The ROPELOC: Review of Personal Effectiveness and Locus of Control: A Comprehensive Instrument for Reviewing Life Effectiveness.

Garry E. Richards and Louise Ellis
University of Western Sydney
Australia

James T. Neill
University of New Hampshire
United States of America

What makes a person effective in life? The ROPELOC instrument originally developed by Richards over 10 years and then by Richards and Neill over a further 7 years has been further developed to tap into key actions and behaviours that indicate a person's effectiveness in a variety of critical areas of life. The new ROPELOC instrument has grown out of testing on over 10,000 training program participants in a wide variety of program types. The ROPELOC items are grounded in self-perceptions but expressed and interpreted in terms of behaviours.

Other, often popular, measures which purport to measure multiple dimensions, have been found wanting, are insensitive to change, unreliable or have poor psychometrics. The ROPELOC overcomes these shortcomings and provides a short, easily administered useful multidimensional instrument with sound psychometric properties.

The ROPELOC has 14 scales; including personal abilities and beliefs (Self-Confidence, Self-Efficacy, Stress Management, Open Thinking), social abilities (Social Effectiveness, Cooperative Teamwork, Leadership Ability), organisational skills (Time Management, Quality Seeking, Coping with Change) an 'energy' scale called Active Involvement and a measure of overall effectiveness in all aspects of life. In addition, the instrument has an in-built Control Scale that helps to determine whether changes reported in the other scales are due to program effects or simply due to retesting on the same instrument. The two Locus of Control scales measure the tendency to take responsibility for self-actions and successes.

Two different samples of high school students were used to trial the new ROPELOC. The first trial sample (n= 1250) had internal reliabilities (Cronbach alpha) for its 14 subscales of between .79 and .93 and an average internal reliability of .85 and an overall alpha of .96. In the second trial sample (n= 1475) the internal reliabilities ranged between .71 and .90 (mean= .83) for younger students aged 11-13 yrs and between .73 and .91 (mean=.84) for older students aged 14-16 yrs.The average inter-scale correlations was .43 (highest correlation = .62) indicating good discrimination between the closely allied dimensions of life effectiveness as measured by the ROPELOC.

In the first trial sample Exploratory Factor Analysis produced average factor loadings ranging from an average of .65 to an average of .86 with an overall average of .75. Confirmatory Factor analysis produced a goodness of fit indice (TLI) of .925. A CFA of the second trial sample again demonstrated that the factor structure for the ROPELOC instrument was well defined. The factor loadings in this sample ranged .67 to .90. In addition, the fit indices again reached very acceptable levels (TLI = .94 & GFI = .92). Note: the TLI index for the LOC scales standing alone is .97

The Need for a New Instrument to Evaluate Life Effectiveness

Effectiveness in life – at school, home, or work is possibly the key issue for all individuals. However, it is not a single dimension. It is not just a matter of self-concept, or of social or physical skill that determines effectiveness

Most educational and developmental programs aspire to assisting individuals to become more effective in a wide variety of ways but there has existed no singular instrument that aspires to measure such a concept as life effectiveness across a broad spectrum. A very wide review of research by Richards indicated the varieties of dimensions that seemed to regularly appear in the literature as dimensions considered to be critical to general effectiveness. The ROPELOC instrument originally developed by Richards over 10 years and then by Richards and Neill over a further 7 years was designed to capture as many as possible of those key actions and behaviours that indicate a person's effectiveness in a variety of critical areas of life in a short but comprehensive instrument. (Note: Neill, Marsh, and Richards (1997) have previously reported the psychometric properties of an earlier instrument during the development of the ROPELOC). By 2000, the ROPE questionnaire had proven to be very useful for examining the types of personal changes being achieved through experience based training programs.

The new ROPELOC instrument has grown out of a long history of investigating the effects of personal change programs including testing on over 10,000 training program participants in a wide variety of program types. One of the problems that was recognised early on in these investigations was the inadequacy or inappropriateness of many of the 'off-the-shelf' psychological and clinical questionnaires for most experience-based programs and the problems of reliability and validity of many ad hoc forms of assessment. This inadequacy is often still seen today by naïve researchers who are frustrated by 'non-significant' results because they've used instruments which are not designed for, or sensitive to, the types of effects often produced by experiential learning programs.

