wiley & Sons.
- Isaacson, L. E., & Brown, D. (1993). *Career information, career counseling, and career development* (5th ed.). Boston: Allyn and Bacon.
- Kidd, J. M. (1988). *Assessment in action*. Leicester: National Institute for Adult Continuing Education.
- Lee, T., Mitchell, T. R., & Sablynski, C. J. (1999). Qualitative research in organisational and vocational psychology, 1979-1999. *Journal of Vocational Behaviour, 55*, 161-187.
- Lewin, K. (1935). *The dynamic theory of personality*. New York: McGraw-Hill.
- Luzzo, D. A., & Jenkins-Smith, A. (1998). Development and initial validation of the Assessment of Attributions for Career Decision-Making. *Journal of Vocational Behavior, 52*, 224-245.
- McMahon, M., & Patton, W. (2000). Incorporating the constructivist influence into career guidance and counselling. *Australian Journal of Career Development, 9*, 25-29.
- Okocha, A. (1998). Using qualitative appraisal strategies in career counselling. *Journal of Employment Counseling, 35*, 151-159.
- Parsons, F. (1909). *Choosing a vocation*. Boston: Houghton Mifflin.
- Patton, W., & McMahon, M. (1997). The systems theory framework. In W. Patton & M. McMahon (Eds.), *Career development in practice. A systems theory perspective* (pp. 15-34). Sydney: New Hobsons Press.

- Patton, W., & McMahon, M. (1999). *Career development and systems theory. A new relationship*. Pacific Grove, CA: Brooks/Cole Publishing Company.
- Savickas, M. L. (1995). Current theoretical issues in vocational psychology: convergence, divergence, schism. In W. B. Walsh & S. H. Osipow (Eds.), *Handbook of vocational psychology: Theory, research, and practice*, (2nd ed.). Mahwah, NJ: Lawrence Erlbaum Associates.
- Savickas, M. L., & Walsh, W. B. (1996). Toward convergence between career theory and practice. In M. L. Savickas & W. B. Walsh. (Eds.), *Handbook of career counseling and practice* (pp. xi-xvi). Palo Alto: Davis-Black Publishing.
- Shears, M., & Harvey-Beavis, A. (2001). *Self-Directed Search Form R* (2nd Australian ed.). Odessa, Florida: Psychological Assessment Resources Inc/Australian Council for Educational Research.
- Stumpf, S. A., Colarelli, S. M., & Hartman, K. (1983). Development of the career exploration survey (CES). *Journal of Vocational Behavior*, 22, 191-226.
- Tabachnick, B. B., & Fidell, L. S. (2001). *Using multivariate statistics*. (4th ed.). Boston: Allyn and Bacon.
- Thorngren, J. M., & Feit, S. S. (2001). The career-o-gram: A postmodern career intervention. *Career Development Quarterly*, 49, 291-303.
- Werbel, J. D. (2000). Relationships among career exploration, job search intensity, and job search effectiveness in graduating college students. *Journal of Vocational Behavior*, 57, 379-394.
- Woodd, M. (2000). The psychology of career theory – a new perspective? *Career Development International*. 6, 273-278.

Table 1

Summary Statistics for Pre- and Post-test Measures SES, EES and AACDM Across Assessment Conditions

	SES		EES		AACDM	
	Pre	Post	Pre	Post	Pre	Post
Systems Assessment						
Mean	13.22	15.78	9.56	17.56	31.89	35.44
SD	3.27	2.59	2.70	3.71	3.76	2.35
Standard Assessment						
Mean	14.67	16.33	12.33	17.44	33.11	36.11
SD	3.87	3.57	3.46	5.43	6.23	3.92

Note. $n = 9$ for each condition.