

CONFIRMATORY FACTOR ANALYSIS ON THE PERSONAL ORIENTATION INVENTORY (POI)

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ABSTRACT

The aim of this research was to establish the factor structure of self-actualisation as a positive psychology construct, as measured by the Personal Orientation Inventory (POI), in order to establish whether there is a fit between the measurement and the theory. The POI was administered to 974 part-time students. Strong inter-correlations were found. Confirmatory factor analysis identified a three-factor structure consisting of (1) time competence, inner directedness, existentialism, feeling reactivity, self-acceptance and the interpersonal scales of acceptance of anger and capacity for intimate contact, (2) spontaneity and self-regard and (3) self-actualising value, nature of man and synergy. The results confirmed the twelve POI scales as separate entities but did not confirm the theory on self-actualisation in terms of the seven factors as it is conceptualised and operationalised in the POI. It was suggested that the POI should be interpreted with care in South Africa's multicultural scenario.

1 INTRODUCTION

The discipline of psychology has long been interested in what constitutes positive, healthy and adaptive psychological functioning. Since the 1930s, most personality theories have begun to refer to positive personality development (De Carvalho, 1990; Meyer, Moore & Viljoen, 1993), mainly as a reaction against the previous focus on negative and pathological behaviour. Cilliers (1984) described this as moving from a focus on abnormality to the inclusion of optimal psychological development, with the concept of self-actualisation as the most well known. The concept originated within humanistic psychology (Schneider, Bugental & Pierson, 2001) as used in Maslow's (1970) hierarchical motivational theory and Rogers' person-centered therapy (1973) and facilitation (1982). Within industrial / organisational psychology and labour relations, the concept,

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first introduced by Herzberg (1969) and McGregor (1967), has been used for almost four decades to describe the development and healthy motivation of individual employees and managers.

Around 2000, the evolution of many of the theories on optimal psychological development, functioning and well-being was grounded to what has become known as the positive psychology paradigm (Aspinwall & Staudinger, 2003; Keyes & Haidt, 2003; Lubinski & Benbow, 2000; Sheldon & King, 2001; Snyder & Lopez, 2002; Schwartz, 2000). This paradigm is defined as the scientific study of ordinary, positive, subjective human strengths, virtues, experience and functioning (Seligman & Csikszentmihalyi, 2000; Sheldon & King, 2001). In this context, substantial South African research has been reported, focusing on salutogenesis, fortigenesis (Strümpfer, 1990; 1995) and psychofortology (Coetzee & Cilliers, 2001).

Apart from self-actualisation, positive psychology studies various individual constructs. Examples are (1) individual characteristics such as coping (Sommerfeld & McCrae, 2000), well-being (Lyubomirsky, 2001), creativity (Nakamura & Csikszentmihalyi, 2001; Simonton, 2000), resilience (Masten, 2001), wisdom (Baltes & Staudinger, 2000), giftedness (Winner, 2000), (2) human strengths such as problem solving, emotional intelligence, self-efficacy, satisfaction, locus of control (Lopez & Snyder, 2003) and engagement (Rothmann, 2002), (3) emotional experiences in the present such as sensual pleasures, happiness (Buss, 2000; Diener, 2000), flow, joy, love, humour, positive emotion (Fredrickson, 2001), positive affect (Folkman & Moskowitz, 2000), courage, gratitude (Lopez & Snyder, 2003) and (4) constructive cognitions about the future such as hope, faith and optimism (Peterson, 2000; Schneider, 2001). On the group level positive psychology studies the civic virtues and the institutions that move the individual towards involved citizenship with responsibility, nurturance, altruism, civility, moderation, tolerance and an appropriate work ethic (Seligman & Csikszentmihalyi, 2000).

The measurement of these constructs is used increasingly to explain the way in which individual employees develop and function, in the fields of management development and labour relations. Although most of the widely used instruments for the measurement of these constructs (as suggested for example by Lopez & Snyder, 2003; Strümpfer, 1990), exhibit the necessary psychometric qualities of reliability and validity, it is not clear whether their measurements confirm the underlying theoretical model used in explaining behaviour in the various organisational settings in which they are used. This necessary clarification for the purposes of future research and practice (Wissing, 2000) poses a challenge to I/O psychologists and HR practitioners to explicate this new paradigm and its constructs (Strümpfer & Wissing, 1999). This is especially true in South Africa with its unique cultural scenario (see Strümpfer, 1990; 1995; Wissing & Van Eeden, 1994; 1997a; 1997b).

A factor analytical study by Wissing and Van Eeden (2002) found psychological wellness to be multidimensional with regard to the facets of the self (cognition, affect and behaviour) as well as the domains of life in which these facets manifest themselves (the intrapersonal, interpersonal, social and contextual domains, and in work behaviour and love). The Wissing and Van Eeden (2002) study included self-actualisation as a construct measured by the Personal Orientation Inventory (POI) and the results did not confirm the factors as reported in the original research on the instrument and indicated in the handbook (Knapp, 1976). In the light of the above-mentioned developments in positive psychology, the question arose whether the concept and measurement of self-actualisation is still valid for describing optimal psychological functioning among the South African population. This particular research entails the administration of the POI to a relatively large South African sample in order to answer this question.