The Place of the Self-concept in the Evaluation of Life-Efectiveness

An additional problem in certain types of investigations was actually caused by the central position and importance of the self-concept. This problem revolves around whether or not self-concept can be seen as an outcome variable in itself or instead, as primarily a mediating variable which can only be seen when manifested through behaviours. Because the self-concept is so well accepted as of primary importance, often self-concept instruments have been used as surrogates for instruments, which would be better described as outcome or "behaviour" instruments. The problem with evaluating behaviours directly is their multiplicity and specificity. Determining which particular specific behaviours should be assessed, especially in intervention settings, is very

problematic if trends are needed across samples or if broad personality issues are the focus of the investigation.

Hence a useful mid-level device for evaluating the effectiveness of individuals and populations would be a testing instrument that had items grounded in self-perceptions but which were expressed and interpreted in terms of behaviours. The items in the ROPELOC are designed with this intention. This mid-point between self-concept and behaviour is one of the reasons why the ROPELOC and its predecessors in its development have been more sensitive to measured changes in intervention studies.

Limitations of Other Instruments

An additional problem with traditional psychological instrumentation has been that the factors or scales within the instruments have often been limited in number and scope. For example, in early days the Coopersmith Self-Esteem Inventory (Coopersmith, 1967), had four scales: Peers, Parents, School and Personal, while the widely used Rosenberg Self-Esteem Scale (Rosenberg, 1965) presented itself as a unidimensional scale of self-esteem. Such measures, while useful for evaluating "global" factors, and being essentially short and easy to administer, (Coopersmith with 25 item and 50 item versions and Rosenberg only 10 items) were nevertheless limited in their ability to be discriminatory in their evaluations of the individual or of samples of individuals and so had poor behavioural diagnostic capabilities, (even if it was accepted that self-concept was directly related to behaviour).

Self-concept measures which might be more useful in this regard and have a greater range of dimensions faced the problem of a large number of items and consequently issues of compliance, testing fatigue, practice effects within the test, etc. and all of these problems are compounded when multiple waves of data are collected on the same subjects which is a common need in experience based intervention studies. An example of such an instrument would be the very widely used and respected 102 item Self Description Questionnaire II (Marsh, 1990) with its eleven factors: Physical Abilities, Physical Appearance, Opposite-sex, Same-sex Relations, Parent Relations, Honesty-Trustworthiness, Emotional Stability, Maths, Verbal, General School and General Self. This is clearly more comprehensive in its range of dimensions tested and therefore, more useful for discriminating on self-concept structures and changes as a result of interventions. However, its length carries the typical issues described above.

Other measures which propose to measure multiple dimensions, and have even been very popular, have been found wanting. The Tennessee Self-concept Scale (TSCS) for example, (Fitts, 1965) was designed to be comprehensive and multi-dimensional with Roid & Fitts(1988) declaring that 29 scores are available from the measure. However a comprehensive analysis by Marsh & Richards (1988) found substantial support for only three of the proposed scales and raised serious questions about the construct validity of the instrument.

This evaluation of the TSCS illustrated how there were problems of reliability and validity even with well-established self-concept measures, notwithstanding their substantial reputations. A further example is found in the Coopersmith Self-esteem inventory which was for decades a much respected instrument, purporting to have four well structured scales (Peer, School, Parent, Personal). However, investigators repeatedly found that the reported factor structure fail to materialize when tested. Kokenes (1978) found nine factors in the 50 item test and while four good stable factors were found (in version B) by Ahmed et al (1985), these four factors were best described as : "view of life", "family relations", "tolerance and confusion" and "sociability".

Enter: The ROPELOC…

The ROPELOC instrument contains 14 scales (see table1); including personal abilities and beliefs (Self-Confidence, Self-Efficacy, Stress Management, Open Thinking), social abilities (Social Effectiveness, Cooperative Teamwork, Leadership Ability), organisational skills (Time Management, Quality Seeking, Coping with Change) an 'energy' scale called Active Involvement and a measure of overall effectiveness in all aspects of life. In addition, the instrument has an in-built Control Scale, which helps to determine whether changes reported in the other scales are due to program effects or simply due to retesting on the same instrument. The two Locus of Control scales measure the person's tendency to take responsibility for his/her actions and successes or to see external controls determining actions. The LOC is an optional part of the ROPE system but is usually used, as it is a very useful indicator of likely behavior although not behaviorally based, as are the other scales of the ROPE.

There are many instruments available for testing dimensions such as Locus of Control and teamwork and self-confidence etc. However, one of the major aims of the ROPELOC was to produce an instrument that was relatively short (i.e. only 45 questions for all dimensions and control items) which could be administered quickly and easily to a wide variety of participants in different training settings and which would test a wide range of these dimensions in a single instrument. Thus, reliable results can be gained with minimal interference with programming. Also the instrument can be used with people ranging from corporate managers through to primary school-aged youth at risk (e.g. see Neill, Richards, & Badenoch, 1997).