2 SELF-ACTUALISATION

Self-actualisation as a construct within the humanistic theories on personal development (Maslow, 1971) was popular between the 1950s and the 1980s (Buss, 1979; Daniels, 1988; Das, 1989; Sasoon, 1988). During the 1990s references to self-actualisation diminished (Ebersole & DeVore, 1995; Harbaugh, 1993) when the positive psychology paradigm and its various new constructs became popular (Lopez & Snyder, 2003; Sasoon, 1988; Snyder & Lopez, 2002). Throughout the last five decades, self-actualisation was defined with reference to Goldstein's (1963) 1934 definition and Maslow's (1954) description, namely as a natural and dynamic life-long process of growth towards becoming what the person can become - the actualisation of all talents and potential in a full, clear, selfless experience, with full concentration and absorption, totally and fully human, a being with actuality and potentiality (Maslow, 1954; 1970). (Selflessness refers to the opposite of a negative, adolescent self awareness - Maslow, 1971.) The self-actualising individual has the continuous capacity to appreciate the basic goods of life with freshness, naivety, awe, pleasure, wonder, ecstasy, inspiration, strength and gratitude (Maslow, 1970). Other humanistic theorists have added descriptions to this personal growth process, for example maturity (Allport, 1970), productivity (Fromm, 1956), the self-actualising tendency manifesting in the fully functioning person (Rogers, 1973; 1982), self-transcendence (Frankl, 1967; 1969; 1978) and here-and-now awareness (Perls, 1976, 1978).

3 THE MEASUREMENT OF SELF-ACTUALISATION

In similar terms, Knapp (1976) describes the self-actualising person operationally as one who uses his/her own capabilities to their full potential, lives in the present and has a more benevolent outlook on life and human nature than the average functioning individual (Knapp, 1976). The literature mentions a

number of instruments for measuring this construct (see Brennon & Piechowski, 1991; Sumerlin & Bundrick, 1996). These include the Self-Actualisation Inventory (Bhagyavathy, 1991), the Need Satisfaction Questionnaire (NSQ) (Payne, 1970), the Incentives Management Index, the Meta-Motivation Inventory (MMI), the Self-Actualising Inventory (Jones & Crandall, 1991), Jones's Self-Actualisation Scale (JSAS) (Jones & Crandall, 1991), Seeking of Noetic Goals Test (SONG) measuring the experience of meaning in life, and the Q-Sort Adjustment Scale. Although some psychometric properties are known for some of these, they cannot all be seen as reliable and valid instruments for the measurement of the construct. For many years the Personal Orientation Inventory (POI) (Knapp, 1976; Shostrom, 1974a; 1974b) was the most widely discussed instrument for measuring self-actualisation. Its popularity has diminished since the 1990s - the 2002 Handbook of Positive Psychology (Snyder & Lopez, 2002) only mentioned it once (not as an instrument of note, but to refer to a study on related constructs), and the 2003 Positive Psychological Assessment Handbook (Lopez & Snyder, 2003) did not mention the POI at all. In the light of the above, this research argued that the concepts and their measurement have become outdated in describing and researching employee wellness in South Africa.

4 DESCRIPTION OF THE PERSONAL ORIENTATION INVENTORY (POI)

According to Olczack and Goldman (1975) the development of the POI (Shostrom, 1974a; 1974b) was endorsed by Maslow, as a knowledgeable and respected humanistic psychologist. Maslow's (1962; 1970) concept of self-actualisation, Perls' (1976; 1978) conceptualisation of time orientation as well as the concept of inner- and outer-directiveness (Shostrom, 1976) were among the concepts incorporated in the development of the POI. It measures the values and behaviour related to positive mental health or the growth process of psychological optimisation, defined as the respondent's self-actualisation as an approach to life (Knapp, 1976; Shostrom, 1976). The 150 items consist of two-choice, positive and negative, comparative value judgment statements. The use of the double-statement items provides the respondent with a more clearly delineated choice (Knapp, 1976; Shostrom, 1974a; 1974b).

The POI consists of two primary scales (based on several items from all other scales), five dimensions (values, feelings, self-perception, synergistic awareness, interpersonal sensitivity), each containing two scales, adding up to 10 scales (with items loading on more than only one scale). The theoretical structure thus consists of seven factors (the 12 scales loading on the two primary scales and 5 dimensions).

- **Primary scales**

(1) Time competence (TC) - the competence with which the respondent manages time. A high score indicates a purposeful and realistic orientation towards the present, perceiving past experiences and expectations of the future as part of a meaningful continuum. A low score indicates less effective time management in the sense that idealistic expectations or fears lead to a primarily future-orientation.