In addition to the core instrument, the ROPELOC includes several summary questionnaires that have been developed to gather program coordinator, teacher/instructor/group leader, and client staff perspectives on (i) what they each expect the action and ability effects of the program are going to be, and (ii) what effects they believed the program had. This allows for the program effects on participants' personal effectiveness to be examined from multiple perspectives. ROPELOC has also been developed for use with a wide range of participants and has simple language and short administration time and is easily answered by simply

indicating a number for each response. It is quickly scored and interpreted.

A Reliable Instrument

The ROPELOC in the first trial sample (n= 1250) had internal reliabilites (Cronbach alpha) for its 14 subscales of between .79 and .93 and an average internal reliability of .849. This compares favourably with established stalwarts, such as the Coopersmith Self-Esteem Inventory, average cronbach alpha of .75 (Ahmed et al, 1985), the Rosenberg Scale's average alpha of .77 (Dobson et al, 1979) and the Self Description Questionnaire I (Marsh, Smith, Barnes, 1983), with its alphas from .80 to .92 for the seven subscales. In the second trial sample the reliabilities were very similar overall, however, generally, reliability estimates were somewhat higher for Year 10/11 students (median = .86) than Year 7 students (median = .83). (For a summary of results see table 2)

Do the Factors Stand Up

In the early stages of the development of the instrument Exploratory Factor Analysis (EFA) was used to freely explore the structures of the ROPELOC. Later, Confirmatory Factor Analysis was used to evaluate the factor structure underlying student responses. (See table 3.)Both forms of factor analysis employed on both large samples showed strong factor structure. (For summary see table 4.)

The factor structures are remarkably clean for such a short instrument with such a large number of scales that by their nature are necessarily closely related and contributing towards a central concept, effectiveness.

However, factor intercorrelations show that there remains good discrimination between the factors with no correlation approaching 1 and the range of correlations being between .21 and .63 for the main ROPE items. (See table 5 for factor intercorrelations for sample 2).

User Friendly

The ROPELOC was designed to be easily read and answered and to fit on one page for easy administration. The language used is suitable for early high school students through to adults. All of the items are rated on a Likert scale of 1 (*False*, *Not like me*) to 8 (*True*, *Like me*).

A particular feature in the development of the instrument was to not use negatively worded items. Even the Rosenberg Self-esteem Scale (Rosenberg, 1965) which has enjoyed widespread use and is accepted as a unidimensional measure and has been something of a standard by which to judge other measures, has the difficulty that the purported unidimensional structure has been see to break into two highly correlated factors (Dobson, Goudy, Keith, & Powers, 1979; Hensley & Roberts, 1976) with the second factor being comprised of the negatively worded items. This danger coupled to the experience of the researchers of younger responders in particular, having difficulties with negatively worded items has led to there being no negatively worded items in the instrument. The potential problem of positive bias appears not to be a problem although scores are generally skewed towards more positive scores (as are most self-report instruments).

Summary

The Review of Personal Effectiveness and Locus of Control instrument (ROPELOC; Richards & Neill, 2000) was developed to tap into key psychological and behavioural aspects of human functioning that indicate a person's effectiveness in a variety of areas. This instrument can be used with most age groups, and in various applications from cooperate managers through to primary school–aged children at risk (Neill, Richards & Badenoch, 1997). The ROPELOC measures 14 areas of personal effectiveness (described in Table 1), which are inferred from responses to 45 items.

Its factor structure is clean and strong, its internal reliabilities are very strong, it is discriminatory over a wide range of critical dimensions in life effectiveness. When tested on large samples and repeatedly it still stands up. It is a short and easy to administer and works well down to ages of about 10 years of age, right through to old age.

About the Authors

***Garry E.* Richards** OAM, completed undergraduate and Master degrees at the University of Sydney and his further post graduate studies have been through the Australian National University, James Cook University and Charles Sturt University and he is currently completing his PhD through the SELF Centre of the University of Western Sydney. He was formally Executive Director of Outward Bound Australia, National Chairman of ORCA, and Executive Director of National Outdoor Education and Leadership Services, a national consultancy and research company.

Louise Ellis is currently a Ph.D. student in the SELF-Research Centre at the University of Western Sydney. Her interests are in the area of personality, self-concept and school transition.