(2) Inner support (I) - the ability to act autonomously and/or rely on others for support. A high score indicates independence and autonomy, making decisions in terms of own motivation and internalised principles, transcending and integrating the two extremes of being self-directed and other-directed in an optimal balance. A low score indicates other-directedness, relying on others, being highly susceptible to external influences, seeking acceptance through manipulation and attempting to impress others from behind a mask.

- **Values**

(3) Self-actualising values (SAV) - adhering to the primary values of self-actualising persons. A high score indicates living in accordance with the values reflected in self-actualisation (in a very broad sense), and a low score the rejection of these values.

(4) Existentialism (EX) - behaviour in accordance with the demands of the situation (existentially) without rigidly adhering to principles. A high score indicates flexibility in the application of values, and a low score a tendency to rigidly, compulsively and dogmatically adhere to values.

- **Feelings**

(5) Feeling reactivity (FR) - responsiveness towards own feelings and needs. A high score indicates sensitivity, and a low score a lack of sensitivity.

(6) Spontaneity (S) - feeling free to act spontaneously and to be oneself. A high score reflects the ability to express feelings through spontaneous action, and a low score a fear of doing so.

- **Self-perception**

(7) Self-regard (SR) - affirming the self in terms of own worth or strength. A high score reflects a tendency to regard oneself positively as a result of a feeling of personal strength, and a low score feelings of low self-worth.

(8) Self-acceptance (SA) - accepting the self despite weaknesses or shortcomings. A high score indicates acceptance of oneself and one's weaknesses,

and a low score an inability to accept shortcomings. It is more difficult to achieve self-acceptance than self-regard - both are required for self-actualisation.

- **Synergistic awareness**

(9) Nature of man - constructive (NC) - having a constructive view of human beings. A high score reflects seeing people as essentially good and resolving dichotomies such as good/bad, masculinity/femininity, selfishness/unselfishness. A high score reflects the ability to achieve synergy in one's understanding of human beings which is characteristic of self-actualising people, and a low score seeing human beings as evil or bad.

(10) Synergy (SY) - achieving synergy by transcending dichotomies. A high score indicates the ability to connect and integrate seeming opposites, for instance by understanding that work/play, selfishness/selflessness are not necessarily mutually exclusive, and a low score seeing opposites as antagonistic.

- **Interpersonal sensitivity**

(11) Acceptance of aggression (A) - accepting own natural aggression. A high score indicates the ability to accept own anger or aggression as natural or as a voluntary response, and a low score indicates building defences against such feelings by denying and/or repressing them.

(12) Capacity for intimate contact (C) - developing meaningful intimate relationships with others, without undue emphasis on expectations and obligations. A high score indicates the ability to establish meaningful, close relationships with other people, and a low score some difficulty establishing warm (genuine, spontaneous, honest) interpersonal relationships.

5 THE PSYCHOMETRIC QUALITIES OF THE POI

Since its publication in the 1960s, extensive research has been published on the POI's psychometric qualities. No scientific research articles using the POI could be traced as from 1996.

- **Standardisation**

The POI was developed as the first standardised instrument for the measurement of self-actualisation. According to Hjelle and Ziegler (1987), the instrument does this by providing an assessment of an individual's degree of self-actualisation in a high score and the absence thereof in a low score. They called the POI a reliable and valid measure of self-actualisation as conceptualised in humanistic psychology. Hattie (1986) also found that the POI

has generally good psychometric properties. On the other hand, Jones (1977) said that the POI was constructed around an individual's ability to see meaningful relationships between opposites. In each pair of forced-choice items there is a statement indicating that the conflict has not been resolved. According to Weiss (1991, p. 265), "the measurement of self-actualisation is an exclusive quest that cannot succeed until the extensive fragmentation and conflict about its theory and construct definition are resolved". Forest and Sicz (1980) criticised the theoretical status of the underlying construct, making the measurement thereof questionable.

- **Reliability**

The test-retest reliability study by Klavetter and Magor (1967) found coefficients of 0.71 and 0.77 among a sample of 48 undergraduate students after one week for the primary scales respectively and between 0.52 and 0.82 for the other scales (Shostrom, 1974a; 1974b). Similar positive results were found by Illardi and May (1968). In South Africa, Schulz (1994) established test-retest reliability coefficients of 0.41 to 0.82. On the other hand, Ray (1986) claimed that there is insufficient data on the reliability of the POI scales, and that the data available showed the scales as being vastly less reliable than is usually required in an instrument used for individual diagnosis or even for research into group characteristics.

- **Validity**

Knapp (1976) and Shostrom (1974a; 1974b) reported acceptable construct validity. An investigation by Klavetter and Mogar (1967) indicated that in the many studies relating to the validity of the POI, the results suggested that the scores are highly stable and sufficiently valid measures of health-growth dimensions of personal functioning. Maslow (1971, 28) stated in this regard that "self actualisation can now be defined quite operationally, as intelligence used to be defined, i.e. self actualisation is what the test tests". Shostrom and Knapp (1966) found a significant differentiation between two groups selected by clinical psychologists. Group 1 consisted of relatively self-actualising individuals above the means of the normal adult group on 11 of the 12 scales, and group 2 consisted of "non-self-actualising" individuals with mean scores below the norm on all the scales. In a repeat study, Shostrom (1974b) found a clear differentiation between the two primary scales and nine out of the other ten scales. Shostrom (1974a) referred to a study which showed that teachers who were rated by students as having real concerns for the students had higher POI scores than their counterparts. Internal consistency, construct and concurrent validity were confirmed by Tosi and Lindamood (1975) as well as Hattie (1986). Fogarty's (1994) study, measuring change in student self-actualisation, found the dimensions to be related to self-actualisation. Schulz (1994) confirmed many of the above for South African circumstances. Cilliers and Coetzee (2003)

found that self-actualisation, as measured by the POI, can be seen as a strong salutogenic construct (in a battery with sense of coherence and learned resourcefulness). On the other hand the weak psychometric properties of some of the POI scales were seen as a limitation of the instrument.

- **Faking**

Foulds and Warehime (1973) found that “fake good” responses are lower than mean scores obtained from the same subjects under ordinary testing conditions. Hattie, Hancock and Brereton (1984) found POI responses to be moderately resistant to faking. Foulds and Warehime (1973) found that a fake cultural conformity response set would result in either no effect or a depressed score on the POI, while a fake healthy or denial of pathology set may tend to elevate some POI scale scores. In response to the above, Knapp (1976) said that the conscious attempt to present oneself in a favourable (socially desirable) light results in a generally depressed POI profile, while intellectualised responses based on a knowledge of the underlying theoretical concepts results in a typically hyper elevated profile.

- **Interrelationships between scales**

According to Knapp (1976), the constructs measured by the POI were not conceived as being independent or orthogonal - they contain varying numbers of overlapping items. The POI focuses on maximising convergent validity and interpretive usefulness rather than on homogeneity and factorial purity of the scales. Knapp (1976) reported on the positive interrelationships between the scales, for example the scores ranged from 0.02 to 0.64 between feeling reactivity and acceptance of aggression. Wise and Davis (1975) found that the POI measures not only orthogonal traits but also several overlapping characteristics. Their findings showed that the more items two scales share, the higher their correlation, and that the more items within a particular scale, the higher its correlation with other scales and to the same extent, the higher its reliability.

- **Factorial studies**

The original thinking was that the POI reflects a complex aggregation of factors and it is therefore not designed for factor analytic approaches (Knapp, 1976). Hereafter, most of the factorial studies on the POI have been obscured by methodological difficulties (see Silver & Fisher, 1968; Wise & Davis, 1975). Klavetter and Mogar (1967) suggested that the statistical redundancy for each scale indicated that performance would be more accurately expressed in terms of fewer dimensions. Thompson and Daniel (1996) could not confirm the POI's existing factor structure and explored the reporting of the factor analysis results as part of construct validation according to the latest views of measurement validity using the loadings in common factors to confirm the factorial validity.

Hattie (1986) found the factor structure to be well-identified and meaningful. He identified four underlying factors, namely sensitivity to self and others, perception of reality, acceptance of present self and conformity to self-actualising values. Hattie (1986) found the factor structure to be well-identified and meaningful. One South African factor analytical study could be traced (Wissing & van Eeden, 2002) which was performed on a sample of 550. The manifesting factor structure did confirm the existing POI scales for the total but not separately for different South African race groups.

- **Application**

According to Knapp (1976), the POI measures a wide range of value concepts that have both personal and social relevance. The inventory also interprets the scales in terms of positive concepts of self-development and the non-threatening character of the items. This has resulted in the application of POI in a wide variety of settings such as organisations, education and psychology (Maslow, 1970). Hattie, Hancock and Brereton (1984) illustrated the POI's sensitivity towards changes resulting from various treatments in counselling. In South Africa, the POI has been used in various assessment and self-development programmes for ministers (Cilliers, 1995a), nurses (Oelofse & Cilliers, 1990; Cilliers & Terblanche, 2000), nursing lecturers (Cilliers, 1992), managers (Cilliers & Wissing, 1993) university supervisors (Cilliers, 1994), growth facilitators (Cilliers, 1995b; 1996), students (Cilliers & Viviers, 1998; Rothmann, 1999) and trainers (Cilliers, 2000).

The above information serves as evidence of the reliability and validity of the POI over almost four decades, internationally as well as in South Africa. Relatively less information is available on its factor structure, and almost none within the South African context.

6 RESEARCH QUESTION AND AIM

The research question being investigated was whether the POI as a measurement of self-actualisation confirms the literature on the concept. The aim of the research was to establish the factor structure of self-actualisation as a positive psychology construct, as measured by the Personal Orientation Inventory (POI), in order to establish whether a fit between the measurement and the theory exists.