James T. Neill was Research Coordinator at the Australian Outward Bound School, and later Research Coordinator at National Outdoor Education and Leadership Services and a tutor at the Australian National University before taking up his appointment as a Lecturer at the University of New Hampshire. He is currently completing his PhD through the SELF Research Centre at the University of Western Sydney.

Contact Details

Garry Richards: ge.richards@uws.edu.au
Louise Ellis: lellis@smartchat.net.au
James Neill: james.neill@unh.edu

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Table 1

FACTOR	**DESCRIPTION**
AI: Active Involvement	Use action and energy to make things happen.
CT: Cooperative Teamwork	Cooperation in team situations.
LA: Leadership Ability	Leadership capability.
OT: Open Thinking	Openness and adaptability in thinking and ideas.
QS: Quality Seeking	Put effort into achieving the best possible results.
SC: Self Confidence	Confidence and belief in personal ability to be successful.
SF: Self Efficacy	Ability to handle things and find solutions in difficult situations.
SE: Social Effectiveness	Competence and effectiveness in communicating and operating in social situations.
SM: Stress Management	Self-control and calmness in stressful situations.
TE: Time Efficiency	Efficient planning and utilization of time.
CH: Coping with change	The ability to cope with change.
OE: Overall Effectiveness	The overall effectiveness of a person in all aspects of life.
*IL: Internal Locus of Control	Taking internal responsibility for actions and success
*EL:ExternalLocus of Control	Accepting that external issues control or determine success
CI: *Control Items* [#]	[#] In-built control measure of stable personal preferences. Allows baseline comparison for changes in other R.O.P.E. dimensions.

Table 2

	Sample 1	Sample 2		
Scale	**Total (n= 1250)**	**Year 7 (n = 773)**	**Yr 10/11 (n = 702)**	**Total (n = 1475)**
Self-Confidence	.84	.81	.81	.82
Self-Efficacy	.87	.87	.87	.87
Stress Management	.86	.82	.84	.83
Open Thinking	.83	.82	.79	.81
Social Effectiveness	.88	.85	.89	.87
Cooperative Teamwork	.85	.87	.89	.88
Leadership Ability	.91	.90	.92	.91
Time Efficacy	.86	.86	.88	.88
Quality Seeking	.85	.83	.84	.84
Coping with Change	.93	.86	.89	.87
Active Involvement	.80	.71	.78	.76
Internal Locus of Control	.80	.78	.83	.80
External Locus of Control	.79	.75	.67	.73
Overall Effectiveness	.82	.80	.87	.84
Median scale score	.85	.83	.86	.84
Mean scale score	.849	.83	.84	.84
Total	.96			.95

Table 3

Factor Structure of Responses to the ROPELOC Instrument

Scale	SC	SF	SM	OT	SE	CT	LA	TE	QS	CH	AI	IL	EL	OE
Self-	**.718**	0	0	0	0	0	0	0	0	0	0	0	0	0
2	**.734**	0	0	0	0	0	0	0	0	0	0	0	0	0
3	**.827**	0	0	0	0	0	0	0	0	0	0	0	0	0
Self-	0	**.762**	0	0	0	0	0	0	0	0	0	0	0	0
2	0	**.857**	0	0	0	0	0	0	0	0	0	0	0	0
3	0	**.862**	0	0	0	0	0	0	0	0	0	0	0	0
Stress Mge:1	0	0	**.756**	0	0	0	0	0	0	0	0	0	0	0
2	0	0	**.810**	0	0	0	0	0	0	0	0	0	0	0
3	0	0	**.769**	0	0	0	0	0	0	0	0	0	0	0
Open	0	0	0	**.694**	0	0	0	0	0	0	0	0	0	0
2	0	0	0	**.744**	0	0	0	0	0	0	0	0	0	0
3	0	0	0	**.805**	0	0	0	0	0	0	0	0	0	0
Social	0	0	0	0	**.824**	0	0	0	0	0	0	0	0	0
2	0	0	0	0	**.865**	0	0	0	0	0	0	0	0	0
3	0	0	0	0	**.784**	0	0	0	0	0	0	0	0	0
Coop	0	0	0	0	0	**.769**	0	0	0	0	0	0	0	0
2	0	0	0	0	0	**.870**	0	0	0	0	0	0	0	0
3	0	0	0	0	0	**.869**	0	0	0	0	0	0	0	0
Leader	0	0	0	0	0	0	**.880**	0	0	0	0	0	0	0
2	0	0	0	0	0	0	**.904**	0	0	0	0	0	0	0
3	0	0	0	0	0	0	**.839**	0	0	0	0	0	0	0
Time	0	0	0	0	0	0	0	**.784**	0	0	0	0	0	0
2	0	0	0	0	0	0	0	**.829**	0	0	0	0	0	0
3	0	0	0	0	0	0	0	**.867**	0	0	0	0	0	0
Quality	0	0	0	0	0	0	0	0	**.737**	0	0	0	0	0
2	0	0	0	0	0	0	0	0	**.827**	0	0	0	0	0
3	0	0	0	0	0	0	0	0	**.851**	0	0	0	0	0
Cope	0	0	0	0	0	0	0	0	0	**.854**	0	0	0	0
2	0	0	0	0	0	0	0	0	0	**.750**	0	0	0	0
3	0	0	0	0	0	0	0	0	0	**.887**	0	0	0	0
Active	0	0	0	0	0	0	0	0	0	0	**.737**	0	0	0
2	0	0	0	0	0	0	0	0	0	0	**.670**	0	0	0
3	0	0	0	0	0	0	0	0	0	0	**.708**	0	0	0
Internal	0	0	0	0	0	0	0	0	0	0	0	**.721**	0	0
2	0	0	0	0	0	0	0	0	0	0	0	**.791**	0	0
3	0	0	0	0	0	0	0	0	0	0	0	**.769**	0	0
External	0	0	0	0	0	0	0	0	0	0	0	0	**.671**	0
2	0	0	0	0	0	0	0	0	0	0	0	0	**.732**	0
3	0	0	0	0	0	0	0	0	0	0	0	0	**.638**	0
Overall	0	0	0	0	0	0	0	0	0	0	0	0	0	**.748**
2	0	0	0	0	0	0	0	0	0	0	0	0	0	**.837**
3	0	0	0	0	0	0	0	0	0	0	0	0	0	**.811**

Note. Personal Effectiveness factors are: SC = Self-Confidence, SF = Self-Efficacy, SM = Stress Management, OT = Open Thinking, SE = Social Effectiveness, CT = Cooperative Teamwork, LA = Leadership Ability, TE = Time Efficiency, QS = Quality Seeking, CH = Coping with Change, AI = Active Involvement, IL = Internal Locus of Control, EL = External Locus of Control, OE = Overall Effectiveness. All coefficients are presented in completely standardised format.

Table 4
Summary Factor Structures

Scale	Sample 1 Av. EFA factor loading	Sample2 Av CFA factor loadings
Stress Management	.70	.78
Self Efficacy	.78	.83
Co-op Teamwork	.77	.84
Leadership Ability	.86	.87
Time Efficiency	.77	.83
Social Effectiveness	.78	.83
Open Thinking	.75	.75
Quality Seeking	.70	.81
Self Confidence	.68	.76
Active Involvement	.65	.71
Coping with Change	.74	.83
Internal LOC	.79	.76
External LOC	.84	.68
Overall Effectiveness	.66	.80
Average	.748	.79
TOTAL		
CFA TLI index	.925	.94
TLI index : LOC scales standing alone	.97	

Table 5
ROPELOC Factor Correlations Sample 2

Scale	SC	SF	SM	OT	SE	CT	LA	TE	QS	CH	AI	IL	EL	OE
Self-Confidence	1.00													
Self-Efficacy	.28	1.00												
Stress Management	.24	.60	1.00											
Open Thinking	.27	.52	.48	1.00										
Social Efficacy	.25	.57	.50	.63	1.00									
Coop. Teamwork	.23	.46	.40	.60	.57	1.00								
Leadership Ability	.39	.50	.44	.55	.62	.53	1.00							
Time Efficacy	.26	.53	.54	.53	.51	.49	.48	1.00						
Quality Seeking	.22	.47	.41	.62	.53	.52	.50	.58	1.00					
Coping w Change	.21	.62	.61	.58	.53	.49	.47	.58	.47	1.00				
Active Involvement	.31	.47	.40	.56	.57	.56	.58	.49	.54	.48	1.00			
Internal Loc.	.30	.45	.37	.60	.52	.46	.50	.44	.60	.43	.54	1.00		
External Loc.	-.04	.10	.12	.09	.11	.10	.03	.13	.07	.08	.08	-.01	1.00	
Overall Effect.	.35	.59	.58	.62	.69	.52	.58	.67	.59	.61	.58	.56	.08	1.00