7 METHOD

7.1 Sample

The research was conducted among second year, third year and honours students (total = 1623) in Industrial and Organisational Psychology at a South

African university. A sample of convenience of 974 (60%) was used, consisting of 83% (N= 809) part-time students working in different organisations and 17% (N=165) full-time students, 64% (N=318) males and 36% (N=177) females, 57% (N=560) whites and 43% (N=414) blacks (including coloureds and Indians), and ranging between 21 and 70 years of age (forming a normal distribution with 45 as the median).

7.2 Data gathering

The research was conducted between 1999 and 2002. A letter stating the purpose of the research project and giving instructions about completing the instrument, contact numbers of the researcher in case any questions arose, the POI questions and its answer sheet, as well as a biographical questionnaire, were bound in a booklet. Together with a self-addressed envelope, this was mailed to the total student group. Within three months, 974 completed booklets were returned and checked for completeness. This figure was accepted as sufficient for the purposes of this research project.

7.3 Data processing

Exploratory and confirmatory factor analysis were computed by means of the SAS programme (SAS Institute, 1990). The exploratory factor analysis (Jöreskog & Sörbom, 1988; Tosi & Hoffman, 1971) consisted of Varimax rotation (a cut-off point of below 0.3 was used), communality estimates, the variances and reliability of the factors. The confirmatory factor analysis consisted of Pearson correlation coefficients and confirmatory analysis by means of the LISREL computer programme (Byrne, 1989; Houts & Kassab, 1990; Long, 1983), using the mean scores as input. LISREL provides statistics which suggest ways to modify the theoretical model, assess the dimensionality of the constructs and estimate the reliability of the observed variables in measuring model constructs (Hughes, Price & Marrs, 1986). It provides the overall measures of the fit of the hypothesised model to the data, including the goodness-of-fit statistics (Hughes et al., 1986), guiding the search for the best fitting solution as well as helping to evaluate the solution when it is obtained (Loehlin, 1987). The smaller the residuals, the better the fit and the larger the residuals, the poorer the fit (Kerlinger, 1986).

8 RESULTS

The descriptive statistics were found to be similar to those reported in the literature (Knapp, 1976; Shostrom, 1974a; 1974b).

8.1 Exploratory factor analysis

The Varimax rotated factor pattern is given in Table 1.

Table 1: Varimax rotated factor pattern

POI	SCALE	FACTOR 1	FACTOR 2	FACTOR 3
12	C - Capacity for intimate contact	0.785	0.101	0.089
2	I - Inner support	0.779	0.459	0.335
4	EX - Existentialism	0.722	-0.027	0.374
8	SA - Self-acceptance	0.704	0.136	-0.012
1	TC - Time competence	0.671	-0.247	0.036
5	FR - Feeling reactivity	0.668	0.241	0.038
11	A - Acceptance of aggression	0.572	0.334	0.117
7	SR - Self-regard	0.036	0.792	0.043
6	S - Spontaneity	0.308	0.568	0.132
10	SY - Synergy	0.159	-0.086	0.869
3	SAV - Self-actualising value	-0.081	0.591	0.645
9	NC - Nature of man - constructive	0.169	0.343	0.637

The following three factors were identified:

- **Factor 1 - Intrapersonal and interpersonal sensitivity**

Seven scales loaded on this factor, namely C (capacity for intimate contact) with the highest loading of 0.785, I (inner support), EX (existentialism), SA (self-acceptance), TC (time-competence), FR (feeling reactivity) and A (acceptance of aggression) with the lowest loading of 0.572. Intrapersonal and interpersonal sensitivity comprised the following behaviour: The intrapersonal part refers to having sensitivity and awareness towards own feelings (instead of a lack of sensitivity), self-acceptance despite weaknesses (instead of an inability to accept shortcomings), an internal motivation (instead of relying on others for acceptance and external influences and wanting to impress others), and flexibility in the application of values (instead of rigidity, compulsiveness and dogmatism) in the here-and-now (instead of a focus on the past and /or future). The interpersonal part refers to the acceptance of own aggression (instead of

defence by means of denial, projection or repression) and the capacity to have meaningful and intimate relationships (instead of having difficulty with warm, spontaneous and honest relationships). This factor referred to the individual's sensitivity and awareness towards, and ability to focus on, the here-and-now while being flexible in applying self-actualising values, experiencing sensitivity towards own feelings, being motivated from inside, which assists in the acceptance of the self, and leads to effective and sensitive relationships with others.

- **Factor 2 - Spontaneous self-regard**

Two scales loaded on this factor, namely SR (self-regard), with the highest loading of 0.792 and S (spontaneity), with the lowest loading of 0.568. Spontaneous self-regard comprised the following behaviour: The ability to express feelings through spontaneous action (instead of fearing to do so) and a tendency to regard the self in a positive light as a result of feelings of positive strength (instead of having a low sense of self-worth). This factor referred to the individuals' ability to like the self and to share feelings in an open and honest manner.

- **Factor 3 - Synergistic self-actualising awareness**

Three scales loaded on this factor, namely SY (synergy) with the highest loading of 0.869, SAV (self-actualising value) and NC (nature of man - constructive) with the lowest loading of 0.637. Synergistic self-actualising awareness comprised the following behaviour: The ability to connect and integrate seeming opposites in life (instead of experiencing them as antagonistic), living according to self-actualising values (instead of rejecting them) and seeing people as essentially good (instead of bad or evil). This factor referred to the individual's ability to live according to the broad values underlying the self-actualisation theories, especially the belief that he or she and other people are essentially good, and that the bad is an integrated part of the whole person.

The reliability coefficients of the factors are given in Table 2.

Table 2: Reliability of the factors

FACTOR 1	FACTOR 2	FACTOR 3
0.85	0.39	0.69

Using Smit's (1991) lenient criterion, namely that a reliability index of 0.50 is acceptable in the case of group comparison, Factors 1 and 3 could be seen as

reliable. Factor 2's very low reliability made the role of spontaneous self-regard as part of the factor structure of self-actualisation questionable.

8.2 Confirmatory factor analysis

The Pearson product moment correlation coefficients are given in Table 3.

Table 3: Pearson product moment correlation coefficients

POI	TC	I	SAV	EX	FR	S	SR	SA	NC	SY	A	C
TC	1.00											
I	0.35 ***	1.00										
SAV	-0.72 ***	0.42 ***	1.00									
EX	0.43 ***	0.70 ***	0.15 ***	1.00								
FR	0.36 ***	0.62 ***	0.13 ***	0.29 ***	1.00							
S	0.08 *	0.52 ***	0.36 ***	0.30 ***	0.29 ***	1.00						
SR	-0.01	0.37 ***	0.43 ***	0.11 ***	0.12 ***	0.25 ***	1.00					
SA	0.41 ***	0.63 ***	0.03 ***	0.44 ***	0.33 ***	0.20 ***	0.18 ***	1.00				
NC	0.06	0.53 ***	0.46 ***	0.30 ***	0.21 ***	0.20 ***	0.28 ***	0.16 ***	1.00			
SY	0.13 ***	0.34 ***	0.45 ***	0.35 ***	0.19 ***	0.17 ***	0.05	0.1 ***	0.36 ***	1.00		
A	0.27 ***	0.58 ***	0.23 ***	0.31 ***	0.51 ***	0.28 ***	0.16 ***	0.38 ***	0.28 ***	0.21 ***	1.00	
C	0.32 ***	0.71 ***	0.03 ***	0.66 ***	0.51 ***	0.30 ***	0.11 ***	0.40 ***	0.23 ***	0.16 ***	0.37 ***	1.00

* $p < 0.05$ / ** $p < 0.01$ / *** < 0.001

Highly significant relationships existed between most of the POI scales. TC (Time-competence) as a primary scale showed an exception in its weak

relationship with S (spontaneity), and lack of relationship with both SR (self-regard) and NC (nature of man - constructive). This indicated that having a purposeful and realistic orientation towards the present only related weakly to acting spontaneously, and not at all to self-worth/strength, and seeing people as essentially good. No relationship was measured between SR (self-regard) and SY (synergy), indicating that self-worth/strength has nothing to do with transcending opposites. These findings differed from the original results with American samples. In the standardisation of the POI, Knapp (1976) reported strong correlations between all the POI scales, especially the two primary scales (TC and I).

The correlation analysis where each scale's correlation with the total was calculated is given in Table 4.

Table 4: Correlation analysis per factor

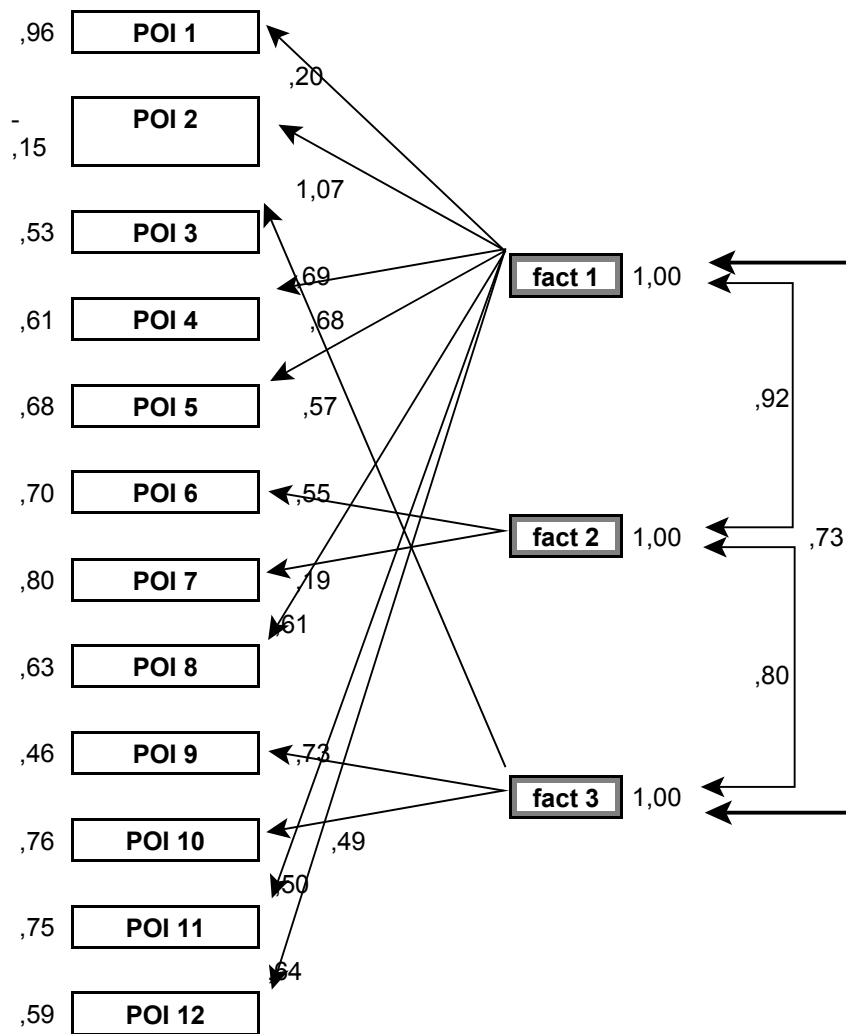
Deleted POI variable	Correlation with total	Alpha
C	0.676	0.825
I	0.848	0.799
EX	0.641	0.831
SA	0.581	0.839
TC	0.466	0.855
FR	0.585	0.839
A	0.537	0.845
Deleted POI variable	Correlation with total	Alpha
SR	0.246	0.394
S	0.246	0.394
Deleted POI variable	Correlation with total	Alpha
NC	0.475	0.626
SAV	0.547	0.533
SY	0.481	0.618

These data confirmed the above factor analysis. The seven scales which loaded on factor 1, as well as the three scales which loaded on factor 3, all gave

acceptable alphas. The two scales (SR & S) which loaded on factor 2 gave a very low alpha of 0.246.

The confirmatory factor analysis is given in Figure 1.

Figure 1: The confirmatory factor model



Factors 1, 2 and 3 showed meaningful correlations with each other (0.92, 0.73, 0.80). The three factors and their specific scales, each with its behavioural contents, could be seen as clearly different, and on the other hand, related to each other. Therefore, (1) intrapersonal and interpersonal sensitivity, (2) spontaneous self-regard and (3) synergistic self-actualising awareness were three separate as well as related behavioural constructs in the measurement of the self-actualisation.

The parameter estimates (scores to the right of each POI scale) indicated the internal loading onto the factor. These data showed the following:

- **Factor 1 - Intrapersonal and interpersonal sensitivity**

I (inner support) had a very high score, meaning that this primary scale contributed the most to the strength of factor 1. In behavioural terms this meant that acting independently and autonomously from an internal motivation contributed the most towards intrapersonal and interpersonal sensitivity. The factor consists mostly of EX, FR, SA, A and C. In behavioural terms this meant that intrapersonal and interpersonal sensitivity consists of flexibility in the application of values, sensitive responsiveness towards own feelings and needs, accepting the self despite weaknesses or shortcomings, accepting one's own anger and aggression as natural and developing meaningful intimate relationships with others, without undue emphasis on expectations and obligations. TC had a very low score, meaning that time competence as a primary scale contributed comparatively little to the strength of factor 1. In behavioural terms this meant that having a purposeful and realistic orientation towards the present did not contribute much to intrapersonal and interpersonal sensitivity. In order of strength, intrapersonal and interpersonal sensitivity consisted of independent, autonomous, internal motivation, which could allow flexibility in the application of values, where after meaningful intimate relationships with others could be developed. Such relationships would facilitate the acceptance of the self and sensitivity towards own feelings and needs, which again could help in accepting one's own anger and aggression as natural and eventually having a purposeful and realistic orientation towards the present.

- **Factor 2 - Spontaneous self-regard**

S (spontaneity) had the highest score, meaning that this scale contributed the most to the strength of factor 2. In behavioural terms this meant that expressing feelings freely in action contributed the most. SR had the lowest score, meaning that self-regard contributed less to the strength of factor 2. In behavioural terms this meant that to regard oneself positively as a result of personal strength contributed less. In order of strength, spontaneous self-regard consisted of feeling free to express feelings through spontaneous action, and to regard and affirm the self in terms of own personal worth or strength.

- **Factor 3 - Synergistic self-actualising awareness**

NC (nature of man - constructive) had the highest score, meaning that this scale contributed the most to the strength of factor 3. In behavioural terms this meant that seeing people as essentially good contributed the most towards synergistic self-actualising awareness. SAV had the next highest score, meaning that self-actualising values made the second biggest contribution to the strength of factor 3. In behavioural terms this meant that adhering to the primary values of self-actualisation made the second biggest contribution towards synergistic self-actualising awareness. SY had the lowest score, meaning that synergy contributed least to the strength of factor 3. In behavioural terms this meant that to transcend dichotomies, connecting and integrating opposites contributed least towards synergistic self-actualising awareness. In order of strength, synergistic self-actualising awareness consisted of having a constructive view of human beings, adhering to the primary values of self-actualising persons and achieving synergy by transcending dichotomies.

The error variance (scores to the left of each POI scale) indicated the role of external factors which were not measured. The negative error variance which occurred for I (inner support) may be due to parsimonial factors. This is the scale which has the most overlap between items (loading onto most other scales). This aspect complicated the factor analysis and may be seen as one of the POI's most salient deficiencies.

Finally, the goodness-of-fit statistics (the RMSEA score of 0.17) were interpreted as indicating a poor fit between the theoretical model (Factor 1, Factor 2 and Factor 3) and the data - the empirical reality (a RMSEA of less than 0.08 is seen as a reasonable fit and less than 0.05, a good fit - see Byrne, 1989; Houts & Kassab, 1990; Long, 1983).

9 CONCLUSIONS AND RECOMMENDATIONS

Firstly, this study confirmed the twelve POI scales as separate entities, obviously because the data were being computed as such. Different results could have been obtained if the 150 item responses had been computed.

Secondly, the confirmatory factor analysis could not confirm the seven factor self-actualisation structure as proposed by Knapp (1976) and Shostrom (1974a; 1974b), namely the two primary scales (TC, I) and the five "dimensions" called values, feelings, self-perception, synergistic awareness and interpersonal sensitivity. This was consistent with the factor analysis reported by Thompson and Daniel (1996).

Only one other South African factor analytical study where self-actualisation was measured by means of the POI could be found, namely the study that Wissing

and van Eeden (2002) performed before 1995, where the above seven factor self-actualisation structure as designed by Knapp (1976) was confirmed (which is different from the present research). On the other hand, there were similarities between these two studies in terms of their black / white samples - they had similar black / white ratios (namely 46/54% versus 43/57% in the present study) and similar results were found when the present total group was compared to the above study's black subgroup. The inconsistency between the two studies (1995 versus 1999-2001) created a concern in terms of the consistency of the instrument's measurement. As an explanation, the present transition of black South Africans from a position of African collectivism towards the inclusion of behaviour of Western individualism is offered. Research evidence suggests that South African culture is moving from a previous position of paternalism to more effective ways of managing diversity (De Beer, 1998) in the so-called new generation organisation (Nasser & Viviers, 1993), accompanied by the government's initiatives such as affirmative action (Heroldt & Marx, 1999). The POI was designed within the western culture, focusing strongly in its measurement of self-actualisation on individual responsibility and locus of control. These values are different from - and even opposite to - the spirit of *ubuntu* (Mbigi & Maree, 1995; Piek, 1998), which focuses on togetherness and shared responsibility.

The present analysis showed no exact resemblance to any reported factor structure in the literature. On the other hand, some resemblance was found in the four factor structure reported by Hattie (1986). Four (of the seven) of the POI scales in the present Factor 1 (intrapersonal and interpersonal sensitivity), were also present in Hattie's Factor 1 (sensitivity to self and others - I, FR, A, C), excluding three (TC, EX, SA). EX formed part of Hattie's Factor 2 (perception of reality) and TC and SA formed part of Factor 3 (accepting the present self). The scales in the present Factor 2 (SR, S) formed part of Hattie's Factors 3 and 2 respectively. The present Factor 3 (SY, SAV, NC) was similar to Hattie's Factor 4.

The present study suggests that the POI should be used carefully in quantitative research in the present South African multicultural scenario. It could possibly still be used as a feedback instrument to facilitate awareness of own growth areas (as was the original intention by Knapp - 1976), but this also needs to be investigated further.

The POI was designed in the 1960s and has not been adjusted since. It was seen and used by many researchers as the only instrument for measuring self-actualisation and psychological growth for a very long time. In the light of the extensive theoretical developments in growth and positive psychology over the past five years, it is recommended that the POI be revised and even that the items be modernised to include new thinking in this field. Thus, self-actualisation will be able to keep its position as a valid positive psychology construct among

the new constructs such as sense of coherence, hardiness, resilience, engagement, meaningfulness and happiness and its various instruments, that have been developed and standardised recently (see Lopez & Snyder, 2003; Snyder & Lopez, 2002).

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